

I-710 Corridor Project

LOS ANGELES COUNTY, CALIFORNIA
District 07-LA-710 (PM 5.4/24.5)
249900 / 0700000443

Final Environmental Impact Report/ Environmental Impact Statement and Final Section 4(f) Evaluation

Volume 5

Prepared by:
State of California Department of Transportation
and the
Los Angeles County Metropolitan Transportation Authority

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

April 2024

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Appendix U NO BUILD ALTERNATIVE TRAVEL DEMAND FORECASTING ASSUMPTIONS

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Freeway System – Projects Relevant to the I-710 RDEIR/SDEIS Area of Interest		
Route	**Project Limits**	**Description**
I-710	At Firestone Blvd.	• Modify the southbound on-ramp
I-5	Orange County Line to I-605	• Widen by 1 HOV lane and 1 mixed flow lane in each direction (widen from 3 to 5 lanes each direction). • Reconstruct Carmenita interchange.
I-10	Westbound-Santa Anita to I-710; Eastbound I-710 to Baldwin Ave.	• Expand capacity of the I-10 HOT lane (restriping to add a second lane for HOT lane on I-10 with buffer changes)
I-10	Alameda St./Union Station to I-605	• Conversion of HOV lanes to HOT lane
I-10	I-605 to Puente Avenue	• Widen by 1 HOV lane in each direction
I-10	Puente Avenue to Citrus	• Widen by 1 HOV lane in each direction
I-10	Citrus to Route 57/71	• Widen by 1 HOV lane in each direction
I-110	182 St./Artesia Transit Center to Adams Blvd	• Conversion of HOV lanes to HOT lane
I-110	At John S. Gibson Blvd. interchange	• Extend the existing off-ramp at John S. Gibson Blvd. • Modify to a 2-lane exit and re-stripe to accommodate 1 shared through and left- turn lane and 1 exclusive right lane • Create an additional left turn lane on southbound John S. Gibson Blvd. for traffic destined to port terminals
I-405	At Wilmington Ave./223rd St.	• Add 1 lane on Wilmington Ave. northbound from 223rd St. to I-405 northbound off-ramp (widen from 3 to 4 lanes) • Construct new 2 lane northbound on-ramp from southbound Wilmington Ave. • Add 1 lane to I-405 southbound on and off ramps (widen from 2 to 3 lanes)

Freeway System – Projects Relevant to the I-710 RDEIR/SDEIS Area of Interest		
Route	**Project Limits**	**Description**
I-405	At Avalon Blvd.	• Add 1 lane in northbound direction on Avalon Blvd. under I-405 (widen from 3 to 4 lanes) • Construct new 2 lane on-ramp to southbound I-405 • Add 2 lanes to northbound off-ramp (widen from 1 to 3 lanes), 2 lanes to southbound off-ramp (widen from 1 to 3 lanes) • Construct 5 lane connector road from southbound off-ramp to Avalon Blvd. (widening from 2 to 3 lanes within existing Caltrans right of way)
I-405	Euclid Ave. to I-605, in Orange Co.	• Add 1 General Purpose (GP) Lane in Each Direction
SR-710	Valley Blvd. to California Blvd.	• Extend 710; Construct 4 GP Toll Lanes in each Direction, in Tunnel
I-605 / I-405 / SR-22	SR-22 to I-605, in Orange Co.	• Add HOV Connectors from SR-22 to I-405 • Add HOV Connectors between I-405 and I-605 • Additional HOV lane on I-405 between SR-22 and I-605 • Widen Seal Beach Blvd and add additional thru lane and on off ramp • Widen Seal Beach Blvd in each direction from Old Ranch Pkwy to St. Cloud Dr.

Freeway System – Projects Relevant to the I-710 RDEIR/SDEIS Area of Interest		
Route	**Project Limits**	**Description**
SR-22	SR-55 to I-405, in Orange Co.	• Add 1 HOV Lane in each direction

Arterial Roadway System –Projects Relevant to the I-710 RDEIR/SDEIS Area of Interest		
Route	**Project Limits**	**Description**
Ocean Boulevard/ Gerald Desmond Bridge	Gerald Desmond Bridge over entrance channel	• Replace existing 5 lane Gerald Desmond Bridge with new 6 lane bridge (3 lanes in each direction) • Construct the Terminal Island East Interchange and I-710 connector ramps
Harry S. Bridges Boulevard	Figueroa St. to Alameda St.	• Relocation/consolidation of streets, street intersections, traffic channelization and signalization • Widening will be accommodated (exact number of lanes yet to be determined)
C Street	At I-110 Fwy on/off-ramps	• Consolidate two closely spaced intersections into one (Figueroa St./C St. and Figueroa St./Harry Bridges Blvd.)
Anaheim Street	Farragut Ave. to Dominguez Channel	• Widen existing roadway from 4 to 6 lanes
Del Amo Boulevard	At I-405	• Construct new 6 lane overcrossing
Sepulveda Boulevard	Alameda St. to Eastern City Limits of Carson	• Add 1 lane in each direction (widen from 2 to 4 lanes)
Firestone Boulevard	Firestone Blvd. Bridge over the Los Angeles River	• Widen on the south side and add a lane in the eastbound direction • Retrofit the bridge for compliance with the latest seismic standards
Washington Boulevard	Commerce/Vernon city boundary (just west of Indiana St.) to I-5 Fwy at Telegraph Rd.	• Reconstruct and add 1 lane in each direction on Washington Blvd. from Commerce/Vernon city boundary at Vernon to I-5 fwy. at Telegraph Rd. (widen from 2 to 3 lanes) • Increase turn radius and medians • Upgrade traffic signals
Lakewood Boulevard	Florence to Telegraph Rd.	• Widen to provide 3 travel lanes in each direction.
Del Amo Blvd.	Normandie Ave. to New Hampshire Ave.	• Widen to provide 2 travel lanes in each direction.
Beverly Blvd.	Montebello Blvd. to west of Rea Dr.	• Widen to provide 2 travel lanes in each direction.

Arterial Roadway System –Projects Relevant to the I-710 RDEIR/SDEIS Area of Interest		
Route	**Project Limits**	**Description**
SR-91/I-605/I-405 Study Area	28 Arterial Highway Intersection Improvements	• As identified in Table A-2 (Revised 3/26/13); Arterial Highway Improvement Hot Spots Initial Projects; SR-91/I-605/I-405; Early Action Analysis

Rail / Transit System –Projects Relevant to the I-710 RDEIR/SDIES Area of Interest		
Route	**Project Limits**	**Description**
Exposition Line Light Rail Transit	7th St./Metro Station to Venice/Robertson Station	• Construct Light Rail Transit Project Phase I (Metro)
Exposition Line Light Rail Transit	Venice/Robertson Station to Santa Monica	• Construct Light Rail Transit Project Phase II (Metro)
Eastside Gold Line	Union Station to Atlantic Blvd	• Construct Light Rail Transit Project (Metro)
Gold Line Foothill Extension	Sierra Madre Villa Station to Azuza Citrus Station	• Construct Light Rail Transit Project (Metro)
Blue Line Light Rail Transit	Spot Locations	• Build a parking structure on First St. near southerly terminus of the Long Beach Blue Line in downtown Long Beach • Construct a park and ride facility in Long Beach at 3rd St. and Pacific Ave. south of the Metro Blue Line Pacific Station—include 300 to 500 parking spaces and residential/commercial development • Torrance Transit Line #6—Blue Line feeder service
Regional Connector Light Rail Transit	Alameda/1st Street to 7th Street/Metro Center	• Light Rail in tunnel allowing through movements of trains, Blue, Gold, Expo Lines
HOT Lane Bus Service	I-10 HOT Lane Corridor I-110 HOT Lane Corridor	• Implement new bus services to expand transit for I-10 and I-110 High Occupancy Toll (HOT) lanes
Crenshaw – LAX Transit Corridor	Crenshaw & Exposition Station to LAX/Aviation Station	• Construct Light Rail Transit Project (Metro)
Metrolink System (SCRRA)	Positive Train Control	• Implement Positive Train Control on 216 miles of Metrolink ROW (note: largely safety, operational improvement)
Westside Purple Line Subway Extension	Wilshire & Western Station to La Cienega	• Construct Segment 1 of Westside Purple Line Subway Extension

Traffic Systems and Operations / Intelligent Transportation Systems – I-710 RDEIR/SDEIS	
Project	**Project Limits / Description**
I-710 Communication System and Closed Circuit TV System (CCTV)	Project Limits: On **I-710** from PCH to I-405 • Install facilities for traffic monitoring system and closed circuit TV system
Advanced Traffic Management Information System (ATMIS)	Project Limits: Ports of Long Beach and Los Angeles • Implement an Advanced Transportation Management System (ATMS) and Advanced Traveler Information System (ATIS) to improve traffic operations on **I-710, I-110, and SR 47/103**.
Atlantic Avenue Signal Synchronization and Enhancement Project / TSSP	Project Limits: On **Atlantic Avenue** between Ocean Blvd. and Willow St. • Major reconstruction and minor upgrades of traffic signals along Atlantic improve traffic flow
Ocean Boulevard / Shoreline Drive Signal Synchronization and Enhancement Project / TSSP	Project Limits: On **Ocean Boulevard** between Biona Ct. and Livingston Dr.; on **Livingston Drive** between Ocean Blvd. and 2nd St.; on **Shoreline Drive** between Golden Shore and Alamitos Ave., on Alamitos Avenue between Ocean Blvd. and 6th Street • Reconstruct, upgrade and synchronize traffic signals along the corridor to reduce traffic congestion
Gateway Cities Forum – Carson Street Signal Synchronization / TSSP	Project Limits: On **Carson Street** between Long Beach Blvd. to Bloomfield Ave. • Provide time-based traffic signal synchronization and upgrades to improve the overall progression of traffic along and crossing these routes
Gateway Cities Forum Traffic Signal Corridor Projects / TSSP	Phase II: Project Limits: On **Pacific Boulevard/Long Beach Boulevard** between Florence Ave. and Willow St. • Provide time-based traffic signal synchronization and upgrades to improve the overall progression of traffic along and crossing these routes
Gateway Cities Forum Traffic Signal Corridor Projects / TSSP	Phase III: Project Limits: On **Artesia Boulevard** between Alameda Blvd. and Valley View Ave.; on **Central Avenue** between El Segundo Blvd. to Victoria St.; on **Gage Avenue** between Central Ave. to Slauson Ave.; on **Whittier Boulevard** between Paramount Blvd. to Valley Home Ave.; on **Wilmington Avenue** between Imperial Highway to Sepulveda Blvd. • Provide time-based traffic signal synchronization and upgrades to improve the overall progression of traffic along and crossing these routes

Traffic Systems and Operations / Intelligent Transportation Systems – I-710 RDEIR/SDEIS	
Project	**Project Limits / Description**
Gateway Cities Forum Traffic Signal Corridor Projects / TSSP	Phase IV: Project Limits: On **38th Street/37th Street/Bandini Boulevard** between Alameda St. and Garfield Ave.; on **Garfield Avenue** between Olympic Blvd. and Eastern Ave.; on **Studebaker Road** between Florence Ave. to Del Amo Blvd. • Provide time-based traffic signal synchronization and ITS improvements to enhance intersection operations, increase traffic mobility and relieve existing traffic congestion on surface arterials
Florence Avenue Traffic Signal Communications System	Project Limits: On **Florence Avenue** between Old River School Rd. and Fairford Ave. • Develop Ethernet based communication network
Southeast Los Angeles County - Traffic Signal Synchronization Program (TSSP)	Project Limits: **I-710/Atlantic Boulevard** Corridor; **I-5/Telegraph Road** Corridor; **Lakewood/Rosemead Boulevard & Paramount Boulevard** Corridor • Implement a real-time traffic signal synchronization system to effectively managed high traffic volumes and reduce traffic congestion • Provide additional lane capacity through minor roadway widening and peak hour parking restrictions
Gateway Cities Forum Traffic Signal Corridor Projects / TSSP	Project Limits: **I-105 Corridor ITS Project**, (arterials within the Corridor include **Firestone Blvd., Imperial Highway and Rosecrans Ave**.) • Implement a traffic signal management and control system which allows jurisdictions to respond more efficiently to traffic congestion
Gateway Cities Forum Traffic Signal Corridor Projects / TSSP	Phase V: Project Limits: On **Alameda Street** between Nadeau St. to Auto Drive South; on **Florence Avenue/Mills Avenue** from Central Ave. to Scout Ave.; on **South Street** between Atlantic Ave. to Carmenita Rd.; on **Washington Boulevard** between Atlantic Blvd. and Whittier Blvd. • Provide time-based traffic signal synchronization and ITS improvements to enhance intersection operations, increase traffic mobility and relieve existing traffic congestion on surface arterials
Gateway Cities Forum Traffic Signal Corridor Projects / TSSP	Phase VI: Design and construct multijurisdictional traffic signal synchronization, intersection operational improvements and ITS components on regional arterials in Gateway Cities Area. [RTP ID: LAF3309]

Traffic Systems and Operations / Intelligent Transportation Systems – I-710 RDEIR/SDEIS	
Project	**Project Limits / Description**
Wilmington Automated Traffic Surveillance and Control System/ Adaptive Traffic Control System (ATSAC/ATCS) Project	Project Limits: Southern portion of the City of LA, bounded by Sepulveda Blvd. on the north, the City of Long Beach on the east, Seaside Ave./Ocean Blvd. on the south, Western Ave. on the west. • Implement a real-time traffic signal synchronization system to effectively managed high traffic volumes and reduce traffic congestion at 70 signalized intersections
Harbor-Gateway Automated Traffic Surveillance and Control System/ Adaptive Traffic Control System (ATSAC/ATCS) Project	Project Limits: Southerly portion of the City of LA, bounded by Manchester Ave. on the north, Alameda St. on the east, Imperial Highway on the south, Vermont Ave. on the west • Implement a real-time traffic signal synchronization system to effectively manage high traffic volumes and reduce traffic congestion at 109 signalized intersections

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Appendix V RESPONSE TO COMMENTS

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1.1 IDENTIFICATION OF A PREFERRED ALTERNATIVE

An alternatives analysis was completed pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) prior to, and during preparation of, the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). CEQA requires consideration of a range of reasonable alternatives that would achieve the basic objectives of the project, but would also avoid or substantially lessen any of the significant effects of the project. NEPA also requires consideration of all reasonable alternatives, which must be discussed to a comparable level of detail. An agency's "Preferred Alternative" is the alternative that the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors. The California Department of Transportation (Caltrans), as a matter of practice, generally does not identify a Preferred Alternative until after circulation of a draft environmental document wherein the public has the opportunity to provide comments on the range of proposed alternatives. CEQA Statutes and Guidelines do not address the question of a Preferred Alternative, but recent case law (*Washoe Meadows Community v. Department of Parks and Recreation* [2017]) has suggested that in the case of an agency considering a diverse range of numerous alternatives that would create different sets of impacts and require different mitigation measures, a Preferred Alternative should be identified prior to the preparation of a Draft EIR. Since the two build alternatives evaluated in the RDEIR/SDEIS for the Interstate 710 (I-710) Corridor Project are generally similar in scope, impacts, and mitigation measures, identification of a Preferred Alternative after the public circulation period is appropriate. Under NEPA, a Preferred Alternative is generally not identified until after the draft environmental document has been circulated and public comments have been taken into account.

Per the Caltrans Project Development Guidelines outlined in Chapter 12 of the Project Development Procedures Manual, the Project Development Team (PDT) determines how the alternatives are to be evaluated. The I-710 PDT is made up of representatives from Caltrans, Los Angeles County Metropolitan Transportation Authority (Metro), and the Gateway Cities Council of Governments (COG). For the I-710 Corridor Project, a Community Participation Framework, which includes the various Local Advisory Committees (LACs), Technical Advisory Committee (TAC), Corridor Advisory Committee (CAC), and Project Committee (PC) was created at the outset of the project development process to provide feedback and advice from communities and stakeholders on a recommendation for various project elements, including the eventual identification of the Preferred Alternative. The public has actively participated in this process. Recommendations on the Preferred Alternative are then forwarded to the Metro Board of Directors for their approval before submittal to Caltrans District 7 as the CEQA/NEPA Lead Agency to identify the Preferred Alternative for the Final EIR/EIS.

Evaluation factors for the alternatives analysis included whether the alternatives met the project's Purpose and Need, and the technical feasibility and affordability of the alternatives, and took into account public comments and environmental impacts related to the alternatives. These evaluation factors were drawn from the technical studies performed for the project and focused on major

technical findings that clearly differentiated the two build alternatives in order to present balanced and objective information on benefits, costs, and impacts of the build alternatives for review and discussion. This was essential because the various advisory committees and stakeholders that ultimately weighed in on a recommendation for a Preferred Alternative each had different perspectives on what factors were most important to them.

To complete the alternatives analysis process, technical analysis and public engagement conducted prior to, and during preparation of, the RDEIR/SDEIS, allowed for the consideration of the benefits and impacts of Alternative 5C and Alternative 7 relative to Alternative 1 (the No Build Alternative) and relative to existing conditions within the Corridor. Numerous presentations were made to the I-710 advisory committees, local jurisdictions, community groups, and stakeholders on key technical findings related to the project alternatives throughout 2016 and 2017 leading up to the circulation of the RDEIR/SDEIS, which took place from July to October 2017. Following the public review and comment period for the RDEIR/SDEIS, the key technical results and evaluation findings were discussed and reviewed with the I-710 advisory committees and stakeholders that comprised the I-710 community participation framework. In early 2018, these advisory committees worked to form their recommendations for a Preferred Alternative. Key public issues and concerns, the I-710 PDT technical recommendations, and feedback from the I-710 advisory committees were summarized and presented to the Metro Board of Directors at Metro's Regular Board Meeting on March 1, 2018. At that meeting, the Metro Board approved Motion 5.0 recommending Alternative 5C as the Preferred Alternative, along with two accompanying motions (Motions 5.1 and 5.2) that provided additional direction to Metro staff to guide the development of future project implementation and construction. The Metro Board's recommendation for Alternative 5C was forwarded to Caltrans, District 7, for their acceptance and concurrence in June 2018.

However, in 2021**,** Caltrans and Metro reassessed the selection of Alternative 5C as the Preferred Alternative and, due to the project's impact on the environment (including the inability to achieve project-level air quality conformity for particulate matter), comments received from the general public and agencies during the public review period of the RDEIR/SDEIS, and input from the Metro Board of Directors, selected the No Build Alternative as the Preferred Alternative.

Although both Alternative 5C and Alternative 7 would meet the Purpose and Need of the project and provide mobility benefits for travel within the I-710 Corridor, Alternative 1 (No Build Alternative) has been identified as the Preferred Alternative for following reasons:

- **Community and Public Opposition to added lanes on I-710 under Alternatives 5C and 7**. Throughout the life of the project, a robust community outreach program was implemented. This included several advisory committees that met on a regular basis, public meetings and hearings, and community briefings. Through this process, the community expressed concern related to following:
    - Number of displacements associated with the build alternatives including residences (specifically in the cities of Commerce and Compton), businesses,

homeless shelters (Bell Shelter), the Long Beach Multi-Service Center, and transitional housing.

- Construction and operational air quality and health risk impacts especially related to asthma and cancer risks to the communities and facilities (such as schools and parks) adjacent to the corridor.
- Disproportionately high and adverse effects to Environmental Justice populations related to air quality, noise, traffic, parks, construction, and displacements.
- Impacts to parks and recreational facilities such as the Julia Russ Asmus Park, Coolidge Park, Ralph C. Dills Park, Bandini Park, Maywood Park, Cesar E. Chavez Park, Dominguez Gap and DeForest Treatment Wetlands, and Parque Dos Rios.
- Impacts related to proposed peak period parking restrictions on arterials, specifically along Atlantic Ave. where businesses are reliant upon on-street parking.
- Impacts to bicycle and pedestrian facilities specifically related to the safety for pedestrians and bicyclists when crossing diverging diamond interchanges proposed throughout the project limits.
- Impacts related to noise including impacts to park use and enjoyment and impacts to sensitive receptors from heavy trucks and the inadequate mitigation provided.

- **Inability to achieve project-level conformity for particulate matter.** Alternatives 5C and 7 included a zero- and near-zero emissions truck program (the I-710 Clean Truck Program) as a project feature. Alternative 7 also included a zero- and near-zero emissions freight corridor. While project analysis showed that the zero- and near zero emissions truck program would ultimately reduce diesel trucks operating in the I-710 Corridor, extensive discussions with the EPA indicated that Alternatives 5C and 7 must be considered a project of air quality concern (POAQC) due to tire wear, brake wear, and fugitive dust as well as concerns associated with the enforceability of the zero- and near zero emissions truck program. Therefore, a hot-spot analysis was required for air quality conformity determination. Preliminary results of the hot-spot analysis indicated that the two build alternatives would not demonstrate project-level conformity requirements for particulate matter and would not successfully satisfy the requirements to demonstrate conformity to the purpose of the State Air Quality Implementation Plan (SIP).would not pass project-level conformity for particulate matter and would thus result in a violation of the Clean Air Act..
- **Change in Direction of Metro Board of Directors.** Metro has adopted new policies regarding freeway widening and has shifted the focus of their highway program toward projects that can be used by buses, carpoolers, bicycles, and pedestrians, or projects that help older and existing roads work better. Therefore, Alternatives 5C and 7 are inconsistent with the new Metro Board of Directors direction. The Metro Board of Directors expressed their opinion that widening I-710 would cause displacement and bring more

traffic, including trucks near low-income households and communities of color impacted over generations by highway investment decisions mired in a legacy of inequitable policies.

- **Caltrans' Request to move forward with the No Build Alternative.** Caltrans' letter (February 7, 2022), from Director Tavares expressed concern moving forward with the build alternatives in their current form and recommended selecting the No Build Alternative as the Preferred Alternative in response to the long-standing concern about community displacement along the I-710 Corridor. In addition, Alternatives 5C and 7 are inconsistent with current State and Federal policies such as the California Transportation Agency (CalSTA) Climate Action Plan for Transportation Infrastructure (CAPTI) that was adopted in July 2021 and whose approach is to rethink highway expansion projects.

1.2 COMMUNITY OUTREACH AND EXTENSION OF COMMENT PERIOD

As described below, public outreach conducted for the project, which includes a public comment period and public hearings, was above and beyond what is legally required or regularly performed under CEQA, NEPA, and Caltrans guidance.

The public participation framework for the project is described in more detail in Section 5.8 of the Final EIR/EIS. Since the beginning of the EIR/EIS process in 2008, several advisory committees have convened on a regular or as-needed basis to provide feedback to the I-710 Corridor Project team. These committees mirror the community participation framework of the previous I-710 Major Corridor Study and include Local Advisory Committees, a Corridor Advisory Committee, a Technical Advisory Committee, a Project Committee, and an Executive Committee.

Several Local Advisory Committees (LACs) were established in several of the corridor cities and in unincorporated East Los Angeles by the respective city councils and by the County Supervisor in the case of East Los Angeles. LACs are largely made up of representatives from impacted neighborhoods and existing neighborhood-based associations. LACs are intended to focus strictly on issues related to the I-710 Corridor, its current and future impacts on their communities, and mitigation plans to reduce those impacts, as well as advising on ways and means to enhance communication between the project and the local community.

The Corridor Advisory Committee (CAC) was established as a broad-based corridor-wide body whose membership consisted of representatives of the LACs or a member appointed by the City Council or County Supervisor for those communities that do not have an LAC, representatives from the (currently defunct) Subject Working Groups, the Chair of the Technical Advisory Committee, and up to five stakeholders to be appointed by the Project Committee. The CAC was structured to represent both community and stakeholder interests within the I-710 Corridor.

The Technical Advisory Committee (TAC) provided a technical perspective within the committee structure and consists of a staff member with relevant expertise in the technical aspects of the project appointed by the City Manager, director, or administrator of each member agency of the

Project Committee, as well as representatives of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the South Coast Air Quality Management District (SCAQMD).

For a Draft EIR, CEQA requires that the public review and comment period is at least 30 days and should be no longer than 60 days except under unusual circumstances. For a Draft EIR for which a state agency is the Lead Agency or Responsible Agency, CEQA requires a 45-day public review and comment period. For a Draft EIS, NEPA requires a 45-day public review and comment period. For a Draft EIR/EIS, Caltrans requires a minimum 45-day comment period, which complies with both CEQA and NEPA.

The Recirculated Draft Environmental Document was released for public review beginning on July 21, 2017 and lasting until October 23, 2017, a 90-day comment period. Therefore, the 45-day comment period required under CEQA, NEPA, and Caltrans guidance was extended to 90 days. During public review, Caltrans received requests for an extension of the review period to 120 days. However, in 2012, a Draft EIR/EIS was previously circulated for public review and comment for a 90-day period. The public review period for the RDEIR/SDEIS was originally 45 days, but extended to 90 days to maintain consistency with the Draft EIR/EIS.

CEQA does not require formal hearings at any stage of the environmental process. NEPA requires public meetings or hearings when there may be substantial environmental controversy concerning the environmental effects of the proposed action, a substantial interest in holding the meeting, or a request for a meeting by another agency with jurisdiction over the action.

Per the Caltrans Project Development Guidelines outlined in Chapter 11 of the Project Development Procedures Manual, public hearings are required for any projects that require significant right-of-way; require substantial changes to the layout or to the function of connecting roadways or facility being improved; have a significant adverse impact on abutting real property; or have a significant environmental, economic, social, or other effect. The Caltrans Project Development Guidelines do not include a requirement for the number of hearings that must be held for a project.

During the comment period, three formal public hearings were held: (1) on August 23, 2017, in the City of Commerce; (2) on August 26, 2017, in the City of Paramount; and (3) on August 31, 2017, in the City of Long Beach. In addition to the three formal public hearings, two community briefings were held on October 18, 2017, in East Los Angeles, and on October 19, 2017, in the City of Long Beach. The public hearings and community briefings provided the opportunity for the public to comment on the project, which fulfilled requirements under CEQA, NEPA, and Caltrans guidance. No additional public hearings are required for the project.

At the formal public hearings in August 2017, Caltrans and Metro employed court reporters to transcribe oral comments provided by attendees, as well as comments dictated directly to the transcriber. The transcripts of those comments and their responses are included in this appendix.

Additionally, physical comment cards and laptops at which attendees could submit comments to Caltrans' website online were made available at the hearings.

The community briefings in October 2017 were not considered formal hearings held by Caltrans; therefore, Caltrans and Metro did not provide court reporters to transcribe comments from the public. However, in the case of the community briefing in East Los Angeles, the Office of Los Angeles County Supervisor Hilda Solis (also the entity that hosted the meeting) contracted with a court reporter to transcribe the question-and-answer session that took place during the meeting, and submitted that transcript as a formal comment letter. That transcript can be found in this appendix, as Comment IP-19. Physical comment cards and laptops at which attendees could submit comments to Caltrans' website online were also made available at the community briefings and are included in this appendix.

1.3 I-710 Clean Truck Program

Both build alternatives evaluated in the RDEIR/SDEIS, Alternative 5C and Alternative 7, included a clean truck program that would provide subsidy funding to encourage the turnover of diesel trucks operating in the I-710 Corridor to zero- and near zero-emissions (ZE/NZE) trucks. In addition, Alternative 7 also included an option, called the ZE-Only Option, which presumed that all trucks using the freight corridor were zero-emissions trucks. More information regarding the I-710 Clean Truck Program is contained in Section 2.3.2.1 of the Final EIR/EIS.

As part of the air quality analysis performed for the build alternatives and the ZE Option of Alternative 7, it was determined that the number of "clean emissions" trucks that can be delivered in the I-710 Corridor ultimately depends upon available funding levels to help subsidize the purchase and deployment of NZE and/or ZE trucks.

The analysis presented in the RDEIR/SDEIS also showed that both the ZE-Only Option and the baseline description of Alternative 7 that included both ZE and NZE trucks would reduce diesel particulate matter and the associated cancer risk, by the same degree. The ZE-Only Option would reduce nitrogen oxides (NO_X) and tailpipe particulate matter emissions to a slightly lower level than the ZE/NZE Option. It is important to note that according to the Air Quality/Health Risk Assessment (AQ/HRA), the future increases in PM_{10} and $PM_{2.5}$ are predominantly due to entrained road dust, rather than tailpipe emissions. Therefore, for PM_{10} and $PM_{2.5}$, there would be only a negligible difference between the ZE-Only Option and the ZE/NZE Option of Alternative 7.

At Metro's Regular Board Meeting on March 1, 2018, the Metro Board approved a motion to change the ZE/NZE truck technology development program evaluated in the 2017 RDEIR/SDEIS to the phased-in "Zero Emission Truck Technology Development Program." The motion included increasing the program funding target from $100 million to $200 million, as well as the provision of incentives and grants investment to help accelerate zero-emission technologies both for long-hauling trucks and for zero-emission charging or fueling infrastructure within the I-710 Corridor. In April 2020, the Metro Board of Directors programmed $50 million in Metro-controlled funds to

provide funding for the initial deployment of the I-710 Clean Truck Program and to leverage the remaining funds required for full program implementation.

As noted in Chapter 2.0, Project Alternatives, of the Final EIR/EIS, the No Build Alternative (Alternative 1) has been selected as the Preferred Alternative; hence programmatic elements of the build alternatives, such as the I-710 Clean Truck Program will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Prior to selection of the No Build Alternative, the description of the I-710 Clean Truck Program was being further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability for the program. However, since a build alternative has not been selected as the Preferred Alternative, the I-710 Clean Truck Program will need to be developed and implemented following a process separate from this Final EIR/EIS should Metro and its partner agencies elect to proceed with these improvements at a future date.

1.4 AIR QUALITY

1.4.1 PROJECT LEVEL PARTICULATE MATTER CONFORMITY ANALYSIS

As noted in Chapter 2.0, Project Alternatives, of this Final EIR/EIS, the No Build Alternative was chosen as the Preferred Alternative due to a number of reasons including but not limited to the inability of the build alternatives to achieve project-level conformity determination for particulate matter. Details on how this determination was made for the build alternatives are provided below.

Prior to circulation of the 2012 Draft EIR/EIS, the I-710 Corridor Project build alternatives were determined to be a POAQC requiring a hot-spot analysis because they were considered to be: (i) a new or expanded highway project that had a significant number of or significant increase in diesel vehicles, and (ii) a project affecting intersections that are at level of service (LOS) D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project. This was described in Section 3.13.3.1 of the 2012 Draft EIR/EIS. Hence a particulate matter (PM) hot-spot analysis would be required to demonstrate that the build alternatives met Federal project-level air quality conformity requirements. The Draft EIR/EIS and RDEIR/SDEIS both indicated that a project-level conformity analysis would be conducted for the Preferred Alternative following public circulation and prior to approval of the Final EIR/EIS. Consistent with Caltrans and FHWA guidance, project-level air quality conformity is not required for approval of a Draft EIR/EIS and, as such, was not required to be included in the RDEIR/SDEIS. However, air quality conformity is required for project approval or funding.

Some of the build alternatives analyzed in the 2012 Draft EIR/EIS assumed that ZE/NZE trucks would be commercially deployed and therefore in use in the I-710 Corridor at the time the project would be built; however, at that point in project development, the I-710 Corridor Project did not include a ZE/NZE truck program as a programmatic element. The assumption that the project was a POAQC was carried forward in the RDEIR/SDEIS even considering that the subsidy and

deployment of ZE/NZE trucks was included as a programmatic element of Alternatives 5C and 7, which serves as a commitment that ZE/NZE trucks would be deployed in the corridor should a build alternative be approved and constructed. Subsequent to circulation of the RDEIR/SDEIS, the description of the I-710 Clean Truck Program was further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability (for more information, see Section 2.3.2.1, Common Features of the Build Alternatives, and Appendix W of this Final EIR/EIS).

While project analysis showed the I-710 Clean Truck Program would reduce diesel truck trips in the I-710 Corridor in 2035, extensive discussions with the EPA indicated that Alternatives 5C and 7 must be considered a POAQC mainly because EPA staff stated that the enforceability provisions of the I-710 Clean Truck Program were not sufficient to ensure the projected reduction in 2035 diesel truck trips. Therefore, a hot-spot analysis was required for project-level air quality conformity determination. Preliminary results of the hot-spot analysis indicated that the two build alternatives would not pass project-level conformity for particulate matter, mostly because of increases in tire wear, brake wear, and entrained road dust, and would thus prevent a project-level conformity determination needed to approve a build project.

1.4.2 Air Quality Analysis Of Interim Years

As noted in Chapter 2.0, Project Alternatives, of this Final EIR/EIS, the No Build Alternative was chosen as the Preferred Alternative. Therefore, there is no need to discuss the potential for combined construction and operational emissions to be greater during the interim years than in the buildout year 2035. The construction of the build alternatives was assumed to begin between 2022 and 2024 and to be completed by horizon year 2035. As is typical during major freeway reconstruction projects in the Los Angeles metropolitan area, the I-710 freeway would continue to operate during the construction period. Hence, the build alternatives would not exist in any of the interim years between start of construction and 2035 and a comparison of the emissions with and without the build alternative in a particular interim year would be hypothetical and misleading.

According to the preliminary construction staging analysis prepared for Alternatives 5C and 7, the build alternatives were not projected to be built and operational by 2020, 2025, or 2030. Traffic volumes are highest under the build alternatives relative to the No Build condition. Also, it has been demonstrated that 2035 is the peak PM_{10}/$PM_{2.5}$ emissions year for operational emissions in the August 2018 White Paper, *I-710 Corridor Project: Selection of Analysis Year for Quantitative Particulate Matter Hot-Spot Analyses*, which was included as Appendix B of the August 2018 particulate matter conformity submittal to the Transportation Conformity Working Group. In essence, vehicle miles travelled (VMT) would increase during this period (as noted in SCAQMD's Final 2016 Air Quality Management Plan), while fleet-turnover to the cleanest current cars and trucks would be essentially complete by 2023 (as shown in EMFAC2014 and complete implementation of the California Air Resources Board's (CARB) Truck and Bus Rule by that date).

1.4.3 LOCALIZED IMPACTS OF PROJECT CONSTRUCTION EMISSIONS

As noted in Chapter 2.0, Project Alternatives, of this Final EIR/EIS, the No Build Alternative was chosen as the Preferred Alternative. Therefore, there is no need to discuss the localized air quality and health risk impacts of project construction of the build alternatives. Even if a build alternative had been chosen as the Preferred Alternative, the detailed final design, construction, and staging plans and equipment location and timing for building that alternative would not be determined until after the Final EIR/EIS and Record of Decision (ROD) are approved. Without location-specific construction activity information, modeling of location-specific air quality impacts is not possible and assumptions about those locations and the intensity/duration of construction activity at those locations would cause any dispersion modeling results (ambient or mobile source air toxics) to be speculative and misleading. The construction emissions scenarios for the build alternatives presented in the AQ/GHG/HRA Technical Study (2017) and summarized in Section 3.24, Construction Impacts, of the RDEIR/SDEIS and this Final EIR/EIS assume full build out of Alternatives 5C and 7, which represent a conservative (i.e., worst-case scenario) emissions analysis, drawn from the construction staging scenarios, in order to identify and disclose the range of potential impacts.

1.4.4 EMISSION FACTOR ASSUMPTIONS FOR ZE/NZE TRUCKS

The basis for determining ZE/NZE emission factors is presented in Section 7 of Appendix C to the *Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (AQ/GHG/HRA Technical Study) (June 2017) and the associated *Addendum to the Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (December 2020). The emission factor and fuel type for ZE/NZE trucks were determined through discussions with the SCAQMD, the CARB, and engine manufacturers. The air quality analysis conservatively (i.e., greatest potential emission impact) assumes that all ZE/NZE trucks would be NZE. NZE trucks would be non-diesel (diesel trucks have not been able to meet CARB's optional low-NO_X standard of 0.02 grams per brake horsepower-hour [gm/bhp-hr]), thereby reducing diesel particulate matter (DPM) to zero and NO_X emissions by 90 percent compared to conventional heavy-duty trucks (conventional heavy-duty trucks include light heavy-duty trucks, medium heavy-duty trucks, and heavy heavy-duty trucks). The EMFAC vehicle classes in these categories are presented in Table C1 of the AQ/GHG/HRA Technical Study. Fuel types for these vehicles are primarily diesel, but also include gasoline and natural gas trucks. The distribution across various fuel types for each heavy-duty trucks category was derived from EMFAC2014, which was used to develop the emissions factors for these vehicles. Further, and consistent with the CARB's EMFAC2014 emission factor program, it was conservatively assumed in the AQ/GHG/HRA Technical Study that NZE trucks would not reduce any other criteria air pollutant or greenhouse gas emissions as compared to a conventional heavy-duty truck. Additionally, no emission reduction credit was taken for further tailpipe reductions for pure ZE trucks that would be a component of the NZE/ZE truck program under Alternatives 5C and the baseline description of Alternative 7. However, the ZE option of Alternative 7 did assume that all trucks within the freight corridor would be ZE.

1.5 DISPLACEMENTS AND RELOCATIONS

As stated in Section 1.1 of this appendix, Caltrans, as lead agency under CEQA and NEPA (as assigned by the FHWA, in cooperation with Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there would be no displacements or relocations in the Study Area communities. However, the information provided below describes the analysis undertaken by Caltrans and Metro for the two build alternatives that were evaluated in the 2017 RDEIR/SEIS.

1.5.1 ANALYSIS OF TAX REVENUE LOSS

Section 3.3.2.4 of the RDEIR/SDEIS provided an analysis that estimated the annual sales tax revenue losses to city, county, and State governments as a result of the acquisition of nonresidential parcels for the build alternatives. For the Preferred Alternative (No Build), there would be no loss in annual sales tax revenue. The potential losses in sales tax revenues were estimated using total taxable sales in county unincorporated areas and the affected cities in the Study Area. The analysis of tax losses in the RDEIR/SDEIS, whether property tax losses or sales tax losses, represented a conservative scenario that presumed all businesses or residences are not able to be relocated within their existing jurisdiction.

Property taxes in the Study Area are collected by the County of Los Angeles and apportioned to the incorporated cities in the County, including the affected cities in the Study Area. Property taxes are levied on the assessed value of privately owned property (the amount levied is approximately 1 percent of the assessed property value). The data used in the analysis provided in Section 3.3.2.4 of the RDEIR/SDEIS were provided by the Office of the Los Angeles County Tax Assessor for the property tax paid for each parcel that may be potentially acquired and relocated under the build alternatives in the Study Area cities. For that analysis, the property tax revenue is the total property tax amount collected by the Los Angeles County Tax Collector for each city before it is distributed to the City and other agencies. For full property acquisitions, the total amount paid in property tax was used for the analysis. For partial property acquisitions, only the percentage of the parcel that would be acquired was used to calculate the loss in property tax revenues. For example, if one of the partial acquisitions that require relocation would acquire 2 percent of the parcel, the calculated loss of property tax revenues for that parcel would be 2 percent of the total amount paid for the property tax. Estimates of property tax loss included in the RDEIR/SDEIS represent a worst-case estimate in that it is assumed that all properties either relocate outside of their existing local jurisdiction or do not relocate at all.

Individuals, families, businesses, and others that are required to relocate are protected under Caltrans' Relocation Assistance Program (RAP), as established by Federal and State law. Its primary objective is to assist all project displacees so that they do not suffer disproportionate injury as a result of a build alternative constructed for the benefit of the public. One goal of the relocation program is that both residential and non-residential relocations would occur within the affected communities under either of the build alternatives. However, since the No Build Alternative has been selected as the Preferred Alternative, then a relocation program would not apply as there would be no displacements.

1.5.2 Analysis of Replacement Properties

For the Preferred Alternative (No Build), there would be no displacements or relocations. For disclosure purposes, an analysis of both residential and non-residential replacement properties was provided in detail in the Draft Relocation Impact Report (DRIR) and summarized in Section 3.3.2.4 of the RDEIR/SDEIS and this Final EIR/EIS for the build alternatives. Proposed replacement sites for the displaced residential and non-residential tenants were identified within the federally mandated 50-mile radius for moving expense reimbursement and primarily fell within the boundaries of the displacement cities and communities. An analysis was also provided for those businesses where relocations was determined to be more complicated including two homeless shelters, gas stations, large warehouses, self-storage facilities, a fire station, and businesses with highly specialized operations. All replacement sites would require similarly zoned land that would facilitate similar business operations. Section F of the DRIR shows the estimated displacements by build alternative and Section H shows whether adequate relocation resources existed for the identified residential and non-residential properties. A diligent search for replacement units for both residential and non-residential occupants was conducted in the areas where displacements were anticipated to occur under each of the build alternatives and the research identified multiple potential replacement sites within or in close proximity of the impacted cities. The replacement areas were found to be comparable to the areas where displacement is anticipated to take place and these replacement areas would continue to offer the same types of amenities such as: public transportation, close proximity to education, employment, retail stores, and access to highways. The relocation resources were judged to be affordable to residential displacees given the use of replacement housing payments. However, it was found that resources would be needed in terms of availability and affordability to relocate all potential displaced tenant residents. The search area for replacement residential and non-residential units included the replacement area cities, surrounding communities which make up a geographic area 12 miles wide by 19 miles long. Depending upon when the properties that would have been acquired, in the analysis, consideration was given to include utilizing construction of replacement housing under the Last Resort Program. The RDEIR/SDEIS noted that available replacement properties would be evaluated once a preferred alternative was identified. As stated above in the introductory paragraph of Section 1.6, the No Build Alternative has been identified as the Preferred Alternative. Therefore, no displacements would occur and thus no relocations are necessary.

1.5.3 Impacts to Bell Shelter and Long Beach Multi-Service Center

In response to ongoing coordination with the Study Area communities and comments received on the Draft EIR/EIS and RDEIR/SDEIS, the project team worked to redesign the project build alternatives to avoid direct impacts to both the Bell Shelter and the Multi-Service Center (MSC). However, even with the redesign of the build alternatives, direct impacts to the MSC could not be avoided under one of the build alternatives - Alternative 7. As stated above in the introductory paragraph of Section 1.6, the No Build Alternative has been identified as the Preferred Alternative. There will be no impacts to the Bell Shelter or the MSC under the Preferred Alternative.

1.6 ARTERIAL PARKING RESTRICTIONS

The Arterial Parking Restriction Program described in the RDEIR/SDEIS was proposed as a programmatic project element of the build alternatives intended to be implemented in cooperation with the affected local jurisdictions. The parking restrictions were intended to increase traffic capacity by one additional through-lane in each direction at certain locations along the corridor during peak travel hours of the day.

The parking restriction program was initially proposed as part of all build alternatives because the operational change (the parking restriction during peak periods) would not require the construction or acquisition of additional right-of-way for these arterial roadways. Impacts to parking during these peak hours were analyzed and presented in the RDEIR/SDEIS in Section 3.3.1.3. However, feedback from the public and local agencies during the public circulation period of the RDEIR/SDEIS indicated a lack of support for the parking restrictions on these arterials. In addition, as described in detail in Section 1.1 of this appendix, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the Arterial Parking Restriction Program has been eliminated from further consideration.

1.7 EARLY ACTION PROJECTS

For the past several years, Metro has been working with the Gateway Cities COG and the I-710 Corridor Technical Advisory Committee to identify and prioritize projects along the I-710 Corridor that could be classified as Early Action Projects to be advanced for execution prior to approval of a Preferred Alternative for the I-710 Corridor Project. To date, Early Action Projects associated with the I-710 study area have been administered by Metro, in collaboration with Caltrans and the Gateway Cities COG, and funded via Measure R. Because of the long planning timeframe of the overall I-710 Corridor Project, identifying and implementing Early Action Projects serves to help expedite needed operational improvements within the Study Area in advance of completion of the I-710 Corridor Project EIR/EIS.

Based on guidelines adopted by the I-710 Corridor TAC, proposed improvements associated within the I-710 Corridor Study Area may qualify as Early Action Projects if they: (1) are consistent with the I-710 Corridor planning process and objectives; (2) demonstrate independent utility; and (3) require no additional permanent right-of-way to construct, therefore requiring minimal environmental clearance. As such, improvements identified as Early Action Projects are considered independent projects from the I-710 Corridor EIR/EIS and are individually subject to CEQA and NEPA and the project development process.

Potential Early Action Projects associated with the I-710 Corridor may include soundwalls, local freeway interchanges, and arterial improvements. For example, the Shoemaker Bridge Replacement Project, the Firestone Boulevard Bridge Widening Project over the Los Angeles River, and the I-710 Early Action Soundwall Program are all designated as Early Action Projects because they meet the criteria described above. The respective local agencies are responsible for nominating projects for consideration by the I-710 Corridor TAC to make funding

recommendations to the Metro Board, and for leading these projects through the project development and environmental processes once funded.

1.8 MOTION 22.1

During the 2012 public circulation period of the DEIR/DEIS, comments received from the public and agencies indicated strong support for the creation and inclusion of another alternative that retained the ZE/NZE freight corridor, but did not add general purpose lanes on I-710. The U.S. Environmental Protection Agency (USEPA), in its comment letter on the 2012 DEIR/DEIS, recommended the analysis of a build alternative that would include a zero-emission freight corridor with no widening of I-710 general purpose lanes. The Coalition for Environmental Health and Justice (CEHAJ), a coalition of organizations, associations, and community groups working to achieve environmental justice, community health, and overall quality of life in the study area, put forth a detailed and comprehensive proposal of an alternative called "Community Alternative 7" (CA-7) as a formal comment on the 2012 Draft EIR/EIS, and requested that it be analyzed as a stand-alone build alternative.

CA-7 essentially described a corridor program involving several elements, including freeway improvements (no additional general purpose lanes but addition of a mandatory zero-emission freight corridor operated by a public-private partnership), comprehensive public transit element, improvements to the Los Angeles River, a comprehensive pedestrian and bicycle element, and community benefits. The scope and scale of the CA-7 program extended far beyond the I-710 Corridor Project Purpose and Need and scope of the highway project as described in both the DEIR/DEIS and RDEIR/SDEIS. For example, Los Angeles River improvements were defined in CA-7 as "restoration of the natural river functions, including recreational trails, restored wetlands, continuous fish migration corridors, and native landscaping."[1] Although Caltrans and Metro are supportive of these objectives and their benefits for corridor residents, the Los Angeles River channel is the sole jurisdiction of the United States Army Corps of Engineers (USACE), and neither Caltrans nor Metro has the authority to implement such improvements. Similarly, the implementation of "road diets" and other traffic calming treatments on principal arterial and collector streets throughout the corridor study area — although certainly beneficial to non-motorized vehicle users — are subject to the local decision-making authority of the cities and local jurisdictions who own and operate these arterial roadways.

In parallel with the ongoing coordination and communication between CEHAJ and the I-710 Project Team, community members worked with the office of Los Angeles County Supervisor Hilda Solis to continue the effort to evaluate CA-7 as a stand-alone alternative in the RDEIR/SDEIS. As a result, the Metro Board of Directors passed Board Motion 22.1 in October

[1] CEHAJ comment letter on the 2012 DEIR/DEIS (IP-22).

2015. The full text of Motion 22.1 can be found at https://media.metro.net/projects_studies/I710/images/CAC_Presentation_2015_1029_Metro_Board_Report_Oct-2015.pdf.

Motion 22.1 split up the various components of CA-7 and instructed Metro staff, in coordination with Caltrans, Gateway Cities COG, and other partner and responsible agencies, to examine several elements of CA-7 outside, but in parallel to, the I-710 Corridor Project environmental process. These elements included, but were not limited to, the following: a zero-emission truck procurement and operations program, the addition of bus stops with access points to bicycle paths, and the goal of working with community groups to develop a Local and Targeted Hiring Policy and Project Labor Agreement for construction jobs and a First Source Hiring Policy for permanent jobs created by the I-710 Corridor Project.

Many elements of CA-7 were appropriate for the project-level EIR/EIS and were incorporated into the I-710 Corridor project analysis as a result of Motion 22.1. Alternative 7 was developed and evaluated in the RDEIR/SDEIS and most directly addressed the component of CA-7 that mandated no additional general purpose lanes on I-710 with a freight-only corridor. To address the mandatory zero-emission freight corridor, Design Option 7ZE, a zero-emission only freight corridor option, was also evaluated in the RDEIR/SDEIS. The identification of up to five new pedestrian/bicycle-only bridges crossing I-710, I-405, and/or the Los Angeles River were added to the scope of both build alternatives. Programmatic elements including enhanced transit, a Clean Truck Program, and a Community Health Benefit Program were also added as elements of the project description of Alternatives 5C and 7, to be implemented if and when a build alternative was approved and constructed. Were it not for the introduction of CA-7, it is likely that Alternative 7 would not have been designed and carried forward for study in the RDEIR/SDEIS. Table 2.2-1 in Chapter 2 of the Final EIR/EIS lists the elements of Motion 22.1 that are addressed within the I-710 Corridor project analysis and where the discussion can be found in the EIR/EIS.

1.9 ALAMEDA CORRIDOR

A number of comments received on the RDEIR/SDEIS questioned the need for improvements to I-710 if the Alameda Corridor is not currently operating at full capacity. The Alameda Corridor, which opened in 2002, is a 20-mile freight rail facility connecting the Ports of Los Angeles and Long Beach with the transcontinental rail system east of downtown Los Angeles. The Alameda Corridor is restricted to rail traffic only.

The Alameda Corridor may appear to be currently underutilized because it was designed to handle projected cargo volumes up to the year 2030 and beyond, with a capacity of about 150 trains per day. The number of trains per day using the Alameda Corridor peaked at an average of 55 trains per day in 2006, prior to the global economic recession that began in 2007. The corridor averaged about 30 trains per day in 2021, although it is important to note that average

train lengths have continued to increase in size since 2006.[2] Based on scenarios developed for the I-710 Corridor Project analysis, the Alameda Corridor is projected to reach nearly 100 trains per day by 2035. This represents approximately two-thirds of the approximately 150-train-per day corridor capacity.

According to cargo forecasts utilized in the analysis for the I-710 Corridor Project, the future horizon year forecast for cargo volume at the two Ports was projected to be nearly 41.4 million twenty-foot equivalents (TEUs) by 2035. Maximum goods movement by rail is an underlying assumption of all the alternatives analyzed in the I-710 Corridor Project EIR/EIS. For the future year (2035), the estimates showed that 40 percent of Port container traffic will be carried by rail, either on-dock (30.5 percent) where trains are loaded and formed within the marine terminals, or at near-dock/off-dock rail facilities (9.5 percent) where containers are carried by truck to rail facilities near the Ports or within the Los Angeles region.

With regard to future demand for cargo containers to be transported to and from the Ports by rail, the *Final Technical Memorandum – I-710 Railroad Goods Movement Study* (URS, February 2009) found that although the rail operators have implemented a variety of operational strategies to meet container demand from the Ports, including using longer trains with higher utilization rates, the freight railroad system alone will not be able to handle the total container demand.

The Alameda Corridor represents an important leg within the overall freight rail system that moves cargo to and from the Ports. However, there are constraints, both upstream and downstream of the Alameda Corridor, that limit the ability of the overall rail system to handle freight beyond a 40 percent share of Port container traffic in the future. While there is a clear desire to increase the percentage of on-dock rail, there is not enough physical space within the marine terminals to load and build trains to meet projected demand without further physical expansion of the Ports' footprint. The San Pedro Bay Ports have recently undertaken additional rail studies to examine ways to further maximize efficiencies of terminal operations to boost train operations to the greatest extent feasible.

The vast majority of trains that originate at the Ports and that utilize the Alameda Corridor travel east through Los Angeles, Riverside, and San Bernardino Counties. The capacities of these rail lines are also projected to be constrained in light of future cargo demand, due to numerous at-grade crossings, competition with passenger rail trains, and other downstream bottlenecks attributable to insufficient mainline trackage at certain locations within the Los Angeles Basin.

However, the primary reason why the Alameda Corridor does not serve all of the Port cargo trips within the region is because many of these trips (60 percent of the cargo in 2035) are either true local truck trips or they are transload-secondary trips. Freight rail is a less expensive mode for

[2] Alameda Corridor Transportation Authority. 2021. Corridor Train Counts. Website: https://www.acta.org/wp-content/uploads/2022/07/Train_Counts.pdf (accessed November 9, 2022).

transporting cargo containers destined for inland locations more than 550 miles from the Ports. Conversely, shorter, highly dispersed trips throughout the SCAG region (i.e., true local truck trips and transload-secondary trips) can only be served by trucks using the region's freeway and roadway network.

A true local truck trip is a truck trip from the Ports to a local warehouse or distribution center or retail store within the SCAG region. Based on the analysis conducted for the RDEIR/SDEIS, approximately 80 percent of the local Port truck trips (i.e., those trips that originate at the Ports) are destined to locations within 20 miles of the Ports; 16 percent are headed to the Inland Empire or Orange County, and the remaining 4 percent to North Los Angeles County/San Gabriel Valley or other local destinations within the region.

Transloading takes place when cargo in international containers is transferred to domestic containers at transload centers or warehousing located throughout the SCAG region. Once transloaded (at that point becoming a transload-secondary trip), cargo within domestic containers is carried by truck to other destinations within the region, or it is carried by truck to intermodal (off-dock) rail yards within the region for transport by freight rail. These secondary trips are more dispersed throughout the region, relative to true local Port truck trips. The analysis showed that, in total, 64 percent of the cargo-related transload secondary truck trips are destined to an area within 20 miles of the Ports, over 17 percent are headed to the Inland Empire or Orange County, and the remaining 19 percent travel to North Los Angeles County/the San Gabriel Valley, Ventura County, and/or Imperial County. According to analyses presented in SCAG's 2012 and 2016 Regional Transportation Plans (Goods Movement Appendices), truck patterns will only become more dispersed in the future.

The Alameda Corridor EIR (January 1993) and EIS (February 1996) forecasted that the Alameda Corridor project would help slow the future increase in truck traffic to and from the Ports, including traffic on I-710, but would not reduce the absolute number of truck trips to and from the Ports. Continued improvements to the overall freight rail network within the SCAG region, implementation of planned near-dock intermodal facilities, and additional operational efficiencies at the Ports will also help alleviate future truck traffic on I-710 in minor ways. However, projections show that continued growth within the region (population, employment, and economic activity), local demand for goods and products, patterns of cargo origin and destination points, logistics and economics associated with the movement of goods, and aging infrastructure will continue to result in serious congestion and safety issues on the I-710 freeway.

1.10 COMMUNITY HEALTH BENEFIT PROGRAM

The I-710 Corridor lies within a varied mix of land uses and facilities including the Ports of Los Angeles and Long Beach, highways and arterial roadways, heavy rail, regulatory floodway, and commercial and industrial uses (including producing oil fields), in many cases nearby or directly adjacent to residential neighborhoods. Caltrans and Metro acknowledge that the communities

residing in the I-710 Corridor currently face a unique set of issues related to the usage of the corridor for goods movement and other related and unrelated industries.

The Community Health Benefit Program was originally conceived in response to public comments received on the 2012 Draft EIR/EIS. The Coalition for Environmental Health and Justice (CEHAJ), a consortium of community and activist groups, submitted a comment letter on the Draft EIR/EIS proposing a new alternative consisting of a program of projects on and near I-710 called Community Alternative 7 (CA-7). One component of that program, Component CA7.7, proposed a collection of "Community Benefits and Enhancements" to be included within the scope of the I-710 Corridor Project. These benefits and enhancements included:

- Neighborhood Services, Facilities, and Amenities
- Existing Parks
- Linking the LA River and Parks, Greenbelts, and Connections
- Healthier Schools
- Air Filtration
- Trees and Streetscapes
- Pedestrian and Bicycle Improvements
- Pedestrian Bridges
- Traffic and Parking
- Public Art

The details of these requested benefits and enhancements can be found in Appendix S of the RDEIR/SDEIS (specifically, Comment IP-22-10). Wherever possible and appropriate to do so, elements of Component CA7.7 were incorporated into the project description of the revised build alternatives. For example, bicycle and pedestrian-only bridges spanning I-710, I-405, and/or the Los Angeles River were incorporated into the design of Alternative 5C and Alternative 7. See Section 2.3.2 of this Final EIR/EIS for more detailed information regarding these bridges. However, many of the requested elements lie outside the jurisdiction and purview of transportation agencies such as Caltrans and Metro. For example, traffic signal upgrades, traffic calming measures and on- and off-street parking solutions proposed as part of the "traffic and parking" element listed above are under the jurisdiction of the local agencies (i.e., cities and the County of Los Angeles). Therefore, many of the benefits and enhancements listed in Component CA7.7 were far beyond the scope of a project-level environmental document intended to evaluate the impacts of a freeway project, and therefore could not feasibly be incorporated into the revised build alternatives.

The description of the I-710 Community Health Benefit Program included in the build alternatives was structured to provide funding for community projects and programs that have a nexus to travel on and operation of the I-710 freeway. Specifically, the Community Health Benefit Program would provide corridor communities the opportunity to implement projects or educational outreach activities that would improve public health related to I-710 travel and goods movement. Eligible projects and outreach activities for the program would fall into the following categories:

- Air quality improvements (eligible projects may include doors and/or windows replacement, installation of air filters and HVAC, buffer parks and open space, trees and landscaping. In some cases, noise reduction may be a co-benefit of these types of projects.)

- Greenhouse gas reduction (eligible projects may include energy efficiency updates and renewable energy projects).

- Health education and screening (eligible projects may include community health screening, education and/or outreach, such as mobile clinics).

Per the description of the Community Health Benefit Program, eligible program applicants would include governmental organizations (including but not limited to corridor cities, the County of Los Angeles, and school districts), daycare centers, community health providers, senior centers, and non-profit organizations geared towards air quality or public health issues, located within or serving populations within the Study Area.

The Community Health Benefit Program was included as part of the project description of the build alternatives and was intended as an enhancement program for communities that currently live in areas impacted by operation of the I-710. The program was not intended to mitigate for impacts resulting from the build alternatives as avoidance, minimization, and/or mitigation measures proposed for Alternatives 5C and 7 are identified and discussed throughout this Final EIR/EIS according to each applicable environmental resource area.

As noted in Chapter 2.0, Project Alternatives, of the Final EIR/EIS, the No Build Alternative (Alternative 1) has been selected as the Preferred Alternative. Therefore, the programmatic elements of the build alternatives, such as the Community Health Benefit Program, will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Prior to selection of the No Build Alternative, the description of the Community Health Benefit Program was being further defined including information regarding administration of the program, eligible projects, and project selection criteria. However, since a build alternative has not been selected as the Preferred Alternative, the Community Health Benefit Program will need to be developed and implemented following a process separate from this Final EIR/EIS should Metro or Caltrans or one of the partner agencies elect to proceed with the delivery of this program at a future date.

F-1.1 FEDERAL AGENCIES

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F-1

Committee on Appropriations
Ranking Member, Homeland Security
Labor, Health and Human Services and Education
Energy and Water

Democratic Senior Whip

Congressional Hispanic Caucus

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September 27, 2017

Mr. Phillip Washington
Chief Executive Officer
Metro
One Gateway Plaza
Los Angeles, CA 90012

Ms. Carrie Bowen
District Director
Caltrans, District 7
100 S. Main Street, Suite 100
Los Angeles, CA 90012

Dear Mr. Washington and Ms. Bowen:

I write to express my strong support of the request by my 40th Congressional District constituents, and those of surrounding communities, to extend the recirculation period for the I-710 Corridor Project Recirculated Draft Environmental Impact Report / Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) from the current 90-day comment period to 120 days.

I am aware of the 30-day increase to the comment period from the original 60-day period. However, I am greatly concerned about the homes, businesses and other properties that would be acquired by eminent domain. The resulting impact to the potentially affected residents and owners in the City of Bell Gardens, City of Commerce and the East Los Angeles community (East LA) must be fully reviewed and discussed in a public setting. To that point, various groups in these communities have communicated their need for more time to fully review and understand the impacts of the proposed alternatives. F-1-1

Because there was no hearing in the heart of East LA, the owners of the East LA properties proposed to be taken for the various alternatives, as well as local residents who would be affected by construction overall, understandably feel they have once again been ignored by Metro and Caltrans.

It is my understanding that East LA is also concerned that the some of the options listed in the Transportation Demand Management / Transportation Systems Management (TDM/TSM) plan to convert current parking lanes into designated bus travel lanes during peak travel hours will have a negative impact for businesses on Atlantic Avenue. Further, if patrons of these businesses park on the side streets just off of Atlantic, residents and homeowners who live on *those* streets will have an even more difficult time finding parking in their own neighborhood. F-1-2

If you will recall, East LA also felt that Metro had not consulted them when evaluating all of the options being studied for the Eastside Gold Line Phase II project. Also, according to some of the members of the 710 East Los Angeles-Local Advisory Committee (ELA-LAC), they have not received a detailed briefing from Metro/Caltrans on the RDEIR/SDEIS nor the TDM/TSM options. F-1-3

Therefore, I am also requesting that a hearing be held at Humphreys Elementary School, as per their request. Given the possible construction challenges that the East LA community could face over the next 30 years and the extensions and delays afforded other projects, most notably the SR-710 with decades long delay in addressing the I-710 gap, this is the very least we can do. F-1-4

Thank you for your consideration. I look forward to a favorable response that will address the issues raised by my constituents over the length of the comment period and the need for a hearing in East Los Angeles.

Sincerely,

Lucille Roybal-Allard

LUCILLE ROYBAL-ALLARD
Member of Congress

LRA:ktc

F-1-1

Please refer to Section 1.2 of this appendix for more information regarding the extension of the public comment period.

F-1-2

The arterial parking restrictions proposed as part of the build alternatives have not been included in the design of the Preferred Alternative. Please refer to Section 1.6 of this appendix for more detailed information regarding the parking restrictions proposed as part of build alternatives.

F-1-3

Please refer to Section 1.2 of this appendix for more information regarding the outreach and coordination efforts over the life of the project development process, including the role of the various Local Advisory Committees (LAC). The East Los Angeles LAC was briefed regarding proposed Options 3A and 3B of the build alternatives on August 29, 2017. The East Los Angeles LAC was also briefed on the RDEIR/SDEIS with a focus on the benefits and impacts of the build alternatives on October 5, 2017. In addition to the meetings with the East Los Angeles LAC, a meeting was also held with the Sydney neighborhood on September 7, 2017.

The Transportation System Management/Transportation Demand Management (TSM/TDM) elements of the build alternatives are presented in Section 2.3.2.1, Common Features of the Build Alternatives, of the RDEIR/SDEIS, including the proposed transit improvements that would be provided as part of the build alternatives. This information was presented to the East Los Angeles LAC at the meeting of August 29, 2017.

F-1-4

In response to the requests for an additional public hearing, Metro and the Project Team provided support for a meeting held on October 18, 2017, at Humphreys Avenue Elementary School in East Los Angeles hosted by Los Angeles County Supervisor Hilda Solis. Although not a formal public hearing per the requirements of the Caltrans Project Development Procedures Manual, a presentation regarding the project was given, and an open question-and-answer period was held so that attendees wishing to speak were given the opportunity to do so. In addition, the office of Supervisor Solis procured a court reporter to record the question-and-answer session, and following the meeting, submitted the transcript of the meeting as a formal comment on the project. That submittal and the responses to those comments can be found as Comment IP-19 in this appendix. In addition to Supervisor Solis' office providing a court reporter, the Project Team made the RDEIR/SDEIS and full suite of technical studies available at the meeting, as well as comment cards and laptop stations at which attendees could provide comments online regarding the RDEIR/SDEIS.

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RECEIVED
9-27-17

U.S. Department of Homeland Security
United States Coast Guard

Commander
Eleventh District

U.S. Coast Guard Island, Bldg 50-2
Alameda, CA 94501-5100
Staff Symbol: (dpw)
Phone: (510) 437-3514
Fax: (510) 437-5836

16591
Los Angeles River (3.9)(4.2)(4.7)
September 12, 2017

California Department of Transportation, District 7
Division of Environmental Planning
Attn: Jason Roach
100 South Main St, MS 16-A
Los Angeles, CA 90012

Dear Mr. Roach:

I have completed my review of the I-710 Corridor Project DEIS, dated July 2017, which includes replacement/modification of bridges over the Los Angeles River, Los Angeles County, California.

The Los Angeles River, from the mouth to mile 4.7, is subject to tidal influence and is considered navigable by Coast Guard standards.

The proposed replacement of the Shoemaker Bridge (West Shoreline Dr) at mile 3.9, the Anaheim St. Bridge at mile 4.2, and the Pacific Coast Highway Bridge at mile 4.7, fall under Coast Guard jurisdiction.

The General Bridge Act of 1946 requires the approval of the location and plans of bridges prior to the start of construction (33 U.S.C. 525). The Commandant of the Coast Guard has given "Advance Approval" to the location and plans of bridges to be constructed across reaches of waterways considered navigable, but not actually navigated by other than logs, log rafts, rowboats, canoes and small motorboats. In such cases, the clearances provided for high water stages will be considered adequate to meet the reasonable needs of navigation (33 CFR 115.70). F-2-1

I have determined that the Los Angeles River, at the Shoemaker Bridge (West Shoreline Dr) at mile 3.9, the Anaheim St. Bridge at mile 4.2, and the Pacific Coast Highway Bridge at mile 4.7 replacement sites, conforms to advance approval criteria under 33 CFR 115.70.

An individual Coast Guard bridge permit will not be required for these replacement projects (COMDTINST 16590.5C). This does not relieve the applicant from complying with all applicable federal, state and local laws and associated permit requirements. This review is valid for a period of 3 years from the date of this letter. If the character of navigation changes, such that the waterway no longer meets advance approval criteria, the Coast Guard will promptly withdraw the advance approval designation for this project and notify all interested parties. F-2-2

The Los Angeles River, upstream of mile 4.7, is not considered navigable by Coast Guard standards. Under the provisions of the Coast Guard Authorization Act of 1982, the Coast Guard has determined that all proposed new/replacement bridges upstream of the Pacific Coast Highway Bridge do not require Coast Guard involvement for bridge permitting purposes.

The Coast Guard is the only federal agency authorized to issue federal permits for bridges under the General Bridge Act of 1946, as amended.

Photographs and as-built drawings (plan & elevation), of the replacement bridges on 8 1/2 x 11-inch format, are required upon completion of the construction. The drawings must indicate the elevation of the lowest hittable part of the bridge above mean high water and horizontal clearance available for navigation, pier face to pier face or abutment to abutment. F-2-3

Please notify my office at least 30 days prior to beginning and upon completion of the over-water portions of these replacement projects, so I can provide the appropriate notices to mariners.

I can be contacted by telephone at (510) 437-3516 or by email Carl.T.Hausner@uscg.mil to discuss this project.

Sincerely

C. T. HAUSNER
Chief, Bridge Section
Eleventh Coast Guard District
By direction of the District Commander

Copy: U.S. Coast Guard Sector LA/LB, Waterways Management
USACE, Los Angeles District
Gateway Cities Council of Governments
Port of Long Beach
Port of Los Angeles
Southern California Association of Governments
Los Angeles County MTA

F-2-1

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative, which is discussed in more detail in Section 1.1 of this appendix. Therefore, approval from the U.S. Coast Guard regarding the plans for bridges within areas of U.S. Coast Guard jurisdiction will not be necessary.

F-2-2

It is acknowledged that although an individual U.S. Coast Guard bridge permit is not required for the Shoemaker Bridge, the Anaheim Street Bridge, or the Pacific Coast Highway Bridge over the Los Angeles River, the location and plans for these bridges require U.S. Coast Guard approval prior to construction. Bridges upstream of the Pacific Coast Highway Bridge do not require U.S. Coast Guard approval because the Los Angeles River above the Pacific Coast Highway Bridge is not considered navigable. This comment letter serves as the Commandment of the U.S. Coast Guard's "Advanced Approval" for these bridges and is valid for a period of three years from the date of the comment letter (September 12, 2017). Please refer to Response to Comment F-2-1 regarding the selection of the No Build Alternative as the Preferred Alternative and the need to notify the U.S. Coast Guard.

F-2-3

Please refer to Response to Comment F-2-1 regarding the selection of the No Build Alternative as the Preferred Alternative and the need to notify the U.S. Coast Guard.

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United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
333 Bush Street, Suite 515
San Francisco, California, 94104

IN REPLY REFER TO:
(ER 17/0352)

Filed Electronically

October 23, 2017

Ronald Kosinski, Deputy District Director
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS16A
Los Angeles, CA 90012

Subject: Supplemental Draft EIS and Section 4(f) Evaluation I-710 Corridor Project from Ocean Boulevard to State Route 60, City of Los Angeles, CA

Dear Deputy Director Kosinski;

The Department of the Interior (Department), through the U.S. Fish and Wildlife Service (Service), has reviewed the above referenced Recirculated Draft Environmental Impact Report / Supplemental Draft Environmental Impact Statement (SDEIS), dated July 2017. The primary concern and mandate for the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States and is also responsible for administering the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). The Service is a Participating Agency, as defined in 23 USC 139 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), for this project.

The Project is receiving Federal funding through the Federal Highway Administration (FHWA). The California Department of Transportation (Caltrans) has assumed FHWA's responsibilities under the Act in accordance with Renewed 23 U.S.C. 326 and 23 U.S.C. 327 and as described in the National Environmental Policy Act assignment Memorandum of Understanding between FHWA and Caltrans (effective October 1, 2012).

The project as proposed would increase traffic capacity on I-710 through the widening of the mainline by adding mixed-flow lanes (one in each direction) between I-405 and State Route 60 (SR-60) and adding truck bypass lanes through I-405 (Alternative 5C); or, the addition of two separate truck-only lanes in each direction between the cities of Long Beach and Commerce, adjacent to the freeway (Alternative 7). We offer the following comments to assist Caltrans in avoiding, minimizing, and providing adequate conservation to offset project-related impacts to fish and wildlife resources:

General Comments

Our main concern regarding the proposed project is its potential to impact migratory birds and their habitats, including the federally endangered California least tern (*Sternula antillarum browni*) and the federally threatened western snowy plover (*Charadrius alexandrinus nivosus*). The Los Angeles River, from its mouth to Interstate 105, and to a lesser extent to SR-60, is the premier spot in Los Angeles County for migrant shorebirds, with single day counts numbering up to 15,000 individual birds (Garrett 2008, pers. comm.). According to the U.S. Shorebird Conservation Plan (Page and Shuford 2000, page 31), "Once part of one of the largest flood plains in the United States, the Los Angeles River is now entirely channelized and operated primarily as a flood control facility by the Los Angeles Department of Water and Power and the U.S. Army Corps of Engineers. Within the intertidal portion of the river, extending inland from the mouth about 2.6 miles to the Willow Street crossing in Long Beach, are approximately 234 acres of wetlands, which provide shorebird habitat when water levels are low. Although the river upstream of Willow Street has a cement bottom, a 4-mile stretch, equivalent to about 40 acres of river channel, annually holds thousands of shorebirds during migration (L. Hays pers. comm.)."

It is unclear whether the proposed project will require the relocation of utilities into the Los Angeles River channel, as previously proposed in the 2012 DEIS, which will result in the removal of river channel, the conversion of existing concrete trapezoidal channel to vertical channel walls along part of the river, and the construction of a series of box culverts that will support utility towers. We are concerned that such modifications to the river channel could increase the velocity of flood flows, reducing sedimentation and increasing scour downstream in the sensitive wetland habitats that are used by migratory and federally endangered bird species. F-3-1

Specific Comments

Page 3.16-10: According to Table 3.16-2, build alternatives will result in impacts to 44.5 or 59.81 acres of riparian/riverine habitats (Alternatives 5C and 7, respectively). We appreciate the commitment (measure NC-1) to restore temporary impact areas and to offset the permanent impacts of the project to native habitats at a minimum 2:1 ratio. According to Table 3.16-2, the permanent indirect impacts of the project resulting from bridge and freight corridor shading will be substantial. Shading from transportation infrastructure has been documented to affect estuarine habitats by reducing the density and diversity of benthic invertebrates (Struck et al. 2004), which could affect foraging by migratory and endangered bird species. As the proposed shading impacts of the project are permanent impacts, we recommend that they be offset in accordance with measure NC-1. F-3-2

Page 3.19-33: We appreciate the incorporation of measure AS-1, which will ensure that new replacement and renovated bridges associated with the project will be designed to ensure the safety of birds flying up and down the Los Angeles River through the incorporation of bridge fencing or other structural features that will direct birds over traffic. We recommend review and approval of the final build design by the Service. F-3-3

Page 3.20-15: In reference to western snowy plover, the SDEIS states that, "occasional visitors are seen along the lower Los Angeles River" but then concludes that the species is absent from the project area. As the plover is known to use the habitat within the Los Angeles River that may be affected by the project, we recommend that this statement be revised. F-3-4

Page 3.20-16: The SDEIS states that the federally endangered least Bell's vireo (*Vireo bellii pusillus*), "Has recently been recorded at DeForest Park and the ponds south of Del Amo Ave," but then concludes that the species is absent from the project area. We recommend that this statement be revised. If the project will result in any permanent, temporary, or indirect effects to habitats known to be occupied by the vireo, we recommend that the final SDEIS be revised to address potential impacts to this species. F-3-5

Page 3.20-25: The SDEIS states that measures are being incorporated to avoid and minimize effects to the western snowy plover and states that the project is "not likely to adversely affect this species" but does not address potential impacts to the least Bell's vireo. We recommend that least Bell's vireo be added to the Environmental Consequences section. In addition, we recommend that you coordinate with the Service to determine if consultation pursuant to section 7 of the Act is needed to address potential effects to the western snowy plover and the least Bell's vireo. Through the consultation process, we will work with you to refine and memorialize conservation measures to avoid and minimize potential effects to these species. F-3-6

Please contact Colleen Draguesku of the Carlsbad Fish and Wildlife Office at 760-431-9440, extension 241 for assistance in regard to these comments and this project. If you have further questions, please call me at (415) 420-0524.

Sincerely,

Janet L Whitlock

Janet L. Whitlock
Regional Environmental Officer

Cc:
Carol Braegelmann, DOI, OEPC
Lisa Treichel, DOI, OEPC
Alan Schmierer, NPS
Michael Norris, USGS
Colleen Draguesku, FWS
Brownyn Hogan, FWS
Ellen McBride, FWS
John Rydzik, BIA

References Cited:

Garrett, K. 2008. Ornithologist, Natural History Museum of Los Angeles County, dated September 23, 2008. Personal communication.

Page, Gary W. and W. David Shuford. 2000. Southern Pacific Coast Regional Shorebird Plan. U.S. Shorebird Conservation Plan. Pg. 31.

Struck, Scott D., Christopher B. Craft, Stephen W. Broome, Michael D. Sanclements, John N. Sacco. 2004. Effects of Bridge Shading on Estuarine Marsh Benthic Invertebrate Community Structure and Function. Environmental Management Vol. 34 No. 1 pp 99- 111.

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F-3-1

Alternatives 5C and 7 do not require the relocation of the Los Angeles Department of Water and Power towers into the Los Angeles River as was proposed under Alternatives 6A, 6B, and 6C in the 2012 Draft EIR/EIS. As stated in Section 3.8.3.1, Alternatives 5C and 7 consist of highway improvements that would require encroachments within the 100-year floodplain of the Los Angeles River, Compton Creek, and the Rio Hondo Channel as part of the bridge and levee improvements. According to the *Flood Control Facilities Report* (2017), Alternatives 5C and 7 would not change the capacity of the Los Angeles River, Compton Creek, or the Rio Hondo Channel to carry water or result in a measurable impact to the 100-year floodplain elevation. The encroachments would not result in any adverse impacts on the natural and beneficial floodplain values, would not result in a substantial change in flood risk or damage, and would not have potential to cause interruption or termination of emergency services or emergency routes. Therefore, Alternatives 5C and 7 do not constitute a significant floodplain encroachment as defined in 23 Code of Federal Regulations (CFR) 650.105(q). Because new piers proposed as part of the build alternatives would mimic the existing pier configurations upstream and downstream, there would be no substantial effects to the water surface elevation, velocity of flood flows, sedimentation, or scour in the vicinity of the new piers.

F-3-2

As stated in Measure NC-1 in Section 3.16.4 of this Final EIR/EIS, if a build alternative is selected as the Preferred Alternative, permanent impacts to estuarine and riparian/riverine habitat would be replaced on- or off-site at a minimum 2:1 ratio with in-kind habitat. Permanent impacts to these habitat types associated with shading of areas below the bridges or elevated roads would be offset in accordance with Measure NC-1.

F-3-3

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative, which is discussed in more detail in Section 1.1 of this appendix. Therefore, there is no need to provide the United States Fish and Wildlife Service (USFWS) an opportunity to review and provide input on the final bridge designs.

F-3-4

The conclusion of "absent" pertains to nesting habitat and to the fact that the species was not observed during surveys conducted for the proposed project. Snowy plover records on eBird are from late July and August, the post-breeding season for the species. As suggested under the "Status Federal/State" column in Table 3.20-2 with the inclusion of "(nesting)", the occurrence of nesting sites, not necessarily occurrences during migration foraging stops, are of interest and are

tracked under the California Natural Diversity Database (CNDDB). Therefore, because there is no nesting habitat within the project area and because the species was not observed during biological surveys conducted for the proposed project, the conclusion of "absent" was made.

F-3-5

The conclusion of "absent" pertains to nesting habitat and to the fact that the species was not observed during surveys conducted for the proposed project. As suggested under the "Status Federal/State" column in Table 3.20-2 with the inclusion of "(nesting)", the occurrence of nesting sites, not necessarily occurrences during migration foraging stops, are of interest and are tracked under the CNDDB. At the time the document was written, there was only marginally suitable nesting habitat within the project area and there were no records of least Bell's vireo occurring near the project area during the species' nesting season; thus, the conclusion of "absent" was made. However, recent habitat restoration projects adjacent to the Los Angeles River have resulted in the establishment of more suitable nesting habitat for least Bell's vireo and there are several recent eBird records in which the species was observed during the breeding season within the vicinity of the project area. Although there are currently no available records of least Bell's vireo nesting in these areas, suitable habitat is expanding and improving, and it is reasonable to expect that the species may begin nesting within or adjacent to the project area in the near future. As such, the conclusion regarding presence/absence has been revised, and this Final EIR/EIS has been revised to consider potential impacts to least Bell's vireo.

F-3-6

As stated in Response to Comment F-3-5, habitat suitability for least Bell's vireo has improved within and adjacent to the project area since the document was written and the species has recently been recorded in these areas during the breeding season, though nesting has not yet been documented. As such, the Environmental Consequences section in Section 3.20 of this Final EIR/EIS has been revised to address potential impacts to least Bell's vireo, and avoidance and minimization measures have also been added to this Final EIR/EIS. Informal consultation with the USFWS was initiated by Caltrans as assigned by the FHWA pursuant to the Federal Endangered Species Act (FESA) with submittal of the Biological Assessment in November 2018. In their response letter dated May 2, 2019, the USFWS concurred on the "may affect but not likely to adversely affect" determination for least Bell's vireo, as well as for western snowy plover and California least tern. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the FHWA), in cooperation with Metro, has identified Alternative 1 (No Build) as the Preferred Alternative, which is discussed in more detail in Section 1.1 of this appendix. Therefore, there will be no impacts to least Bell's vireo, western snowy plover, and California least tern as a result of the Preferred Alternative.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OCT 23 2017

Carrie Bowen, Director
California Department of Transportation – District 7
100 South Main Street, Suite 100
Los Angeles, California 90012

Subject: Supplemental Draft Environmental Impact Statement (SDEIS) for the Interstate 710 Corridor Project from Ocean Boulevard to State Route 60, Los Angeles County, California (CEQ No. 20170137)

Dear Ms. Bowen:

The U.S. Environmental Protection Agency (EPA) appreciates the opportunity to review the Supplemental Draft Environmental Impact Statement (SDEIS) for the I-710 Corridor Project. In our roles as Participating Agency, Cooperating Agency pursuant to the National Environmental Policy Act (NEPA), and former member of the Air Agency Technical Working Group (AATWG), EPA has offered technical support to Caltrans on multiple occasions, and we continue to be available to coordinate as the project progresses. We appreciated the opportunity to provide feedback to Caltrans on the prior 2012 DEIS, as well as on interim materials prepared prior to the public release of the SDEIS. Our comments included below reiterate feedback provided through letters to Caltrans following our review of the June 2017 Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study, and the July 2017 Administrative Draft of the SDEIS.

Continued coordination among local, state, and federal agencies is integral in meeting the region's freight movement needs while also delivering a project that "(improves) air quality and public health"; a stated key purpose in the I-710 expansion SDEIS. EPA is supportive of this stated purpose, and we understand the need to move freight in southern California while balancing the need to protect human health and the environment. This is particularly important in the project area, given that the South Coast Air Basin has among the worst air quality in the United States, with the highest observed ozone concentrations in the country.

EPA notes several improvements to the project since the 2012 DEIS, including removing from further consideration an alternative that would have required relocation of transmission towers encroaching on the Los Angeles River channel. The SDEIS also now includes mitigation for anticipated adverse impacts to air quality and health. EPA commends Caltrans for committing in the SDEIS to funding a Community Health Benefit Program, including sound walls and vegetation barriers. We also commend Caltrans for allocating funds for air filtration projects to reduce exposures to nearby communities, including multiple schools, from primary particulate emissions originating from the I-710 freeway and connected roadways. F-4-1

We appreciate the effort that Caltrans has put forth to address some of our previous comments, and are available to coordinate with Caltrans on the issues listed below, and expanded upon in the attachment, to be addressed in the Supplemental Final EIS (SFEIS).

Zero Emission/Near-Zero Emission Vehicle Deployment Strategy
We are encouraged by the heightened awareness of the need to deploy zero and near-zero tailpipe emission technology in the project area and we commend Caltrans for including these technologies as components of incentive programs for the project. The state has identified funding to promote zero-emission trucks through cap-and-trade resources and the Ports of Los Angeles and Long Beach are contemplating new near-zero and zero-emission mandates, where trucks will either need to meet rigorous emissions standards or be subject to different rates. If the timing of those requirements aligns with I-710 zero-emission corridor implementation, it will provide a doubly strong incentive for trucks to be upgraded quickly; avoiding port fees and gaining access to less congested highway lanes.

For the zero-emission/near-zero emission (ZE/NZE) freight corridor, as well as for the incentivized ZE/NZE program for Alternative 5C, Caltrans has confirmed that it is not yet known who will manage the ZE/NZE deployment strategy or how it will be implemented and enforced. Without such assurances, we are unable to determine if expected emission reductions associated with the proposed zero-emission feature would be fully realized. Adding lane capacity and accommodating additional conventional truck traffic (if ZE/NZE trucks are not available/deployed by build year) would result in increased emissions in a corridor that already carries tens of thousands of heavy duty diesel trucks daily. Increased emissions would likely make it more difficult for the South Coast Air Basin to attain the National Ambient Air Quality Standards. Increases in emissions from conventional diesel trucks would make it challenging to demonstrate project-level conformity. Any increases in PM2.5 or ozone in this area would be a public health concern. Without increasing ZE/NZE deployment, the proposed project may disproportionately impact low-income, minority communities, where there are existing asthma burdens and disparities for minority children. Communities are affected by other port expansion and transportation projects, in addition to the I-710 expansion; these additional impacts along this corridor would be significant, given existing community vulnerabilities and disparities. F-4-2 F-4-3

EPA fully supports ZE/NZE technology along the I-710 as an essential project component, integral to reducing potentially unacceptable emissions in the project area. It is critical that there be a defined strategy for the ZE/NZE-dependent emissions reductions assumed. EPA has rated both project alternatives as EO-2 – *"Environmental Objections – Insufficient Information"* due to the need for sufficient assurance that zero-emission technology will be deployed as described by project build year. There is a potential for significant environmental impact to air quality without a robust ZE/NZE deployment strategy in place and this can be corrected by modifying the project description to include these critical details. To resolve this issue, EPA recommends that the SFEIS include the critical components of such a strategy, including the governance structure, responsible institutions, enforceability, and funding mechanisms that would be in place to ensure that the zero-emission levels identified in the SDEIS are achieved. EPA understands that many agencies have a role to play in the planning of ZE/NZE infrastructure and deployment of these vehicles. EPA would be happy to participate in a convening that attempts to consolidate discussions in these areas, and help ensure that an achievable pathway is put in place to meet ZE/NZE commitments as proposed. F-4-4

Additional Recommendations for the SFEIS
EPA recommends that the following be incorporated into the SFEIS (see attached table for more detailed description of topics and specific recommendations):

- Updates to NEPA air quality analysis, conclusions, and mitigation presented, to the extent possible, given that a future conformity analysis has yet to quantify some air quality impacts.
- Inclusion of activities and emissions associated with the adjacent ports, as a reflection of increased freight throughput that can be accommodated by the no build and build alternatives.

- Demonstration that induced travel demand analysis and traffic impacts on nearby arterials are included in the assessment of impacts at future buildout and interim years.
- Analysis and disclosure of air quality impacts to residences, businesses, and other facilities within the 150-foot corridor that were excluded from analysis.
- Identification of the source, staging, and transportation routes required for building materials (concrete, etc.), and where/when all construction and associated impacts would be greatest.
- Clarification of construction timeline and schedule as well as a proposed construction phasing plan designed to reduce cumulative impacts to sensitive populations during construction.

Project-Level Conformity

Caltrans staff have confirmed that the SDEIS is not intended to be a hot-spot analysis for demonstration of project-level transportation conformity, and that the project-level conformity analysis and determination will occur between the SDEIS and SFEIS. We recommend disclosing the results of this critical analysis in the SFEIS, including any implications of conclusions found that may differ from information presented in the SDEIS. We reiterate our availability to work with you and the Federal Highway Administration (FHWA) on this project-level analysis, and will continue to work with you on the collaborative effort recently initiated between EPA, Caltrans, and California Division FHWA to develop tools, establish process improvements, refine technical questions, and promote research important to implementing project-level conformity requirements. F-4-5

We look forward to Caltrans and partners implementing near-zero and zero-emission strategies as part of a solution to the regional goods movement challenges that will also benefit neighboring communities along the I-710 Corridor. We greatly appreciate early coordination with your agency on this and other projects. Please continue to coordinate with EPA as the NEPA and conformity processes continue, and please send us the SFEIS when available for review. If you have any questions, please contact Connell Dunning, at 415-947-4161; dunning.connell@epa.gov, or Karina O'Connor at 775-434-8176; oconnor.karina@epa.gov.

Sincerely,

Kathleen Johnson, Director
Enforcement Division

Enclosures: Summary of EPA Rating Definitions
Detailed Comments on the SDEIS

Cc: via email: Mario Cordero, Port of Long Beach
Richard Corey, California Air Resources Board
Kelly Dunlap, Caltrans
Ron Kosinski, Caltrans
Vince Mammano, Federal Highway Administration
Wayne Nastri, South Coast Air Quality Management District
Brenda Powell-Jones, Caltrans
Gene Seroka, Port of Los Angeles
Phil Washington, Metro

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment

EPA DETAILED COMMENT TABLE ON THE SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE I-710 SOUTH EXPANSION, LOS ANGELES, CALIFORNIA—OCTOBER 23, 2017

TOPIC	*RECOMMENDATIONS*	
Alternatives Considered – Provide more details about the Zero-Emission Deployment Strategy	Alternative 5C assumes that zero-emission/near-zero emission technology (ZE/NZE) accounts for 22% of the heavy-duty truck vehicles miles traveled (VMT) and Alternative 7 assumes 67%. The air quality benefits analyzed and disclosed are dependent upon successful zero-emission deployment at those levels. Without assurance that ZE/NZE vehicles will be deployed as described, a greater number of conventional diesel-emitting trucks may be using the corridor for all alternatives, resulting in additional impacts. • Please describe how the Zero-Emission incentive program will be phased in, how it will be funded/enforced, and who (what entity? Government agency?) will be responsible for ensuring these trucks will become part of the fleet at the levels assumed in this analysis. We note that for the future project-level conformity determination, a written commitment to this measure will be needed per 40 CFR 93.125. • Please provide more information about the annual minimum VMT requirement, and which agencies will administer and enforce the Automatic Vehicle Locator (AVL) system. Consider the San Pedro Bay Ports Technology Advancement Program (TAP) as a model of a public-private partnership to develop and evaluate zero-emission or near-zero emission drayage technologies. • Please clarify whether the EIS definition of "near-zero" is equivalent to the CARB optional low NOx standard (90% reduction in NOx emissions from current standards), or if another meaning is intended.	F-4-6 F-4-7 F-4-8
Air Quality Impacts - Comparison to 2012 versus Comparison of Alternatives to No Build in the Year 2035	The analysis of impacts in the DEIS (e.g., Figure ES-5) is weighted heavily towards an incremental comparison to a 2012 baseline. That is, rather than expressing the total emissions associated with each alternative, the SDEIS presents the differences between each alternative's emissions in year 2035 and 2012 baseline emissions. For example, page ES-2 of the Air Quality Technical Study (AQTS) states, *"Based on the qualitative analysis, regional ambient concentrations are expected to decrease in the future."* • Please clarify if the decreases are due to the I-710 project, or if they are due to overall regional air quality strategies from the South Coast Air Quality Management District's (SCAQMD) and the California Air Resources Board's State Implementation Plan measures. In addition, on pages 26-27 of the AQTS, there are references to Tables 4-4a through 4-4c, which display incremental pollutant emissions as compared to 2012 levels. This approach makes it difficult to understand how impacts differ among alternatives in 2035 once the project is operational. Furthermore, overall summary statements about these results are often made without clarifying which baseline (2012 or the alternatives) is being used to support the statement. • EPA recommends including additional conclusions throughout the document to more clearly disclose what health impacts will be in 2035 for each alternative.	F-4-9 F-4-10
Air Quality Impacts – Description of	On pages 46 and 49 of the AQTS, the document states that *"Any increase in PM2.5 and PM10 emissions are due predominantly to entrained road dust."*	F-4-11

components of emissions	• Please include a discussion of the other components of particulate emissions, such as brake and tire wear emissions. In addition, page 18 of the Appendix H/O of the AQTS states that increases in VMT are used to explain the increases of entrained road dust. However, changes in vehicle mix, especially increases in Heavy Duty trucks, can also contribute significantly to increases in entrained road dust due to the relationship between emission factors and vehicle weight. Please include this in the discussion.	F-4-11
Alternatives Considered - Include impacts of congestion on growth assumptions for ports of LA and LB	The traffic modeling used throughout the SDEIS assumes that Port of Los Angeles and Long Beach throughput are insensitive to roadway congestion. The SDEIS assumes that the only constraint on growth is the "planned capacity of the marine terminals," (p.1-18; p.17 in Travel Demand Modeling Methodology report). The assumption that port operations will continue to grow at the same rate, regardless of sufficient rail and truck infrastructure, contradicts assumptions described in the Southern California Association of Government's (SCAG) and FREIGHTWORKS Comprehensive Regional Goods Movement Plan and Implementation Strategy (CRGMPIS), which makes clear that the envisioned economic development associated with future goods movement is dependent on new multimodal infrastructure. In addition, the draft National Freight Strategic Plan states, "Where port congestion occurs, supply chains are increasingly able to react by changing supply sources, routes, and transportation modes," and the mutual influence of congestion on trade, from highways and around ports, including the ports of LA and Long Beach, is well understood. Since there is no change in port throughput between the build and no build scenarios, as described in Section 2.2.3 of the 2012 I-710 Traffic Operations Analysis Report, there is no base "No Build" scenario of port activity on which to compare an analysis of emissions and air quality impacts. • EPA recommends that Caltrans update the No Build assumptions so that the impacts reflect constraints between roadway congestion levels and port TEU throughput, consistent with both the assumptions in the CRGMPIS Final Report and with economic literature on how surface congestion affects port throughput.	F-4-12
Air Quality Technical Study - Include emissions from ports of LA and LB in Dispersion Analysis	The I-710 AQTS states that "Freeway/roadway traffic is the only source of operational emissions associated with the I-710 Corridor Project" and that data from monitors operated by the ports of LA and Long Beach were not included because the data are affected by goods movement sources. Numerous local studies, including Multiple Air Toxic Exposure Study (MATES) and studies from USC and UCLA have found that port emissions have significant air quality impacts within the project area. While the traffic modeling includes truck traffic from the ports that drive along the I-710 freeway, the truck and other emissions from equipment operating at the ports have not been included. • EPA recommends coordinating with the South Coast Air Quality Management District (SCAQMD) to determine existing and future emission estimates for the ports, and including estimated emissions in the dispersion modeling. Including information about port throughput over time, and the number of trucks on I-710 over the same period, would help provide context regarding the current conditions for NEPA analysis, and how port activities affect traffic on I-710. In Chapter 4 of the AQTS, the gridded emission plots show emissions outside of the I-710 facility. • Please explain why there are grid cells with changes around the port area and other transportation facilities if only emissions from the I-710 facility are included.	F-4-13 F-4-14

	Please provide the activity data used to predict these changes in emissions that seem to show increases around the ports.	F-4-14
	Further, for the future transportation conformity analysis, EPA's PM hot-spot guidance explicitly notes that, for projects intended to accommodate future growth in freight and goods movement, nearby ports need to be included in air quality modeling. • Please include a summary of the data trends at the ports and at the I-710 near road monitor.	F-4-15
Alternatives Considered - Air Quality Technical Study – No Build Clarification	Section 1.3.1 states that "*The projects included in this alternative are based on SCAG's [Southern California Association of Government's] 2012-2015 Regional Transportation Plan Sustainable Communities Strategy (2012 RTP)...*" In the 2012 RTP,[1] the following project is listed (RTP ID 1C0401): "*I-710 Corridor User-Fee Backed Capacity Enhancement, Widen to 5 Mixed Flow +2 Dedicated lanes for clean technology trucks (each direction) and interchange improvements, from Ocean Blvd. in Long Beach to the Intermodal Railroad yards in Commerce/Vernon.*" The SDEIS appears to rely on population, household, and employment forecasts included in the 2012 RTP/SCS." Since the RTP/SCS includes a project similar to the build alternatives in these forecasts, it appears that the current "No Build" analysis incorporates growth forecasts that assume that one of the "Build" alternatives is completed, rather than using a land-use scenario that assumed the project was not built. • Please clarify whether the "No Build" scenario assumed that the I-710 Corridor was built.	F-4-16
Air Quality – Induced Travel and Traffic Estimates	The new general purpose lanes for Alternative 5C and the 4 new additional zero-emission truck lanes for Alternative 7 will introduce new lane capacity. Adding capacity on roadways in congested urban areas induces additional trips/travel and can ultimately lead to increased congestion back to pre-project levels. Caltrans' policy brief, "Increasing Highway Capacity Unlikely to Relieve Traffic Congestion," supports this understanding.[2] This policy brief states, "*Capacity expansion leads to a net increase in VMT, not simply a shifting of VMT from one road to another.*" • Please describe how modeling and conclusions account for induced demand in Section 3.13 of the SDEIS and throughout the document.	F-4-17
	It appears that the existing and future traffic on local streets are not included in the emissions, modeling or risk assessment in the SDEIS. Rather than just shift traffic from local arterials, the expansion of I-710 may ultimately lead to increased traffic on local roads and I-710. • Please confirm whether other roads, such as the arterials that provide access to I-710, were included in the analysis. Until the quantitative PM hot-spot analysis is performed after a preferred alternative is identified, it is not possible to conclude if the greatest impacts of the project would be from the I-710 freeway itself, as opposed to I-710 interchanges with other highways or I-710 entrance/exits to local arterials.	F-4-18
Project-Level Transportation	EPA understands that, once a preferred alternative is chosen, Caltrans will initiate analysis to determine if the project meets federal requirements for project-level transportation	F-4-19

[1] Available at: http://rtpscs.scag.ca.gov/Documents/2012/final/SR/2012fRTP_ProjectList.pdf
[2] Available at: http://www.dot.ca.gov/newtech/researchreports/reports/2015/10-12-2015-NCST_Brief_InducedTravel_CS6_v3.pdf

Conformity Analysis to be completed between SDEIS and SFEIS	conformity. This future analysis quantifying particulate matter (PM) impacts could conclude that additional mitigation is warranted, or that additional impacts beyond those disclosed in the SDEIS are anticipated. • In the SFEIS, please disclose all project-level conformity related conclusions, including additional impacts to the community, if they vary from results presented in the SDEIS.	F-4-19
Air Quality Technical Study - Dispersion modeling and lack of analysis of impacts to receptors within Exclusion Zone, within 150 feet of the project	Appendix D of the AQTS indicates that the closest receptors used for the dispersion modeling were 150 feet from the edge of the proposed expansion, resulting in a modeling "exclusion zone" running the length of the project, extending from edge of the proposed roadway out 150 feet. Maximum concentrations are typically found close to the transportation facility. There are residences, businesses, and facilities where sensitive people congregate (e.g., schools, daycare facilities) located in this 150-foot "exclusion zone." It thus appears that the SDEIS did not disclose the maximum air quality impacts, which would likely occur within 150 feet of the project. • EPA recommends adding an assessment of which residences and businesses are located within the exclusion zone and what impacts they would receive. Also, please clarify if construction emissions were included in the dispersion modeling as these emissions should be included if construction lasts more than 5 years.	F-4-20
Construction – Provide an estimate of when and for how long various sections of the road will be built and quantify construction air impacts, including Interim Years.	The AQTS's analysis of construction emissions is limited to two unlikely scenarios. The AQTS shows that construction emission impacts are expected to be above the SCAQMD criteria for some pollutants if all sections are constructed simultaneously, but below if only one section is built at a time. Based on our review of the SDEIS (Table 2-3-5), construction of many roadway segments will take over 5 years, many segments could be under construction at the same time, and construction could occur at the same time as traffic impacts from I-710. • Please describe, in more detail, how construction phasing may reduce cumulative air quality, noise, and traffic disruption impacts and add phasing as an identified mitigation measure to offset impacts to the community. • Please plan to notify the schools, child care centers, and residences located near construction sites and/or along proposed truck routes about the construction schedule, phasing, staging areas, and truck routes. • For the future conformity analysis, due to the extended construction phase, please include construction emissions or document that 40 CFR 93.123(c)(5) is met by phasing construction at different sites and over time so that no one project area will experience greater than 5 years of construction. • Please quantify construction-related criteria (e.g., SCAQMD criteria) for the more likely construction of several segments together. • Please quantify construction-related Mobile Source Air Toxics (MSAT) emissions at site-specific locations along the proposed roadway, rather than as summaries across a multi-mile segment. Include changes in ambient concentration, MSAT risk, and PM2.5 mortality and morbidity, including interim project years. • Discuss the potential for combined construction and operational emissions to be greater in interim years than in the build year 2035.	F-4-21 F-4-22 F-4-23 F-4-24 F-4-25 F-4-26
Construction Impacts – Mitigation, Ensure concurrent	Page 3.24-72 identifies a mitigation measure regarding the use of scheduling to reduce cumulative impacts.	**F-4-27**

construction of other projects does not disrupt air impact reduction measures	• EPA recommends that this mitigation measure also reflect the need to coordinate so that concurrently constructed segments do not result in adverse air quality impacts during construction. We recommend the measure be revised to state: ""*CON-CUM-1: Prior to completion of Plans, Specifications, and Estimates for construction, Caltrans shall consult with the lead agencies of other major projects within two miles of the I-710 Corridor Project to ensure that the construction plans are coordinated and do not result in conflicts regarding construction staging areas, roadway closures, ~~or~~ detour routes,* ***or commitments to reduce cumulative air quality impacts****."*	F-4-27
Construction Impacts – Mitigation, Best Available Control Technologies	It appears that the analysis of construction impacts assumed exclusive use of Tier 4 engines for all construction equipment. EPA appreciates this goal, and all Best Available Control Technology (BACT) commitments outlined in Chapter 3. We encourage the demonstration and deployment of heavy-duty technologies that at least meet the latest EPA emission performance standards for the relevant equipment categories (e.g., plug-in hybrid-electric, battery-electric, fuel cell electric, etc.) and exceed the standards whenever possible. We note that it will be challenging to require Tier 4 engines be used exclusively for the entire construction window for project. • Please confirm that Caltrans will require all Tier 4 construction equipment for the entirety of the construction of the project. If not intended to be a requirement, then please revise the analysis and conclusions to provide a range of likely emissions that would be anticipated from a scenario where this goal is not achieved.	F-4-28
Construction Material – Concrete and transport	• Identify the source of required concrete, borrow pits, processing pits, and transportation routes of construction debris/materials along with associated impacts (noise, air, impacts from creating concrete, transporting concrete, etc.) and describe how those impacts will be reduced.	F-4-29
Environmental Justice – Summary Maps	The environmental justice analysis concludes that "disproportionately high and adverse impacts have been identified for air quality (construction and operation), noise, traffic, community cohesion, visual resources, and land use." • Please include a summary map which shows the locations of the disproportionately high and adverse impacts for resource areas. Such a map would be helpful in prioritizing the Mitigation Measure C-7. Please identify which, if any, street to cul-de-sac conversions are included as potential disproportionate high adverse impacts.	F-4-30
Air Quality -MSATs and Health Impacts Descriptions	On page 3.13-30, EPA appreciates that Caltrans places importance on the role that mobile source air toxics analysis plays when attempting to characterize the impacts of a project of this magnitude and complexity. • Please revise the summary on p. 3.13-30 (and in the AQTS) to reflect that MSAT tools and analysis, such as page 3.13-33 and Section 2.3, can be used to illuminate the health risk associated with different project alternatives, for both the public and decision makers. The documented methods, guidelines, and recommendations for conducting human health risk assessments and handling uncertainty prepared by the CalEPA, the California Air Pollution Control Officers Association (CAPCOA), and SCAQMD are useful references.	F-4-31
Air Quality Technical Study –	Page ES-3 of the Air Quality Technical Study states, "PM mortality/morbidity is lower along freeway except a few locations in 2035 Alternative 7." This does not appear to be an accurate conclusion, considering the findings in the NEPA analysis, which show increases	F-4-32

PM Mortality/Morbidity	in PM across all study areas. This would lead to an increase in the PM mortality/morbidity health risk. • We suggest rephrasing this statement as follows: "In some scenarios, PM health risks are expected to decrease across the air basin. This project may result in small increases in PM-related health risks and a lessening of the overall expected decrease in health risks in the study area."	F-4-32
Near Roadway Health Effects - Mitigation	EPA appreciates that Caltrans identified schools, daycares, and other facilities with sensitive populations within 0.5 mile of the I-710 mainline and interchange improvements. We support Caltrans' commitment to installing vegetative and sound barriers, as well as new or upgraded heating, ventilation, and air conditioning (HVAC) systems, where needed at 42 separate schools.	F-4-33
	• If there is an opportunity for additional mitigation, EPA recommends that Caltrans commit to supporting the purchase of additional HVAC improvements, such as replacing filters and conducting ongoing maintenance of filtration and HVAC systems, to ensure they remain effective.	
	• Consider offering temporary vegetative barriers and air filtration and/or HVAC system upgrades to schools, daycares, and other facilities with sensitive populations that will likely be impacted by lengthy construction activities such as ingress/egress of vehicles and staging areas. Identify additional licensed childcare facilities, daycares, and other facilities such as family child care homes in Section 3.3, Figures 3.3-4 through 3.3-9.	F-4-34
	EPA commends Caltrans for proposing the I-710 Community Health Benefit Program, which would offer grants to support activities to improve air quality and public health related to I-710 travel and goods movement. We offer the following information sources for Caltrans to consider when determining recipients:	
	• Consider supporting mitigation measures that specifically address childhood asthma. Literature supports a growing understanding of traffic-related air pollution impacts to children and asthma[3] and, results from the Children's Health Study conducted in Southern California indicate childhood exposure to air pollution can affect lung function and development with possible lifelong effects.[4][5] The LA County Health Survey indicates thousands of children in the region have asthma and minority and low-income children are disproportionately burdened by asthma.[5] The Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities can be used to inform strategies and potential activities.[6] • Consider supporting projects that specifically provide education to pregnant women about reducing prenatal exposure to air pollution. Prenatal exposures to air pollution can influence birth outcomes and child development. Potential project	F-4-35

[3] HEI Panel on the Health Effects of Traffic-Related Air Pollution. 2010. Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects. HEI Special Report 17. Health Effects Institute, Boston, MA.

[4] Peters, J. et al. 2004. Epidemiologic Investigation to Identify Chronic Effects of Ambient Air Pollutants in Southern California. Prepared for the California Air Resources Board and the California Environmental Protection Agency. Retrieved from https://www.arb.ca.gov/research/single-project.php?row_id=60245

[5] http://www.publichealth.lacounty.gov/ha/LACHSDataTopics2015.htm

[6] https://www.epa.gov/asthma/coordinated-federal-action-plan-reduce-racial-and-ethnic-asthma-disparities

	partners could include hospitals, health clinics, birthing centers, and community organizations who employ community health promoters, or *promotores de salud.*	F-4-35
Impacts to LA River and Waters	• Page 2-96 states that "Application for Clean Water Act [CWA] 404/408 permit will occur after the Record of Decision [ROD]." EPA recommends that Caltrans not wait until after the ROD to initiate CWA Section 404 and 408 permitting because this may result in project delay. EPA recommends synchronizing the permitting and NEPA process as much as possible and including 1) a description of how Waters of the United States were avoided and 2) a 404(b)1 Alternatives Analysis (if required) in the SFEIS. We are available to assist with coordination if needed.	F-4-36
	• Given the high estimates of indirect impacts presented, please describe the anticipated effects that highway shading may have on ecosystem functioning of vegetated areas.	F-4-37
	• Please provide in the document the depiction of the location (at a finer scale) and design of proposed typical structures that will be constructed in and around aquatic resources, including the Los Angeles River and other waterways. Describe how these levees, bridge columns, and bioswales were located and designed to maximize environmental benefit and reduce impacts to hydrologic flows and water quality.	F-4-38
	• Describe how the proposed project is consistent with the goals and objectives of plans for Los Angeles River restoration.	F-4-39

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F-4-1

Caltrans is appreciative of the noted commendations and would like to point out that the revised set of alternatives evaluated in the RDEIR/SDEIS were conceptualized and developed as a direct response to public and agency comments received on the 2012 Draft EIR/EIS, including those received from the United States Environmental Protection Agency (EPA).

F-4-2

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements such as the Zero Emission/Near Zero Emission (ZE/NZE) Truck Technology Deployment Program (now known as the I-710 Clean Truck Program) will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Prior to selection of the No Build Alternative as the Preferred Alternative, the I-710 Clean Truck Program was being further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability (for more information, see Section 2.3.2.1, Common Features of the Build Alternatives, and Appendix W of this Final EIR/EIS). Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

The air quality analysis for the build alternatives in the RDEIR/SDEIS conservatively (i.e., the smallest potential emission reduction benefits) assumed that all ZE/NZE trucks included in the I-710 Clean Truck Program element of the build alternatives would be NZE. NZE trucks would be non-diesel (as diesel trucks have not yet been able to meet the California Air Resource Board's (CARB) optional low-nitrogen oxide (NO_X) standard of 0.02 grams per brake horsepower-hour (gm/bhp-hr), thereby reducing diesel particulate matter (DPM) to zero and NO_X emissions by 90 percent compared to conventional heavy-duty trucks. Consistent with the CARB's EMFAC2014 emission factor program, it was conservatively assumed in the air quality analysis that NZE trucks will not reduce any other criteria air pollutant or greenhouse gas emissions as compared to a conventional heavy-duty truck. Additionally, no credit was taken for further tailpipe reductions for pure ZE trucks.

It should be noted that the air quality analysis demonstrated that NO_X emissions decreased approximately 83 percent to 86 percent in all project study areas (I-710, Area of Interest, and the South Coast Air Basin [Basin]) from 2012 to 2035. As discussed in the *Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (AQ/GHG/HRA Technical Study) (June 2017) and the associated *Addendum to the Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (December 2020), reductions in exhaust-related criteria air pollutant emissions (including NO_X), greenhouse gas emissions, and DPM emissions are primarily driven by CARB's

Truck and Bus Regulation and the Ports' (collectively, the Port of Los Angeles and the Port of Long Beach) Clean Trucks Program, and therefore, are expected to occur for the 2035 build alternatives as compared to the 2012 Baseline even without the implementation of the I-710 Clean Truck Program.

F-4-3

As stated in Response to Comment F-4-2, exhaust-related criteria air pollutant emissions, greenhouse gas emissions, and DPM emissions are expected to reduce for all 2035 build alternatives as compared to the 2012 Baseline, irrespective of the I-710 Clean Truck Program implementation. In addition to evaluation of project-related emissions, the ambient air quality impacts of the build alternatives were compared to the relevant National Ambient Air Quality Standards (NAAQS). These impacts are presented in Tables 4-6a and 4-6b of the AQ/GHG/HRA Technical Study (2017) and Tables 3.13-15 and 3.13-16 of both the RDEIR/SDEIS and this Final EIR/EIS. The results show that the NAAQS for carbon monoxide (CO) and nitrogen dioxide (NO_2) would be met with the build alternatives in 2035. Since the region is in non-attainment/ maintenance for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) and particulate matter less than ten microns in diameter (PM_{10}) NAAQS, the PM impacts of the build alternatives were compared to the South Coast Air Quality Management District (SCAQMD) significance criteria. Although PM_{10} increased in all study areas and increases in the Basin were higher than the SCAQMD's significance thresholds (because although tailpipe PM_{10} decreased, brake/tire wear and entrained road dust increased as vehicle miles travelled [VMT] increased), $PM_{2.5}$ emissions decreased for all study areas. In addition, the AQ/GHG/HRA Technical Study showed that the incremental cancer and non-cancer impacts of the 2035 build alternatives decrease when compared to the 2012 Baseline. These results are primarily driven by reductions in DPM emissions associated with CARB's Truck and Bus Regulation and the Ports' Clean Trucks Program and are expected to occur even without the I-710 Clean Truck Program implementation. To better understand how these potential air quality and health risk impacts might impact low-income, minority communities, an environmental justice analysis was conducted using the results from the air quality analysis. Details on the environmental justice analysis were presented in Section 3.3.3 of the RDEIR/SDEIS, and mitigation for disproportionate impacts to environmental justice communities were outlined in Section 3.3.3.7. Other Port and development projects that may contribute to cumulative impacts to communities near I-710 were discussed in more detail in Section 3.24 of the RDEIR/SDEIS. Please refer to Section 1.4.1 of this appendix, Project Level Particulate Matter Conformity Analysis, for further discussion.

F-4-4

As stated in Response to Comment F-4-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements such as the ZE/NZE Truck Technology Deployment Program (now known as the I-710 Clean Truck Program) will not be implemented by Caltrans as the Lead Agency under

CEQA and NEPA and as the owner/operator of the I-710 freeway. Prior to selection of the No Build Alternative as the Preferred Alternative, the I-710 Clean Truck Program was being further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability (for more information, see Section 2.3.2.1, Common Features of the Build Alternatives, and Appendix W of this Final EIR/EIS).

F-4-5

As stated in Response to Comment F-4-2, the No Build Alternative has been selected as the Preferred Alternative due to a number of reasons including but not limited to the inability of the build alternatives to achieve project-level conformity determination for particulate matter. Details on how this determination was made for the build alternatives are provided below.

Prior to the circulation of the Draft EIR/EIS in 2012, the build alternatives under consideration at that time were considered to be a "Project of Air Quality Concern" (POAQC), meaning that a particulate matter (PM) hot-spot analysis would be required to demonstrate that the build alternatives met federal project-level air quality conformity requirements. The Draft EIR/EIS and RDEIR/SDEIS both indicated that a project-level conformity analysis would be conducted for the Preferred Alternative following public circulation and prior to approval of the Final EIR/EIS. Consistent with Caltrans and FHWA guidance, project-level air quality conformity is not required for approval of a Draft EIR/EIS and, as such, was not required to be included in the RDEIR/SDEIS. However, air quality conformity is required for project approval or funding. Prior to circulation of the 2012 Draft EIR/EIS, the I-710 Corridor Project build alternatives were determined to be a POAQC requiring a hot spot analysis because they were considered to be: (i) a new or expanded highway project that had a significant number of or significant increase in diesel vehicles, and (ii) a project affecting intersections that are at level of service (LOS) D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project. This was described in Section 3.13.3.1 of the 2012 Draft EIR/EIS.

Some of the build alternatives analyzed in the 2012 Draft EIR/EIS assumed that ZE/NZE trucks would be commercially deployed and therefore in use in the corridor at the time the project would be built; however, at that point in project development the I-710 Corridor Project did not include a ZE/NZE truck program as a programmatic element. The assumption that the project was a POAQC was carried forward in the RDEIR/SDEIS even considering that the subsidy and deployment of ZE/NZE trucks was included as a programmatic element of Alternatives 5C and 7, which serves as a commitment that ZE/NZE trucks would be deployed in the corridor should the project be approved and constructed. Subsequent to circulation of the RDEIR/SDEIS, the description of the I-710 Clean Truck Program was further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability (for more information, see Section 2.3.2.1, Common Features of the Build Alternatives, and Appendix W of this Final EIR/EIS).

While project analysis showed the I-710 Clean Truck Program would reduce diesel truck trips in the I-710 Corridor in 2035, extensive discussions with EPA indicated that Alternatives 5C and 7 must be considered POAQCs mainly because EPA staff stated that the enforceability provisions of the I-710 Corridor Clean Truck program were not sufficient to ensure the projected reduction in 2035 diesel truck trips. Therefore, a hotspot analysis was required for project-level air quality conformity determination. Preliminary results of the hotspot analysis indicated that the two build alternatives would not pass project-level conformity for particulate matter, mostly because of increases in tire wear, brake wear, and entrained road dust, and would thus prevent a project-level conformity determination needed to approve a build project. Please refer to Section 1.4.1 of this appendix, Project Level Particulate Matter Conformity Analysis, for further discussion.

F-4-6

Please refer to Response to Comment F-4-4 regarding the I-710 Clean Truck Program, and to Common Response 1.4.4, Emission Factor Assumptions for ZE/NZE Trucks, for further discussion.

F-4-7

The San Pedro Bay Ports Technology Advancement Program was utilized as a model in drafting the basis for the existing Automatic Vehicle Locator (AVL) description in Section 2.3.2.1 of Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS. Additional details regarding the I-710 Clean Truck Program can be found in Appendix W, I-710 Clean Truck Program Description. As stated in Response to Comment F-4-2, the No Build Alternative has been selected as the Preferred Alternative; hence programmatic elements of the build alternatives, such as the I-710 Clean Truck Program, will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Prior to selection of the No Build Alternative, the description of the I-710 Clean Truck Program was further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability (for more information, see Section 2.3.2.1, Common Features of the Build Alternatives, and Appendix W of this Final EIR/EIS).

F-4-8

Yes, the EIS definition of "near zero" is consistent with the CARB standard. As stated in Chapter 7 of Appendix C of the Air Quality/Health Risk Assessment (February 2017), "the analysis conservatively assumed that all criteria air pollutant (except for NO_X) and greenhouse gas emission factors of ZE/NZE trucks were equal to that of a conventional heavy-duty truck. Based on a year-long discussion with SCAQMD and CARB that culminated in a March 20, 2015 meeting, the NO_X emission factors of the ZE/NZE trucks were reduced by a factor of 90 percent as compared to the conventional heavy-duty trucks (i.e., equivalent to 0.02 g/bhp-hr NO_X emission rate). This approach is consistent with other SCAQMD public statements. It is conservative because the presence of ZE (as opposed to NZE) trucks would further reduce emissions." In addition, Section 2.3.2.1 of the RDEIR/SDEIS stated, "In order to qualify for funding, trucks must meet minimum requirements for emissions standards as well as travel within the I-710 Corridor. Heavy-duty trucks must meet minimum requirements for ZE/NZE standards by being certified by CARB at or below the optional low-oxides of nitrogen (NO_X) standard of 0.02 grams per brake horsepower-hour of oxides of nitrogen (g/bhp-hr NO_X) and/or meeting CARB and/or SCAQMD ZE technology definitions. The air quality analysis presumes that no ZE/NZE truck would be diesel powered." Please refer to Section 1.4.4 of this appendix, Emission Factor Assumptions for ZE/NZE Trucks, for more information.

F-4-9

The analyses presented in the AQ/GHG/HRA Technical Study (2017) and the RDEIR/SDEIS includes incremental comparisons of the future (2035) project alternatives to the 2012 Baseline as required by CEQA. The project analysis for the build alternatives does not take credit for the large reductions that have been achieved due to State and Federal rules and regulations. Instead, the AQ/GHG/HRA Technical Study discusses the CARB's Truck and Bus Regulation, the Pavley Standard, and the Ports' Clean Trucks Program as the primarily drivers for the reductions in emissions seen in the 2035 project alternatives as compared to 2012 Baseline. Further, the analyses also present incremental comparisons of the 2035 build alternatives to the 2035 No Build Alternative for NEPA, which would exclude any reductions from State and Federal rules and regulations. The NEPA analysis can be used as a basis for comparing the build alternatives without taking account for reductions achieved due to State and Federal rules and regulations.

F-4-10

This comment states the Tables 4-4a through 4-4c of the AQ/GHG/HRA Technical Study (2017) only compares the incremental criteria pollutant emissions of the build alternatives to 2012 Baseline conditions. The comment further states that the report should also compare the pollutant emissions and health risk the build alternatives to the 2035 No Build Alternative conditions. It is accurate that Tables 4-4a through 4-4c compare the build alternatives to the Baseline condition. However, comparisons of the build alternatives against the future year (2035) No Build Alternative

(Alternative 1) are also made throughout the AQ/GHG/HRA Technical Study. This discussion most notably takes place in Chapter 5 of this study. Specifically, Table 5-2b displays incremental criteria air pollutant emissions for the 2035 build alternatives as compared to the 2035 No Build Alternative (Alternative 1). In addition, Tables 3.13-12 and 3.13-13 in the RDEIR/SDEIS and this Final EIR/EIS present incremental Mobile Source Air Toxics (MSATs) and criteria air pollutant emissions for the project build alternatives as compared to the 2035 No Build Alternative, allowing the reader to assess the relative impacts of the build alternatives independent of emission changes from fleet turnover to the vehicles/engines meeting the best regulatory standards.

Section ES.6.1, Section 4.3.4, and Section 5.5 of the AQ/GHG/HRA Technical Study discuss the results of the health risk assessment of the project alternatives. Further, Section ES.9 and Section 4.5 for the AQ/GHG/HRA Technical Study present a qualitative discussion of PM mortality and morbidity. These results disclose the incremental impacts of the future (2035) project alternatives as compared to 2012 Baseline as well as the incremental impacts of the 2035 build alternatives as compared to the 2035 No Build Alternative. In addition to the results presented in the AQ/GHG/HRA Technical Study, the RDEIR/SDEIS and this Final EIR/EIS presents a summary of these health impact findings in Section 3.13.3.4. Thus, health impacts of the build alternatives compared to the No Build Alternative are disclosed throughout the document.

F-4-11

Figure ES-5 in the AQ/GHG/HRA Technical Study (2017) presents the contribution of entrained road dust, tire wear and brake wear, and exhaust emissions to total $PM_{2.5}$ and total PM_{10} emissions of the project alternatives. Section 4.3.1 (2nd and 3rd paragraph on p. 26) of the AQ/GHG/HRA Technical Study provides additional context for these emissions. In addition, a detailed discussion of the methodology used to calculate particulate emission factors, including those from entrained road dust, is presented in Appendix C of the AQ/GHG/HRA Technical Study. As stated in Section 2.2 of Appendix C, the entrained road dust emission factors were estimated separately for each analyzed traffic link based on the vehicle mix generated by the I-710 Traffic Model on that link. As shown in Equations 1 and 2 in Section 2.2 of Appendix C of the AQ/GHG/HRA Technical Study, these entrained road dust emission factors are a function of the average vehicle weight, hence the analyses presented in the RDEIR/SDEIS and this Final EIR/EIS do account for potential changes in entrained road dust emissions resulting from changes in vehicle mix.

F-4-12

The No Build Alternative assumptions on 20-foot equivalent unit (TEU) throughput and Port activity utilized in the I-710 travel demand forecast model are a product of the factors, methods, and approach used by the San Pedro Bay Ports to develop their unconstrained and constrained cargo forecasts. This information provided by the Ports was utilized by the Southern California Association of Governments (SCAG) in the development of their regional travel demand forecast

model – specifically the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) travel demand forecast model on which the I-710 travel demand forecast model is based. For the San Pedro Bay Ports, the major factors which influence these cargo forecasts include: projected U.S. Gross Domestic Product, competitiveness of the San Pedro Bay Ports relative to other ports (e.g., Atlantic, Gulf, and British Colombian), and the physical and operational capacity of the marine terminals.

F-4-13

As described in Response to Comment F-4-12, the I-710 Corridor Project is not expected to change or influence levels of operational activities at the Ports. However, Metro and Caltrans are coordinating with the Ports to assist them in their efforts to help improve regional air quality. The emissions from the equipment operating at the Ports do not need to be included in the air quality analyses for the I-710 Corridor Project. This is consistent with NEPA direction to Federal agencies under 40 CFR 1508.25, when planning projects, to conduct environmental review in order to consider the potential impacts on the environment by their proposed actions. Because activities at the Ports are not connected actions or otherwise dependent on the I-710 Corridor Project for implementation, they were not evaluated in the I-710 Corridor Project RDEIR/SDEIS. Effects of future growth in Port activity on the I-710 freeway and the roadway network in the Basin as well as projected shifts in traffic associated with the I-710 Corridor Project's build alternatives on air quality are analyzed in the RDEIR/SDEIS and this Final EIR/EIS.

F-4-14

The gridded mass emission plots (Figures 4-1a through 4-2c and 4-5a through 4-5c in the AQ/GHG/HRA Technical Study [2017]) were prepared using the emissions calculated from the I-710 Traffic Model output. The I-710 Traffic Model is based on the 2012 SCAG Regional Transportation Plan Travel Demand Model and includes traffic links and data for the full roadway network. In essence, the gridded mass emission plots demonstrate how the various I-710 alternatives along with future projects included in the SCAG RTP future baseline network for 2035 affect traffic and emissions in the region. As discussed in Section 4.3 of the AQ/GHG/HRA Technical Study, the changes seen in the Port areas are a result of future goods movement projects such as the proposed Southern California International Gateway (SCIG) project. The traffic activity data and emission estimates used to prepare the gridded emission plots were provided in Microsoft Access databases on hard drives that were delivered to three EPA offices (Nevada City, California; Ann Arbor, Michigan; San Francisco, California) in July 2017 shortly after the release of the RDEIR/SDEIS. Per the EPA's request, an additional hard drive was delivered to a fourth EPA office (Research Triangle Park, North Carolina) in early August 2017.

F-4-15

The I-710 Corridor Project is not predicted to change or influence levels of operational activity at the Ports. The 2035 build alternative and No Build Alternative for the I-710 traffic analysis assume

maximum cargo throughput capacity consistent with 2012 RTP's regional projections for goods movement for year 2035. Accordingly, the traffic and air quality analyses presented for the I-710 2035 build alternative and No Build Alternative in the I-710 RDEIR/SDEIS include effects of the future growth in Port activity on the I-710 freeway and the roadway network in the Basin. The traffic and air quality analyses also capture projected shifts in traffic on I-710 and on the overall roadway network (i.e., route choice) in response to the improvements to I-710 proposed under Alternatives 5C and 7.

Background monitoring data trends at Port of Long Beach (POLB) Superblock and I-710 Near Road Monitor are presented in the table below. These monitors were not used in the modelling analysis as they are located in close proximity to emission sources and thereby are not representative of ambient air.

Ambient Air Quality Monitoring Data Recorded at the POLB Superblock and I-710 Near-Roadway Monitoring Stations

Criteria Air Pollutant	Averaging Period	POLB Superblock [1]						I-710 Near Roadway Monitor[2]	
		2011	2012	2013	2014	2015	2016	2015	2016
NO_2	Maximum 1-hr Concentration	183	220	279	238	197	236	194	196
	98th Percentile 1-hr Concentration	195	191	187	193	189	181	154	157
	Annual Average Concentration	51	47	55	55	45	45	49	49
CO	Maximum 1-hr Concentration	5124	4749	3874	3999	4249	3999	--	--
	Maximum 8-hr Concentration	4249	3499	2999	3124	3374	3124	--	--
O_3	Maximum 1-hr Concentration	139	148	173	167	165	165	--	--
	Maximum 8-hr Concentration	118	124	131	154	120	120	--	--
	Fourth High 8-hr Concentration	109	111	111	114	114	114	--	--
PM_{10}	Maximum 24-hr Concentration	150.6	171.4	285	104.4	88	87	--	--
	Annual Average Concentration	49.5	50.7	53	42.3	37.7	37.4	--	--
$PM_{2.5}$	Maximum 24-hr Concentration	--	--	--	--	--	--	48.8	33.31
	98th Percentile 24-hr Concentration	29.3	26.9	27	27	24.5	22.8	35.7	26.09
	Annual Average Concentration	10.4	9	9.7	8.9	9.3	8.7	12.89	12.03

Notes:

[1] Data were obtained from the San Pedro Bay Ports' Clean Air Action Plan, Port of Long Beach Summary Annual Reports. Website: http://caap.airsis.com/ReportsPOLB.aspx (accessed April 2018).

[2] Data were obtained from SCAQMD's Final 2017 Annual Air Quality Monitor Network Plan for Long Beach Route 710 Near Road Station. 2015 data were available at http://www.aqmd.gov/docs/default-source/air-quality/historical-data-by-year/2015 datacard.pdf?sfvrsn=8. 2016 data were available at http://www.aqmd.gov/docs/default-source/air-quality/historical-data-by-year/2016-air-quality-data-tables.pdf?sfvrsn=14.

[3] Red font indicates that data are incomplete due to an insufficient number of days in the data. 90 percent data completeness is required. Invalid data include lost data due to calibrations or other quality assurance procedures. United States

Ambient Air Quality Monitoring Data Recorded at the POLB Superblock and I-710 Near-Roadway Monitoring Stations

Criteria Air Pollutant	Averaging Period	POLB Superblock [1]						I-710 Near Roadway Monitor[2]	
		2011	2012	2013	2014	2015	2016	2015	2016

Environmental Protection Agency. EPA-454/R-99-005. February 2000. Meteorological Monitoring Guidance for Regulatory Modeling Applications. Website: https://www3.epa.gov/scram001/guidance/met/mmgrma.pdf (accessed March 2016).

CO = carbon monoxide
EPA = United States Environmental Protection Agency
I-710 = Interstate 710
NO_2 = nitrogen dioxide
O_3 = ozone
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
POLB = Port of Long Beach
SCAQMD = South Coast Air Quality Management District

F-4-16

The I-710 travel demand forecast model is based on the regional 2012 RTP forecast model. The 2012/2035 RTP/SCS evaluated a "No Project" future baseline scenario in addition to a "Plan" scenario. The I-710 No Build Alternative utilized the "No Project" future baseline scenario from the 2012 RTP that does not include the I-710 Corridor Project build alternatives. The 2012 RTP "No Project" future baseline scenario includes future funded and committed projects, such as those listed in the 2011 Federal Transportation Improvement Program (FTIP), while the "Plan" scenario incorporates those transportation projects identified in the Constrained Plan. The I-710 Corridor Project build alternatives (RTP ID No. 1C0401) appears in the "Plan" Alternative. It is important to note that within the Gateway Cities Council of Governments sub-region (which encompasses the I-710 Corridor Project Study Area) population, household, and employment forecasts used for the 2012 RTP/SCS are the same for the RTP/SCS "No Project" and "Plan Alternatives" (refer to Table 3.10-10 on p. 3.10-12 in SCAG's Program EIR for the 2012 RTP/SCS: http://rtpscs.scag.ca.gov/Documents/peir/2012/draft/2012dPEIR_3_10_PopulationHousingand Employment.pdf).

F-4-17

The cited paper is authored by the National Center for Sustainable Transportation (NCST), a consortium of universities engaged in research, education, and engagement programs. Caltrans is one of several agencies that provide funding for NCST. Both the NCST and the Caltrans' Division of Research and Innovation are involved in a wide variety of transportation-related research that incorporate many diverse perspectives and provide analytical, statistical, social, and environmental information to the decision-making process. It is important to note that the publication of research briefs on Caltrans' website does not signify the adoption of that research as policy. According to FHWA, increases in highway capacity do not invariably result in net increases in traffic. The issue of induced demand is very complex, involving various travel behavior responses, residential and business location decisions, and other factors that influence regional population and economic growth. While some of these responses may represent new trips, much of the observed increase in traffic comes from trips that were already being made before the increase in highway capacity, or reflect predictable behavior that is accounted for in

travel demand forecasts (FHWA 2017).[1] Accordingly, Caltrans' guidance on this topic of induced demand maintains that each project should be evaluated on a case-by-case basis.

"Induced travel" is characterized as the additional demand for travel that occurs as a result of a decrease in the generalized cost of travel, including both travel-time and out-of-pocket costs. I-710 is part of a highly congested metropolitan roadway network and is located within an urbanized area, which is essentially built out. Given the high levels of congestion in the peak periods, the I-710 travel demand forecast model is particularly sensitive to changes in travel times. The proposed improvements included in the build alternatives improve speeds and reduce travel times on I-710, which in turn attracts more traffic to the facility relative to the No Build condition. The predicted shifts in traffic are accounted for in the analysis presented in Sections 3.5 and 3.13 of the I-710 RDEIR/SDEIS and this Final EIR/EIS for both Alternatives 5C and 7. For further detail on the effects of traffic on the arterial system, please refer to the I-710 Intersection Traffic Impact Analysis Report (March 2017).

F-4-18

The air quality analyses presented in Section 3.13 of this Final EIR/EIS report findings for various geographic areas including: the I-710 Corridor; the Area of Interest; and the Basin (refer to Figure 1-2 of the AQ/GHG/HRA Technical Study [2017] for a depiction of these areas). Changes in traffic on the local roadway network attributable to the build alternatives are accounted for in the reporting for the Area of Interest and the Basin study areas, while results for the I-710 Corridor focus on the I-710 freeway (Alternative 5C and Alternative 7) and the freight corridor (Alternative 7 only.)

When viewing traffic for the build alternatives relative to the No Build Alternative, traffic changes are greatest on the I-710 Corridor with differences on the arterial system and other roadways being much more diffused and muted. Emissions from existing and future traffic on local arterials located within the Area of Interest are presented in the gridded mass emission plots presented in Figures 4-1a through 4-2c of the AQ/GHG/HRA Technical Study. These figures (right panels of Figures 4-1b and 4-1c) show that incremental $PM_{2.5}$ and PM_{10} emissions on local roads are primarily less than 1 pound per day when comparing Alternative 5C and Alternative 7 to 2035 Alternative 1 (the No Build Alternative). Based on the mass emissions analysis within the Area of Interest (gridded emission plots), the greatest $PM_{2.5}$ and PM_{10} impacts of the build alternatives are anticipated to occur on the I-710 freeway and the freight corridor. As a consequence, the air dispersion and health risk modeling focused on the I-710 Corridor.

[1] Federal Highway Administration (FHWA). 2017. Office of Planning, Environment, & Realty (HEP). Planning. Induced Travel: Frequently Asked Questions. Updated June 28, 2017. Website: https://www.fhwa.dot.gov/planning/itfaq.cfm (accessed January 2021).

F-4-19

Please refer to Response to Comment F-4-5 and Section 1.4.1 of this appendix, Project Level Particulate Matter Conformity Analysis, for more information and a discussion of project-level conformity.

F-4-20

The EPA and FHWA require air dispersion modeling only for project-level CO and, in some cases, PM hot-spot analyses. As stated in Section 5.3 of Appendix G of the AQ/GHG/HRA Technical Study (2017), the nearest receptors in the CO hot-spot analysis were placed at a distance of 3 meters from the edge of the adjacent roadways. The air quality analysis, which includes dispersion modeling of NO_2, CO, PM_{10}, $PM_{2.5}$, and MSAT emissions to evaluate ambient air quality impacts and health risk impacts, provides more detailed information and further in-depth analyses than other environmental documents typically prepared by Caltrans. As stated in Chapter 8 in Appendix D of the AQ/GHG/HRA Technical Study, the closest receptor used in the dispersion modeling is 50 meters (approximately 164 feet) from the edge of the Alternative 5C mainline footprint. Receptors at this distance are fully consistent with (and in many cases, closer than) recent analyses of Port, railyard and other transportation projects in southern California. In addition, EPA guidance on dispersion modeling calls for an "exclusion zone" in certain types of modeling, such as was done for the air quality analysis for the I-710 Corridor Project. Results of the dispersion modelling and the AQ/GHG/HRA Technical Study are in line with the emission calculations, and show no exceedances in the CO or NO_2 NAAQS, a reduction in health risk, or increases in PM concentrations at some receptors.

F-4-21

Metro and Caltrans do not expect the duration of construction activities for any of the build alternatives to be greater than five years at any single site. According to the preliminary construction staging analysis conducted for the build alternatives, it is likely that construction would take place in different segments within the 19-mile corridor simultaneously in order to construct the full project. The analysis presented in the AQ/GHG/HRA Technical Study (2017) evaluates potential emissions associated with the highest traffic levels in the corridor upon project completion of the build alternatives (year 2035) as well as the construction emissions impacts of constructing the full corridor. As is typical during major freeway reconstruction projects in the Los Angeles metropolitan area, the I-710 would continue to operate during the construction period. During project design and prior to construction, detailed transportation management plans would be developed to identify specific detour routes; provide public outreach and noticing during construction, and to help minimize construction impacts to the surrounding communities. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by FHWA), in cooperation with Metro, has identified Alternative 1 (No Build) as the Preferred Alternative, which

is discussed in more detail in Section 1.1 of this appendix. Therefore, construction phasing to reduce cumulative impacts is no longer necessary.

F-4-22

As stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative. Therefore, notification of construction to schools, childcare centers, and residences located near construction sites and/or along proposed truck routes would no longer be necessary.

F-4-23

As shown in Table 2.3-5 in the RDEIR/SDEIS and this Final EIR/EIS, the most complex area in terms of construction activity and duration is located within Segment 2. A more detailed examination of the preliminary construction staging analysis within this broad area confirms that construction of the various sequential elements would be occurring at different locations and that no individual site would be affected by construction-related activities for longer than five years.

F-4-24

As stated in Response to Comment F-4-2, the No Build Alternative has been selected as the Preferred Alternative. However, Section 4.3 of the AQ/GHG/HRA Technical Study (2017) calculates criteria air pollutant and greenhouse gas emissions for a "worst-case" scenario that assumed, among other things, that construction of the build alternatives would occur simultaneously in the seven sections of the 19-mile long freeway (refer to the AQ/GHG/HRA Technical Study, Appendix B, Exhibit 2, showing overlapping construction on several segments together). Peak daily emissions associated with a single freeway section were also analyzed. These emissions were compared to the SCAQMD significance criteria as shown in Tables 4-3a and 4-3b of the AQ/GHG/HRA Technical Study. Further details on methodology are provided in Appendix B of the AQ/GHG/HRA Technical Study.

F-4-25

Detailed final design, construction, and staging plans and equipment location and timing are generally not determined until after the Final EIR/EIS and Record of Decision (ROD) are approved. Without location-specific construction activity information, modeling of location-specific air quality impacts is not possible and assumptions about those locations and the intensity/duration of construction activity at those locations would cause any dispersion modeling results (ambient or mobile source air toxics) to be speculative and misleading. The construction emissions scenarios presented in the AQ/GHG/HRA Technical Study (2017) and summarized in Section 3.24, Construction Impacts, of the RDEIR/SDEIS and this Final EIR/EIS assume full build out of the respective alternatives, which represent a conservative (i.e., worst-case scenario) emissions analysis, drawn from the construction staging scenarios, in order to identify and

disclose the range of potential impacts. Please refer to Section 1.4.3 of this appendix, Localized Impacts of Project Construction Emissions, for further discussion.

F-4-26

This comment requests that the RDEIR/SDEIS discuss the potential for combined construction and operational emissions to be greater in interim years than in horizon year 2035. The construction of the build alternatives was assumed to begin between 2022 and 2024 and be completed by horizon year 2035. As is typical during major freeway reconstruction projects in the Los Angeles metropolitan area, the I-710 would continue to operate during the construction period. Hence, the build alternatives would not exist in any of the interim years between start of construction and 2035 that are referred to in this comment and a comparison of the emissions with and without the build alternative in a particular interim year would be hypothetical and misleading. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the potential for the combined construction and operational emissions to be greater in interim years than in the horizon year 2035 does not need to be analyzed. Please refer to Section 1.4.2 of this appendix, Air Quality Analysis of Interim Years, for further discussion.

F-4-27

This comment requests that Measure CON-CUM-1 in Section 3.24, Construction Impacts, of the RDEIR/SDEIS, be revised to include a brief discussion of the coordination of commitments to reduce cumulative air quality impacts. As stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the suggested revision to Measure CON-CUM-1 is no longer necessary and has not been made in this Final EIR/EIS.

F-4-28

As requested, the AQ/GHG/HRA Technical Study (2017) does present "a range of likely emissions." (Refer to Tables 4-3a and 4-3b in the AQ/GHG/HRA Technical Study.) Construction emissions are presented for a baseline compliance scenario and an All-Best Available Control Technology (All-BACT) scenario. The baseline compliance scenario assumes there is "no mitigation" for off-road construction equipment (i.e., all construction equipment is assumed to be compliant with CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation). The All-BACT scenario assumes that all off-road emissions will meet EPA Tier 4 final engine standards for off-road equipment.

Measure CON-AQ-15 only indicates that "Construction equipment during project construction will meet equivalent emissions performance to that of USEPA Tier 4 standards and CARB requirements for non-road engines, depending on the agency…" Measure CON-AQ-15 is included as a written commitment in the Environmental Commitments Record (ECR) of this Final

EIR/EIS, and as such, should be considered a requirement for construction of the build alternatives.

F-4-29

For a project of this size, this level of detail associated with building material delivery routes is produced during final design, when available funding for construction has been identified, and a construction schedule for the project has been determined. A preliminary construction staging analysis has been performed in order to demonstrate that the build alternatives can feasibly be constructed. The construction emissions scenarios presented in the AQ/GHG/HRA Technical Report (2017) assume a conservative (i.e., worst-case) emissions analysis, drawn from the construction staging scenarios, in order to identify and disclose the range of potential impacts.

The construction emissions estimated for the build alternatives are based on levels and intensity of construction activities assumed in the "worst-case" analysis scenario developed for the full 19-mile I-710 Corridor. This construction emissions analysis presented in the AQ/GHG/HRA Technical Study (2017) already incorporates the quantities and durations of operating construction equipment on site, as well as projected VMT of the construction material/debris haul trucks, in the estimates produced for the build alternatives. Specific construction staging areas, including routes into and out of the staging/storage areas, sources of required concrete, borrow pits, processing pits, and transportation routes, have not been identified at this stage of project design of the build alternatives, and likely would not be known in detail until final design. In the right-of-way analysis conducted for the RDEIR/SDEIS and this Final EIR/EIS, temporary construction easements for the build alternatives were determined in a manner that anticipated the need for construction staging in addition to space that would be required for construction activities. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and the proposed build alternatives would not be constructed.

F-4-30

The conclusion of a disproportionately high and adverse impact to environmental justice communities, before additional mitigation, was made based on several different sets of data for different resource areas, both qualitative and quantitative. Environmental justice impact area maps are provided for air quality in Section 3.3 of this Final EIR/EIS because of the importance of that particular resource area within this I-710 Corridor relative to the project purpose. However, because of the generally discrete and easily described nature of disproportionate noise impacts and relocations, accompanying maps were not produced as it was determined they would add little value to the analysis. The four discrete locations of environmental justice impacts related to noise are provided in a bullet point list in Section 3.3.3.5. In addition, because the visual impact analysis undertaken for the project alternatives is representative in nature, a map determining the specific spatial areas of impact cannot be reliably produced. Therefore, because the requested

map would incorporate both spatial and non-spatial data and conclusions, and the possibility for misinterpretation of the data would be high, the requested map is not provided in this Final EIR/EIS. A more detailed assessment of impacts related to cul-de-sacs was included in the Community Impact Assessment; overall, the change in access due to conversions to cul-de-sacs would be minor and not represent an adverse impact.

F-4-31

The MSATs discussion in Section 3.13, Air Quality, of this Final EIR/EIS, was revised to include the following sentence: "MSAT tools and analysis can be used to illuminate, for both the public and decision-makers, the health risks associated with different project alternatives."

F-4-32

Caltrans respectfully disagrees that rephrasing of the text cited in the comment is required. This sentence from the executive summary of the AQ/GHG/HRA Technical Study (2017) is referring to the comparison of $PM_{2.5}$ emissions and concentration of the future (2035) alternatives to the 2012 Baseline. As stated in the comment, there are increases in PM_{10} emissions across all study areas; however, Section 4.5 of the AQ/GHG/HRA Technical Study states that a PM mortality and morbidity evaluation was performed based on a comparative analysis of total $PM_{2.5}$ emissions and not PM_{10} emissions. The air quality analysis demonstrated that $PM_{2.5}$ emissions show a decrease for the 2035 build alternatives as compared to the 2012 Baseline. Near-freeway $PM_{2.5}$ concentrations show a decrease for the 2035 build alternatives as compared to the 2012 Baseline at most locations except at a few locations for Alternative 7.

F-4-33

Measures AQ-2 (detailed in Section 3.13.4) and C-8 (detailed in Section 3.3.3.7) of this Final EIR/EIS, provide for the installation of filtration or heating, ventilation, and air conditioning (HVAC) units for sensitive receptors. These measures do not provide for ongoing maintenance of filtration units, as Caltrans and Metro do not have an appropriate mechanism for ongoing provision of funds or materials. Maintenance would ultimately be the responsibility of the filtration recipient.

F-4-34

As stated in Response to Comment F-4-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, the proposed build alternatives will not be constructed. Hence, impacts from lengthy construction activities will not occur, and mitigation measures to reduce these impacts are not applicable.

F-4-35

As stated in Response to Comment F-4-2, the No Build Alternative has been selected as the Preferred Alternative; hence programmatic elements of the build alternatives, such as the

Community Health Benefit Program, will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. A summary of potential elements of a Community Health Benefit Program discussed after the circulation of the RDEIR/SDEIS can be found in Section 2.3.2.1 of this Final EIR/EIS. The projects specifically noted by the commenter, including measures to address childhood asthma and prenatal exposure to air pollution would qualify as projects and actions that would have been considered when determining funding awards for the Community Health Benefit Program under the build alternatives. Please also refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

F-4-36

Caltrans appreciates the offer of assistance from EPA for coordination on the required 404/408 permits under the federal Clean Water Act. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative. Therefore, 404/408 permits would no longer be necessary. In addition, no 404(b)(1) Alternatives Analysis is required. However, a description of how the waters of the United States were avoided has been added in Section 3.17.3.1, Wetlands, of this Final EIR/EIS, as part of the Least Environmentally Damaging Practicable Alternative discussion.

F-4-37

As discussed in Section 3.16.3.1, Permanent Impacts, of the RDEIR/SDEIS and in this Final EIR/EIS, impacts associated with shading were considered indirect permanent impacts and were assumed in areas where shading from a bridge or the elevated freight corridor in Alternative 7 was identified. A discussion of indirect permanent impacts to estuarine and riparian/riverine habitats associated with shading is provided in Section 3.16.3.1, and measures to offset permanent impacts as a result of the build alternatives are provided in Section 3.16.4.

F-4-38

Section 3.8.3 of the RDEIR/SDEIS and this Final EIR/EIS include a detailed discussion of the project design features associated with the build alternatives that would result in transverse encroachments of the Los Angeles River 100-year floodplain for the build alternatives. The preliminary design approach of the structures in the floodplain maintains existing hydrologic performance by placing new columns in place of, or aligned with, existing columns for the build alternatives. All proposed modifications would preserve existing hydrologic flows and structural integrity of the Los Angeles River channel and its levees. Siting of bioswales and other permanent storm water treatment devices within existing and proposed State right-of-way under the build alternatives follow Caltrans' *Stormwater Quality Handbooks - Project Planning and Design Guide* (July 2017) and are identified in the *Storm Water Data Report* (SWDR) (January 2017). These facilities would improve water quality and would have no effect on hydrologic flows in the Los

Angeles River. As stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and construction of the build alternatives would not occur.

As discussed in Section 3.8.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, the build alternatives would not change the capacity of the Los Angeles River, Compton Creek, and/or the Rio Hondo Channel to carry water and would not result in a measurable impact to the 100-year floodplain elevation. The encroachments would not result in any adverse impacts on the natural and beneficial floodplain values.

F-4-39

A discussion of the build alternatives, including their consistency with the goals and objectives of plans for the Los Angeles River restoration, has been added to Section 3.1, Land Use, in this Final EIR/EIS.

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Committee on Appropriations
Ranking Member, Homeland Security
Labor, Health and Human Services and Education
Energy and Water

Democratic Senior Whip

Congressional Hispanic Caucus

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November 6, 2017

Mr. Ronald Kosinski
Caltrans District 7
Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

I am submitting comments on the I-710 Corridor Project Recirculated Draft Environmental Impact Report / Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS).

As you know, I raised several issues and concerns in my previous letter dated September 27th on behalf of my constituents, including:

- the impact of the proposed acquisition of homes, businesses and properties in the cities of Bell, Bell Gardens, Commerce and the East Los Angeles community (East LA);
- the negative impact the plan to convert current parking lanes into designated bus travel lanes during peak travel hours will have on businesses on Atlantic Boulevard;
- the shortage of parking for residents and homeowners who live on the streets adjacent to Atlantic Boulevard; and
- the likely problematic traffic impacts at several intersections around the I-710 during construction and after the project is completed.

In addition to this short list, Supervisor Solis will be submitting a comprehensive list of specific issues, concerns and mitigations that was compiled by the I-710 Community Advisory Committee and the staffs of the supervisor's and my offices. While that list does not include everything that needs to be addressed, I believe it is a good start.

One item on this list is a request for a more complete traffic study. While the Caltrans traffic study gives us data for streets in close proximity to the I-710, it does not include the surrounding streets and intersections, such as Atlantic Boulevard and Whittier

F-5-1

Boulevard, or major and minor thoroughfares that are used daily by drivers, pedestrians and cyclists to travel through and around the area.

A critical reason a broader study is needed is if the traffic patterns and freeway transitions from the I-710 between the 60 freeway and the I-5 are limited, as proposed in the RDEIR/SDEIS, cars and trucks will be forced to exit the I-710, or possibly the I-5 freeway, and travel east and/or north on local streets. An expanded study is needed to establish a baseline from which to work for the entire region, not just one for traffic to, and along, the I-710 freeway. The results from the requested expanded study will greatly help Metro, the Los Angeles County Department of Public Works, and the community develop a more comprehensive and effective traffic plan, especially during construction when options will be very limited. F-5-1

Another aspect of the proposed alternatives that needs to be carefully studied is the closure of the Olympic / Whittier off- and on-ramp included in design options 3A and 3B. If this ramp is closed, more local streets would become major thoroughfares as drivers travel to and from other entrances and exits and traffic could be negatively impacted on the freeway as well as on local streets. F-5-2

In regards to the eminent domain process, when the time comes to purchase the properties, I respectfully ask that, the residents and business owners, regardless of immigration status, are fully educated about their options with sufficient time for their review and consultation. While I know it may take many years and the project may go through additional rounds of environmental reviews, the property owners and residents have a right to be properly informed and have their questions answered about the status of their homes and businesses. F-5-3

I also ask that residents be apprised of their rights when it comes to being affected by construction, and that their immigration status not be an issue should they need to file a complaint. F-5-4

Another issue of concern is the schedule of construction projects, mitigations and community improvements/beautifications. On behalf of the communities at the northern end of the project, I am requesting that the smaller mitigation projects be addressed early on, in preparation for the future construction issues they will face. As it stands, the Caltrans traffic study shows that the design options, when completed, could worsen air quality and traffic in East LA. Therefore, it is essential that as many potential problems as possible are addressed before construction begins. F-5-5

In the city of Bell, I would ask that all available steps be taken to preserve the Bell Shelter property. The organizations on the site have been there for many decades, taking in and serving homeless individuals, who are often not welcome anywhere else. As you may know, the organizations, Shelter Partnership and the Salvation Army, acquired the property through the McKinney-Vento Act, and have spent funds to develop the site. Unfortunately, our homeless population continues to grow, and I am F-5-6

concerned that the loss of property will hamper the Bell Shelter's long range plans to provide shelter and services to a greater number of homeless individuals and families. F-5-6

It has also been brought to my attention that the Los Angeles County Department of Health Services could play a critical role in this project, not only during construction, but also in the evaluation of the mitigations and the project overall. I understand they did this for a construction project in Venice. Their services would be most helpful in providing decision-makers and the community with a Health Impact Assessment (HIA). The HIA and their input would be helpful in assessing the requested mitigations before, during and after the project is completed, especially as it pertains to dust, noise, pollution and traffic issues. F-5-7

I am also requesting that Caltrans and Metro adopt Metro's best practices and lessons learned from previous mass transit and construction projects. I encourage Caltrans and Metro to follow Motion 22.1 that was offered by Supervisor Solis and adopted by the Metro Board on October 22, 2015 to the greatest extent possible. While some of the items may increase the cost of the project, in the long run, they may be the best options to improve air quality and protect the health of the impacted communities as well as improve truck travel safety for all involved. Further, given that there are no "best" or even "good" options, it has been suggested that perhaps some sort of hybrid alternative be developed. F-5-8

Thank you, in advance, for your consideration. If you have questions, please feel free to contact Cindy Muro or Kim Tachiki-Chin in my District Office at (323) 721-8790.

Sincerely,

Lucille Roybal-Allard

LUCILLE ROYBAL-ALLARD
Member of Congress

LRA:ktc

cc: Carrie Bowen, District Director, Caltrans District 7
Phil Washington, CEO, Metro

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F-5-1

In support of the RDEIR/SDEIS, two traffic technical reports were prepared, which are available to the public on Caltrans' website (located at http://www.dot.ca.gov/d7/env-docs/docs/710corr-eir/). One of these reports, the *Intersection Traffic Impact Analysis Report* (March 2017), presents information on the major arterials within the I-710 Study Area, including Atlantic Blvd. and Whittier Blvd., as well as over 180 local intersections that have the potential to be impacted by the build alternatives.

In the RDEIR/SDEIS, two design options were examined that would modify local access to the I-710 freeway in the East Los Angeles area. Design Options 3A and 3B would limit access to I-710 in the northbound direction from the Olympic Blvd. on-ramp and would shift the ramp termini from I-710 in the southbound direction from Eastern Ave. to Whittier Blvd. The information included in both the *Traffic Operations Analysis Report* (March 2017) and the *Intersection Traffic Impact Analysis Report* (March 2017) evaluated the effect that these modifications would have on 24 intersections examined in the local traffic circulation network in East Los Angeles, which is surrounded by I-5, I-710, and SR-60.

These effects, along with concerns regarding various other environmental resource areas, were considered along with public comments on the alternatives and design options evaluated in the RDEIR/SDEIS. As a consequence, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the programmatic project feature that would restrict on-street parking on local arterials such as Atlantic Blvd. and Garfield Ave. has also been eliminated from further consideration for the proposed project. For more information on the identification of the Preferred Alternative, please see Section 1.1 of this appendix.

F-5-2

Caltrans and Metro acknowledge concerns about the traffic and circulation impacts of Design Options 3A and 3B; however, it is important to note that these design options have been removed from further consideration for this project. Please refer to Response to Comment F-5-1 for more information. Additionally, to provide clarification as to the scope of the design options, Design Options 3A and 3B would have relocated the Olympic Blvd./Whittier Blvd. on- and off-ramps in the southbound direction of I-710, and not closed them. In the northbound direction of I-710, vehicles from the Olympic Blvd. on-ramp would have been restricted from accessing I-710, but direct access would still have been provided to the freeway system from this Olympic Blvd. on-ramp to the SR-60 connectors in lieu of I-710.

F-5-3

The commenter's request related to residents and business owners that, regardless of their immigration status, they be educated about their options and allowed sufficient time for review and consultation during the acquisition process, is acknowledged and noted in the public record. As stated in Response to Comment F-5-1, the No Build Alternative has been selected as the Preferred Alternative, and no relocations will be necessary.

F-5-4

Please refer to Response to Comment F-5-3 regarding the relocation of residents.

F-5-5

Please refer to Section 1.1 of this appendix for a more detailed discussion of the identification of a Preferred Alternative, including the disposition of Design Options 3A and 3B. These Design Options within East Los Angeles have not been included in the Preferred Alternative. As the No Build has been selected as the Preferred Alternative, additional information related to construction schedule and staging is not necessary.

F-5-6

The commenter's opposition to the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. The No Build Alternative has been identified as the Preferred Alternative, and it will not result in the permanent displacement of the Bell Shelter.

F-5-7

A Health Impact Assessment (HIA) a systematic process that: uses data sources and analytical methods; considers input from stakeholders; determines potential effects of a proposed policy, program or project across other sectors on health; and provides recommendations to monitor and manage potential effects from a project. An HIA was not conducted for the project. Neither FHWA nor Caltrans currently has an approved methodology addressing the health impacts of freeways, and these types of assessments are an emerging practice in the transportation sector in the United States. The preparation of an Air Quality/Health Risk Assessment for the I-710 Corridor Project was an effort to respond to the requests of the I-710 Corridor communities to study health-related impacts, while also ensuring the empirical analyses performed in support of the EIR/EIS process are factual and based on sound scientific, analytical, and/or engineering judgment. The Los Angeles County Department of Health Services has been invited to comment on project-related public documents. Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of this Final EIR/EIS for more detailed information regarding community participation and public involvement on the I-710 Corridor Project.

F-5-8

The build alternatives incorporate elements of Motion 22.1 per the Metro Board of Directors. Table 2.2-1 in Chapter 2.0, Project Alternatives, provides the locations of Motion 22.1-related discussion that was provided in the RDEIR/SDEIS as well as this Final EIR/EIS. Please refer to Section 1.1 of this appendix for more detailed information regarding the identification of the Preferred Alternative.

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S-1.1 STATE AGENCIES

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STATE OF CALIFORNIA - NATURAL RESOURCES AGENCY EDMUND G. BROWN JR, *Governor*

CALIFORNIA COASTAL COMMISSION
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

October 23, 2017

Ronald Kosinski, Deputy District Director
Caltrans District 7, Department of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project (PM 5.4-29.5, EA 249900)
Coastal Commission Staff Comments on Recirculated Draft EIR (SCH 2008081042)

Mr. Kosinski:

Thank you for the invitation to comment on the Recirculated Draft Environmental Impact Report (RDEIR) for the I-710 Corridor Project (Project). A portion of the Project is within the Coastal Zone and constitutes development, so a coastal development permit(s) will be required following the CEQA review period. This letter provides direction on the coastal development permit process and the Coastal Act issues the project may raise.

As generally depicted in Figure 3.1-2 of the RDEIR, the portion of the Project south of Anaheim Boulevard and adjacent to the west bank of the Los Angeles River is within an area of the Port of Long Beach where the Coastal Commission has certified a Port Master Plan; thus the standard of review for a coastal development permit in that area is the policies of the Long Beach Port Master Plan. Pursuant to Coastal Act Section 30715, the Project is an appealable category of development: "roads or highways which are not principally for internal circulation within the port boundaries." The Port of Long Beach may process a coastal development permit for the portion of Project within its jurisdiction, which could be appealed to the Coastal Commission.

Figure 3.1-2 identifies the portion of the City of Long Beach within the Coastal Zone to the east of the Los Angeles River, but incorrectly identifies the entire area (light blue) as Long Beach Local Coastal Program Jurisdiction. In fact, only the approximate area between Ocean Boulevard and Seaside Way is subject to the Long Beach Local Coastal Program. In that area, the City of Long Beach may process a coastal development permit for the Project, which could be appealed to the Coastal Commission. The area on filled tidelands generally south of Seaside Way (including a portion of the west bank of the Los Angeles River south of Ocean Boulevard adjacent to Shoreline Drive) is within the Coastal Commission's area of original permit jurisdiction, where a coastal development permit from the Coastal Commission is required. S-1-1

The RDEIR identifies Permits and/or Approvals Needed in Table 2.5-1. The table indicates that a Coastal Zone Management Act consistency determination from the California Coastal Commission is needed 90 days prior to issuance of the ROD; it indicates that a Harbor Development Permit (Level II) for consistency determination from the Port of Long Beach is needed 90 days prior to issuance of the

ROD; and it indicates that a Coastal Development Permit application for consistency determination will be submitted to the City of Long Beach after identification of a preferred alternative but prior to the ROD.

Note that Coastal Act Section 30601.3 authorizes the Coastal Commission to process a consolidated coastal development permit application when the applicant, the local government(s), and the Coastal Commission all agree to do so. As an alternative to separate coastal permits subject to different standards of review in multiple jurisdictions, the consolidated coastal permit is subject to review and approval only by the Coastal Commission; the Coastal Act is the standard of review for the entire project, with relevant Local Coastal Program or Port Master Plan providing guidance.

Following the selection of a project alternative, Caltrans may submit a coastal development permit application with each local agency and the Coastal Commission, or it may initiate a discussion regarding the feasibility and potential benefits of a consolidated coastal development permit. Based on the Concept Plans in RDEIR Appendix O, pages 3-5, the majority of the project within the Coastal Zone appears to be within the Port of Long Beach jurisdiction, with local street improvements within the City of Long Beach Local Coastal Program jurisdiction. Coastal development permits issued by those governments would be appealable to the Coastal Commission. It is not clear whether portions of any Project alternatives are within the Coastal Commission's area of original permit jurisdiction. Coastal Commission staff will be available to assist Caltrans staff with boundary determinations once a project alternative is selected and more detailed design plans are prepared. S-1-2

The following are general comments on Coastal Act issues relevant to the Project and relevant to the ongoing collaboration between Caltrans and the Coastal Commission:

Page 3.17-4 of the RDEIR states: "there are no California Coast Commission jurisdictional wetlands within the portion of the BSA located in the Coastal Zone." Please note that the Golden Shore Marine Biological Preserve, along the west bank of the Los Angeles River south of Shoreline Drive, is a wetland and should be preserved consistent with Coastal Act Section 30230. Based on the Concept Plans in RDEIR Appendix O, page 3, the wetland appears to be outside the project limits, so no direct impacts are anticipated, but Caltrans and its contractors should implement construction best management practices to ensure that indirect impacts to water quality and biological productivity are avoided. S-1-3

Section 3.9 of the RDEIR provides the regulatory setting and mitigation measures for Water Quality and Stormwater Runoff. 3.9. Section 3.91 should identify the coastal development permit process as one of the permitting requirements. Coastal Act Section 30231 states: "the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams." S-1-4

Through the coastal development permit process, the Coastal Commission and local governments have previously required new Projects to incorporate construction and post-construction best management practices to avoid discharges of debris and pollutants into coastal water bodies. Relevant to the subject Project is Los Angeles River, a portion of which is within the Coastal Zone and the remainder of which transmits water, debris, and pollutants into Queensway Bay and the Pacific Ocean. S-1-4

Coastal Commission staff concurs with Metro Board of Motion 22.1: "Consistent with the Regional Water Quality Control Boards and their Municipal Separate Storm Sewer System permits, identify suitable locations within the State's right of way to implement additional storm water Best Management Practices (BMPs) and enhance the water quality for the Los Angeles River and its tributaries... Incorporate into the project design, avoidance and minimization measures to reduce the level of impacts to the Los Angeles River's riverbanks, trails, pocket parks, open space, wetlands, and native landscaping within the project area."

Page 3.9-20 of the RDEIR indicates that Alternatives 5 and 7 would increase impervious surface area the most substantially, while other alternatives would have lesser increases in surface area but would also incorporate lesser mitigation measures. Under Alternative 7, "proposed treatment BMPs include 36 bioswales, 30 infiltration basins, 12 media filters, and one wet basin, as well as eight gross solids removal devices where feasible. BMPs for the project would be designed to treat low flows from more regular storms, and BMPs would be sized according to the Caltrans permit requirement for BMPs to treat the 85th percentile 24-hour storm events. The BMPs would treat 78.3 percent of on-site runoff from the total impervious surface areas within the project area, which would be an improvement over the existing condition. After implementation of BMPs, Alternative 7 is not anticipated to further degrade the water quality of any receiving waters."

Please note that under the Coastal Act, the standard of review is not whether a project further degrades the environment compared to the existing condition, but whether adverse impacts to water quality and biological productivity are avoided. Thus, the Project should maximize treatment BMPs and minimize impervious surface runoff. Could the Project be designed to capture and treat more than 78% of runoff from impervious surface areas? Could additional treatment BMPs and native landscaping be installed to maximize water quality improvements? S-1-5

Page 4.4 of the RDEIR notes that the City of Long Beach requires that trees located within the Coastal Zone not be removed during the nesting season and that pre-construction surveys be conducted one week prior to construction activities. The western snowy plover and black-crowned night heron are referenced as potential species in the biological study area and have been observed within the Long Beach Coastal Zone. Coastal Commission staff agree with Caltrans commitments to minimize removal of native trees and survey for nesting birds within the Long Beach Coastal Zone prior to tree removal. S-1-6

Page 3.1-50 of the RDEIR states: Access to the Coastal Zone in the vicinity of the I-710 Corridor Project improvements is facilitated by the existing I-710 mainline, State Route 47 (SR-47), and Ocean Blvd. However, public accessibility to the coast is relatively limited because the area is fully developed and the areas west of I-710 are active goods movement areas within the POLB and the POLA. However, the public can gain access to the coast east of I-710 via the public parks and marinas/boat launches located

in downtown Long Beach, and south of the proposed improvements by foot, vehicle, or bicycle using a network of roads and pathways.

One of the primary tenets of the Coastal Act is to preserve and enhance public access to and along the coast, which requires an interconnected and multi-modal transportation system. The highway, local streets, busways, bicycle facilities, and pedestrian accessways identified in the RDEIR should all be designed to maximize access and connections to the Los Angeles River and the Long Beach Downtown Shoreline District near the project terminus at Ocean Boulevard and Shoreline Drive. Specifically, access to LA River pedestrian and bike path should be improved in the vicinity of Ocean Boulevard, Santa Cruz Park, and Cesar E. Chavez Park. Caltrans should also work with the Long Beach Department of Transportation to consolidate the vehicular transition to Shoreline Drive in a manner that reduces unsafe speeds and maximizes available park space in the Coastal Zone adjacent to Golden Shore. S-1-7

Finally, the project design should be informed by the initiatives within the 2017 Plan for Improved Agency Partnering between Caltrans and the California Coastal Commission. Among the initiatives are collaborating on the California Coastal Trail, which may pass along the LA River pedestrian and bike path and a portion of Ocean Boulevard within the Project area. The final plans should provide space for the trail and maximize connections consistent with the guidance above. Final plans should also incorporate context sensitive, see-through bridge and guardrail designs to enhance visual resources in the Coastal Zone, consistent with Initiative 4 and the designs selected by the Coastal Commission's Road's Edge Subcommittee in collaboration with Caltrans staff. Finally, the final plans should provide for Native Species and Invasives Control in Landscaping Plans, consistent with Initiative 9. S-1-8

Please note that the comments provided herein are preliminary in nature. More specific comments may be appropriate as the project develops. Coastal Commission staff requests notification of any future activity associated with this project or related projects. Thank you for the opportunity to comment on the Recirculated Draft EIR. Please contact me at 562-590-5071 with any questions.

Sincerely,

ZRehm

Zach Rehm
Senior Transportation Program Analyst

Cc: Steve Hudson, South Coast District Director - Los Angeles Area
Tami Grove, Statewide Development and Transportation Program Manager

S-1-1

Figure 3.1-2 of the RDEIR/SDEIS was revised in this Final EIR/EIS to correctly depict the Long Beach Local Coastal Program jurisdiction between Ocean Blvd. and Seaside Way.

S-1-2

The information provided in this comment on the coastal development permit application process is acknowledged and noted in the project record. As discussed in Section 3.1.2.1, in the "Coastal Zone" subsection, the proposed build alternative improvements would only occur in the Port of Long Beach Master Plan and the City of Long Beach Local Coastal Program jurisdictions. As discussed in Response to Comment S-1-1, Figure 3.1-2 was revised to correctly depict the areas of jurisdiction.

S-1-3

The commenter is correct in indicating that the Golden Shore Marine Biological Preserve is outside of the project limits. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative, which is discussed in more detail in Section 1.1 of this appendix. Therefore, there is no need to implement Best Management Practices (BMPs) for short- and long-term impacts related to water quality.

S-1-4

The coastal development permit process as one of the permitting requirements is outlined in Table 2.5-1, Permits and/or Approvals Needed, in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS and this Final EIR/EIS. After circulation of the RDEIR/SDEIS, subsequent coordination with California Coastal Commission staff occurred in April 2018, and it was determined that, if a build alternative was selected as the Preferred Alternative, a Coastal Development Permit application and Coastal Zone Management Act (CZMA) Consistency Determination would be submitted following certification of the EIR and when the appropriate level of plan detail was available. However, as stated in Response to Comment S-1-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a Coastal Development Permit is no longer necessary.

S-1-5

As stated in Section 3.9.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, the proposed BMPs for the build alternatives would treat 74 percent of on-site runoff from the total post-project impervious surface areas within the project area, which would be an improvement over the existing condition. After implementation of BMPs, the build alternatives are not anticipated to further degrade the

water quality of any receiving waters. However, as stated in Response to Comment S-1-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, BMPs are no longer necessary.

S-1-6

The commenter's support of the build alternatives' commitments to minimize removal of native trees and conduct pre-construction nesting bird surveys within the Long Beach Coastal Zone is acknowledged and included in the project record.

S-1-7

As discussed in Section 2.2.2.1 of the RDEIR/SDEIS and this Final EIR/EIS, the Metro Board of Directors passed Board Motion 22.1 in October 2015 that directed Metro and Caltrans to study, as a part of the I-710 Corridor build alternatives, "upgrades to the existing Los Angeles River Bike Path consisting of safety, landscaping, hardscape, lighting and access enhancements, and fix stations including to locations between Ocean Blvd. [Long Beach] and its northern terminus at Slauson Ave. [Vernon] [*sic*]". As stated in Response to Comment S-1-3, the No Build Alternative has been selected as the Preferred Alternative. However, on April 27, 2017, the Metro Board amended Motion 22.1 to advance the Los Angeles River Bike Path upgrades sooner and as a separate project; therefore, there is no discussion of this element in this Final EIR/EIS. Also, please note that the reconfiguration of Shoreline Dr, in the vicinity of Cesar E. Chavez Park as it approaches Ocean Blvd. has been incorporated into the Shoemaker Bridge Project. To that end, Caltrans has been working with the City of Long Beach on the reconfiguration of Shoreline Dr, so as to maximize available and accessible park space in and around Cesar E. Chavez Park.

S-1-8

The information provided in this comment regarding the incorporation of context-sensitive design in order to enhance visual resources is appreciated. However, as stated in Response to Comment S-1-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, context-sensitive designs for the build alternatives and measures to control invasive species are no longer necessary.

CALIFORNIA
AIR RESOURCES BOARD

Mary D. Nichols, Chair
Matthew Rodriquez, CalEPA Secretary
Edmund G. Brown Jr., Governor

October 23, 2017

Ms. Carrie Bowen
District 7 Director
California Department of Transportation
100 South Main Street, MS16A
Los Angeles, California 90012

Dear Ms. Bowen:

Thank you for the opportunity for the California Air Resources Board (CARB) staff to provide comments to the California Department of Transportation (Caltrans) on the Recirculated Draft Environmental Impact Report Environmental Impact Statement (RDEIR/EIS) and Section 4(f) Evaluation for the I-710 Corridor Project (Project).

In July 2015, Governor Brown issued Executive Order B-32-15, which provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. This transition of California's freight transport system is essential to supporting the State's economic development in coming decades while reducing harmful pollution in California communities. The Executive Order identified targets for State agencies to advance these objectives, including deploying over 100,000 freight vehicles and equipment capable of zero emission operation by 2030.

As partners with Caltrans on the Governor's 2016 California Sustainable Freight Action Plan (Plan), CARB staff sees the I-710 project as a proving ground to realize the Plan's vision to transport freight in California on a modern, safe, efficient, and resilient system by "zero emission equipment everywhere feasible, and near-zero emission equipment powered by clean, low-carbon renewable fuels everywhere else." We are optimistic that the decisions Caltrans will make on this major project to include dedicated, zero emission truck lanes will provide landmark leadership to achieve our mutual mobility, environmental, and economic goals, consistent with the Plan and State law.

The Clean Energy and Pollution Act of 2015 Senate Bill (SB) 350 (de León, Chapter 547, Statutes of 2015) established as a State priority the reduction of greenhouse gases through clean energy policies, including widespread transportation electrification, for the benefit of all Californians. Zero emission truck lanes will help transform the State's transportation sector to support widespread electrification. S-2-1

Furthermore, the State of California has recently placed additional emphasis on protecting local communities from the harmful effects of air pollution through the passage of Assembly Bill (AB) 617 (Garcia, Chapter 136, Statutes of 2017). S-2-2

AB 617 is the most significant piece of air quality legislation in decades and highlights the need for further emission reductions in communities with high exposure burdens, like those along the I-710 Corridor. S-2-2

We strongly support the project Alternative 7 Design ZE (Alternative 7ZE) that includes four truck-only lanes, a clean freight corridor that restricts usage to zero emission trucks, and an automated vehicle control system to steer, brake, and accelerate trucks (allowing for platooning). Dedicated truck lanes create opportunities to adapt to changing technology options with access and pricing approaches that support the transition to a more efficient, zero emission corridor. S-2-3

These actions are essential to achieve air quality and climate targets, including the increased truck activity on I-710 due to better system performance and the resulting induced demand. Emissions from mobile sources, especially heavy-duty diesel trucks like those traveling the I-710 Corridor are the largest contributor to regional air pollution and the largest impediment to attainment of air quality standards for ozone and fine particulate matter in the South Coast Air Basin. Even with broad deployment of 2010 and newer trucks as required by CARB regulations, the region will need substantial additional emission reductions to attain national ambient air quality standards and protect roadside communities.

CARB staff commends Caltrans for including the zero and near-zero emission freight corridor option and for the commitment to improve air quality and public health as a project objective. For the RDEIR/EIS to provide public transparency on the potential air quality and health impacts of the project, a few elements need to be updated (please see the attached comments for further details).

- The health risk and air quality analysis was prepared with the assumption that two major near-dock rail projects would be approved and fully operational by 2035. These projects are the proposed Southern California International Gateway (SCIG) and the Intermodal Container Transfer Facility (ICTF) Modernization Plan. Given their current status, the health risk and air quality results should be revised to reflect the higher anticipated I-710 truck traffic levels without the projects. S-2-4

- The health risk and air quality results also do not include an analysis of peak emissions from the overlap of construction and operations. These analyses should be revised to reflect the impacts during the peak emissions year. S-2-5

We appreciate the opportunity to comment on the RDEIR/EIS, and CARB staff is available to provide assistance to Caltrans on vehicle technologies, emission reduction

strategies, or other issues, as needed. Please include CARB on your State Clearinghouse list of selected State agencies that will receive the Final EIR/EIS as part of the comment period.

If you have any questions, please call me at (916) 445-4383 or have your staff contact Richard Boyd, Chief, Risk Reduction Branch, at (916) 322-8285 or via email at Richard.Boyd@arb.ca.gov.

Sincerely,

Richard W. Corey
Executive Officer

Attachment

cc: See next page.

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Richard Boyd, Chief
Risk Reduction Branch
Transportation and Toxics Division

Attachment

California Air Resources Board Staff Comments and Recommendations on I-170 Corridor Project Recirculated Draft Environmental Impact Report/ Supplemental Draft Impact Statement

Project Description

The California Department of Transportation (Caltrans), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), the Gateway Cities Council of Governments, the Southern California Association of Governments, the Ports of Los Angeles and Long Beach, and the Interstate 5 Joint Powers Authority proposes to improve Interstate 710 (I-710) in Los Angeles County between Ocean Boulevard and State Route 60 (SR-60).

I-710 is a major north-south interstate freeway connecting the City of Long Beach to central Los Angeles and beyond. I-710 is a significant freight artery for the region and serves as the principal transportation connection for road-borne cargo between the Ports of Los Angeles and Long Beach, located at the southern end of I-710 and the BNSF and Union Pacific intermodal rail yards in the Cities of Commerce and Vernon, as well as intermodal warehouses along I-710. The existing I-710 mainline generally consists of eight general-purpose lanes north of Interstate 405 (I-405) and six general-purpose lanes south of I-405.

The study area includes the portion of I-710 from Ocean Boulevard in Long Beach to SR-60, a distance of approximately 18 miles. The study area extends one mile east and west of I-710 mainline at I-405, State Route 91, Interstate 105, and I-5 interchanges.

The existing I-710 freeway has elevated levels of health risks related to high levels of diesel particulate emissions, traffic congestion, high accident rates, and outdated design roadway features that create operational problems. To address these issues, Caltrans previously released a Draft Environmental Impact Report in 2012; however, due to extensive comments received, Caltrans developed and analyzed a new set of alternatives (5C and 7) in the Recirculated Draft Environmental Impact Report Supplemental Draft Impact Statement (RDEIR/EIS) released July 2017. The new alternatives are:

- Alternative 5C: Modernize I-710 Freeway: This alternative includes widening I-710 and adding two mixed-flow lanes, two truck by-pass lanes, widening bridges, adding bike lanes, arterial system improvements (modify freeway access, shift centerline), incorporating traffic demand management and Intelligent Traffic System (congestion relief signal upgrades, traffic calming), and focused improvements (structural, visual, irrigation, barriers).

- Alternative 7: I-710 Modernization and Added Near-Zero/ Zero Emission (NZ/ZE) Freight Corridor (Freight Corridor): Includes all of 5C, but rather than adding mixed-flow lanes and the truck by-pass lanes, Alternative 7 includes four NZ/ZE truck-only lanes and an automated vehicle control system feature that will steer, brake, and accelerate trucks allowing for platooning. Design Option 7ZE would restrict the Freight Corridor to only allow access to zero emission trucks beginning 2035.

Air Quality, Greenhouse Gas, and Health Risk Assessment (HRA) Technical Study

Results of the RDEIR/EIS indicate that projected I-710 operational emissions, in general, decline between now and 2035 as adopted clean vehicle and fuels regulations cut emissions faster than growth in vehicle miles traveled (VMT) increases emissions. This is true for the 2035 No Project or No Build scenario, as well as the two I-710 Project alternatives. However, the Alternative 7ZE results in the lowest emissions and health risk in 2035.

Preferred Alternative Recommendation

As indicated in our letter, we support Alternative 7 Design Option ZE (Alternative 7ZE) as the Preferred Alternative. By creating this dedicated freight corridor, the Project will support technology to transition to zero emission operation in highly impacted communities. It will also establish the foundation for a longer zero emission freight corridor connecting the seaports, rail yards, and inland distribution centers.

Adoption of zero emission technologies is critical to protect the health of communities near the Project study area. The restriction of use to ZE/NZE trucks on the freight corridor as part of Alternative 7 rather than conventional diesel trucks will help reduce oxides of nitrogen (NOx) emissions to help attain national ambient air quality standards in the South Coast Air Basin, cut toxic diesel particulate matter (diesel PM) to protect community health, and reduce greenhouse gases (GHG) to combat climate change. S-2-6

Comments

Air Quality, Greenhouse Gas, and Health Risk Assessment (HRA) Technical Study

1) Truck volumes: The proposed SCIG and ICTF Modernization projects to expand near-dock rail capacity are included in the port growth assumptions that were approved for use in traffic forecasting for port trucks and the baseline scenario developed for the RDEIR/EIS (page 1-31). These two intermodal projects would shift volumes of containers from truck to rail; but there is no certainty that these projects will be completed. S-2-7

The RDEIR/EIS appropriately identifies port truck volume projections both with and without these near-dock rail projects. Without these projects, the RDEIR/EIS indicates there would be an additional 5,800-8,500 truck trips per day on the I-710. However, the HRA and air quality analysis were conducted assuming that these two intermodal projects are operational in 2035. Table 38 in the Traffic Demand Methodology Technical Memorandum (June 2017) indicates port truck volumes without the SCIG and ICTF projects would increase, ranging from 14 to 134 percent, along various segments of I-710. Caltrans should update the HRA and air quality analyses to capture the emissions and health impacts from this higher truck activity. S-2-7

2) Appendix E, Section 2, Hazard Identification, Page E-2: Operational emissions were used to estimate potential health risk impacts. The analysis should be updated to include any overlapping operational and construction emissions that produce the peak estimated emission and risk levels. S-2-8

3) Appendix C, Section 1, Introduction, Page C-1: The air quality and health risk analyses used 2012 as a baseline as compared to 2035 build alternatives. Caltrans should include analyses for interim years 2023 and 2030 for combined operational and construction emissions, including the peak year recommended in Item 2, above. S-2-9

4) Figure ES-7: Figure ES-7 presents the maximum modeled cancer risk for Project alternatives and baselines. Caltrans should include additional tables showing detail on the individual Mobile Source Air Toxics that contribute to the risk. Presenting the maximum risk by individual toxic compound will provide the public with a more comprehensive understanding of the Project. S-2-10

Freight Corridor Facility

CARB would welcome the opportunity to work with Caltrans to define how the Freight Corridor will be managed under Alternative 7 to maximize fuel efficiency and emission reductions across the corridor, as well as to incentivize ZE/NZE technology. The standards that define NZE on the corridor can be updated periodically to reflect and support the current state of commercialized technology. Additionally, the infrastructure installed to manage the facility should be flexible enough to support real-time management and periodic standard updates (e.g., infrastructure similar to high-occupancy toll lanes using radio frequency identification technology). S-2-11

Mitigation Measures

Pursuant to the California Environmental Quality Act (CEQA), (see Cal. Pub. Resources Code § 21081; Title 14 CCR § 15126.2) to be adequate, mitigation measures should be specific, feasible actions that will reduce or avoid significant adverse environmental impacts, and must be enforceable and measurable. For each of the mitigation measures, the lead agency should identify measurable performance standards by which the success of the mitigation can be determined, as well as the relevant methods for monitoring that success.

1) CON-AQ-15 indicates that construction equipment used will meet U.S. EPA Tier 4 emission standards and CARB's requirements for off-road engines, depending on the responsible agency that administers the construction contract and availability of equipment. If Metro administers the construction contract, then Metro's Green Construction Policy would be utilized. Based on the elements of this policy, it is less stringent than using equipment that meets U.S. EPA Tier 4 emission standards. To achieve the greatest reductions in diesel emissions from off-road equipment, we recommend that Caltrans expand this mitigation to require that all off-road construction equipment greater than 25 horsepower used on the Project site meets U.S. EPA Tier 4 emission standards, regardless of who administers the contract. S-2-12

Given construction is scheduled to start in 2020 and Tier 4 equipment became available as early as 2008 for some horsepower categories, with the rest being made available in the 2012 timeframe, it is technically feasible to require that all Tier 4 equipment be used. To increase the enforceability of this mitigation, we recommend that Caltrans require the responsible agency administering the construction contract enter into contractual agreements with construction companies capable of meeting this requirement. S-2-13

2) CON-AQ-16 indicates Caltrans will instruct the construction contractor to comply with CARB's anti-idling rule, which prohibits diesel truck idling in excess of five minutes. Given that Project construction is estimated to last seven years, Caltrans can eliminate excess emissions by requiring that the contractors limit idling by diesel on-road construction trucks and off-road equipment to three minutes. S-2-14

3) CON-AQ-17 indicates that on-road heavy-duty trucks must meet 2007 or cleaner standards, and comply with State regulations during construction activities. CARB already requires trucks fleets to transition to 2010 or later emission standards by 2023 or earlier. At a minimum, on-road trucks over 14,000 pounds should meet 2010 or newer engine standards. For additional, feasible mitigation, we recommend that Caltrans offer extra points in the competitive scoring process to bidders with trucks that: are zero emission, certified to any of CARB's optional low NOx standards, or qualify for CARB's Hybrid Truck and Bus Voucher Incentive Project. S-2-15

S-2-1

Caltrans and Metro thank the commenter for this input. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative, and Section 1.3 of this appendix for additional discussion of zero emission (ZE) options.

S-2-2

The information provided on Assembly Bill 617 is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS and this Final EIR/EIS, one purpose of the project is to improve air quality and public health. Although the Preferred Alternative (Alternative 1, No Build) does not meet the purpose of the I-710 Corridor Project, the air quality analysis conducted for the proposed project found that other projects assumed in the No Build condition would provide some mobility and air quality benefits. In addition, all of the alternatives, when compared to the 2012 Baseline, including the No Build Alternative, would decrease the regional traffic greenhouse gas (GHG) emissions by approximately 13,000,000 metric tons of carbon dioxide equivalent (CO_2e) per year (25 percent from 2012 levels).

S-2-3

The commenter's support for Alternative 7 and the Alternative 7- Zero Emissions Design Option (Alternative 7-ZE Option) is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

S-2-4

At the time of the commencement of technical studies, including detailed traffic forecasting, in support of the I-710 Corridor Project RDEIR/SDEIS, the Project Team reviewed the status of the Southern California International Gateway (SCIG) and Intermodal Container Transfer Facility (ICTF) projects and came to the conclusion that they were reasonably foreseeable projects, and in order to represent a likely future scenario, should be included in the No Build Alternative scenario. Additionally, the SCIG and ICTF projects are reasonably foreseeable future projects included in the future No Build Alternative (2035) for the I-710 Project and the Future Year (2035) Baseline for Southern California Association of Governments' (SCAG) 2012 Regional Transportation Plan as well as SCAG's 2016 Regional Transportation Plan. In January 2018, the California Courts of Appeal ruled that the Port of Los Angeles and the BNSF were in compliance with the majority of CEQA requirements in the SCIG Final EIR, with the exception of the air quality analysis of ambient air concentrations and associated cumulative impacts of such pollutant concentrations. The Court further ordered that work on the project be suspended until such time that these deficiencies are addressed. However, Caltrans maintains, due to the information

provided above, that there is sufficient evidence and rationale for retaining the SCIG project in the No Build Alternative scenario.

According to the meeting minutes for the December 6, 2017, meeting of the ICTF Joint Powers Authority (JPA),[1] development of the Draft EIR for the ICTF Expansion and Modernization Project has begun but is currently on hold due to changes in schedules and other necessary updates. It is unknown when the process will be re-initiated.

A Sensitivity Test was conducted that removed the SCIG and ICTF Expansion Projects from the I-710 Corridor traffic model to evaluate the effects on the I-710 Corridor transportation travel patterns. These sensitivity tests are provided in the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017). In summary, viewed from daily conditions for total vehicles, removal of the SCIG and ICTF expansion projects from the No Build Alternative scenario resulted in only a slightly overall change in the total number of vehicles, with additional trucks using I-710 displacing some autos.

S-2-5

This comment requests that the health risk and air quality analysis include peak emissions from the overlap of construction and operation. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative, which is discussed in more detail in Section 1.1 of this appendix. Therefore, an analysis of peak emissions from the overlap of construction and operations of the build alternatives is not necessary. However, the construction emissions scenarios presented in Section 3.24, Construction Impacts, of the RDEIR/SDEIS and this Final EIR/EIS assume consecutive construction of all freeway sections, which represents a conservative (i.e., worst-case scenario) emissions analysis, drawn from the construction staging scenarios, in order to identify and disclose the range of potential impacts. Please refer to Section 1.4.2 of this appendix, Air Quality Analysis of Interim Years, for further discussion.

S-2-6

Caltrans and Metro thank the City for their input. The City's support of Alternative 7 is acknowledged and included in the project record. While Alternative 7, including the exclusive ZE option for the proposed freight corridor, would reduce nitrogen oxides (NO_X), diesel particulate matter (DPM), and GHG emissions within the Study Area, Alternative 1, the No Build Alternative,

[1] Intermodal Container Transfer Facility - Joint Powers Authority. 2017. Special Meeting of the Governing Board of the Intermodal Container Transfer Facility Joint Powers Authority Minutes, December 6, 2017. Website: http://www.ictf-jpa.org/pdf/12-06-17/ (accessed March 21, 2017).

has been identified as the Preferred Alternative due to project-related impacts associated with the build alternatives as well as other concerns. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

S-2-7

Please refer to Response to Comment S-2-4 regarding inclusion of the SCIG and ICTF projects in the Health Risk Assessment (HRA) and air quality analyses.

S-2-8

Please refer to Response to Comment S-2-5, Section 1.4.2 of this appendix, Air Quality Analysis of Interim Years, and Section 1.4.3 of this appendix, Localized Impacts of Project Construction Emissions, for further discussion.

S-2-9

This comment states that the air quality analysis should include a comparison of the build alternative emissions to future interim years 2023 and 2030 as well as year 2035. The analysis assumed construction of the build alternatives to begin in 2022 and be completed by the horizon year 2035. Hence, the build alternatives would not exist in any of the interim years (2023 or 2030) that are referred to in this comment and a comparison of the emissions with and without the build alternative in a particular interim year would be hypothetical and misleading. However, the *Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (AQ/GHG/HRA Technical Study) (June 2017) and the associated *Addendum to the Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (December 2020) present incremental comparisons of the emissions from the 2035 build alternatives to the 2035 No Build Alternative, which would exclude any reductions from State and Federal rules and regulations. Specifically, Table 5-2b in the AQ/GHG/HRA Technical Study presented the incremental changes in volatile organic compounds (VOC), nitrogen oxides (NO_X), CO, PM_{10}, $PM_{2.5}$, and sulfur oxides (SO_X) emission estimates for the 2035 build alternatives as compared to the 2035 No Build Alternative.

Also, it has been demonstrated that 2035 is the peak PM_{10}/$PM_{2.5}$ emissions year for operational emissions in the August 2018 White Paper, *I-710 Corridor Project: Considerations Regarding the Planning Assumptions Used for the Air Quality Conformity Analysis*, which was included as Appendix B of the August 2018 PM conformity submittal to the Transportation Conformity Working Group. In essence, vehicle miles travelled (VMT) would increase during this period (as noted in SCAQMD's Final 2016 Air Quality Management Plan), while fleet-turnover to the cleanest current cars and trucks would be essentially complete by 2023 (as shown in EMFAC2014 and complete implementation of the California Air Resources Board's (CARB) Truck and Bus Rule by that date). Please refer to Section 3.13.3.2 of this Final EIR/EIS for an updated discussion of project-level conformity.

As stated in Response to Comment S-2-5, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a comparison of the build alternative emissions to future interim years 2023 and 2030 as well as year 2035 would no longer be necessary. Please refer to Common Response 1.4.2, Air Quality Analysis of Interim Years, for further discussion.

S-2-10

DPM is the main driver for cancer risk. As requested in the comment, individual mobile source air toxic (MSAT) contributions to the cancer risks presented in Figure ES-7 are presented in the table below. DPM contributes to 90 percent or more of the maximum-modelled cancer risk in each alternative. Acrolein is not shown, as there are no cancer risk impacts from acrolein. In all cases, the 2035 build alternatives show decreases in total cancer risk for each individual MSAT when compared to both the 2035 No Build Alternative scenario and the 2012 Baseline.

Mobile Source Air Toxic Contributions

	2012 Baseline	2035 No Build	2035 Alternative 5C	2035 Alternative 7
Total CR (in one million)	**1,420.62**	**57.34**	**45.02**	**30.33**
from DPM	1,396.70	51.71	40.82	29.53
from Benzene	12.81	2.84	2.03	0.29
from POM	5.77	1.82	1.37	0.19
from 1,3-Butadiene	3.30	0.60	0.47	0.07
from Formaldehyde	1.03	0.19	0.18	0.24
from Naphthalene	1.00	0.18	0.14	0.02

CR = cancer risk
DPM = diesel particulate matter
POM = polycyclic organic matter

S-2-11

Caltrans and Metro appreciate CARB's offer to work with the agencies regarding zero emission/near zero emission (ZE/NZE) technology incentivization. As discussed in more detail in Section 1.1 of this appendix, the No Build Alternative has been identified as the Preferred Alternative. However, as discussed in Section 2.3.2.3 in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS and this Final EIR/EIS, because the future technology cannot be predicted with certainty, Alternative 7 was analyzed in the RDEIR/SDEIS as "technology neutral" so that it would be able to accommodate at least one type of ZE heavy-duty truck that is in commercial mass production before the final design phase of project development. Because construction was several years away at the time of analysis, the selection of a specific technology would have been premature. The truck program included in both Alternatives 5C and 7 was analyzed as technology neutral so that no potential future technologies were precluded.

S-2-12

Measure CON-AQ-15 was drafted in a manner that ensures it is both enforceable and consistent with Caltrans' and Metro's contract bid requirements and procedures, given that it is not currently known at this time which agency may eventually administer the construction contract for the build alternatives. Therefore, some flexibility was retained accordingly in the wording of the measure. It is important to note that some, but not all, Tier 4 equipment is commercially available at the present time, and it is currently unknown if and when all Tier 4 equipment necessary to construct the build alternatives may be available in the future. By the time it was anticipated that construction of the build alternatives would be anticipated to begin, the Best Available Control Technology (BACT) compliance schedule for CARB In-Use Off-Road Diesel-Fueled Fleets Regulation indicates that only 10 percent of "large fleets" will consist of BACT equipment.[2]

For those reasons, in addition to the fact that the No Build Alternative has been identified as the Preferred Alternative, the text of the measure has not been revised.

S-2-13

Please refer to Response to Comment S-2-12 regarding the use of Tier 4 equipment during construction.

S-2-14

Caltrans and Metro thank the commenter for the suggestion and acknowledge that further reductions in diesel idling time will help to further minimize construction emissions. However, as stated in Response to Comment S-2-5, the No Build Alternative has been selected as the Preferred Alternative and no construction will occur. Therefore, the language in Measure CON-AQ-16 in this Final EIR/EIS retains a limit of five minutes.

S-2-15

It is important to note that Caltrans' contract bid procedures require construction contracts over a certain monetary amount be awarded to the lowest responsive and responsible bidder. Because only certain construction fleets are able to meet this requirement, there is concern that the field of potential bidders could be narrowed in a manner not consistent with legal requirements. Therefore, this suggestion has not been incorporated into the bid scoring process at this time. In addition, as stated in Response to Comment S-2-5, the No Build Alternative has been selected as the Preferred Alternative and Caltrans will not be putting out a bid for the project.

[2] California Air Resources Board (CARB). 2014, Revised August 2014. Frequently Asked Questions In-Use Off-Road Diesel Vehicle Regulation. Website: https://www.arb.ca.gov/msprog/ordiesel/faq/bact faq.pdf (accessed October 3, 2018).

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October 20, 2017

Mr. Jason Roach
Senior Environmental Planner
California Department of Transportation
100 South Main Street, MS-16A
Los Angeles, CA 94274-0001

RE: Recirculated Draft Environmental Impact Report (RDEIR) / Supplemental Draft Environmental Impact Statement (SDEIS) for the I-710 Corridor Project

Dear Mr. Roach,

The California Transportation Commission (Commission), as a Responsible Agency, received the RDEIR / SDEIS prepared by the California Department of Transportation (Caltrans) for the I-710 Corridor Project. The project would construct roadway improvements to address congestion and safety issues on a portion of Interstate 710 beginning at Ocean Boulevard in Long Beach and teminating at State Route 60. The project is funded through the Project Approval and Environmental phase only and is not fully funded. A total of $1.31 billion has been identifed and earmarked through local Measure R and M funds.

The Commission has no comments with respect to the project purpose and need, the alternatives studied, the impacts evaluated, and the evaluation methods used. The Commission should be notified as soon as the environmental process is finalized since project funds cannot be allocated for project design, right of way or construction until the final environmental document is complete. Once the final environmental process is complete, the Commission will consider the environmental impacts in determining whether to approve the project for future consideration of funding. S-3-1

Upon completion of the California Environmental Quality Act process, prior to the Commission's action to approve the project for future consideration of funding, the Commission expects the lead S-3-2

and/or implementing agency to provide written assurance whether the selected alternative identified in the final environmental document is, or is not consistent with, the project programmed by the Commission and included in the appropriate Regional Transportation Plan. In the absence of such assurance of consistency, it may be assumed that the project is not consistent and Commission staff will base its recommendations to the Commission on that fact. The Commission may deny funding to a project which is no longer eligible for funding due to scope modifications or other reasons. S-3-2

The Commission also encourages Caltrans and its partners to ensure early communication with the Commission in the event it is anticipated that the Commission will be requested to provide authorization to develop and operate high-occupancy toll lanes or other toll facilities, including the administration and operation of a value pricing program and exclusive or preferential lane facilities in accordance with California Streets and Highways Code Section 149.7. S-3-3

If you have any questions, please contact Jose Oseguera, Assistant Deputy Director, at (916) 653-2094.

Sincerely,

Susan Bransen

SUSAN BRANSEN
Executive Director

c: Phil Stolarski, Chief (Division of Environmental Analysis), California Department of Transportation

S-3-1

Caltrans acknowledges that the California Transportation Commission (CTC) has no comments on the RDEIR/SDEIS itself, and is prepared to receive notice once the Final EIR/EIS is complete.

S-3-2

After the circulation process for the RDEIR/SDEIS, Caltrans and Metro worked with the Southern California Association of Governments (SCAG) to amend the Project Description as listed in the Regional Transportation Plan (RTP) to be consistent with one of the build alternatives - Alternative 5C. The description of Alternative 5C was included in SCAG's RTP/Sustainable Communities Strategy (SCS) Amendment No. 3, adopted by SCAG on September 6, 2018, and the project listings were updated in Appendix I of this Final EIR/EIS accordingly. However, since that time, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Moving forward, Metro will continue to work with SCAG to ensure that the future modifications to the RTP and Federal Transportation Improvement Program (FTIP) reflect the No Build Alternative (Alternative 1) as opposed to Alternative 5C.

S-3-3

As stated in Response to Comment S-3-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, high-occupancy toll lanes or other tolling facilities, including a value-pricing program and exclusive lane facilities, are not under consideration for this Final EIR/EIS.

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R-1.1 REGIONAL AGENCIES

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Los Angeles River Upper Reach 2 Watershed Management Area

September 22, 2017

Sent by email to: Ron_Kosinski@dot.ca.gov

Ronald Kosinski
California Department of Transportation,District 7
100 South Main Street, MS 16A
Los Angeles, CA 90012

Comment Letter – Interstate 710 Corridor Project Recirculated DEIR/Supplemental DEIS

Dear Mr. Kosinski

Like the California Department of Transportation,the Los Angeles River Upper Reach 2 Watershed Management Area (LAR UR2 WMA) Cities of Bell, Bell Gardens, Commerce, Cudahy, Huntington Park, Maywood, Vernon, and Los Angeles County Flood Control District (LACFCD) are Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permittees regulated by the Los Angeles Region Water Quality Control Board (LARWQCB) and State Water Resources Control Board (SWRCB). Along with other stakeholders, our agencies are charged with improving water quality and supporting the attainment of LARWQCB Basin Plan identified beneficial uses in the Los Angeles River Watershed. The LAR UR2 WMA appreciates this opportunity to provide regional water quality protection related comments that resulted from our review of the Interstate 710 (I-710) Corridor Project Recirculated Draft Environmental Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). The I-710 is the principal truck transportation corridor for goods leaving the Ports of Long Beach and Los Angeles, for the intermodal Rail Yardslocatedin the LAR UR2 WMA Cities of Vernon and Commerce, as well as interstate commerce routes accessing the entire southwestern United States.

The Caltrans MS4 Permit, amended as Order 2015-0036-EXEC, regulates ongoing agency activities and discharges, while Part E.2.d.2) directs that projects creating one, or more, acres of new impervious surfaces utilize post-construction treatments that "infiltrate, harvest and reuse, and/or evapotranspire the storm water runoff". The I-710 Corridor project would also be regulated under the state Construction General Permit (CGP) amended as SWRCB Order 2012-0006-DWQ on July 17, 2012.Attachments E, K, and L, to the January 2017 I-710 Storm Water Data Report (SWDR), indicate that the preferred project alternatives 5C and 7 would disturb up to 300 acres within the LAR UR2 WMA Cities of Bell, Commerce, and Vernon, for which Caltrans identified $15 million in required mitigations. While generally supportive of Alternatives 5c and 7, the LAR UR2 WMA municipalities may separately provide additional specific comments regarding various project aspects that directly impact each of ouragencies.

I-710 Corridor Project Direct Discharges to LAR UR2 WMA MS4Permit Conveyances

As shown in **Table 1** and **Table 2** abstracted from Attachment E to the SWDR, Caltrans drainage areas 5-C, 5-F, and 5-Hdischarge untreated to LAR UR2 WMA streets rather than to Caltrans pump stations or outlets. Caltrans should propose,one to three acre, Green or LID Street Design Pollution Prevention (DPP) mitigation measures for these areas, or provide mitigation funding to the LAR UR2 WMA cities. R-1-1

Table 1 I-710 Alternative 5C Drainage Subarea BMP Summary, within the LAR UR2 WMA

Drainage Subarea Characteristics				Alternative 5C Treatment Device Tributary Acres with per Acre and Subarea Costs			
Subarea/ Outlet IDs	Total Acres	Paved Acres	Treated Acres	I/D Basin $73,500	Bioswale $98,000	Media Filter $147,000	Subarea Total Costs
4-S/P17	27.0	16.7	16.7		5.0	11.7	$2,210,000
5-A/P18	9.7	9.0					
5-B/P19	34.6	18.7	15		15.0	5.0	$2,205,000
5-C/Florence	2.8	2.7					
5-D/Florence	2.8	2.5	2.5		2.5		$245,000
5-E/P20	17.6	17.1					
5-F/Gage Av	1.3	1.3					
5-G/P21	11.4	9.9					
5-H/Slauson	2.8	2.8					
5-I//O29	27.5	20.7	20.7			20.7	$3,043,000
6-A/O30	8.7	7.6	7.6	7.2	0.4		$568,000
6-B/O30	50.1	30.1	30.1	30.1			$2,212,000
6-C/O31	28.9	24.1	24.1	24.1			$1,771,000
6-D/O31	1.9	1.9					
7-A/O33	11.0	7.8	7.8	7.8			$573,000
7-B/O32	7.9	7.4	7.4	7.4			$544,000
7-C/P22	31.3	16.1	16.1	16.1			$1,183,000
Totals	**277.3**	**196.4**	**148.0**	**92.7**	**22.9**	**37.4**	**$14,554,000**

Table 2 I-710 Alternative 7 Drainage Subarea BMP Summary, within the LAR UR2 WMA

Drainage Subarea Characteristics				Alternative 7 Treatment Device Tributary Acres with per Acre and Subarea Costs			
Subarea/ Outlet IDs	Total Acres	Paved Acres	Treated Acres	I/D Basin $73,500	Bioswale $98,000	Media Filter $147,000	Subarea Total Costs
4-S/P17	26.8	16.0	16.0		8.0	8.0	$1,960,000
5-A/P18	9.4	8.0					
5-B/P19	37.2	19.8	19.8		14.8	5.0	$2,185,000
5-C/Florence	2.8	2.7					
5-D/Florence	2.8	2.5	2.5		2.5		$245,000
5-E/P20	9.6	7.6	7.6		7.6		$745,000
5-F/Gage Av	1.3	1.3					
5-G/P21	24.2	17.8	5.3		5.3		$519,000
5-H/Slauson	2.5	2.5					
5-I//O29	37.7	28.0	28.0		28.0		$2,744,000
6-A/O30	8.3	7.6	7.6	7.2	0.4	5.6	$1,392,000
6-B/O30	53.1	36.7	36.7	36.7			$2,697,000
6-C/O31	29.2	24.7	24.7	24.7			$1,815,000
6-D/O31	1.9	1.9	1.9	1.9			$140,000
7-A/O33	11.0	7.8	7.8	7.8			$573,000
7-B/O32	7.9	7.5	7.5	7.5			$551,000
7-C/P22	31.3	16.1	16.1	16.1			$1,183,000
Totals	**297**	**208.5**	**181.5**	**101.9**	**66.6**	**18.6**	**$16,749,000**

R-1-1

Based on the Caltrans estimate of $73,500 to $147,000 per tributary acre, the 6.5 acres of resurfacedpavement would warrant mitigation payments of between $550,000 and $1.1 million for the direct impacts of this unmitigated runoff, which might otherwise be attributed to the LAR UR2 WMA. R-1-1

Caltrans Drainage Areas,Within the LAR UR2 WMA, Having No DPPs

In addition to drainage areas 5-C, 5-F, and 5-H, discussed in the prior paragraph, **Table 1** demonstrates that alternative 5C proposes no DPPs for drainage areas 5-A, 5-E, 5-G, and 6-D, while **Table 2** shows that alternative 7 proposes no DPPs for drainage area 5-A. For alternative 5c and 7 respectively, these areas represent up to an additional 40.6, and 9.4, acres of unmitigated project related land disturbance. As required by the Caltrans MS4 Permit, DPPs should be provided for these areas or mitigation provided within the LAR UR2 WMA. Again using the DPP cost factors provided by Caltrans, the mitigation impact fees resulting from alternative 5c are estimated to be$3 to $6 million. The mitigation associated with the alternative 7drainage areas, without DPPs,rangesfrom $700,000 to $1.4 million. R-1-2

Potential Cooperative Water Quality Protection Project Opportunities

As shown in **Table 1**, drainage areas 4-S, 5-B, and 5-D are proposed to include $4.66 million worth of DPPs, while **Table 2** also adds drainage areas 5-E and 5-G increasing the proposed total DPP cost for these five drainage areas to $5.6 million. While DPPs are identified for each of these drainage areas, the proposed treatment systems are bioswalesor media filters, which, unlike infiltration based systems,produce runoff, pollutants, and must be frequently maintained to remain effective. With the exception of 5-D, that drains first to a DPP and then to Florence Avenue, these drainage areas are all proposed to be serviced by pump stations which may provide alternative water conveyance opportunities.

Based on the April 2017 LAR UR2 WMA Feasibility Study, which found soils with high infiltration rates in the southern portion of the City of Bell Gardens, the LAR UR2 WMA is currently planning to begin design and construction of a large cistern under John Anson Ford Park along the Rio Hondo. During the next WMP update,which is currently scheduled for the year 2020, a similar facility may be proposed for Asmus Park. This location is immediately adjacent to drainage areas 5-A and could be enlarged to accommodate flows from one or more of these five drainage areas proposed to be serviced with DPPs.

Caltrans and the LAR UR2 WMA should hold open the optionfor direct flows from proposed pump stations P17, P18, P19, P20, and P21 to the Asmus Park Cistern Concept Project. If federal funds could be used to support the mitigation effort this would greatly benefit the LAR UR2 WMA by providing matching funds against potentialState Proposition 1 Storm Water Implementation Grant support, while Caltrans would benefit through reduced runoff and pollutant discharge loads that clearly support the infiltration objectives of their MS4 Permit Part E.2.d.2). Finally, infiltration would preserve regional ground water in the upper aquifer, which supplies water for industrial and agricultural uses. R-1-3

Conclusion

Our review of the I-710 Corridor DEIR/SDEISindicates there are several areas within LAR UR2 WMA where MS4 discharges and receiving water quality would likely be impacted by the proposed project and have yet to be adequately mitigated. Furthermore, as amended in the Caltrans MS4 Permit, the mitigation opportunities within the LAR UR2 WMA should be applicable as TMDL Credit Units (CUs).We hope these R-1-4

comments will be considered ascollaborative opportunities to benefit both Caltrans and the LAR UR2 WMAPermittees while contributing to our shared regional water quality objectives. Should you have any questions about the content of this comment letter, or the implementation status of the various LAR UR2 WMA water quality projects, please feel free to email me at gnila@ci.commerce.ca.us or call to (323) 722-4805 extension 2839. R-1-4

Respectfully submitted,

Gina Nila, LAR UR2 WMA Permittee Chair
Deputy Director of Public Works, City of Commerce

R-1-1

It should be noted that subareas 5C, 5F, and 5H are not Caltrans' drainage areas, as suggested by the commenter. These drainage areas are under local jurisdiction. As discussed in Section 3.9.4 of the RDEIR/SDEIS, the build alternatives would comply with Caltrans provisions identified in the National Pollutant Discharge Elimination System (NPDES) Permit, Statewide Stormwater Permit and Waste Discharge Requirements (WDRs) Order No. 2012-0006-DWQ, NPDES No. CAS000002, or subsequent permit of the Construction General Permit (CGP). Additionally, Measure WQ-1 would be implemented, requiring that Caltrans consult with the jurisdictions where discharges of runoff from (I-710 to local jurisdictions' streets and/or stormwater drainage systems would occur. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, pollution prevention mitigation measures are not necessary.

R-1-2

In the analysis for the build alternatives, Table 1 and Table 2 address permanent treatment Best Management Practices (BMPs) only and do not address Design Pollution Prevention (DPP) BMPs. Because details are limited, DPP BMPs are estimated as a percentage of construction. These estimates are calculated separately and follow Tables 1 and 2 in the report. It should also be noted that the I-710 Corridor Project *Storm Water Data Report* (SWDR) (January 2017) summarizes the stormwater quality issues and design decisions made regarding project compliance with Caltrans' NPDES Permit. The SWDR is initiated in the Project Initiation Document (PID) phase, refined during the Project Approval/Environmental Document (PA/ED) phase, and finalized during final design and the Plans, Specifications, and Estimates (PS&E) phase. The SWDR level of detail at the PID and PA/ED phases is often limited, as is the case for this project, and based on the available information developed for the build alternatives (which, should be noted, is preliminary). The 2017 SWDR, which was circulated along with the RDEIR/SDEIS, also supports the design and cost information provided in the Project Report for the build alternatives. The SWDR is not typically signed until after the environmental document is approved, as the SWDR needs to reflect the identification of the Preferred Alternative. However, as stated in Response to Comment R-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, an updated SWDR will not be necessary.

R-1-3

Please refer to Response to Comment R-1-2 regarding DPP BMPs.

R-1-4

Please refer to Response to Comment R-1-2 regarding DPP BMPs.

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LOWER LOS ANGELES RIVER
WATERSHED COMMITTEE

October 23, 2017

Transmitted electronically to
www.metro.net/projects/i-710-corridor-project

Ronald Kosinki
Cal Trans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Subject: Comments on the 710 Corridor RDEIR/SDIES

Dear Mr. Kosinki:

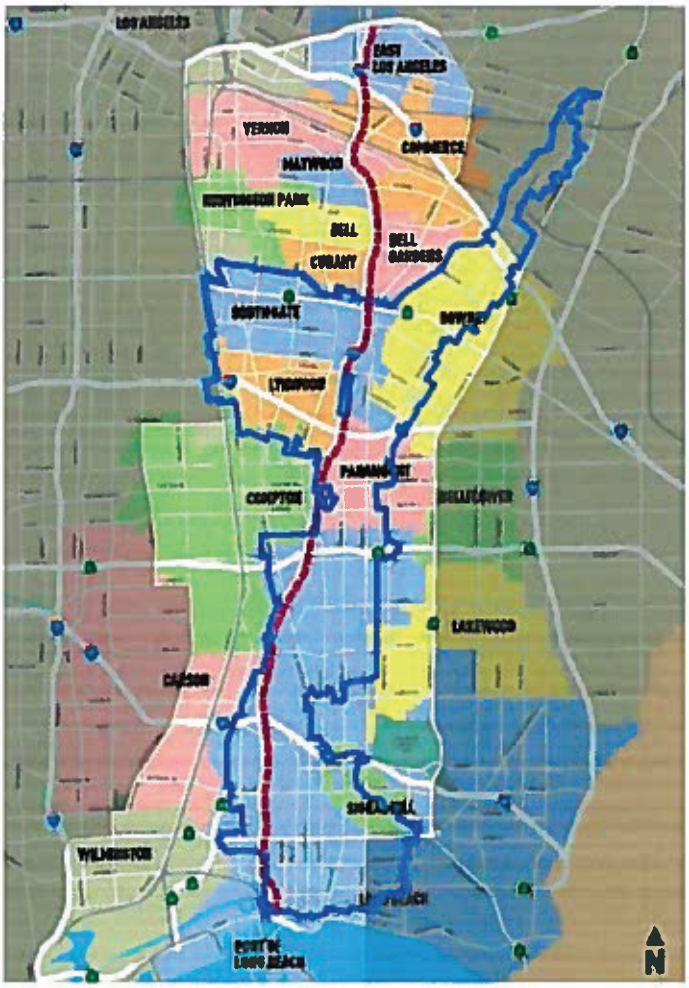
The Lower Los Angeles River (LLAR) Watershed Management Group (WMG) is comprised of eight public agencies and is tasked with working to improve the quality of urban and stormwater runoff in the Los Angeles River as part of the Municipal Separate Storm Sewer System (MS4) Permit issued by the Regional Water Quality Control Board, Los Angeles Region. As such, we appreciate the opportunity to comment on the RDEIR/SDIES. After reviewing the documents, we see many areas where the efforts of the LLAR WMG and Cal Trans can complement each other. Due to the narrow scope of the LLAR WMG's activities as compared to the overall scope of the 710 Corridor project, our comments are limited at this time to cooperative water quality aspects. Although the RDEIR/SDIES is several hundred pages in length, it is understandably short on specifics regarding stormwater treatment this early in the 710 Corridor project development. Nonetheless, several important considerations and potential opportunities can be drawn from a review of the document.

As background, in early 2016, the LLAR WMG developed a preliminary feasibility study that screened over 200 sites within the LLAR for potential suitability as regional water quality treatment projects. From this initial list, fourteen "top-tier" sites were selected for additional investigation. Beginning in mid-2016, geotechnical analyses and early-stage conceptual designs of these sites began. Three of these top-tier sites have already received funding (including funding from Cal Trans) or commitments to fund and are in varying stages of development.

As will be evident from the map on the following page, the LLAR and the 710 Corridor are geographically linked, and the RDEIR/SDIES should be expanded to address the opportunities for cooperation between Cal Trans and the agencies comprising the LLAR WMG.

Our comments at this time are:

1) The areas of the LLAR and 710 Corridor project overlap (LLAR boundary shown in blue).



2) The LLAR is under MS4 Permit R4-2012-175. In 2015, the Regional Board approved the LLAR Watershed Management Program (WMP), which identifies stormwater treatment needs.
3) Cal Trans is under the statewide MS4 Permit 2012-0011-DWQ, as amended. The RDEIR/SDIES (page 3-1-19) indicates that Cal Trans is directed to work with the local stormwater agencies to implement the WMPs.
4) While the RDEIR/SDIES appears to indicate that Cal Trans cooperation is limited "to those sections of the WMPs related to the TMDLs," in actuality, this is not an impediment to cooperation. The Reasonable Assurance Analysis portion of the LLAR WMP identified TMDL pollutants as the critical factor in determining treatment needs.

R-2-1

5) The approved LLAR WMP calls for the LLAR WMG to spend an estimated $300 million over the next decade(s) to achieve water quality goals.
6) From a review of the RDEIR/SDIES, it is clear that Cal Trans is likely to expend a similar amount as part of the 710 Corridor project.

R-2-2

7) Although Cal Trans' projects would be constructed later, it is important to coordinate activities now. Page 3-9-19 indicates that "no adverse impacts to water quality due to operation of the proposed improvements are anticipated." However, if the LLAR WMG constructs stormwater treatment systems based on volume estimates under current conditions and Cal Trans constructs duplicative treatment systems several years later, the LLAR WMG's would likely be treating runoff that has already been partially cleaned.

R-2-3

8) The LLAR WMP and subsequent project development documents have identified priority projects, each potentially receiving flows from varying percentages from Cal Trans right-of-ways (not necessarily from just the 710 freeway). These projects should be given serious consideration within the document. Since the goal of the two MS4 permits is ultimately cleaner waterbodies, and since compliance will ultimately be measured within the river, any project within the corridor, even if not receiving significant flows directly from Cal Trans, would have a benefit to all (analogous to a cap-and-trade scenario).

R-2-4

9) Finally, it would seem appropriate for Cal Trans to consider working as early as possible with the LLAR WMG to implement treatment systems to:
    a. Ensure design would be adequate for any potential additional flows,
    b. Fast-track construction of the treatment systems so these systems are already in place and functioning when the 710 project is ultimately completed, and
    c. Help Cal Trans and the LLAR WMG with their respected MS4 Permit compliance.

R-2-5

Thank you for your consideration of these comments. Please contact myself or John Hunter, the LLAR WMG's consultant, at (562) 802-7880 ext. 225 if you have any comments or questions.

Thank you,

Gladis Deras, Chair, Lower Los Angeles River Watershed
Senior Engineer, City of South Gate
(323) 563-9576

Cc: LLAR

This letter does not reflect the comments of any individual city or agency

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R-2-1

Caltrans acknowledges that the California State Water Resources Control Board (SWRCB) Order No. 2012-0022-DWQ (Caltrans' MS4 permit) provides for coordination with local municipalities. The referenced text is not intended to indicate that any impediments to coordination exist, but rather that the Caltrans permit does not include a Watershed Management Program compliance approach, but its Total Maximum Daily Load (TMDL) provisions do require cooperation with agencies subject to the same TMDLs. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, additional coordination between Caltrans and the SWRCB regarding the I-710 Corridor Project is no longer necessary.

R-2-2

This comment states that the Lower Los Angeles River Watershed Management Group will spend an estimated $300 million to achieve water quality goals and that Caltrans is likely to spend a similar amount as part of the I-710 Corridor Project. As stated in Response to Comment R-2-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no cost associated with Best Management Practices (BMPs).

R-2-3

As stated in Response to Comment R-2-1, the No Build Alternative has been selected as the Preferred Alternative and therefore further coordination between Caltrans and the Regional Water Quality Control Board (RWQCB) is no longer necessary for this project.

R-2-4

The commenter raises a good point regarding the goals of the MS4 permits, and Caltrans concurs with the commenter regarding the ultimate goals of the permits. However, it is important to note that the scope of the RDEIR/SDEIS and this Final EIR/EIS is limited to evaluation of the environmental impacts of implementation of the proposed project. However, as indicated in Response to Comment R-2-1, the No Build Alternative has been selected as the Preferred Alternative and further coordination for this project is no longer necessary.

R-2-5

Caltrans cannot make commitments regarding the fast-tracking of specific treatment systems that may be implemented as part of the I-710 Corridor Project or speak to the specific outcomes of future coordination at this time, but as indicated in Response to Comment R-2-1, the No Build Alternative has been selected as the Preferred Alternative and further coordination regarding treatment systems is no longer necessary.

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South Coast
Air Quality Management District
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SENT VIA E-MAIL & USPS:
ron_kosinski@dot.ca.gov
Ronald Kosinski, Deputy District Director
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

October 20, 2017

Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Interstate 710 (I-710) Corridor Project (SCH No.: 2008081042)

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document for the I-710 Corridor Project (Proposed Project). The Proposed Project would modernize and increase capacity of the I-710 between Ocean Boulevard and State Route 60, a distance of approximately 18 miles. This is a key freight corridor connecting the ports to railyards and warehouses, and is important for the economic vitality of our region. At the same time, truck traffic on the corridor is a significant source of air pollution impacting the health of local communities and the region as a whole.

SCAQMD staff commends the Lead Agency for making improvement of air quality and public health an objective of the Proposed Project, and for including a dedicated Zero Emission/Near Zero Emission (ZE/NZE) freight corridor as one of the build alternatives for analysis in the RDEIR/SDEIS. SCAQMD supports efforts to integrate various inter-agency planning and funding opportunities to deliver air quality and public health benefits with accountable milestones. An effective and inclusive implementation process can also help avoid potential project delays due to litigation.

The SCAQMD has a long history working with the Caltrans to ensure that the Proposed Project facilitates the implementation and deployment of the lowest emission technologies. SCAQMD staff provided comments on the 2012 Draft EIR/SEIS[1] and the 2015 Air Quality Protocol[2]. However, some previous comments remain to be outstanding concerns. SCAQMD staff's comments on the RDEIR/SDEIS are set forth in the attachment. SCAQMD staff seeks a RDEIR/SDEIS which fully describes the Proposed Project's air quality impacts, feasible mitigation measures, enforceability, and accountability which supports effective action by the Lead Agency to meet the Project's objectives to improve air quality and public health. The following is a summary of key comments.

Need for Zero Emission Freight Corridor. The region's air quality has improved with reductions in the total number of days that the South Coast Air Basin (Basin) experiences ozone and PM2.5

[1] South Coast Air Quality Management District. 2012. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2012/october/i-710-corridor-october-2012.pdf
[2] South Coast Air Quality Management District. 2015 http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/november/other710.pdf

particulate levels exceeding state and federal ambient air quality standards. Despite this progress, however, the region still has the most polluted air in the country, with substantial health impacts, including thousands of premature deaths per year. Mobile sources are the major contributor to the ozone and PM2.5 levels in this region. Heavy-duty diesel trucks are the largest source of nitrogen oxides (NOx) emissions—which react in atmosphere to form ozone and particulates—and are one of the major sources of directly emitted PM2.5. Diesel-powered equipment such as trucks traveling the I-710 corridor also contribute to significant local cancer risks. Additionally, the SCAQMD's Multiple Air Toxics Exposure Study (MATES) IV, completed in May 2015, concluded that the largest contributor to cancer risk from air pollution is diesel particulate matter emissions, and that the areas around the I-710 study area are significantly impacted with some of the highest risks from air pollution in the region with a maximum simulated cancer risk of 1,057 in a million[3]. The build alternatives would result in near-roadway incremental emissions concentrations in a few areas very near the I-710 corridor. When the health impacts from the Proposed Project are added to those existing impacts, the affected communities will face an even greater exposure to air pollution and bear a disproportionate burden of increasing health risks. R-3-1

Looking forward, emissions from new trucks are lower than emissions from older model years, but even with broad deployment of relatively new trucks, the region will need substantial additional emission reductions to attain the National Ambient Air Quality Standards (NAAQS). These needed reductions are particularly challenging because they are beyond the benefits of adopted rules and programs, and because the reductions already assume broad deployment of new trucks meeting the latest emission standards. On March 3, 2017, the SCAQMD's Governing Board adopted the 2016 Air Quality Management Plan (2016 AQMP)[4], which was later approved by the California Air Resources Board on March 23, 2017. Built upon the progress in implementing the 2007 and 2012 AQMPs, the 2016 AQMP provides a regional perspective on air quality and the challenges facing the South Coast Air Basin. The most significant air quality challenge in the Basin is to achieve an additional 45 percent reduction in nitrogen oxide (NOx) emissions in 2023 and an additional 55 percent NOx reduction beyond 2031 levels for ozone attainment.

To accommodate growth and to achieve the emission reductions needed to comply with federal standards, the region will need to transition to the use of zero and near-zero emission technologies, particularly for trucks. The Proposed Project plays an important role in facilitating this transition. A variety of zero and near-zero emission technologies using on-road vehicles and fixed guideways are technically feasible, and the RDEIR/SDEIS includes zero and near-zero emission trucks in Project build alternatives. Several types of zero and near-zero emission trucks are beginning to be deployed or expected to be feasible within the timeframe of the I-710 Project. Ensuring deployment of such technologies will require collaborative efforts to establish requirements or incentives for their use, particularly on key transport corridors, and to create needed infrastructure for charging and fueling vehicles powered by electricity, fuel cells or hybrid technologies with zero emission capability (e.g. natural gas/electric hybrids). As a key truck corridor connecting to the region and nation, the I-710 Project can and should be part of the solution. In short, deploying zero emission trucks on the I-710 will allow the corridor to accommodate economic growth, R-3-2

[3] South Coast Air Quality Management District. May 2015. *Multiple Air Toxics Exposure Study in the South Coast Air Basin*. Accessed at: http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf.

[4] South Coast Air Quality Management District. March 3, 2017. *2016 Air Quality Management Plan*. Accessed at: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan.

address local health risks, contribute to regional air quality attainment, and serve other policies such as energy security and climate. R-3-2

Specificity of Zero-Emission Freight Corridor Component. In order to successfully implement a zero-emission freight corridor component to the Proposed Project, it is important that the Lead Agency provide specificities regarding the schedule and process for development, construction, deployment, selection, and implementation of the zero-emission truck technology in the Final EIR/SEIS. SCAQMD staff recommends that the following elements be incorporated in the Final EIR/SEIS. Details regarding zero emission technologies are included in Attachment A.

1. Establish a schedule for key actions to develop and deploy zero-emission technologies. The schedule should be consistent with the timelines and goals of the 2016 AQMP. R-3-3
2. Determine zero-emission truck technology or technologies and any needed infrastructure before construction begins.
3. Develop requirements or incentives to ensure zero-emission freight corridor will be utilized.
4. Establish an I-710 implementation steering committee to provide guidance on the development and implementation of the zero-emission freight corridor.

Additional Comments on the RDEIR/SDEIS. SCAQMD staff has reviewed the air quality and health risk analyses in the DREIR/DSEIS, and has concerns about the CEQA baseline, air quality assumptions, criteria pollutant calculations, mitigation measures, and the modeling parameters and meteorological data. By using a 2012 CEQA baseline and assuming the approval of the BNSF Railroad Southern California International Gateway (SCIG) near-dock intermodal yard and the expansion of the UP Railroad near-dock intermodal Container Transfer Facility (ICTF) projects, the Lead Agency may have substantially underestimated the Proposed Project's potential significant adverse air quality and health impacts. Based on the SCAQMD staff's calculations, the Proposed Project would exceed SCAQMD's regional air quality CEQA significance thresholds for operation[5]. Therefore, the Lead Agency should consider additional mitigation measures to reduce those impacts to the maximum extent feasible. SCAQMD staff has included recommended mitigation measures that are capable of reducing significant adverse operational air quality impacts as guidance to the Lead Agency and should be incorporated into the Final EIR/SEIS. Details are included in Attachment B. R-3-4 R-3-5

Thank you for the opportunity to provide comments on the RDEIR/SDEIS. We look forward to working with the Lead Agency to address the comments raised herein and any other questions that may arise. Please feel free to call me at (909) 396-2706, if you have questions or wish to discuss our comments.

Sincerely,

Michael Krause

Michael Krause, Manager
Planning, Rule Development & Area Sources

[5] The SCAQMD's air quality CEQA regional pollutant emissions significance thresholds can be found here: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

Attachments
LAC170721-01
Control Number

ATTACHMENT A

ZERO EMISSION TRUCK TECHNOLOGIES

Overview

Zero emission trucks, including heavy-duty trucks, are developing rapidly with some of the technologies ready for near-term deployments. Zero emission trucks can be powered by grid electricity stored in a battery, by electricity produced onboard the vehicle through a fuel cell, or by "wayside" electricity from outside sources such as overhead catenary wires, as is currently used for light rail and some transit buses. All such technologies eliminate fuel combustion and utilize electric drive as the means to achieve zero emissions and higher system efficiency compared to conventional fossil fuel combustion technologies. Hybrid electric trucks with all-electric range (AER) can provide zero emission operations in certain corridors and flexibility to travel extended distances powered by fossil or renewable fuels (e.g. natural gas) or hydrogen for fuel cells. In collaboration with regional stakeholders and partners as well as leveraging funding support from both federal and state agencies, SCAQMD has been supporting a number of projects, as described below, to develop and demonstrate zero emission cargo transport technologies to promote and accelerate its market acceptance and deployment.

Overhead Catenary Truck Project

Project Description

Siemens Mobility is working with Volvo to integrate a pantograph system into a Class 8 heavy duty trucks. Siemens has designed and provided an adaptable pantograph system that will allow seamless connection and detachment from the catenary power source, while the vehicle is mobile. A catenary track of approximately one mile segment has been installed along Alameda Street in the city of Carson, extending north to south from E. Lomita Blvd to the Dominguez Channel. Corresponding with the operational range of the pantograph, two parallel catenary wires are installed above the roadway one mile in each direction. The connection to the grid occurs at the middle of the system where a power supply has been placed.

In addition to the Volvo truck, TransPower also developed and delivered two drayage trucks with catenary accessibility. The first truck is an existing vehicle that utilizes a battery electric drive system and has been converted to operate on the catenary system. The second truck is a CNG-hybrid truck that incorporates TransPower electric drive system on a major OEM chassis. TransPower has integrated pantographs and associated components into both vehicles. Specifically, they modified one truck currently being built with their electric drive system to operate on catenary power. The current electric truck has two 150 kW motors and 700 Ah battery pack (modified truck will have a 300 Ah battery pack). Integrating the pantograph system enabled the truck to operate on wayside power while also recharging the batteries. The second truck is new truck with a CNG hybrid drive system architecture that enables the vehicle to operate in three modes –battery-only, catenary and CNG to extend the operating range. The battery-only mode will allow the truck to have a short AER to operate without the engine for short durations while the CNG hybrid allows the truck to have regional applicability as well.

Cost
The incremental cost of the catenary battery electric truck over 8.9 L natural gas truck is approximately $250,000. This is based on limited production, however, and full production is anticipated to result in reduced costs.

Timeline and Commercialization
The project vehicles and infrastructure has been developed and is currently undergoing a 6-month demonstration with completion date by Q4 2017. Based on the project outcome, a Phase 2 demonstration with a longer track and subsequent commercialization may be considered.



TransPower Catenary Truck on the OCS Track



Volvo Catenary Truck

2012 DOE Zero Emission Cargo Transport Demonstration Project (ZECT I)

Project Description
With an award of approximately $4.2 million from the DOE in 2012, SCAQMD has contracted two local EV integrators, TransPower and US Hybrid, to develop and demonstrate a total of 11 zero emission capable heavy-duty drayage trucks, based on four different architectures, consisting of two battery electric vehicles and two plug-in hybrid electric drivetrains with AER capability. These trucks are deployed in real world drayage operations with fleet partners operating at the Ports of Los Angeles and Long Beach for demonstration up to two years. Vehicle performance and operational data is being collected and analyzed by National Renewable Laboratory (NREL) to evaluate both technical feasibility and market viability of the technologies to support drayage operations. The four demonstration technologies are summarized as follows:

Battery Electric Trucks (BETs)

a. TransPower developed four Class 8 BETs on International Prostar chassis, incorporating improvements and lessons learned from the operation of their prototype, ElecTruck. The drive system is powered by a dual motor unit, rated at 300 kW and the trucks are equipped with an innovative Inverter-Charger Unit (ICU) that combines the function of both vehicle inverter and battery charger. TransPower has installed an automated manual transmission with proprietary software to control the transmission shift mechanism, enabling operation

in multiple gears to maximize vehicle efficiency. The battery pack can provide 215 kWh of energy to support 70-100 miles in operating range and can be fully recharged within 3 hours. These trucks have been in revenue service, meeting the daily duty cycle needs of the trucking companies.

b. US Hybrid also developed two BETs on International Prostar chassis. Each vehicle is equipped with a 320kW traction motor, powered by a 240 kWh battery pack with lithium-ion cells for highly efficient and reliable performance, capable of 70-100 miles of operating range per charge. A 60 kW on-board charger is capable of fully recharging the truck within 3-4 hours. These trucks have also been in revenue service with local fleet operators.

Plug-In Hybrid Electric Trucks (PHETs)

c. Two Class 8 PHETs are being developed by TransPower with a targeted operating range of 150-200 miles, including 30-40 all-electric miles. The hybrid technology is based on the ElecTruck™ system TransPower has developed for their BETs, augmented with a CNG auxiliary power unit for extended range and power. TransPower is utilizing commercially available and widely used components, including Ford 3.7L CNG engine-generator, to ensure that these trucks are cost-competitive and well-positioned for commercialization. As in their BETs, these trucks are equipped with a 300 kW traction motor with an automated transmission. A 115 kWh battery pack on-board will support zero emission operations when traveling through the communities around the Ports that are heavily impacted by diesel traffic and activities.

d. US Hybrid is also developing three Class 8 PHETs for demonstration in this project. US Hybrid converted exiting LNG trucks with 8.9L ISLG engine into PHETs with all-electric range capability. The hybrid system is designed to provide comparable power and torque to those from larger Cummins 12L engines to support a full range of drayage operations. The trucks are capable of providing a combined power of 600 HP between the LNG engine and a 223 kW traction motor, with a targeted operating range of 250 miles, including 30-40 miles in all-electric range. Two of these trucks are currently deployed in drayage service with local fleet operators.

Cost

The incremental cost of the BETs over a natural gas truck is approximately $200,000, and the incremental cost of the PHETs is estimated to be around $250,000. These estimates are based on limited productions, and the costs are expected to be substantially reduced in larger volume production.

Timeline and Commercialization

Seven of the 11 demonstration trucks are currently in deployment with participating fleets at the Ports. The remaining trucks are expected to be deployed soon and the overall project will be completed by Q3 2018. Overseas truck OEMs have commercial products that are already eligible for incentive funding from the state, such as the HVIP, and other truck OEMs are anticipating commercialization pathways by 2019.



TransPower BETs



US Hybrid PHET



US Hybrid BET

2014 DOE Zero Emission Cargo Transport Demonstration Project (ZECT II)

Project Description

In August 2014, the SCAQMD received an award of approximately $9.7 million from the DOE to develop and demonstrate seven zero emission drayage trucks in real world drayage operations at the Ports of Los Angeles and Long Beach. Six of them will be of fuel cell range extended electric trucks and the remaining truck will be built on a hybrid electric drive platform using a CNG auxiliary power unit as described below:

Fuel Cell Range Extended Trucks (FCREs)

a. Under project management by Center for Transportation and Environment, Kenworth and BAE Systems are developing a battery electric truck with hydrogen fuel cell range extender. This project will leverage the expertise of BAE Systems to test their hybrid electric fuel cell propulsion system, currently used for transit buses, in drayage applications. The power output of the electric drivetrain is comparable to currently used

Class 8 truck engines power output. AC traction motors will be mounted one on each rear drive axle and the electric drivetrain in the architecture is set up to be fully redundant. The vehicle will operate primarily from the batteries, engaging the fuel cell system only when the batteries reach a specified state of charge. BAE anticipates that the 30 kg of hydrogen (25 kg usable) will provide approximately 110 to 120 miles of range between re-fueling.

b. Hydrogenics will develop a hydrogen fuel cell drayage truck powered by their latest advanced fuel cell drive technology (Celerity Plus fuel cell power system) and Siemens' ELFA electric drivetrain, customized for heavy duty vehicle applications. The proposed fuel cell drayage truck is designed to be capable of delivering over 150 miles of zero emission operation with 10-15 minutes fast refueling of hydrogen. The fuel cell drivetrain will be customized, tested and optimized for port applications.

c. TransPower will develop two battery electric trucks with hydrogen fuel cell range extenders. The fuel cell range extender project is to use TransPower's proven ElecTruck™ drive system as a foundation and add fuel cells provided by Hydrogenics, one of the world's leading suppliers of hydrogen fuel cells. The Proposed Project will result in the manufacturing and deployment of two demonstration trucks, one with a 30 kW fuel cell and one with a 60 kW fuel cell, enabling a direct comparison of both variants. The higher power output of the 60 kW systems is expected to be better suited for trucks carrying heavy loads over longer distances that might exceed the average power capacity of the 30 kW systems. The system will store 25-30 kg of hydrogen onboard based on an estimated 7.37 miles per kg fuel economy. TransPower's system also includes a bi-directional J1772-compliant charger that can recharge the vehicle batteries or provide power export.

d. U.S. Hybrid will develop two battery electric trucks with an onboard hydrogen fuel cell generator. U.S. Hybrid has been involved with fuel cell-powered vehicles for several years (including cargo vans, transit/shuttle buses and heavy-duty military vehicles) and believes the technology and product has reached maturity beyond feasibility and is ready for commercial demonstration deployment. The truck is powered by a lithium-ion battery with an 80 kW hydrogen fuel cell generator in charge sustaining mode, eliminating the need for charging. The fuel cell power plant is sized to sustain continuous operation based on average power demand for drayage applications. As a result, the battery size is significantly reduced, as is the required charging infrastructure. The proposed technology will provide a 150-200 mile range between refueling. Each truck will carry approximately 20 kg of hydrogen storage at 350 bar with an estimated fueling time of less than 10 minutes.

The fuel cell Class 8 trucks are expected to initiate demonstration at local trucking fleets over the next 3-18 months.

Plug-In Hybrid Electric Trucks (PHETs)

e. Under project management by Gas Technology Institute, Kenworth and BAE Systems will develop a PHET with a CNG range extender. The proposed technology is capable of providing a well-balanced blend of all electric and CNG-based hybrid operations. The electric drivetrain will be based on BAE Systems HybriDrive® Series (HDS) propulsion system hardware. The electric drivetrain will be capable of combined propulsion power

output of 320 kW (430 hp) continuous using two AC traction motors. The power output of the electric drivetrain is comparable to currently used Class 8 truck engines power output. The truck will be designed to provide an operating range of 150 miles with 30 all-electric miles.

Cost

The incremental cost of the FCREs and the PHET over 8.9 L natural gas truck is estimated to be $250,000 or higher. These estimates are based on limited productions, and the costs will be substantially reduced in full production, and state incentives funds are anticipated for the trucks and associated refueling infrastructure.

Timeline and Commercialization

The demonstration phase of this project is expected to start by Q1 2018 with at least two trucks, one each from TransPower and US Hybrid. The project is set be completed by Q3 2019 and the commercialization of these truck technologies can be expected after 2019.

CARB Zero Emission Drayage Truck Demonstration Project

Project Description

SCAQMD received an award of approximately $23.6 million to develop and demonstrate zero emission drayage trucks under CARB's Low Carbon Transportation Greenhouse Gas Reduction Fund Investments Program in 2016. The project is to develop a total of 44 Class 8 drayage trucks based on a portfolio of most commercially promising zero- and near-zero emission truck technologies for statewide demonstrations, across a variety of real world drayage applications in and around the Ports of Long Beach, Los Angeles, Oakland, Stockton and San Diego, in collaboration with four other air districts: BAAQMD, Sacramento Metropolitan AQMD, SJVAPCD and SDAPCD. The SCAQMD has contracted with three major U.S. OEMs and an international OEM, with necessary resources and networks to support future commercialization efforts, to develop and demonstrate four different types of battery and hybrid electric drayage truck technologies in this project, including: two battery electric platforms (BYD and Peterbilt), and two plug-in hybrid electric platforms (Kenworth and Volvo) as summarized below:

Battery Electric Trucks (BETs)

a. BYD, a global company with over $9 billion in revenue and 180,000 employees, will develop 25 battery electric drayage trucks for demonstration with multiple fleet partners across the state. The BET is optimized to serve near-dock and short regional drayage routes with a range of 70-100 miles, supported by 207 kWh batteries on board. The truck is designed to provide similar operating experience compared to equivalent diesel and CNG trucks with matching or exceeding power and torque, powered by two 180 kW traction motors. BYD will utilize 80 kW on-board charger to fully recharge the truck within 3-4 hours. These trucks are already eligible for incentive funds under CARB's HVIP.

b. Peterbilt, in partnership with TransPower, will develop 12 BETs in this project, building on a platform developed under the DOE ZECT I project, incorporating lessons learned from ongoing demonstrations to further refine and optimize the electric drive system. Eight trucks will be designed to provide 80 to 100 miles in range, powered by a 215 kWh

battery pack to support near-dock drayage operations, and four longer range BETs will incorporate a new battery design that allows for 120 to 150 miles of operation per charge with a 311 kWh battery pack at the same system weight with similar volume as the 215 kWh battery pack. These longer range BETs will be well suited for regional drayage routes such as from port terminals to Inland Empire and from the Port of Oakland to Sacramento and the San Joaquin Valley.

Plug-In Hybrid Electric Trucks (PHETs)

c. Kenworth expands its partnership with the BAE Systems to develop four PHETs with natural gas range extenders, leveraging the prototype development under the DOE-funded ZECT II project. These vehicles will target longer regional drayage routes. The team will continue refining the hybrid drivetrain to provide a system that can operate in a zero emissions (all-electric) mode and in a conventional hybrid electric mode to meet customer range needs and flexibility. The powertrain includes a 200 kW genset using a recently-certified 8.9L NZ CNG engine and two AC traction motors that produce 320kW (430 hp) continuous, with comparable power output to what is typically found in Class 8 truck engines. The hybrid system will be designed for an operating range of 250 miles with approximately 30-40 miles of all-electric range to operate in zero emissions mode in sensitive areas and disadvantaged communities.

d. Volvo will build on the success of past projects to develop three commercially attractive, highly-flexible hybrid trucks, with all-electric mode capability for zero emission operations in the most heavily emissions-impacted communities. Volvo offers a unique approach to system-focused hybrid powertrain improvements, utilizing a suite of innovative technologies such as energy and emission optimized driveline controls; aerodynamics and weight improvements; vehicle energy management and driver coaching systems optimized for port drayage operation; and a complete suite of NOx reduction technologies, including engine and exhaust after-treatment innovations. Furthermore, Volvo, in partnership with Metro and UC Riverside, will also integrate ITS connectivity solutions, such as vehicle-to-infrastructure and vehicle-to-vehicle communication technologies, to improve dynamic speed harmonization and reduce idling, for better fuel economy and reduced emissions.

Cost

The incremental cost of the BETs over 8.9 L natural gas truck ranges from $150,000 to $200,000. No estimate is available for the Kenworth or Volvo PHETs. As noted earlier, the cost estimates are based on limited production, and the costs are expected to be substantially reduced once these trucks reach a full-production phase.

Timeline and Commercialization

The demonstration phase of this project is expected to start by Q4 2017 with BYD trucks and the rest to follow over time throughout 2018 and 2019. This project is set be completed by Q2 2020 and the commercialization of these truck technologies can start as early as 2019 for BYD trucks with the rest taking place in the 2020-2021 timeframe.



BYD Prototype Drayage Truck



Volvo PHET

CEC Sustainable Freight Transportation Project

Project Description

SCAQMD recently received a $10 million award from the CEC under the Alternative and Renewable Fuel and Vehicle Technology Program to develop and demonstrate zero and near-zero emission freight transportation technologies. One of the awarded technologies is electric drayage trucks, to be built on the PowerDrive™ platforms developed by Efficient Drivetrains, Inc., (EDI), a global leader and innovator of advanced, high-efficiency electric drivetrains and vehicle control software.

Under project management by Velocity Vehicle Group, this project is to develop and demonstrate four electric drayage trucks, consisting of one BET and three PHETs, with EDI serving as the technical lead and vehicle integrator, and Freightliner providing necessary engineering resources and expertise in vehicle design and glider manufacturing. Both battery electric and hybrid electric drive platforms will be designed to meet end-user fleet requirements. The platforms will be also designed so that it can be easily integrated by post-production truck modification service companies and serviced by Freightliner dealerships. Based on the proposed technical concept, the BET will be capable of 100 miles in operating range and the PHETs will utilize Cummins 8.9L natural gas engine as a range extender to provide 250 miles in operating range per fueling with up to 35 miles in all-electric range.

Cost

Cost estimates are not available for these trucks but it is expected to be in line with other similar technologies, and the costs are expected to be substantially reduced once these trucks reach a wide-scale deployment and full-production phase.

Timeline and Commercialization

This project is to be completed by Q4 2020 and the commercialization of these truck technologies can be expected in the 2021-2022 timeframe.

ATTACHMENT B

ADDITIONAL COMMENTS ON THE RDEIR/SDEIS

SCAQMD Staff's Summary of Project Description

The California Department of Transportation (Caltrans), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), the Gateway Cities Council of Governments (Gateway Cities COG), the Southern California Association of Governments (SCAG), the Ports of Los Angeles and Long Beach, and the Interstate 5 Joint Powers Authority (I-5 JPA) proposes to improve 19 miles of Interstate 710 (I-710) in Los Angeles County between Ocean Boulevard in the City of Long Beach and State Route 60 (SR-60) in East Los Angeles (Proposed Project). The alternatives evaluated in the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact State (RDEIR/SDEIS) include Alternative 1 (No Build Alternative) and two build alternatives: Alternative 5C (I-710 Widening and Modernization) and Alternative 7 [I-710 Modernization plus a Zero-/Near Zero-Emission (ZE/NZE) Freight Corridor]. Alternative 7 also includes an advanced technology feature that allows groups of six to eight trucks to travel in platoon in order to increase the capacity of the freight corridor[6]. Option 7ZE is only applicable to Alternative 7 and restricts use of the freight corridor exclusively to ZE trucks[7]. The programmatic elements of the Proposed Project include ZE/NZE emission truck technology deployment program, expanded transit services, and community health and benefit program. It should be noted that the alternatives that were analyzed in the RDEIR/SDEIS represent the future scenarios for the I-710 Corridor. If Alternative 1 (No Build Alternative) is selected as the preferred alternative, the existing I-710 Corridor will maintain its current configuration. If one of the build alternatives is selected as the preferred alternative, the anticipated build-out year is 2035.

SCAQMD Staff's Summary of Air Quality and Health Risk Assessment (HRA) Analyses

In the air quality analyses, the Lead Agency found that air toxics are substantially lower (95 percent or more) for the build alternatives when compared to the 2012 emissions, and the reductions are due to the turnover to diesel trucks that meet the EPA standards and deployment of ZE/NZE emission trucks[8]. Each of the build alternatives would result in lower emissions from NOx, CO, PM2.5, and VOC when compared to the 2012 baseline emissions, while PM10 and SO2 would increase for Alternative 7 in 2035. When each of the build alternatives is compared to the future "No Build Alternative," emissions from CO, PM10, PM2.5, and SO2 would increase, with the greatest increases under Alternative 7, but NOx emissions would be lower[9]. Due to increased traffic, both build alternatives result in greater near-road 24-hour PM10 impacts for several receptors located along the I-710 corridor[10] and a greater number of impacted receptors located near the corridor. The build alternatives have lower cancer risks and operational exhaust emissions, when compared to the 2012 baseline risks. The Maximum Incremental Cancer Risk (MICR) for the build alternatives were found to be less than SCAQMD's CEQA threshold of 10 in a million[11]. Reductions in cancer risks and exhaust emissions are primarily due to improved

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[6] RDEIR/SDEIS. Executive Summary. Page 8.
[7] *Ibid.* Page 9.
[8] *Ibid.* Page 20.
[9] *Ibid.*
[10] *Ibid.*
[11] *Ibid.* Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study. Table 4-9a.

vehicle technology resulting from the implementation of federal, state, and local regulations and programs.

After a review of the air quality and health risk analyses and supporting technical documents of the build alternatives (Alternative 5C and Alternative 7) in the RDEIR/SDEIS, SCAQMD staff has comments as follows. Pursuant to Public Resources Code Section 21092.5 and CEQA Guidelines Section 15088, SCAQMD staff requests that the Lead Agency provide SCAQMD with written responses to all comments contained herein prior to the certification of the Final EIR/SEIS.

Integrate CEQA Review with Related NEPA Environmental Review

1. The Lead Agency did not perform a project-level air quality conformity determination under the Clean Air Act for each of the build alternatives (Alternative 5C and Alternative 7) as part of the air quality analysis in the RDEIR/SDEIS. SCAQMD staff understands that while a conformity determination will be completed before the certification of the Final EIR/SEIS, this will not be subject to the same level of public review as the RDEIR/SDEIS. The public is not afforded the opportunity to participate in the review of the project-level air quality conformity determination in the same manner as the RDEIR/SDEIS. One of the fundamental CEQA policies requires integrating CEQA's requirements with other legally required planning and environmental review procedures such as the project-level conformity review under the Clean Air Act so as to have them run concurrently to the maximum extent feasible (Public Resources Code Section 21003(a) and CEQA Guidelines Sections 15006(i), 15080, and 15124(d)(1)(c)). The purpose of an integrated review process is to ensure that the environmental document will meet the needs of all the agencies which will use it (CEQA Guideline Section 15006(g)). Therefore, the Lead Agency should integrate the CEQA review for the Proposed Project as much as possible with the project-level air quality conformity determination, which serves as substantial evidence to support the finding that the Proposed Project would not conflict with or obstruct the implementation of the Air Quality Management Plan/State Implementation Plan[12]. R-3-6 R-3-7

CEQA Baseline

2. The Lead Agency chose a CEQA baseline year of 2012 for determining the air quality impacts from criteria pollutants for each alternative[13]. The 2012 baseline is held constant (i.e. using emission rates from 2012) and compared to future year 2035 (i.e. using emission rates from future year)[14]. This approach of using a comparison between the build alternatives' air quality impacts in future years (using emission rates from 2035) and a 2012 baseline (using emission rates from 2012) improperly credits the build alternatives with emission reductions that will occur due to adopted state and federal rules and regulations, since these rules and regulations are expected to improve air quality, even in the absence of Alternative 5C or Alternative 7 as the Proposed Project. For example, the California Air Resources Board's (CARB) current regulation for trucks and buses will provide significant near-term and long term reductions in NOx emissions from trucks and buses, at 124 tons per day for 2014 and 98 tons per day for R-3-8

[12] *Ibid.* Section 4.2.2.2, *Air Quality (CEQA Checklist Questions III.A and III.E)*. Page 4-14.
[13] *Ibid.* Executive Summary. Page 4.
[14] *Ibid.* Section 3.13, *Air Quality*. Pages 3.13-25 to 47. Section 4.2.4.1 *(CEQA Checklist Questions III.B, III.C, and III.D)*. Page 4-48 to 54.

2023[15]. The analysis in the RDEIR/SDEIS masks the potentially significant emission increases from the Proposed Project by taking credit for large emission reductions that have been achieved due to state and federal rules and regulations. The RDEIR/SDEIS should be revised to include a realistic baseline which accurately reflects the improvements in air quality that will occur, independent of the preferred alternative selected as the Proposed Project. R-3-8

In *Neighbors for Smart Rail v. Exposition Metro Line Construction (2013) 57 Cal.4th 439*, the California Supreme Court held that using a future baseline is proper in some cases. The purpose of CEQA is to disclose environmental impacts of the alternatives to the public and decision makers in order to provide them with the actual changes to the environment from the activities involved in each alternative. By taking credit for future emission reductions from existing air quality rules and regulations, the Lead Agency may have substantially underestimated the true impacts attributable to the Proposed Project's activities for VOCs, NOx, CO, PM10, PM2.5, and SOx emissions. Therefore, SCAQMD staff recommends that the Lead Agency revise the air quality analysis to include a comparison between the emissions in future interim year 2020, year 2025, year 2030, and year 2035 with Alternative 5C and the emissions in the same interim years without Alternative 5C, and use this comparison to determine the level of significance for Alternative 5C. Similarly, SCAQMD staff recommends that the Lead Agency revise the air quality analysis to include a comparison between the emissions in future interim year 2020, year 2025, year 2030, and year 2035 with Alternative 7 and the emissions in the same interim years without Alternative 7, and use this comparison to determine the level of significance for Alternative 7. R-3-9

SCAQMD's Air Quality CEQA Thresholds of Significance

3. While CEQA permits a Lead Agency to apply a qualitative threshold to determine the level of significance, the Lead Agency may not apply a threshold of significance in a manner that precludes consideration of substantial evidence demonstrating that there may be a significant effect on the environment. Evaluation of air quality impacts, unlike some other impact areas, easily lends itself to quantification. Not only does quantification make it easier for the public and decision-makers to understand the breadth and depth of the potential air quality impacts, but it also facilitates the identification of mitigation measures required to reduce any significant adverse air quality impacts. SCAQMD's CEQA thresholds of significance for air quality provide a clear quantitative benchmark to determine the significance of a project's air quality impacts. Therefore, for most projects within SCAQMD's jurisdiction, SCAQMD's air quality CEQA significance thresholds for construction and operation [16] are used to determine the level of significance of a project's air quality impacts.

The Lead Agency quantified the Proposed Project's construction emissions from criteria pollutants for Alternative 5C and Alternative 7 but did not compare those emissions to SCAQMD's air quality CEQA significance thresholds to determine the level of significance. The Lead Agency stated in the RDEIR/SDEIS that the California Department of Transportation (Caltrans) has not adopted any of SCAQMD's significance thresholds and that R-3-10

[15] California Air Resources Board. July 14, 2017. Trucks and Bus Regulation: On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation. Accessed at: https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm, and https://www.arb.ca.gov/msprog/onrdiesel/documents/truckrulehealth.pdf.

[16] South Coast Air Quality Management District. March 2015. *SCAQMD Air Quality Significance Thresholds*. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

SCAQMD's significance thresholds is presented for information only[17]. The Lead Agency compared the emission results to the 2012 baseline to determine whether the emissions from the build alternatives would be higher or lower than the baseline without determining significance. SCAQMD staff recommends that the Lead Agency compare each build alternative's construction and operational emissions to SCAQMD's regional and localized air quality CEQA significance thresholds in the Final EIR/SEIS to determine the level of significance. Using SCAQMD's CEQA significance thresholds would clearly identify whether an alternative would result in significant air quality impacts, disclose the magnitude of the impacts, facilitate the identification of feasible mitigation measures, and evaluate the level of impacts before and after mitigation measures. R-3-10

Air quality and HRA Analyses Assumption

4. One of the key assumptions for the air quality and HRA analyses was the BNSF Railroad Southern California International Gateway (SCIG) near-dock intermodal yard and the expansion of the UP Railroad near-dock intermodal Container Transfer Facility (ICTF) projects[18]. The RDEIR/SDEIS stated that those projects "are now considered reasonably foreseeable," and assumed that the SCIG project would effectively eliminate approximately 95 percent of the truck trips from using I-710[19]. The Final EIR for the SCIG project was certified by the Los Angeles Board of Harbor Commissioners in March 2013 but was later vacated by the Contra Costa County Superior Court in 2016. The Proposed Project's air quality and HRA impacts were calculated based on the reduction of truck trips due to the SCIG project. Therefore, this may have substantially underestimated the Project Project's air quality impacts. In order to disclose a worst-case impact scenario for the Proposed Project, SCAQMD staff recommends that the Lead Agency revise the air quality and HRA analyses based on the number of truck trips without the SCIG project in the Final EIR/SEIS. R-3-11

Air Quality Analysis

Interim Milestone Years

5. The air quality analysis years for the RDEIR/SDEIS included only two analysis years: 2012 and 2035. By 2035, the Proposed Project is assumed fully built if any one of the build alternatives (Alternative 5C or Alternative 7) is selected as a preferred alternative with funding, and vehicle and truck fleets would meet the most stringent emission standards currently required. Although the Proposed Project may not be at peak capacity in earlier years, it is possible that due to higher emission rates of vehicles and trucks in earlier years that peak daily emissions may occur before 2035. The overall emission rates of vehicles and trucks are higher in earlier years as more stringent emission standards have not been fully implemented and fleets have not fully turned over. Therefore, SCAQMD staff recommends that the Lead Agency include interim milestone years (i.e., year 2020, year 2025, year 2030, and year 2035) in the Air Quality analysis to ensure the peak daily emissions are identified and adequately disclosed in the Final EIR/SEIS. R-3-12

[17] RDEIR/SDEIS. Pages ES-28, ES-33, 3.3-139, 3.24-4.
[18] *Ibid.* Page 1-31.
[19] *Ibid.* Page 2-3.

Overlapping Construction and Operational Impacts

6. Based on a review of the project description, SCAQMD staff found that staging of construction activities would be required for the Proposed Project. Funding, right-of-way certification, maintenance of traffic, and contractor innovation are all variables that drive the timing, priority, and scope of staged construction[20]. Under these circumstances, one or multiple segments of the I-710 corridor may be under construction while other segments are in operation. When the overlapping construction and operation activities are anticipated, the Final EIR/SEIS should identify the overlapping years, combine construction emissions with operational emissions, and compare the combined emissions to SCAQMD's air quality CEQA operational thresholds to determine the level of significance. R-3-13

Construction

7. Section S.5.3.2 – Relocations and Real Property Acquisition states that the build alternatives would result in the relocation of residential and nonresidential properties. Emissions generated from demolition and new construction of the acquired properties are not included in the emissions estimates for construction. Since relocation is foreseeable, SCAQMD staff recommends that the Lead Agency include those emissions in the Final EIR/SEIS. R-3-14

8. The Lead Agency included aggregate crushing and processing equipment in the construction emission estimates, which only accounted for the emissions from the diesel internal combustion engines. Aggregate crushing and processing release particulate matter separate from the internal combustion engine. By not including the emissions from aggregate crushing and processing, the RDEIR/SDEIS has likely underestimated air quality impacts from construction. Furthermore, if SCAQMD permits are required for the equipment, SCAQMD should be listed as a responsible agency and will rely on the analysis in the Final EIR/SEIS for permit issuance. SCAQMD staff recommends including aggregate processing emissions into the construction emission estimates[21]. R-3-15

Localized Criteria Pollutant Analysis

9. The RDEIR/SDEIS did not evaluate potential localized air quality impacts that could result from construction of the Proposed Project. A localized air quality analysis would quantify potential air quality impacts that would occur near the Proposed Project during construction. This analysis is important for the Proposed Project because of the long duration and extent of construction activities, as well as the proximity of receptors to the Proposed Project. Therefore, SCAQMD staff recommends that the Lead Agency revise the air quality analysis to include an assessment of potential localized air quality impacts[22]. R-3-16

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[20] *Ibid.* Page 2-87.

[21] U.S. Environmental Protection Agency. AP 42, Fifth Edition Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors.

[22] The Localized Significance Threshold (LST) methodology and Mass Rate LST Look Up Table is available at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

Cumulative Air Quality Impacts Analysis

10. The Proposed Project is cumulative in nature both geographically and temporally. However, the RDEIR/SDEIS did not analyze potential air quality impacts from indirect or secondary effects as a result of induced growth, induced changes in the pattern of land use, population, and transportation improvements. Additionally, the RDEIR/SDEIS did not analyze potential air quality impacts from construction or operation of the Proposed Project on the rest of transportation network within and in the vicinity of the study area (e.g., I-5, I-105, I-405, SR-91, PCH 1) if one of the build alternatives is selected. For example, during construction of Alternative 7, there might be detours of vehicles and trucks to other transportation facilities. Therefore, SCAQMD staff recommends that the Lead Agency include a comprehensive assessment of the Proposed Project's potential cumulative air quality impacts in the Final EIR/SEIS. R-3-17

Air Dispersion Modeling Parameters

11. The dispersion modeling analysis for the Proposed Project included constructed portions of the I-710 mainline. Because the Proposed Project has the potential to significantly alter traffic patterns in the adjacent communities, especially diesel truck traffic patterns, the dispersion modeling analysis should be expanded beyond the I-710 mainline, including major arterials, key roadway segments in the vicinity of the Proposed Project. At a minimum, the arterials and roadways that may have substantial volumes of diesel truck traffic greater than 5,000 trucks/day should be included, as well as those roadways that will transverse through or adjacent to residential neighborhoods. R-3-18

12. In the air dispersion modeling, the Lead Agency used the non-default option "FASTALL". SCAQMD staff recommends using the default regulatory options or providing justification for using the non-default FASTALL option. R-3-19

Meteorological Data

13. In the AERMOD Modeling Files provided by the Lead Agency, it stated that the POLB station was created by using surface measurements obtained from Scripps Pier monitoring station (KLGB,WMO 722970)[23]. KLGB is monitoring station code for the Long Beach Airport monitoring station, not the Scripps Pier monitoring station. SCAMQD staff recommends clarifying the statement. R-3-20

14. In Section 5 of the Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study, the Lead Agency stated that "as multiple stations were selected to identify the meteorological profile of the AOI, the selected meteorological data can be considered as on-site data. As a result, only one year of data was used for air dispersion modeling." SCAQMD staff does not agree that the use of multiple meteorological stations constitutes these stations as on-site stations to justify that only one year of meteorological data is required. The U.S. EPA recommends five years of meteorological data, or at least one year of site-specific data for the purposes of air dispersion modeling. Consecutive years from the most recent, readily available R-3-21

[23] I710 Drive 2\AERMOD Modeling Files\AERMOD_Inputs_and_Outputs\aermet - README.TXT

five-year period are preferred[24]. Therefore, SCAQMD staff recommends that the Lead Agency update the modeling using the latest five years of available meteorological data. R-3-21

Methodology for Determining Morbidity and Mortality Impacts

15. Mortality is a measure of the number of deaths in a population, scaled to the size of that population, per unit time. Morbidity refers to the number of individuals who have contracted a disease during a given time period (the incidence rate) or the number who currently have that disease (the prevalence rate), scaled to the size of the population. On page 3.13-52 of the RDEIR/SDEIS, the Lead Agency described the qualitative methodology that was used to perform the mortality and morbidity analysis. By using total PM2.5 as a surrogate for localized primary PM-related morbidity and mortality health risks, the RDEIR/SDEIS found that mortality and morbidity health risks are expected to decrease based on future lower PM2.5 levels. SCAQMD staff recommends that the Lead Agency quantify the morbidity and mortality heath impacts and revise the PM mortality analysis and use the methods described in California Air Resources Board's 2010 guidance document[25]. R-3-22

Mitigation Measures

Deferred Analysis on Mitigation Measures

16. In the RDEIR/SDEIS, the Lead Agency proposed three air quality mitigation measures during operation of the Proposed Project. However, SCAQMD staff found that the discussion on mitigation measures was substantively lacking. First, on Page 4-50 of the RDEIR/SDEIS, the Lead Agency stated that "the only feasible additional mitigation measure that would further reduce emissions to levels below the SCAQMD thresholds would be to severely limit the total daily construction activity"[26]. The Lead Agency stated that if daily construction activities were limited, there would likely be extended construction period and increased construction costs[27]. However, there was no discussion in the Air Quality Section about how many more construction days or increased costs incurred if daily construction activities were to be limited due to significant air quality impacts. Second, there was no quantitative or qualitative analysis on the air quality impacts after incorporating the programmatic elements such as ZE/NZE trucks funding and Community Health Benefit Grant Program, which were used as substantial evidence to support the finding that air quality and public health in the corridor would be improved[28]. Third, on Page 4-54, the Lead Agency stated that localized increases in mobile source air toxics emissions were the result of increased total traffic volumes for which further mitigation of these emissions was not technically feasible because Caltrans does not control the emission characteristics of vehicles using the freeway. However, the Lead Agency has not demonstrated any evidence in the RDEIR/SDEIS to show any technical infeasibility. R-3-23 R-3-24 R-3-25

[24] United States Environmental Protection Agency. February 2000. *Meteorological Monitoring Guidance for Regulatory Modeling Applications*. Page 6-30. Accessed at: https://www3.epa.gov/scram001/guidance/met/mmgrma.pdf. See also 40 CFR Ch. I (7-1-11 Edition). *Appendix W to Part 51 – Guideline on Air Quality Models*. Available at: https://www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol2/pdf/CFR-2011-title40-vol2-part51-appW.pdf.

[25] California Air Resources Board. August 31, 2010. *Estimate Premature Deaths Associated with Long-term Exposure to Fine Particle Pollution (PM2.5) in California Using a U.S. Environmental Protection Agency Methodology*. Accessed at: https://www.arb.ca.gov/research/health/pm-mort/pm-report_2010.pdf.

[26] *Ibid.* Page 4-50.

[27] *Ibid.* Page 4-51.

[28] *Ibid.* Page 3.13-55.

CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize or eliminate any significant impacts. CEQA recognizes that a mitigation may require the cooperation of other agencies (e.g., CARB, EPA), and this does not make mitigation not feasible. Although the Lead Agency does not need to make determinations about authorities of other agencies in the RDEIR/SDEIS, it should consider and discuss potential mitigation measures and their ramifications on the air quality impacts, with and without mitigation measures, and if the ramifications on the air quality impacts would be different among the alternatives. Technological capacities, regulatory limitations, and jurisdictional boundaries are factors relevant to the "feasibility" of mitigation measures, which could be central to selecting a preferred alternative for the Proposed Project. Therefore, the formulation of mitigation measures should not be deferred to a later time or made the responsibility of other agencies.

Limits of Air Monitoring Stations: Mitigation Measure (MM) AQ-1

17. Mitigation Measure AQ-1 proposes to provide SCAQMD with funding for the design and construction of four new air quality monitoring stations within the I-710 Corridor. The new stations will monitor meteorology and criteria pollutant concentrations. Pursuant to CEQA Guidelines Section 15126.4, mitigation measures are those capable of minimizing or reducing significant adverse impacts. Monitoring and collecting air quality data should not be considered a mitigation measure since the air monitoring stations do no mitigate or reduce any impacts. Therefore, SCAQMD staff recommends that the Lead Agency revise MM AQ-1 by providing additional information on how the monitoring station data will be used to reduce the Proposed Project's significant air quality impacts. R-3-26

Limits to Enhanced Filtration Units: Mitigation Measure (MM) AQ-2

18. The Lead Agency proposes to install enhanced filtration units to schools within 0.25 miles of I-710 that are currently lacking air filtration systems (MM AQ-2)[29]. Strategies available to reduce exposure, including, but are not limited to, building filtration systems, sounds walls, vegetation barriers, etc. Because of the potential adverse health risks involved with siting residences near a freeway, it is essential that any proposed strategy must be carefully evaluated before implementation. When enhanced filtration units are proposed, the Lead Agency should consider the limitations of the enhanced filtration. For example, in a study that SCAQMD conducted to investigate filters[30], costs were expected to range from $120 to $240 per year to replace each filter. In addition, because the filters would not have any effectiveness unless the HVAC system is running, there may be increased energy costs. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and it does not account for the times when residents have their windows or doors open or are outside in common areas. These filters also have no ability to filter out any toxic gases from vehicle exhaust. The presumed effectiveness and feasibility of any filtration units should therefore be evaluated in R-3-27

[29] *Ibid.* Page 3.13-56.

[30] This study evaluated filters rated MERV 13+ while the proposed mitigation calls for less effective MERV 12 or better filters. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf. Please also see the 2012 Peer Review Journal article by SCAQMD staff. Accessed at: http://d7.iqair.com/sites/default/files/pdf/Polidori-et-al-2012.pdf.

greater detail prior to assuming that they will sufficiently alleviate near roadway exposures. Further, since filtration units must be maintained and replaced on a regular basis, the Lead Agency should provide additional details on the maintenance and replacement method, schedule, and/or responsible implementing agency to ensure that MM AQ-2 is enforceable throughout the lifetime of the Proposed Project. R-3-27

Recommended Changes to MM AQ-2

19. As described above, MM AQ-2 is limited to providing enhanced filtration units to schools within 0.25 mile of I-710. Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptors include schools, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential dwelling units. Therefore, SCAQMD staff recommends revising MM AQ-2 to include all of the sensitive receptors within 0.25 mile of I-710 as follows.

AQ-2 To further reduce exposure of children and other people to near roadway emissions, air filtration systems shall be provided for any of the following schools and sensitive receptors, including daycare centers, nursing homes, hospitals, and residential dwelling units within 0.25 mile of I-710 that currently lack adequate air filtration systems. As stated in the California Air Resources Board (ARB) *Technical Advisory* (April 2017), high-efficiency filters in ventilation systems can remove from 50 to 99 percent of the particles in the air. Determination of adequate air filtration systems ~~will~~ shall be addressed during coordination with the respective school districts or administrations and sensitive receptor facilities based on current building codes as well as guidelines set forth by the United States Environmental Protection Agency (EPA) and the SCAQMD before certification of the Final EIR/SEIS. R-3-28

Recommended Changes to MM CON-AQ-15

20. The Proposed Project's construction emissions were modeled based on the assumption that all construction equipment will meet U.S. EPA Tier 4 emission standards. To ensure that the requirement of Tier 4 off-road construction equipment is enforced during construction, and to be consistent with the air quality modeling assumption, SCAQMD staff recommends incorporating the following revision to construction mitigation measure CON-AQ-15[31]:

CON-AQ-15 (see Section 3.24.4.13):

~~Dependent upon the responsible agency that administers the construction contract,~~ ~~e~~Construction equipment greater than 50 bhp ~~may~~ shall meet equivalent emissions performance to that of United States Environmental Protection Agency (EPA) Tier 4 standards and California Air Resources Board (ARB) requirements for non-road engines~~, if such construction equipment is available~~. All construction equipment shall be outfitted with best available control technology (BACT) devices certified by ARB. A copy of each unit's certified tier specification, BACT documentation, and ARB or SCAQMD operating permit shall be provided at the time of R-3-29

[31] *Ibid.* Page 4-86.

mobilization of each applicable unit of equipment. Contractor(s) should keep records to be able to demonstrate compliance with this mitigation measure. Metro's Green Construction Policy would be utilized ~~if Metro administers the construction contract~~. R-3-29

Recommended Changes to MM CON-AQ-17

21. CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize or eliminate any significant impacts. It is expected that all trucks and buses would need to be replaced and that all will have 2010 model year engines or equivalent emissions by year 2023[32]. Since 2010 model year trucks are expected to be available during the implementation of the Proposed Project (build-out year is 2035), SCAQMD staff recommends that the Lead Agency revise MM Con-AQ-17 in the Final EIR/SEIS. R-3-30

CON-AQ-17 (see Section 3.24.4.13):

On-road, heavy-duty trucks that meet the ARB's ~~2007~~ 2010 or cleaner certification standards for on-road diesel engines, and compliance with State on-road regulations.

New Mitigation Measure: MM AQ-4 – Performance Standards-Based Technology Review

22. The build 2035 alternatives include ZE/NZE truck technology deployment program, and Alternative 7 includes an additional platooning technology. Technology is transforming transportation. As it continues to advance, the Lead Agency should take this opportunity to develop a pathway to ensure the deployment of the lowest emission technologies possible in the life of the Proposed Project. To facilitate the deployment, SCAQMD staff recommends that the Lead Agency assess equipment availability, equipment fleet mixtures, and best available emissions control devices every two years beginning two years after the Proposed Project is approved, and specify performance standards for the technology assessment. R-3-31

Other Enforceable Mitigation Measures

23. As described in Comments 4 to 10, the Proposed Project's true air quality impacts may have been substantially underestimated and would exceed SCAQMD's air quality CEQA significance thresholds, resulting in significant and unavoidable air quality impacts, had the Lead Agency used a proper CEQA baseline and truck trips assumption to calculate emissions. Moreover, the Proposed Project is an important project and provides the necessary infrastructure to support the region's movement towards zero-emission technology. The Lead Agency should use the Proposed Project as an opportunity to take more aggressive actions to accelerate zero-emission technologies (see Attachment A: Zero Emission Truck Technologies). To ensure successful implementation of the strategies, SCAQMD staff recommends that the Lead Agency use a performance based standard and an enforceable ZE/NZE implementation plan be included as part of the Final EIR/SEIS. The implementation R-3-32

[32] California Air Resources Board. August 19, 2014. Accessed at: https://www.arb.ca.gov/msprog/onrdiesel/documents/FSRegSum.pdf.

plan should include schedules, criteria for setting and assessing progress, and the process for evaluating the effectiveness of ZE technologies that should support the air quality attainment goals and attainment timelines of the 2016 Air Quality Management Plan. R-3-32

SCAQMD Permits

24. The Lead Agency intends to use portable cement manufacturing, aggregate crushing, and screening equipment for approximately 10 years. Article 5 and Section 2450 to 2465 of Title 13, California Code of Regulation establishes a statewide program for the registration and regulation of portable engines and equipment units (Portable Equipment Registration Program – PERP). In the event that the engine or equipment unit that will be used for the Proposed Project do not meet the definition of portable engine or equipment unit, the Lead Agency would be required to obtain SCAQMD permits for aggregate equipment and operations. R-3-33

Compliance with SCAQMD Rules

25. The Final EIR/SEIS should include a discussion on how the Proposed Project will comply with the following SCAQMD Rules:

- Rule 201 – Permit to Construct – The Lead Agency should obtain written authorization for the construction/installation of any equipment that may cause or control air contaminants. If there are permit questions concerning the aggregate processing equipment, they can be directed to SCAQMD Engineering and Compliance staff at (909) 396-2315. SCAQMD should be identified as a responsible agency in the Final EIR/SEIS. R-3-34

- Rule 203 – Permit to Operate – The Lead Agency should obtain a written permit to operate. If there are permit questions concerning the aggregate processing equipment, they can be directed to Engineering and Compliance Staff at (909) 396-2315. The SCAQMD should be identified as a responsible agency under CEQA. R-3-35

- Rule 1157 – PM10 Emission Reduction From Aggregate and Related Operations – The Lead Agency should discuss and provide additional details on how the project will comply with Rule 1157. R-3-36

- Rule 403(e) – Large Operations – The Proposed Project is a large operation (50 acres or more of disturbed surface area; or daily earth-moving operations of 3,850 cubic yards or more on three days in any year) in the South Coast Air Basin. The Lead Agency is required to comply with SCAQMD Rule 403(e) – Additional Requirements for Large Operations[33]. The requirements may include, but are not limited to, Large Operation Notification (Form 403 N), appropriate signage, additional dust control measures, and employment of a dust control supervisor that has successfully completed the Dust Control in the South Coast Air Basin training class[34]. R-3-37

[33] *Ibid.* Rule 403. Last amended June 3, 2005. Accessed at: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf.

[34] SCAQMD Compliance and Enforcement Staff's contact information for Rule 403(e) Large Operations is (909) 396-2608 or by e-mail at dustcontrol@aqmd.gov.

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R-3-1

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS and this Final EIR/EIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS and this Final EIR/EIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions but no increase in cancer risk compared to the 2012 Baseline.

When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C is along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

Measures AQ-2 and AQ-3 are proposed to reduce exposure to emissions at near-roadway locations for the build alternatives. Measure AQ-2 provides for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 provides for the installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. Additionally, the build alternatives include programmatic components to help improve air quality and public health along the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

R-3-2

South Coast Air Quality Management District's (SCAQMD) support of a zero emission (ZE) corridor is noted. As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative; hence programmatic elements of the build alternatives, such as the I-710 Clean Truck Program, will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Prior to selection of the No Build Alternative, the description of the I-710 Clean Truck Program was being further defined to include a proposed governance structure, roles and responsibilities for program oversight, and

provisions related to program enforceability (for more information, see Section 2.3.2.1, Common Features of the Build Alternatives, and Appendix W of this Final EIR/EIS).

R-3-3

The comments provided here have been utilized in the continued development of the I-710 Clean Truck Program (also referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program), which had been further refined for the build alternatives. Those details are provided in Section 2.3.2.1 and Appendix W of this Final EIR/EIS. It is important to note that the No Build Alternative has been selected as the Preferred Alternative; hence programmatic elements of the build alternatives, such as the I-710 Clean Truck Program, will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

R-3-4

This comment summarizes concerns detailed in later comments. Please refer to Responses to Comments R-3-8 and R-3-9 regarding the CEQA baseline, Response to Comment R-3-11 regarding the air quality assumptions, Responses to Comments R-3-18 and R-3-19 regarding modeling parameters, Responses to Comments R-3-12 through R-3-17 regarding criteria pollutant calculations, Responses to Comments R-3-23 through R-3-32 regarding air quality mitigation measures, and Responses to Comments R-3-20 and R-3-21 for a discussion of meteorological data.

The BNSF Railroad Southern California International Gateway (SCIG) and UP Railroad near-dock intermodal Container Transfer Facility (CTF) projects are appropriate to include in the 2035 No Build Alternative, as these projects were included in the 2012 Regional Transportation Plan traffic model, as documented in the RDEIR/SDEIS and this Final EIR/EIS (Section 1.2.1.4).

R-3-5

It is important to note that while the SCAQMD CEQA significance thresholds were included for informational purposes, Caltrans as a matter of practice does not utilize defined CEQA thresholds in determining the significance of an impact. Because the significance of an effect may vary depending on the environmental setting and context, set rules for determining significance in every case have not been established. Because Caltrans has statewide jurisdiction and the setting for projects varies so extensively throughout the State, Caltrans has not and has no intention to develop thresholds for significance for CEQA. The determination of significance is left to the internal Project Development Team, which includes environmental staff and specialists. The specific measures suggested by SCAQMD staff are provided later in the letter and are coded as Responses to Comments R-3-31 and R-3-32. Please refer to those responses to comments for further information.

R-3-6

As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative due to a number of reasons, including but not limited to, the inability of the build alternatives to achieve project-level particulate matter conformity determination. Details on how project-level particulate matter conformity was analyzed for the build alternatives are provided in Response to Comment F-4-5.

R-3-7

The project-level carbon monoxide (CO) conformity analysis is included in Section 3.13, Air Quality, of the RDEIR/SDEIS and this Final EIR/EIS. Consistent with Caltrans and FHWA guidance, project-level air quality conformity is not required for approval of a Draft EIR/EIS and is not required to be included in the RDEIR/SDEIS. However, a project-level air quality conformity determination is required for project approval or funding for the build alternatives. Please refer to Response to Comment R-3-6, Section 1.4.1, Project Level Particulate Matter Conformity Analysis (of this appendix), and Section 3.13.3.2 of this Final EIR/EIS for updated information related to the project-level conformity analysis.

R-3-8

The analyses presented in the *Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (AQ/GHG/HRA Technical Study) (June 2017), and the associated *Addendum to the Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (December 2020), include incremental comparisons of the future (2035) project alternatives to the 2012 Baseline as required by CEQA. The re-analysis for the RDEIR/SDEIS began in 2013, so a 2012 CEQA baseline year was chosen, consistent with CEQA guidance. Selection of the CEQA baseline for the air quality analysis was discussed in the February 2017 *Air Quality, Greenhouse Gas, and Health Risk Revised Protocol* (Protocol), which was included as Appendix A of the AQ/GHG/HRA Technical Study. A draft of this Protocol was distributed to the Agency Air Technical Working Group (including SCAQMD) for review in October 2015. The build alternatives do not take credit for the large reductions that have been achieved due to State and Federal rules and regulations. Instead, the AQ/GHG/HRA Technical Study discusses the California Air Resources Board's (CARB) Truck and Bus Regulation, the Pavley Standard, and the Ports' Clean Trucks Program as the primary drivers for the reductions in emissions seen in the 2035 project alternatives as compared to the 2012 Baseline (refer to Sections ES.5.1, ES.5.2, ES.6.1, and Sections 4.3.1, 4.3.3, and 5.2 of the AQ/GHG/HRA Technical Study). Further, the analyses also present incremental comparisons of the 2035 build alternatives to the 2035 No Build Alternative for NEPA, which would exclude any reductions from State and Federal rules and regulations. The NEPA analysis can be used as a basis for comparing the build alternatives without taking account for reductions achieved due to State and Federal rules and regulations.

R-3-9

This comment recommends that the air quality analysis include a comparison of the build alternative emissions to future interim years 2020, 2025, and 2030 as well as year 2035. As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a comparison of the build alternative emissions to future interim years 2020, 2025, and 2030, as well as year 2035, would no longer be necessary. However, the analysis included in the RDEIR/SDEIS assumed construction of the build alternatives to begin in 2022 and be completed by the horizon year 2035. Hence, the build alternatives would not exist in any of the interim years (2020, 2025, or 2030) that are referred to in this comment and a comparison of the emissions with and without the build alternative in a particular interim year would be hypothetical and misleading However, as stated in Response to Comment R-3-8, the AQ/GHG/HRA Technical Study does present incremental comparisons of the emissions from the 2035 build alternatives to the 2035 No Build Alternative, which would exclude any reductions from State and Federal rules and regulations. Specifically, Table 5-2b presented the incremental changes in volatile organic compounds (VOC), nitrogen oxides (NO_X), CO, PM_{10}, $PM_{2.5}$, and sulfur oxides (SO_X) emission estimates for the 2035 build alternatives as compared to the 2035 No Build Alternative.

According to the preliminary construction staging analysis prepared for the proposed project, the build alternatives were not projected to be built and operational by 2020, 2025, or 2030. Traffic volumes are highest under the build alternatives relative to the No Build condition. At the time of the analysis it was too speculative to take credit for these benefits prior to year 2035 when full deployment must be assured. In addition, it has been demonstrated that 2035 is the peak PM_{10}/$PM_{2.5}$ emissions year for operational emissions in the August 2018 White Paper, *I-710 Corridor Project: Selection of Analysis Year for Quantitative Particulate Matter Hot-Spot Analyses*, which was included as Appendix B of the August 2018 PM conformity submittal to the Transportation Conformity Working Group. In essence, vehicle miles travelled (VMT) would increase during this period (as noted in SCAQMD's Final 2016 Air Quality Management Plan), while fleet-turnover to the cleanest current cars and trucks would be essentially complete by 2023 (as shown in EMFAC2014 and complete implementation of the CARB Truck and Bus Rule by that date).

Please refer to Section 1.4.2 of this appendix, Air Quality Analysis of Interim Years, for further discussion, and to Section 3.13.3.2 of this Final EIR/EIS for an updated discussion of project-level conformity.

R-3-10

Please refer to Response to Comment R-3-5 for more information on CEQA significance criteria. The air quality analysis for CEQA was provided in Chapter 4.0, CEQA Evaluation, of the RDEIR/SDEIS and this Final EIR/EIS. As discussed in Chapter 4.0, while Caltrans has not adopted them, the SCAQMD CEQA significance thresholds were provided in the CEQA analysis for informational purposes.

R-3-11

It is true that the Final EIR prepared for the SCIG project was vacated by the Contra Costa County Superior Court in 2016, prior to the circulation of the RDEIR/SDEIS, and this fact is acknowledged in the RDEIR/SDEIS. However, the technical analyses supporting the RDEIR/SDEIS, including traffic forecasting, began in 2014. Because of the lead time necessary for the complex traffic modeling efforts undertaken on the I-710 Corridor Project, it was not possible to revise the No Build Alternative scenario and re-run the model, and all subsequent analyses that depended on the traffic model, and still meet the schedule established for the project. Moreover, on January 12, 2018, the California Courts of Appeal ruled that the Port of Los Angeles and BNSF were in compliance with the majority of CEQA requirements, with the exception of the air quality analysis of ambient air concentrations and associated cumulative impacts of such pollutant concentrations and identified ways to resolve the one remaining CEQA issue (i.e., re-analysis of modeled PM concentrations at a certain location). On April 11, 2018, the California Supreme Court denied a petition to review the Court of Appeal's January 2018 decision. Caltrans maintains, due to the information provided above, that there is sufficient evidence and rationale for retaining the SCIG project in the No Build Alternative scenario.

A Sensitivity Test was conducted that removed the SCIG and ICTF Expansion Projects from the I-710 Corridor traffic model to evaluate the effects on the I-710 Corridor transportation travel patterns. These sensitivity tests are provided in the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017). In summary, viewed from daily conditions for total vehicles, removal of the SCIG and ICTF expansion projects from the No Build scenario resulted in only a slight overall change in the total number of vehicles, with additional trucks using I-710 displacing some autos.

R-3-12

Please refer to Response to Comment R-3-9 regarding the inclusion of interim milestone years in the air quality analysis and to Section 1.4.2 of this appendix, Air Quality Analysis of Interim Years, for further discussion

R-3-13

This comment requests that the RDEIR/SDEIS discuss the potential for combined construction and operational emissions to be greater during construction than in buildout year 2035. As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no need to discuss the potential for combined construction and operational emissions to be greater during construction than in the buildout year 2035. It should be noted that the construction emissions scenarios presented in Section 3.24, Construction Impacts, of the RDEIR/SDEIS assumes consecutive construction of all freeway sections, which represents a conservative (i.e., worst-case scenario) emissions analysis, drawn from the construction staging scenarios, in order to identify and disclose the range of potential impacts. Please refer to Section 1.4.2 of this appendix, Air Quality Analysis of Interim Years, for further discussion

R-3-14

Emissions were calculated for the construction project area based on the right-of-way footprint of the build alternatives in acres. The Road Construction Emissions Model does include site preparation activities such as grubbing/land clearing, grading/excavation, and drainage/utilities/ sub-grade installation, although explicit aboveground demolition activities are not included. Based on the level of construction activity, emissions generated from demolition of acquired properties would be a small fraction of the emissions generated from the construction of the build alternatives. In addition, the air quality construction measures included in Section 3.24.4.13 of this Final EIR/EIS would apply to the demolition of structures acquired for construction of the build alternatives, as that is considered a construction activity.

R-3-15

The modeling methodology for construction emissions was described in the Protocol, which was included as Appendix A of the AQ/GHG/HRA Technical Study (June 2017). A draft of this Protocol was distributed to the Agency Air Technical Working Group (including SCAQMD) for review in October 2015. As described in the Protocol, construction emissions were calculated using the I-710 Construction Emissions Model, which is a modified version of the Sacramento Metropolitan Air Quality Management District (SMAQMD) Road Construction Emissions Model (RCEM) version 8.1.0. This model includes a conservative fugitive dust emission factor of 20 pounds of PM_{10}/acre/day. This emission factor was developed using methodology developed for the

SCAQMD by the Midwest Research Institute and consultation with CARB and is meant to be used when only the construction area and duration of construction are known. Detailed final design and construction plans would not be determined until after the Final EIR/EIS is approved. Since, as stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative, details regarding project-specific equipment, location, and timing information on construction activities is not necessary.

In addition, as the No Build Alternative has been selected as the Preferred Alternative, applicable and relevant SCAQMD permits are not necessary and have not been added to Table 2.5-1, Permits and/or Approvals Needed, of this Final EIR/EIS.

R-3-16

As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, location-specific construction activity information and modeling of location-specific impacts is not necessary.

However, a preliminary construction staging analysis has been performed in order to demonstrate that the build alternatives could feasibly be constructed. The construction emissions scenarios presented in the AQ/GHG/HRA Technical Study (2017) and Section 3.24.3.13 of the RDEIR/SDEIS and this Final EIR/EIS assumed a conservative (i.e., worst-case scenario) emissions analysis, drawn from the construction staging scenarios, in order to identify and disclose the range of potential impacts. In addition, several air quality construction minimization measures are proposed for the build alternatives and are outlined in Section 3.24.4.13 of this Final EIR/EIS. Please refer to Section 1.4.3 of this appendix, Localized Impacts of Project Construction Emissions, for further discussion

R-3-17

This comment states that the air quality analysis should consider factors such as growth, changes in land use, population, transportation improvements, changes to the transportation network and detours during construction. The vehicle emissions in the air quality section of the RDEIR/SDEIS were estimated using travel demand modeling data for 2035. The I-710 travel demand forecast model is based on the regional 2012 Regional Transportation Plan (RTP) forecast model. In addition, the 2012/2035 RTP/Sustainable Communities Strategy (SCS) considers population, household, and employment forecasts. As such, the traffic modeling and the air quality modeling considered cumulative factors such as population and employment growth that would occur between 2012 and 2035. An analysis of the potential for project-related growth associated with the build alternatives was provided in Section 3.2, Growth, of the RDEIR/SDEIS and this Final EIR/EIS. This analysis concluded that there are no reasonably foreseeable project-related growth impacts that would occur under the build alternatives.

The 2012/2035 RTP/SCS also include future funded and committed transportation projects. In 2013, the assumptions related to goods movement within the Southern California Association of Governments' (SCAG) region were further developed and updated to more closely align with the changed economic conditions, drawing on the Updated Cargo Forecast (2009), the 2012 RTP Travel Demand Forecast Model (2012), the San Pedro Bay Ports estimates of marine terminal capacity (2013), Port Cargo market shares (2013), and Truck Trip distribution (2013). The *Model Input Data and Key Assumptions Technical Memorandum for Goods Movement* (May 2013) was then reviewed and discussed by the I-710 Technical Advisory Committee and the Port growth assumptions were approved for use in traffic forecasting performed in support of the RDEIR/SDEIS. The 2035 traffic data that are used as the basis for the air quality analysis include all future funded and committed projects, such as those listed in the above. Hence, the operational air quality also considers all future funded and committed projects, and therefore, considers cumulative factors such as land use changes and transportation improvements.

In addition, the I-710 is part of a highly congested metropolitan roadway network and is located within an urbanized area that is essentially built out. Given the high levels of congestion in the peak periods, the I-710 travel demand forecast model is particularly sensitive to changes in travel times. The proposed improvements included in the build alternatives improve speeds and reduce travel times on I-710, which in turn attracts more traffic to the facility relative to the No Build Alternative condition. The predicted shifts in traffic are accounted for in the operational traffic analysis. Therefore, changes to the transportation network are accounted for in the operational air quality analysis.

As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and therefore a detailed transportation management plan will not be necessary to identify specific detour routes; provide public outreach and noticing during construction, and help minimize construction impacts to the surrounding communities.

R-3-18

Air quality analyses presented in Section 3.13, Air Quality, of the RDEIR/SDEIS reports findings for various geographic areas including the I-710 Corridor; the I-710 Area of Interest; and the South Coast Air Basin (Basin) (refer to Figure 1-2 of the I-710 AQ/GHG/HRA Technical Study [2017] for a depiction of these areas). Changes in traffic on the local roadway network attributable to the build alternatives are taken into account in the reporting for the Area of Interest and the Basin study areas, while results for the I-710 Corridor focus on the I-710 freeway (Alternative 5C and Alternative 7) and the freight corridor (Alternative 7 only).

When viewing traffic for the build alternatives relative to the No Build Alternative, traffic volume changes are greatest on the I-710 Corridor with differences on the arterial system and other roadways being much more diffused and muted. These patterns are discernable by viewing and comparing Figures 4-3 and 4-4 in the *Traffic Operations Analysis Report* (March 2017) to

Figures 5-1 and 5-2 of the *Intersection Traffic Impact Analysis Report* (March 2017). Emissions from existing and future traffic on local arterials located within the Area of Interest are presented in the gridded mass emission plots presented in Figures 4-1a through 4-1c, Figure 4-2a through 4-2c, and Figures 4-5a through 4-5c in Appendix Q of the RDEIR/SDEIS and this Final EIR/EIS. These figures show that emissions of NO_X, PM_{10}, $PM_{2.5}$, and diesel particulate matter (DPM) generally decrease through the Area of Interest (including nearby freeways, arterials, and local roads) for the 2035 build alternatives as compared to the 2012 Baseline and the 2035 No Build Alternative, except for some locations along the I-710 freeway for PM_{10} and $PM_{2.5}$. Based on the mass emissions analysis within the Area of Interest (gridded emission plots), the greatest $PM_{2.5}$ and PM_{10} impacts of the build alternatives are anticipated to occur on the I-710 freeway and freight corridor. As a consequence, the air dispersion and health risk modeling appropriately focused on the I-710 Corridor.

R-3-19

This comment suggests that the air dispersion modeling be conducted using default regulatory options or that justification be provided about why the non-default FASTALL option was used. The modeling methodology was described in the Protocol, which was included as Appendix A of the AQ/GHG/HRA Technical Study (June 2017). A draft of this Protocol was distributed to the Agency Air Technical Working Group (including SCAQMD) for review in October 2015. As described in the Protocol, AERMOD was run using the non-default FASTALL option due to the expansive size of the project and the number of volume sources and model runs required (summarized in the table below). Modeling without the FASTALL option takes over six times longer, with run times potentially over 100 days per model run. The FASTALL option helps optimize the runtime for volume sources based on an alternative implementation of the horizontal meander algorithm.

Volume Sources and AERMOD Model Runs Using Non-Default FASTALL Option

Project Alternative	Meteorological Zone				Total Number of Volume Sources
	Coastal	Transition	Inland	Downtown	
PM Model Runs (64 runs)					
2012 Baseline	4,628	3,296	2,496	2,336	12,756
2035 No Build	4,620	3,304	2,500	2,320	12,744
2035 Alternative 5C	5,105	4,950	2,204	2,872	15,131
2035 Alternative 7	8,108	9,406	6,351	5,237	29,102
Model Runs Excluding PM (160 runs)					
2012 Baseline	2,314	1,648	1,248	1,168	6,378
2035 No Build	2,310	1,652	1,250	1,160	6,372
2035 Alternative 5C	2,531	2,302	1,102	1,436	7,371
2035 Alternative 7	3,568	3,680	2,529	2,315	12,092

PM = particulate matter

R-3-20

The AERMOD Modeling Files incorrectly stated that the Port of Long Beach (POLB) station was created using surface measurements obtained from Scripps Pier but included the correct modeling station identification (KLGB, WMO 722970). The POLB station was created by using surface measurements obtained from the Long Beach Airport monitoring station (KLGB, WMO 722970).

R-3-21

A sphere of influence analysis was performed to determine the most appropriate meteorological stations to represent the meteorological conditions encountered along the I-710 freeway for the purposes of air dispersion modeling. Details of this analysis are provided in Appendix D of the *2012 Air Quality/Health Risk Assessment Technical Study* released as part of the Draft EIR/EIS. The United States Environmental Protection Agency (EPA) and Office of Environmental Health Hazard Assessment typically recommend using a minimum of one year of on-site surface meteorological data or five years of representative surface meteorological data from a nearby site. The meteorological stations identified in the sphere of influence analyses are the Port of Long Beach Inner Harbor (POLB), North Long Beach (LGBH), Lynwood (LYNN), and Los Angeles North Main Street (CELA). As multiple stations were selected to identify the meteorological conditions, these meteorological stations were considered as site-specific and, therefore, only one year of meteorological data was needed.

As noted in the Protocol, which was included as Appendix A of the AQ/GHG/HRA Technical Study (June 2017), the Compton (CMPT) station was also reviewed for potential use as a replacement of the LYNN station (which shut down after 2009) in an attempt to use the most recent meteorological data. A draft of this Protocol was distributed to the Agency Air Technical Working Group (including SCAQMD) for review in October 2015. However, at the time of the analysis, review of SCAQMD AERMOD-Ready Data showed that the only common calendar year of data available across all these meteorological stations was 2009 (see table below). Since the LYNN station was still operational in 2009, LYNN data were used to maintain consistency with the sphere of influence analyses. At the time of the analysis, SCAQMD did not have five consecutive years (or even three consecutive years) of meteorological data available for these stations.

Meteorological Data Availability

Meteorological Station	Source	Are Meteorological Data Available?						
		2006	2007	2008	2009	2010	2011	2012
POLB	POLB	Y	Y	Y	Y	Y	Y	Y
LGBH	SCAQMD	Y	Y	Y	Y	N	Y	N
LYNN	SCAQMD	Y	Y	N	Y	N	N	N
CMPT	SCAQMD	N	N	N	Y	Y	N	Y
CELA	SCAQMD	Y	Y	N	Y	Y	Y	N

CELA = Los Angeles North Main Street
CMPT = Compton
LGBH = North Long Beach
LYNN = Lynwood
POLB = Port of Long Beach Inner Harbor
SCAQMD = South Coast Air Quality Management District

R-3-22

As discussed in Section 3.13.3.4, Public Health Considerations, although the CARB's model has been used on other projects to quantitatively assess project-specific incremental levels of public mortality and morbidity, such calculations are subject to significant uncertainty in the input data. Sources of uncertainty include emission estimates, representativeness of the meteorological data, air dispersion modeling algorithms, toxicity factors, population exposure estimates, concentration-response functions, baseline rates of mortality and morbidity (which are typically countywide, not for the specific PM impact area) that are entered into concentration response functions, and the occurrence of additional not-quantified adverse health effects. The nature of PM as a complex mixture of various pollutants, as well as the confounding health effects of pollutants such as SO_2, NO_2, CO, and O_3 that tend to co-occur with PM in ambient air, greatly increases the complexity of deriving accurate PM concentration-response functions. Health risk estimates derived in the presence of significant uncertainty tend to rely on very conservative assumptions that may greatly overestimate the potential adverse health effects. As stated by CARB in a 2006 study of DPM exposure from ports and goods movement in California, "Risk assessment has various uncertainties in the methodology and is therefore deliberately designed so that risks are not under predicted. Risk assessment is thus best understood as a tool for comparing risks from various sources, usually for purposes of prioritizing risk reduction, and not as literal prediction of the community incidence of disease from exposure."

Therefore, the analysis of PM mortality and morbidity conducted for the I-710 Corridor Project was a qualitative assessment based on comparative analysis of total $PM_{2.5}$ emissions for the various alternatives, given that other components of the model equations should be similar for the different project alternatives and are subject to the uncertainties listed above. Any quantitative estimate of the health risk or PM mortality/morbidity impacts would be speculative, inaccurate, and misleading.

R-3-23

As discussed on p. 4-51 in Section 4.2.4.1 of the RDEIR/SDEIS and this Final EIR/EIS, the construction schedule would have to be extended by more than five times in order to limit the daily construction activities to achieve emissions levels below the SCAQMD thresholds. Extending the construction schedule to this extent would more than double the total project costs for the build alternatives, due to the loss of economies of scale during construction and by accommodating the extended schedule overall.

R-3-24

ZE/NZE truck funding under the I-710 Clean Truck Program for both of the build alternatives was considered and incorporated into the air quality analysis in the RDEIR/SDEIS. The air quality benefits of the Community Health Benefit Program could not be quantified as this was defined as a programmatic feature of the build alternatives and would operate as a grant program to fund local and community projects per the description provided in Chapter 2 of the Final EIR/EIS. The benefits of the Community Health Benefit Program were, therefore, not taken into account in the air quality analysis. However, it is important to note that the No Build Alternative has been selected as the Preferred Alternative. The No Build Alternative does not include the I-710 Clean Truck Program or the Community Health Benefit Program. Also, please refer to Response to Comment R-3-1.

R-3-25

The EPA, CARB, and SCAQMD have the authority to enact regulations on emissions from vehicles operating in California. As stated on p. 5-54 of the RDEIR/SDEIS and this Final EIR/EIS, Caltrans and Metro do not have authority to regulate vehicle emissions. The build alternatives incorporated feasible mitigation to reduce Mobile Source Air Toxics (MSATs); however, the RDEIR/SDEIS and this Final EIR/EIS concluded that the long-term MSAT impacts of the build alternatives would remain significant and unavoidable at several near-roadway locations.

R-3-26

It is Caltrans' standard practice to include avoidance and minimization measures, in addition to mitigation measures, in their environmental document. It is stated on p. 3.13-56 in Section 3.13.4 of the RDEIR/SDEIS and this Final EIR/EIS that Measure AQ-1 is not intended to reduce either exposure or concentrations related to the build alternatives; however, it is intended to provide additional and better air quality data within the I-710 Corridor area so that the effects of future projects and mitigation measures can be better quantified.

R-3-27

Caltrans and Metro appreciate this information from SCAQMD regarding the implementation and limitations of filtration units. However, as stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and therefore provision of air filtration units is no longer necessary. It should be noted that enhanced filtration units reduce indoor exposure to particulates, but the analysis provided in the RDEIR/SDEIS and this Final EIR/EIS for the build alternatives does not assume or rely upon any specific reduction effectiveness measures or on non-PM reductions. The measure does not provide for ongoing maintenance of filtration units, as Caltrans and Metro do not have an appropriate mechanism for ongoing provision of funds or materials. Maintenance would ultimately be the responsibility of the filtration recipient. In response to this and other comments, Measure AQ-2 has also been revised to indicate that coordination would occur to ensure that filtration systems would be in place prior to the start of construction (should a build alternative be selected as the Preferred Alternative).

R-3-28

As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, it is not necessary to expand the scope of Measure AQ-2 to include “sensitive receptors” as defined in the AQ/GHG/HRA Technical Study and Section 3.3.3 of the RDEIR/SDEIS within 0.25 mile of I-710. This includes the following facilities: adult residential, daycare, healthcare, mental healthcare, nursing homes, and senior centers in addition to schools. In addition, it is also unnecessary to update this measure to indicate that coordination will occur to ensure that the systems will be in place prior to the start of construction.

R-3-29

Measure CON-AQ-15 was drafted in a manner that ensures it is both enforceable and consistent with Caltrans’ and Metro’s contract bid requirements and procedures, given that it is not currently known at this time which agency may eventually administer the construction contract for the build alternatives. Therefore, some flexibility was retained accordingly in the wording of the measure. It is important to note that some, but not all Tier 4 equipment is commercially available at the present time, and it is currently unknown if and when all Tier 4 equipment necessary to construct the build alternatives may be available in the future. By the time it was anticipated that construction of the build alternatives would be anticipated to begin, the Best Available Control Technology (BACT) compliance schedule for CARB’s 2014 *In-Use Off-Road Diesel-Fueled Fleets Regulation* indicates that only 10 percent of “large fleets” will consist of BACT equipment.[1]

[1] California Air Resources Board. 2014. *In-Use Off-Road Diesel Vehicle Regulation.* Revised August 2014. Website: https://www.arb.ca.gov/msprog/ordiesel/faq/bactfaq.pdf (accessed October 3, 2018).

For those reasons, in addition to the fact that the No Build Alternative has been identified as the Preferred Alternative, the text of the measure has not been revised.

R-3-30

Caltrans and Metro appreciate the specific suggestions provided by SCAQMD regarding Measure CON-AQ-17. However, as stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and therefore it is not necessary to update this measure .

R-3-31

Prior to selection of the No Build Alternative as the Preferred Alternative, the I-710 Clean Truck Program was being further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability (for more information, see Section 2.3.2.1, Common Features of the Build Alternatives, and Appendix W of this Final EIR/EIS). Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

R-3-32

Please also refer to Response to Comment R-3-31. In addition, as stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, there is no need for continued coordination between the Project Team and SCAQMD on performance-based standards and an enforceable implementation plan.

R-3-33

As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, Table 2.5-1, Permits and/or Approvals Needed, was not revised in this Final EIR/EIS to include SCAQMD Rule 201 Permit to Construct, Rule 203 Permit to Operation, and Rule 1157 PM_{10} Emission Reductions from Aggregate and Related Operations.

R-3-34

As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, Table 2.5-1, Permits and/or Approvals Needed, was not revised in this Final EIR/EIS to include SCAQMD Rule 201 Permit to Construct in the event that the cement manufacturing, aggregate crushing, and screening equipment do not meet the definition of portable engine or equipment use per Article 5 and Sections 2450–2465 of Title 13 of the California Code of Regulations (CCR).

R-3-35

As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, Table 2.5-1, Permits and/or Approvals Needed, was not revised in this Final EIR/EIS to include SCAQMD Rule 203 Permit to Operate in the event that the portable manufacturing, aggregate crushing, and screening equipment do not meet the definition of portable engine or equipment use per Article 5 and Sections 2450–2465 of Title 13 of the CCR.

R-3-36

As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, Table 2.5-1, Permits and/or Approvals Needed, was not revised in this Final EIR/EIS to include SCAQMD Rule 1157, PM_{10} Emission Reductions from Aggregate and Related Operations.

R-3-37

As stated in Response to Comment R-3-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, no construction would occur and the build alternatives would not need to comply with SCAQMD Rule 403, including compliance with Section (e), because the project would not disturb more than 50 acres.

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L-1.1 LOCAL AGENCIES

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City of
LYNWOOD

August 16, 2017

Mr. Ronald Kosinski
Caltrans District 7
Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement

Dear Mr. Kosinski:

We are writing to respectfully request that the California Department of Transportation extend the comment period for the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Interstate 710 (I-710) Corridor Project to 120 days. Comments are currently due by September 22, 2017. Granting this request would allow the comment period to go through November 19, 2017.

Several reasons support extending the comment period:

- City of Lynwood and partner community organizations are diligently working to review the RDEIR/SDEIS but additional time will be necessary to fully evaluate the document.
- City of Lynwood and technicians, as well as partnering community groups, need additional time to consult with experts to fully understand the findings. L-1-1
- City of Lynwood will require further time to fully update our residents regarding the analysis of this study and potential impacts/changes to our city
- Extending the comment period will allow for the City of Lynwood, as well as other stakeholders to be more informed about the project, and thus more fully engaged in the CEQA and NEPA processes.

Thank you in advance for your consideration, and kindly request that you respond to our extension request as soon as possible.

Sincerely,

Maria Santillan-Beas
Mayor

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L-1-1

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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CITY OF COMMERCE

Oralia Y. Rebollo
Mayor

Ivan Altamirano
Mayor Pro Tem

Hugo A. Argumedo
Councilmember

Leonard Mendoza
Councilmember

John Soria
Councilmember

August 22, 2017

Ronald Kosinski
Deputy District Director
of Environmental Planning
Caltrans District 7
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement

Dear Mr. Kosinski:

We are writing to respectfully request that the California Department of Transportation extend the comment period for the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Interstate 710 (I-710) Corridor Project to 120 days. Comments are currently due by September 22, 2017. Granting this request would allow the comment period to go through November 19th, 2017.

Several reasons support extending the comment period:

- Commerce and partner community organizations are diligently working to review the RDEIR/SDEIS but additional time will be necessary to fully evaluate the document.
- Commerce and technicians, as well as partnering community groups, need additional time to consult with experts to fully understand the findings.
- Commerce will require further time to fully update our residents regarding the analysis of this study and potential impacts/changes to our city
- Extending the comment period will allow for the Commerce, as well as other stakeholders to be more informed about the project, and thus more fully engaged in the CEQA and NEPA processes.

L-2-1

Thank you in advance for your consideration. We kindly ask that you respond to our extension request as soon as possible.

Sincerely,

Oralia Y. Rebollo
Mayor

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L-2-1

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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CITY OF BELL

August 23, 2017

Ronald Kosinski Caltrans District 7,
Division of Environmental Planning 100 South Main Street, MS
16A Los Angeles, CA 90012

RE: I-710 Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement

Dear Mr. Kosinski:

We are writing to respectfully request that the California Department of Transportation extend the comment period for the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Interstate 710 (I-710) Corridor Project to 120 days. Comments are currently due by September 22, 2017. Granting this request would extend the comment period to November 19, 2017.

L-3-1

Several reasons support extending the comment period:

- City of Bell and partner community organizations are diligently working to review the RDEIR/SDEIS but additional time will be necessary to fully evaluate the document.
- City of Bell and technicians, as well as partnering community groups, need additional time to consult with experts to fully understand the findings.
- City of Bell will require further time to fully update our residents regarding the analysis of this study and potential impacts/changes to our city
- Extending the comment period will allow for the City of Lynwood, as well as other stakeholders to be more informed about the project, and thus more fully engaged in the CEQA and NEPA processes.

Thank you in advance for your consideration.

We kindly request that you respond to our extension request as soon as possible.

Sincerely,

Fidencio Joel Gallardo,
City of Bell

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L-3-1

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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COUNTY OF LOS ANGELES
AIRPORT LAND USE COMMISSION

August 23, 2017

California Department of Transportation
District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012
Attention: Ronald Kosinski RK

SUBJECT: ALUC REFERRAL CASE NO. RPPL2017009037
NOTICE OF AVAILABILITY OF RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT AND SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT – I-710 CORRIDOR PROJECT

Dear Ronald Kosinski,

Thank you for the opportunity to comment on the above referenced project. Staff of the Los Angeles County Airport Land Use Commission (ALUC) has reviewed the submitted document and has the following comments:

> The proposed project is not located within an Airport Influence Area of any airport in Los Angeles County. Therefore, the proposed project is not subject to L.A. County ALUC review in accordance with Section 21676 of the California Public Utilities Code. L-4-1

If you have any questions regarding this matter, please contact Alyson Stewart at (213) 974-6432 or via email at astewart@planning.lacounty.gov, between 7:30 am and 5:30 PM, Monday through Thursday. Our office is closed on Fridays.

Sincerely,

DEPARTMENT OF REGIONAL PLANNING
Dennis Slavin, Acting Director

E. Bruce Durbin

Bruce Durbin, Supervising Regional Planner
Ordinance Studies Section

BD:as

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L-4-1

Caltrans and Metro acknowledge that the build alternatives are not subject to Los Angeles County Airport Land Use Commission review and thanks the commenter for providing this information.

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Lena Gonzalez
Councilwoman, First District
City of Long Beach

August 31, 2017

RE: I-710 Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement

Dear Mr. Dougherty and Ms. Bowen,

I request that the California Department of Transportation extend the comment period for the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Interstate 710 (I-710) Corridor Project to 120 days. Comments are currently due by September 22, 2017. Granting this request would allow the comment period for this national significant project to extend through November 21, 2017.

The RDEIR/SDEIS, including appendices, represents thousands of pages of highly technical data and analyses that require additional time for thorough evaluation. Extending the comment period will allow stakeholders, including our constituents, to become better informed about the project, and thus more fully engaged in the CEQA and NEPA processes. This engagement is at the heart of CEQA and NEPA's public comment processes, and could provide improvements to the project's current design, additional or revised mitigations, and other information that will help ensure the project serves as a model for transportation projects in the 21st century. L-5-1

Moreover, the current comment period for the I-710 RDEIR/SDEIS overlaps with at least two other high-profile proposals — the draft Clean Air Action Plan (CAAP) and the Draft Supplemental Environmental Impact Report for the China Shipping Container Terminal Project due on Sept 21, 2017. The current deadline places an undue burden on members of the public wishing to engage fully in these processes.

Robust public participation is critical to ensuring a full review of this nationally significant project. Accordingly, we appreciate your consideration of request this extension request.

Sincerely,

LENA GONZALEZ
Councilwoman, First District
City of Long Beach

333 West Ocean Boulevard • Long Beach, California 90802
Phone 562-570-6919 • Fax 562-570-6590
district1@longbeach.gov

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L-5-1

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
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www.lacsd.org

GRACE ROBINSON HYDE
Chief Engineer and General Manager

September 22, 2017

Ref. Doc. No.: 4229244

Mr. Ronald Kosinski
Division of Environmental Planning
Caltrans District 7
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

RDEIR Response for the I-710 Corridor Project

The Sanitation Districts of Los Angeles County (Districts) received a Recirculated Draft Environmental Impact Report (RDEIR) for the subject project on July 25, 2017. We offer the following comments:

1. Once the project reaches the preliminary design stage, please forward the project's design plans and specifications, which should incorporate the Districts' existing sewerage facilities and include details of any proposed modification, relocation or adjustment of the Districts' facilities that may be necessary to accommodate the project, to the attention of Mr. Michael Tatalovich, the Districts' Sewer Design Section Head, at the address shown above. The Districts will review the plans and specifications to provide Caltrans with detailed comments on the project's impacts to Districts' facilities. L-6-1

2. The latest I-710 Corridor project document evaluates the impacts and potential impacts of Alternatives 1, 5C, and 7. Alternative 1 is the no-build alternative which would have no impact on the Districts' Long Beach Main Pumping Plant (LBMPP) or its influent sewers. Alternatives 5C and 7 (and their various options) would have significant impacts to the LBMPP. These alternatives require relocation of the emergency generator, surge tank, discharge manifold, influent and discharge piping, and all associated electrical and instrumentation systems. The analysis of the impacts is discussed in Section 3.4, *Utility/Emergency Services*, of the document. The first paragraph of this section states that the information is based on the *South End Utility Study*. Comments on specific sections of this study follow.

3. Section 5.1.1.3 of the *South End Utility Study* discusses proposed mitigation for potential impacts to LBMPP. Exhibits 4A and 4B in Appendix 3, and Exhibit E2A present potential mitigation for the impacts of Alternatives 5C and 7, respectively, in a very conceptual nature. Extensive analysis of the influent and effluent wastewater hydraulics and electrical power distribution system would be required during design to confirm system performance. In addition, Exhibits 4A and 4B appear to show the proposed off-ramps encroaching into the area required for maintenance and operation of the existing wet well and/or the relocated surge tank. Further L-6-2

Recycled Paper

analysis and details are required to ensure that existing facilities that will remain after the proposed mitigation is not negatively impacted and that proposed facilities have adequate access. Prior to the start of design, the I-710 Corridor project proponents should initiate discussions with the Districts regarding these issues. L-6-2

4. Section 5.1.1.4 of the *South End Utility Study* acknowledges that the "old" LBMPP is a backup to the "new" LBMPP, and as such, will also require relocation/demolition for Alternatives 5C and 7. The "new" LBMPP is presently undergoing commissioning and startup. Prior to the start of design, the I-710 Corridor project proponents should initiate discussions with the Districts regarding the timing and requirements for the relocation of the "old" LBMPP. L-6-3

5. Section 5.1.1.4 of the *South End Utility Study* states that design and construction of impacted facilities at the LBMPP "may take up to 2 years". The Districts believes that design, construction, commissioning, and startup may take 5 to 7 years, before demolition of any existing facilities could begin. L-6-4

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar

cc: B. Henry
M. Tatalovich

L-6-1

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, further coordination between Caltrans and the Sanitation Districts of Los Angeles County regarding potential impacts to Districts' facilities is no longer necessary.

L-6-2

As stated in Response to Comment L-6-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, coordination between Caltrans,Metro, and the County Sanitation Districts of Los Angeles County during final design regarding potential mitigation for the Long Beach Main Pumping Plant (LBMPP) and potential impacts to existing facilities is no longer necessary.

L-6-3

As stated in Response to Comment L-6-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, coordination between Caltrans, Metro, and the County Sanitation Districts of Los Angeles County during final design regarding relocation requirements of the LBMPP is no longer necessary.

L-6-4

It is acknowledged that the County Sanitation Districts of Los Angeles County believes that design, construction, commissioning, and startup of impacted facilities of the LBMPP may take five to seven years, not up to two years as mentioned in the RDEIR/SDEIS.

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COASTAL SAN PEDRO NEIGHBORHOOD COUNCIL

Doug Epperhart
President
Dean Pentcheff
Vice President
Shannon Ross
Secretary
David Myers
Treasurer

September 25, 2017

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Subject: Comments Regarding Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement for the I-710 Corridor Project

To whom it may concern,

We submit the below request and recommendation regarding the Subject I-710 Corridor Project. We will appreciate your consideration and response.

1. In recognition that commercial interests benefit most significantly from the I 710 freight corridor, we request that you consider that the Project should be funded primarily through the commercial interests which benefit most directly such as through container and shipping fees. The I 710 Freeway in the Project area largely serves commercial freight transport to and from the Ports of Los Angeles and Long Beach, experiences great degradation from the high volume of commercial heavy-duty vehicle traffic, and must be built to accommodate the freight related commercial traffic. The public cannot reasonably be expected to pay the significant portion for goods transport, especially in consideration of the significant costs to public health already borne by the people living and working in proximity of the Project area. L-7-1
2. Implement the Alternative 7 with Option 7ZE to include only Zero Emission technology and exclude Near Zero Emission technology for the following three reasons:
    a. The required zero emission technologies are most likely to be reasonably feasible and implementable before project completion. Several public and private agencies are invested intensely in implementing zero emission technologies, as demonstrated by the Cities of Long Beach and Los Angeles. Further the Gateway Cities COG and Metro concluded in the year 2013 “I-710 Project Zero-Emission Truck Commercialization Study” that zero-emission capable drayage trucks can be developed, demonstrated, validated, and moved into production by a 2025 target timeline, within seven years of the Project’s planned Final EIR. L-7-2
    b. The Option 7ZE, with significant improvements in freight transport, related technologies, and emission reductions resulting in great economic and public health benefits, will drive monumental economies of scale that will improve Southern California transportation systems and motivate other industries towards advancing technologies, such as may become implemented in the San Pedro Bay Clean Air Action Plan only if Option 7ZE is realized.

c. The technologies and methods implemented will require significant economic investment certain to greatly influence short and long term budget planning and to substantially enhance our quality of life for generations. A shorter-term investment in near zero emission technology will reduce the perceived benefits and return from a longer term and more significant investment in zero emission technology. Indeed, Port of Los Angeles tenants such as China Shipping refused to invest in newly available advanced emission reduction equipment because of recent expenditures on inferior, but previously available emission reduction equipment. Simply establishing the Zero Emission standard rather than a mix of Near Zero will provide stability in long term financial decision making and short term budgetary considerations.

L-7-2

Please feel free to contact us should you have any questions.



Anna Erneholm
Chair of the Environment and Sustainability Committee
Coastal San Pedro Neighborhood Council
cspnclive@gmail.com

This letter was approved by the CSPNC Board at the September 18, 2017 meeting.

L-7-1

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, funding is no longer needed for the build alternatives.

L-7-2

Caltrans and Metro thank the commenter for providing their input. The commenter's support of Alternative 7 and ZE technology is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative, and Section 1.3 of this appendix for additional discussion of ZE options.

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CITY OF COMMERCE

Office of the
Interim City Administrator

Mr. Ronald Kosinski RK
CALTRANS DISTRICT 7 GD
Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

SCH# 2008081042
07-LA-710-PM 5.4/24.5

September 29, 2017

Re: CITY OF COMMERCE COMMENTS ON THE I-710 CORRIDOR PROJECT RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT/SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT – SECTION 4(f) AND 6(f) EVAULATION

Dear Mr. Kosinski:

The City of Commerce (City) has received a letter from Caltrans (dated July 18, 2017) regarding the potential temporary impacts at Bandini Park/Batres Community Center and appreciates the collaboration and cooperation with Caltrans throughout the environmental process for the I-710 Corridor Project RDEIR/SDEIS and Section 4(f) and 6(f) Evaluation. Bandini Park/Batres Community Center is a publicly owned park located at 4725 Astor Avenue in the City of Commerce, and is subject to protection under the requirements of Section 4(f). Bandini Park, is one of only four neighborhood parks in the City of Commerce.

The City has reviewed the Draft Section 4(f) Evaluation and is concerned with the proposed *de minimis* determination for the permanent use and temporary occupancy of a portion of Bandini Park/Batres Community Center. The City appreciates the inclusion of Mitigation Measure PR-16 which addresses permanent access to the easement area at Bandini Park; however, there is no mitigation measure included to address the effects of the permanent aerial easement as well as the temporary impacts to this City resource. The City would like to express continued concern about the potential temporary impacts to this important Section 4(f) resource in our community. L-8-1

Section 23 CFR 774.13(d) provides the conditions under which "temporary occupancies of land...are so minimal as to not constitute a use within the meaning of Section 4(f)." If all of the conditions in Section 774.13(d) are met, the temporary occupancy does not constitute a use. If

2535 Commerce Way • Commerce, California 90040 • (323) 722-4805 • FAX (323) 726-6231 • www.ci.commerce.ca.us

one or more of the conditions for the exception cannot be met, then the Section 4(f) property is considered used by the project even though the duration of onsite activities is temporary.

According to 23 CFR 774.13(d), temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f), the following conditions must be satisfied:

(1) Duration must be temporary, *i.e.*, less than the time needed for construction of the project, and there should be no change in ownership of the land;

(2) Scope of the work must be minor, *i.e.*, both the nature and the magnitude of the changes to the Section 4(f) property are minimal;

(3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;

(4) The land being used must be fully restored, *i.e.*, the property must be returned to a condition which is at least as good as that which existed prior to the project; and

(5) There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

The City believes that according to 23 CFR 774.13(d)(3), temporary construction activities will interfere with the protected activities, features, or attributes of the property on a temporary basis. Bandini Park is an important resource to the community and any permanent change to access and/or temporary disruption to the amenities provided to the community will have a negative impact to the community.

The park offers outdoor activities, such as organized youth sports in basketball, flag football, soccer, softball, volleyball, picnic shelters, playgrounds and a children's wading pool. Due to the limited number of public park facilities in the City of Commerce, any impact, temporary or permanent, to a recreational resource would constitute an impact to the community. L-8-2

A permanent easement and temporary occupancy is anticipated as a part of both Alternative 5C and 7. Caltrans would require a 0.10-acre permanent aerial easement at this park for the land area under the proposed elevated structure to allow for access, inspections, maintenance, and other purposes. A 0.11-acre temporary easement for construction staging, materials storage, parking of construction equipment and worker vehicles, and other similar activities is also required. The City would like to request a site visit with Caltrans to better understand the project components and potential impacts of Alternative 5C and 7 to the park. L-8-3

Although Caltrans indicates that impacts to Bandini Park/Batres Community Center would be temporary, any kind of work in the area will impact the activities at the baseball field and basketball courts at the west end of the park. The park is open for public recreation year-round L-8-4

and there are organized youth sports that utilize Bandini Park/Batres Community Center. The impact analysis notes that temporary closures of portions of the park would occur during construction to protect the safety of park visitors and project construction workers. As noted in the previous comment letter, the City would like to request additional information such as construction schedule and time frame/duration for construction activities in this area. L-8-4

Caltrans indicates that the closed area would be returned to public use in the same or better condition as when the area was closed off to public access. Would there be any mature vegetation or tree removal required in this area? L-8-5

Noise and Vibration: Bandini Park (Site #NB-44M2) is located between Washington Boulevard and the rail-yard to the north in the city of Commerce. Freeway traffic noise impacts have been predicted to occur under both Alternatives 5C and 7 at this park. Noise abatement has been considered for this area in the form of a soundwall. However, during construction of the elevated structure and prior to construction of the recommended soundwall, noise and vibration during construction can substantially impair the sports field related to noise and vibration impacts. The City requests Caltrans to consider noise abatement or other feasible mitigation during construction. L-8-6

To reiterate, we respectfully disagree with the proposed *de minimis* determination for the permanent use and temporary occupancy of a portion of Bandini Park/Batres Community Center and request further evaluation of this determination. Please direct any questions and coordination efforts to Maryam Babaki at (323) 722-4805 Ext. 2337 or Matt Marquez at (323) 722-4805 Ext. 2349. L-8-7

Sincerely,

Fernando Mendoza

Interim City Administrator

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L-8-1

As required under Section 4(f) of the United States Department of Transportation Act, Caltrans has coordinated with the City of Commerce regarding the proposed *de minimis* impact determination and temporary occupancy exception for Bandini Park under the build alternatives. This coordination has included a discussion of measures that would minimize harm to the property, which would include design refinements of the build alternatives that would minimize the permanent aerial easement and Temporary Construction Easement (TCE) area at Bandini Park, or would avoid the TCE in the park if feasible. Based on the coordination that has taken place with the City to date, the need for the TCE within Bandini Park has been avoided in the design of the build alternatives. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail.

L-8-2

The Preferred Alternative does not result in a temporary occupancy or use of Bandini Park. Please refer to Response to Comment L-8-1 for further details.

L-8-3

The Preferred Alternative does not result in a temporary occupancy or use of Bandini Park. Please refer to Response to Comment L-8-1 for further details.

L-8-4

The Preferred Alternative does not result in a temporary occupancy or use of Bandini Park. Please refer to Response to Comment L-8-1 for further details.

L-8-5

The Preferred Alternative does not result in a temporary occupancy or use of Bandini Park. Please refer to Response to Comment L-8-1 for further details.

L-8-6

As discussed in Section 3.14.12 of the RDEIR/SDEIS, noise abatement criteria (NAC) were used to determine when a traffic noise impact would result from the build alternatives requiring noise abatement in the form of a soundwall. Noise abatement requirements are specific to long-term traffic noise impacts, and are not required for short-term construction noise impacts.

As discussed in Section 3.24.3.14 of the RDEIR/SDEIS, during construction of the build alternatives, noise from construction activities may occasionally dominate the noise environment in the immediate project area. Should a build alternative be selected as the Preferred Alternative, construction noise would be regulated by Caltrans Standard Specifications, Section 14-8.02, “Noise Control.” These requirements state that noise levels generated during construction would be controlled and monitored and not to exceed 86 A-weighted decibels (dBA) maximum sound level (L_{max}) at 50 feet from the job site between the hours of 9:00 p.m. to 6:00 a.m.

No adverse noise impacts from construction of the build alternatives would be anticipated because construction would be conducted in accordance with the Caltrans standard specifications and would be short-term, intermittent, and the local noise environment would continue to be dominated by local traffic noise. Because short-term construction noise impacts would be minimized through compliance with Caltrans standard specifications, no mitigation measures are required for the build alternatives. However, as stated in Response to Comment L-8-1, the No Build Alternative has been selected as the Preferred Alternative and construction of the build alternatives will not occur.

L-8-7

The Preferred Alternative does not result in a temporary occupancy or use of Bandini Park. Please refer to Response to Comment L-8-1 for further details.

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

MARK PESTRELLA, Director

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ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

October 5, 2017

IN REPLY PLEASE
REFER TO FILE: LD-4

Mr. Ronald Kosinski
Division of Environmental Planning
Department of Transportation, District 7
100 South Main Street, MS-16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

DOMINGUEZ GAP AND DEFOREST TREATMENT WETLANDS IMPACTS (DGDTW) INTERSTATE 710 CORRIDOR PROJECT

Thank you for reaching out to the Los Angeles County Department of Public Works (Public Works) regarding possible impacts to improvements within the County's jurisdiction. This is in response to your letter dated July 19, 2017 (copy enclosed), outlining the I-710 project impacts on the DGDTW.

The following Public Works comments are for your consideration:

1. General Permits:

   1.1. Work within the Los Angeles County Flood Control District (LACFCD) right of way or County road right of way may require a LACFCD or County road permit, respectively. L-9-1

   1.2. Storage of construction materials within LACFCD right of way or County road right of way is prohibited unless explicitly permitted. L-9-2

   1.3. Any proposed alternative routes or detours for the trails that are anticipated to be closed for the implementation of the proposed project may require a LACFCD or County road permit depending on the proposal. A preliminary site plan depicting the proposed alternative routes or detours shall be submitted to Public Works' Land Development Division, Encroachment Permits L-9-3

and Inspection Section, to assess if a permit and corresponding traffic/pedestrian/detour control plans will be required. If so, an approved traffic/pedestrian/detour control plan will be required prior to any permit issuance. Review and approval of traffic/pedestrian/detour control plans will be coordinated through Land Development Division's Encroachment Permits and Inspection Section. Permit fees may be required. L-9-3

For County road permit information or if you have any questions, please contact Mr. Juan Sarda at (626) 458-4921 or jsarda@dpw.lacounty.gov.

2. Dominguez Gap West Basin

2.1. General

2.1.1. For RDEIR/SDEIS Alternative 7, the basin will be reduced from 13.3 acres to 9.54 acres. Given the proposed reduction of size of the west basin and the lower percolation rates as a result of the retaining wall foundation, it is very likely that the basin will no longer serve as an effective groundwater recharge facility. Caltrans/Metro should provide land of equal or greater value that provides effective groundwater recharge to replace the net loss of 3.76 acres to the LACFCD and replace any additional loss of groundwater recharge capability due to the proposed basin design features such as the retaining wall foundation. This shall be included as a mitigation in the RDEIR/SDEIS for Alternative 7. L-9-4

2.1.2. The southern basin belongs to the City of Long Beach and is not considered part of the Dominguez West Basin. L-9-5

2.2. Basin Design Considerations for Alternative 7

2.2.1. Provide an access road to the bottom of the basin. L-9-6

2.2.2. Vandalism (graffiti) will be a concern with a 40-foot-high retaining wall. Mitigations and maintenance should be addressed in the environmental documents. L-9-7

2.2.3. Replace any basin level recorder and accompanying flow recorder impacted by construction. L-9-8

2.2.4. Existing storm drain outflow pipes connected to the Long Beach basin would need to be relocated to outfall elsewhere. Direct storm drain flows are generally not permitted into spreading grounds. L-9-9

2.2.5. For the proposed basin, the relative narrowness of the southern portion and the proposed retaining wall for the proposed freight corridor and LA River channel would make the facility difficult to maintain. Caltrans/Metro should provide an alternative to provide adequate maintenance access for the water conservation basin. L-9-10

3. DeForest Market Street Basin

3.1. There is an existing conduit connection under North Long Beach Boulevard that connects the northern and southern DeForest basins. Storm flows are ultimately directed to the Market Street Pump Station, which discharges to the Los Angeles River. The proposed reconstruction and construction staging should ensure that storm flows can still pass from the north basin to the south basin. If storm flows are restricted from passing, the northern basins have no other outlet and could potentially flood the adjacent neighborhoods to the east. Additionally, the area taken up by the staging could potentially reduce the available storage provided by the existing basins. L-9-11

Please provide more detailed plans and/or drawings to define the Temporary Construction Easement (TCE) for reconstructing North Long Beach Boulevard. The TCE plan should avoid the impacts stated above and/or provide analysis showing the flood capacity of the basin is maintained during storms. L-9-12

3.2. Public Works needs vehicular access to the Market Street Pump Station at all times via the Los Angeles River east side maintenance access road between Long Beach Boulevard and Del Amo Boulevard. The RDEIR/SDEIS should disclose how access will be maintained. L-9-13

If you have any questions regarding comments 2 and 3 above, please contact Mr. Ryan Butler at (626) 458-4331 or rbutler@dpw.lacounty.gov.

If you have any other questions or require additional information, please contact Mr. Toan Duong of Land Development Division at (626) 458-4910 or duong@dpw.lacounty.gov.

Very truly yours,

MARK PESTRELLA
Director of Public Works

ANTHONY E. NYIVIH
Assistant Deputy Director
Land Development Division

TD:la
I-710 Dominguez Gap Deforest Treatment Comments.docx

Enc.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 S. MAIN STREET, SUITE 100
LOS ANGELES, CA 90012
PHONE (213) 897-0703
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Making Conservation a California Way of Life.

July 19, 2017

Mark Pestrella, Director
Los Angeles County Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803

Dear Mr. Pestrella,

This letter is regarding the proposed impacts on the Dominguez Gap and DeForest Treatment Wetlands as a result of the Interstate 710 (I-710) Corridor Project (project). Under Section 4(f) of the United States Department of Transportation Act of 1966, these properties are considered a Section 4(f) resource. The project would require the permanent incorporation and temporary removal of land from the West Basin, and an expanded aerial easement and a temporary construction easement (TCE) on the DeForest Market Street Basin.

The project proposes to construct improvements from Ocean Boulevard in the City of Long Beach to State Route 60 (SR-60) in the City of Los Angeles. A Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was prepared for the project in 2012, which included the analysis of four build alternatives. Subsequent to public circulation of the Draft EIR/EIS, in response to new information and comments received from the public, a revised set of build alternatives were developed. The revised build alternatives under consideration include Alternative 5C (Modernize the I-710 Freeway) and Alternative 7 (Add Clean-Emission Freight Corridor [Truck-Only Lanes] Along I-710). A No Build Alternative is also under consideration.

As shown on **Figure 1**, Alternative 7 would require the removal of the entire West Basin (13.3 acres). However, only 5.4 acres along the western edge of the existing basin would be permanently incorporated into the transportation facility. The remaining 7.9 acres of the basin would be restored in the same location following construction. The temporary removal and restoration of this 7.9-acre area would constitute a temporary occupancy of this portion of the basin.

An additional 1.64 acres outside of the existing basin would also be added to the restored basin area, for a total basin area of 9.54 acres. Therefore, Alternative 7 would result in an overall net loss of 3.76 acres of the existing basin area, which would constitute a permanent use of this portion of the basin. Recreational trails around the basin would be restored following construction.

While the basin would be reduced in size from 13.3 acres to 9.54 acres, the new basin would serve a similar function as the existing basin, and recreational activities would still be available on the property. Temporary closures of the recreational trails around the basin would be required during construction. However, because the recreational trails around the basin would be restored following construction, the permanent use and temporary occupancy of a portion of the basin is not expected to adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

The build alternatives would require the construction of a wider bridge over the DeForest Market Street Basin at North Long Beach Boulevard, requiring an expanded bridge and aerial easement that is 0.95 acre wider than the existing bridge and easement. The proposed bridge and aerial easement would not be substantially wider than the existing bridge and easement, and would therefore not be expected to result in substantial visual impacts. The wider aerial easement would not interfere with any of the activities, features, or attributes of any recreational activities beneath the bridge, and would not result in any proximity impacts that would substantially impair the resource. Therefore, the wider aerial easement would not constitute a use under Section 4(f).

The build alternatives would require 0.95 acre of the DeForest Market Street Basin for a TCE during project construction, which would constitute a temporary occupancy of a portion of the basin. The TCE area would be required to construct the wider bridge over the basin at North Long Beach Boulevard, and to restore a maintenance access road to Del Amo Boulevard. The basin would be used for construction staging, materials storage, parking of construction equipment and worker vehicles, light grading, and other similar activities. The construction activities in the TCE area would not result in any permanent adverse physical impacts in that area, and the temporary occupancy would not interfere with the protected activities, features, or attributes of that portion of the basin on a temporary or permanent basis. The area used for the TCE would be returned to the Los Angeles County Department of Public Works (LACDPW) in a condition which as at least as good as that which existed prior to the project. Because impacts in the basin would be temporary, the temporary occupancy of a portion of the basin is not expected to adversely affect the activities, features, and attributes that qualify the basin for protection under Section 4(f).

With implementation of mitigation measures, the permanent use and temporary occupancy of a portion of the Dominguez Gap and DeForest Treatment Wetlands would not adversely affect the activities, features, and attributes of the 4(f) resource. Therefore, Caltrans intends to make a *de minimis* determination for the permanent use and temporary occupancy of a portion of the Dominguez Gap and DeForest Treatment Wetlands.

Caltrans is initiating consultation and coordination with your agency to determine use and ensure that all reasonable measures to minimize harm have been considered. In addition, because Caltrans intends to make a *de minimis* determination for the permanent use and temporary occupancy of a portion of the Dominguez Gap and DeForest Treatment Wetlands, Caltrans is seeking your written concurrence that the project would not adversely affect the activities, features, and attributes that qualify the properties for protection under Section 4(f).

The revised build alternatives, Alternative 5C and Alternative 7, have been evaluated in a joint Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). The RDEIR/SDEIS, which includes the Section 4(f) evaluation, will be circulated for a 60-day public review period. The United States Department of Transportation Act mandates a minimum of 45 days for receipt of comments regarding Section 4(f) impacts. If comments are not received from your agency by October 9, 2017, a lack of objection may be assumed and the process may proceed to a final evaluation.

The Section 4(f) Evaluation is found in Appendix B of the RDEIR/SDEIS and may be viewed on July 21, 2017 at the following website:

http://www.dot.ca.gov/d7/env-docs/

If you should have any questions or would like to arrange a meeting to discuss further, please contact Jason Roach of my staff at (213) 897-0357 or jason.roach@dot.ca.gov.

Sincerely,

RON KOSINSKI
Deputy District Director, Division of Environmental Planning
Caltrans District 7

enclosures

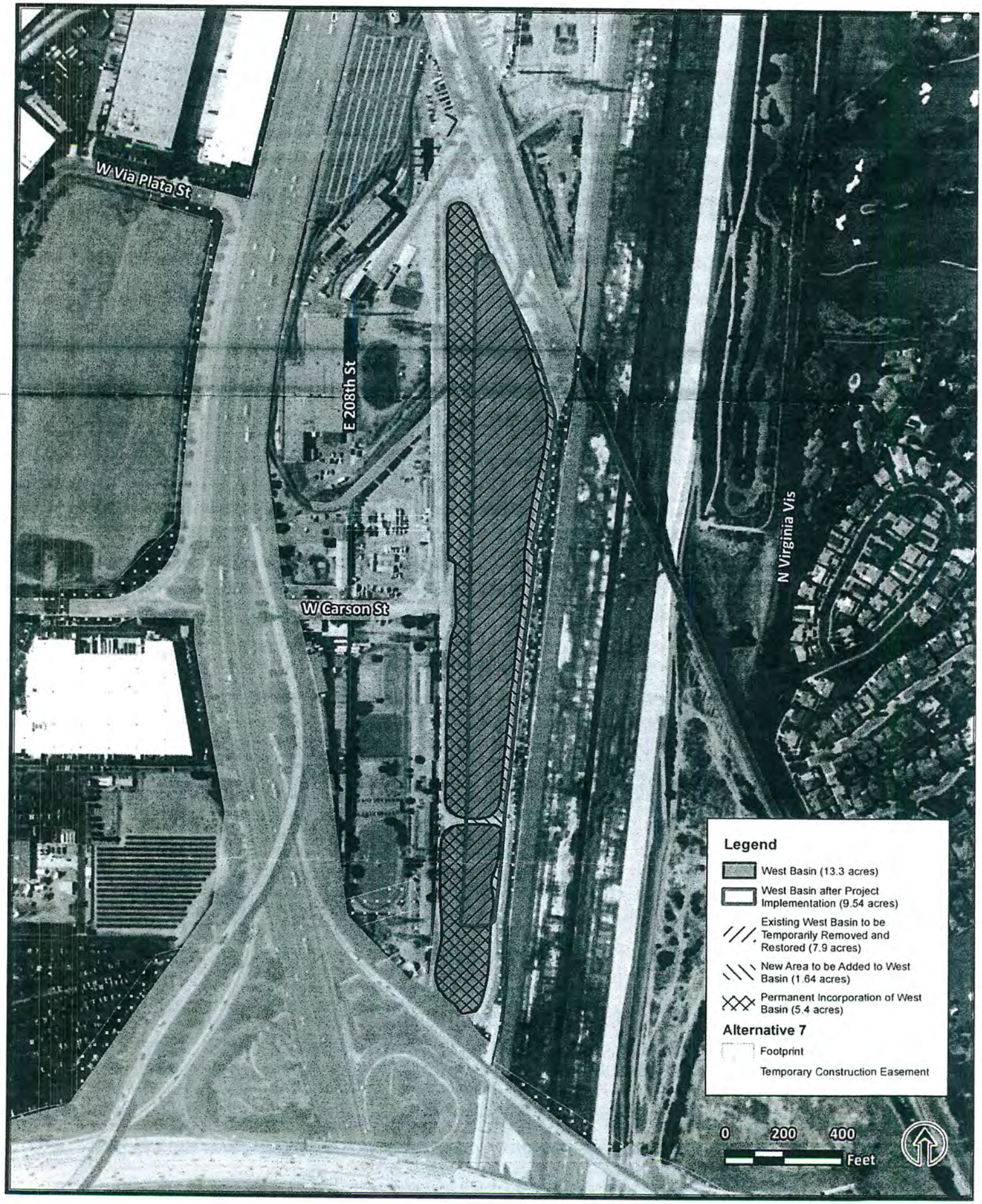


FIGURE 1. Impacts on the Dominguez Gap Wetlands West Basin (ALTERNATIVE 7)

L-9-1

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, an encroachment permit from the Los Angeles County Flood Control District is not necessary.

L-9-2

As discussed in Response to Comment L-9-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, encroachment permits from the Los Angeles County Flood Control District and County of Los Angeles are not necessary.

L-9-3

As discussed in Response to Comment L-9-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, , approval of encroachment permits and street construction permits, street closures and rerouting, freeway agreements, and associated improvements in the public right-of-way are not required from the County of Los Angeles.

L-9-4

LADPW's concern regarding the impacts of Alternative 7 to the Dominguez Gap West Basin is acknowledged. However, the No Build Alternative has been identified as the Preferred Alternative and will not result in impacts to the Dominguez Gap West Basin.

L-9-5

It is acknowledged that the southern basin belongs to the City of Long Beach and is not considered part of the Dominguez Gap West Basin.

L-9-6

Please refer to Response to Comment L-9-4 regarding impacts to the Dominguez Gap West Basin.

L-9-7

Please refer to Response to Comment L-9-4 regarding impacts to the Dominguez Gap West Basin.

L-9-8

Please refer to Response to Comment L-9-4 regarding impacts to the Dominguez Gap West Basin.

L-9-9

Please refer to Response to Comment L-9-4 regarding impacts to the Dominguez Gap West Basin.

L-9-10

Please refer to Response to Comment L-9-4 regarding impacts to the Dominguez Gap West Basin.

L-9-11

As discussed in Response to Comment L-9-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impact to the DeForest Market Street Basin as a result of construction or construction staging.

L-9-12

As discussed in Response to Comment L-9-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, more detailed plans to define the TCE for reconstructing North Long Beach Boulevard will not need to be provided to LADPW.

L-9-13

As discussed in Response to Comment L-9-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impact to vehicular access to the Market Street Pump Station via the Los Angeles River east side maintenance access road between Long Beach Boulevard and Del Amo Boulevard.

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

MARK PESTRELLA, Director

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ADDRESS ALL CORRESPONDENCE TO:
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October 5, 2017

IN REPLY PLEASE
REFER TO FILE: LD-4

Mr. Ronald Kosinski
Division of Environmental Planning
Department of Transportation, District 7
100 South Main Street, MS-16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

LOS ANGELES RIVER AND RIO HONDO (LARIO) TRAILS
INTERSTATE 710 CORRIDOR PROJECT

Thank you for reaching out to the Los Angeles County Department of Public Works (Public Works) regarding possible impacts to improvements within the County's jurisdiction. This is in response to your letter dated July 19, 2017 (copy enclosed), outlining the I-710 project impacts on LARIO trails.

The following Public Works comments are for your consideration:

1. General Permits:

   1.1. Work within the Los Angeles County Flood Control District (LACFCD) right of way or County road right of way may require a LACFCD or Public Works Road permit, respectively. L-10-1

   1.2. Storage of construction materials within LACFCD right of way or County road right of way is prohibited unless explicitly permitted. L-10-2

   1.3. Any proposed alternative routes or detours for the trails that are anticipated to be closed for the implementation of the proposed project may require a LACFCD or County road permit depending on the proposal. A preliminary site plan depicting the proposed alternative routes or detours shall be submitted to Public Works' Land Development Division, Encroachment Permits L-10-3

and Inspection Section, to assess if a permit and corresponding traffic/pedestrian/detour control plans will be required. If so, an approved traffic/pedestrian/detour control plan will be required prior to any permit issuance. Review and approval of traffic/pedestrian/detour control plans will also be coordinated through Land Development Division's Encroachment Permits and Inspection Section. Permit fees may be required. L-10-3

For County road permit information or if you have any questions, please contact Mr. Juan Sarda at (626) 458-4921 or jsarda@dpw.lacounty.gov.

2. LARIO Trails

2.1. During construction, all trails along LARIO Channel shall remain open to Public Works maintenance personnel and provide necessary vehicular access to the channels for flood control operation and maintenance. Please provide a detailed access plan to Public Works and include construction alternatives that provide access along these trails in the Recirculated Environmental Impact Report. L-10-4

If you have any questions regarding comment 2 above, please contact Mr. Ryan Butler at (626) 458-4331 or rbutler@dpw.lacounty.gov.

If you have any other questions or require additional information, please contact Mr. Toan Duong of Land Development Division at (626) 458-4910 or duong@dpw.lacounty.gov.

Very truly yours,

MARK PESTRELLA
Director of Public Works

ANTHONY E. NYIVIH
Assistant Deputy Director
Land Development Division

TD:la
I-710 LARIO Comments.docx

Enc.

DEPARTMENT OF TRANSPORTATION
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Making Conservation a California Way of Life.

July 19, 2017

Mark Pestrella, Director
Los Angeles County Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803

Dear Mr. Pestrella,

This letter is regarding the proposed impacts on the Los Angeles River and Rio Hondo Trails (LARIO Trail) as a result of the Interstate 710 (I-710) Corridor Project (project). Under Section 4(f) of the United States Department of Transportation Act of 1966, this park property is considered a Section 4(f) resource. The project would require temporary closures of portions of the trails during construction.

The project proposes to construct improvements from Ocean Boulevard in the City of Long Beach to State Route 60 (SR-60) in the City of Los Angeles. A Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was prepared for the project in 2012, which included the analysis of four build alternatives. Subsequent to public circulation of the Draft EIR/EIS, in response to new information and comments received from the public, a revised set of build alternatives were developed. The revised build alternatives under consideration include Alternative 5C (Modernize the I-710 Freeway) and Alternative 7 (Add Clean-Emission Freight Corridor [Truck-Only Lanes] Along I-710). A No Build Alternative is also under consideration.

As shown in **Figure 1**, the build alternatives would be constructed in proximity to the LARIO Trail, and would require short-term, temporary closures of trail crossings at I-710 and local streets during construction, which would constitute the temporary occupancy of a portion of the trail. There are numerous trail crossings in the study area, starting from East Ocean Boulevard in the south to Slauson Avenue in the north, and the temporary closures would occur along several local streets in between these southern and northern limits. These closures would be temporary and may range from a few days to several months in duration, depending on the project construction activities at a given trail crossing. Alternative/detour routes for the trails would be provided whenever a closure is needed.

The segments of the LARIO Trail at the affected crossings of I-710 and the local streets would be returned to their original condition and/or incorporate enhancements at the completion of construction, and would be reopened to public use. Because impacts on the trails would be temporary during construction, and measures

to minimize harm to the trail would be implemented, the temporary occupancy of a portion of the trail is not expected to adversely affect the activities, features, and attributes that qualify the trail for protection under Section 4(f).

With implementation of mitigation measures, the temporary occupancy of a portion of the LARIO Trail would not adversely affect the activities, features, and attributes of the 4(f) resource. Therefore, Caltrans intends to make a *de minimis* determination for the temporary occupancy of a portion of the LARIO Trail.

Caltrans is initiating consultation and coordination with your agency to determine use and ensure that all reasonable measures to minimize harm have been considered. In addition, because Caltrans intends to make a *de minimis* determination for the temporary occupancy of a portion of the LARIO Trail, Caltrans is seeking your written concurrence that the project would not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f).

The revised build alternatives, Alternative 5C and Alternative 7, have been evaluated in a joint Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). The RDEIR/SDEIS, which includes the Section 4(f) evaluation, will be circulated for a 60-day public review period. The United States Department of Transportation Act mandates a minimum of 45 days for receipt of comments regarding Section 4(f) impacts. If comments are not received from your agency by October 9, 2017, a lack of objection may be assumed and the process may proceed to a final evaluation.

The Section 4(f) Evaluation is found in Appendix B of the RDEIR/SDEIS and may be viewed on July 21, 2017 at the following website:

http://www.dot.ca.gov/d7/env-docs/

If you should have any questions or would like to arrange a meeting to discuss further, please contact Jason Roach of my staff at (213) 897-0357 or jason.roach@dot.ca.gov.

Sincerely,

RON KOSINSKI
Deputy District Director, Division of Environmental Planning
Caltrans District 7

enclosure

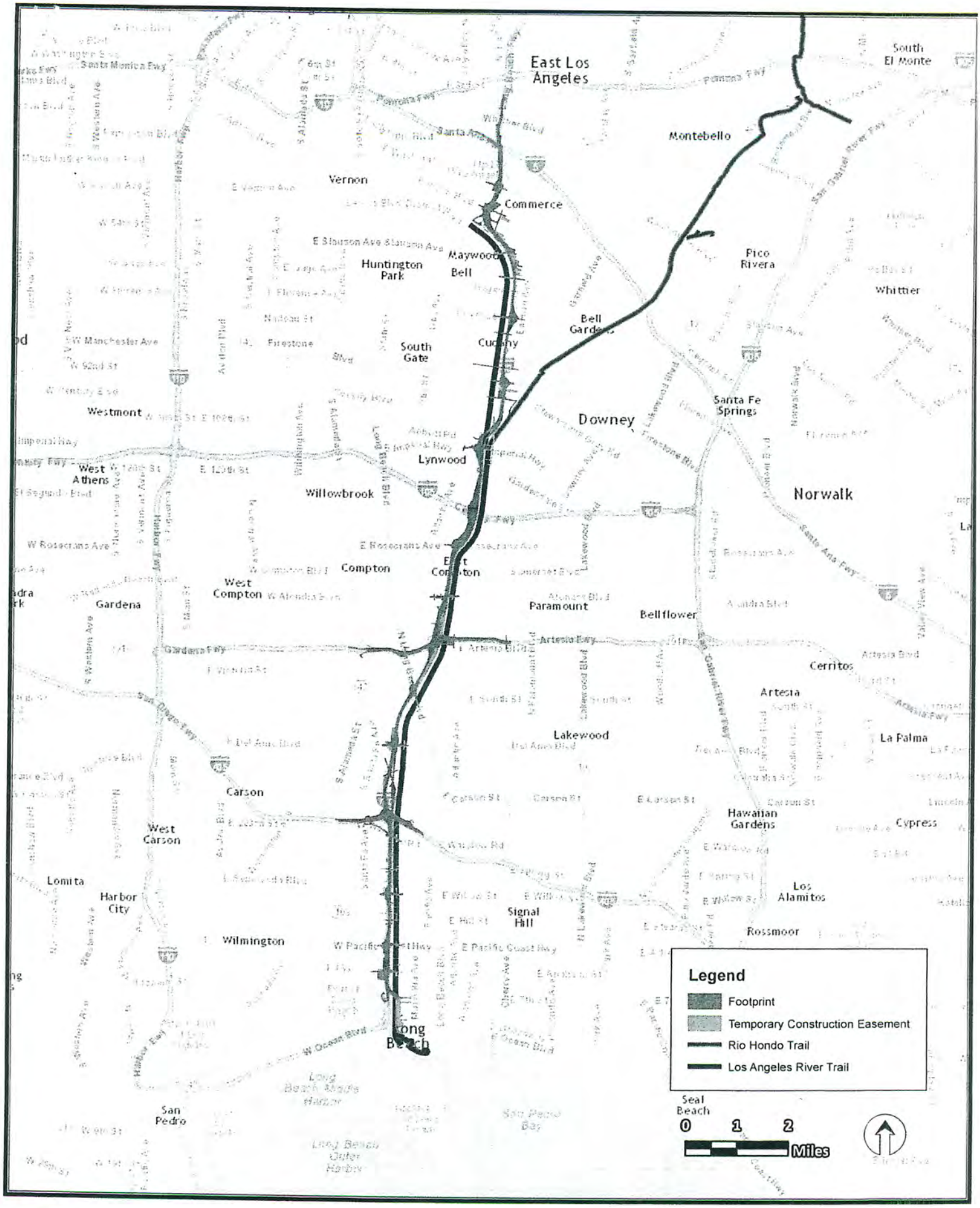


FIGURE 1. Temporary Closures of LARIO Trail
ALTERNATIVE 5C AND ALTERNATIVE 7

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L-10-1

Please refer to Response to Comment L-9-1 regarding the need for an encroachment permit from the Los Angeles County Flood Control District.

L-10-2

Please refer to Response to Comment L-9-2 regarding the need for encroachment permits from the Los Angeles County Flood Control District and County of Los Angeles.

L-10-3

Please refer to Response to Comment L-9-3 regarding the need for approval of encroachment permits and street construction permits, street closures and rerouting, freeway agreements, and associated improvements in the public right-of-way from the County of Los Angeles.

L-10-4

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, there will be no impacts to pedestrians and bicyclists on the Los Angeles River Trail.

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Brad Jensen

From: jane.hauptman@ladwp.com
Sent: Friday, October 06, 2017 3:43 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Jane Hauptman
Organization: City of Los Angeles Department of Water and Power
Phone: (213) 367 - 0968
Mailing Address: 111 N. Hope Street, Room 1044 City, State: Los Angeles
Zip: 90012
Comment/Question:

The Los Angeles Department of Water and Power (LADWP) appreciates the opportunity to review the Administrative Draft RDEIR/SDEIS for the I-710 Corridor Project. LADWP, the nation's largest municipal utility, provides power and water to more than four million residents and businesses in the City of Los Angeles. Our mission is to provide safe, reliable, affordable services in an environmentally sustainable manner.

The I-710 Corridor Project Administrative RDEIR/SDEIS and associated technical studies were received via email from LSA on behalf of the Metro Projects Director on March 29th, 2017. The following excerpts were provided for LADWP review:
Chapter 2, Alternatives
Chapter 3.1, Land Use
Chapter 3.4, Utilities and Emergency Services Chapter 3.6, Visual Chapter 3.12, Hazardous Waste Draft Relocation Impact Report North, Central, and South Utility Studies

The project extends along the I-710 corridor from East Los Angeles (60 Freeway) to the Port of Long Beach. Most of LADWP's Power System input has previously been incorporated into the above documents. Please see the following for additional items to address:

Chapter 2, Alternatives

1) Page 2-16, Table 2.3.1, Local Interchange….,

General Comment: There are a number of road widenings and various proposed crossings across the LA River that may impact LADWP. Plans will need to be submitted and reviewed on a case-by-case basis. L-11-1

Location, B-30. Firestone Blvd. (City of South Gate)
- Reconstruction of Firestone Blvd. interchange, including entrance and exit ramps.
- Reconstruction of Firestone Blvd., including the freeway overcrossing and bridge over the Los Angeles River, between Rayo Ave., and National Ave.

Comments: LADWP access to patrol roads and towers on the north and south side of Firestone Ave. shall remain accessible at all times during construction. Per Figure 2.3.6, B30-Firestone Blvd, LADWP's access north of Firestone Blvd. appears to be affected/blocked by proposed southbound off ramp. Towers H105 and H106 are not accessible from the far north due to a railroad trestle. This issue needs to be addressed. L-11-2

Location, B-31. Florence Ave. (City of Bell)
- Reconstruction of Florence Ave., including the freeway overcrossing and bridge over the Los Angeles River, between Walker Ave. and Eastern Ave.

Comment: LADWP access to patrol roads and towers on the north and south side of Florence Ave. shall remain accessible at all times during construction. L-11-3

Location, B-32. Clara St. (City of Bell Gardens and City of Cudahy)

- Reconstruction of the Clara St. overcrossing to accommodate wider freeway section.

Comment: LADWP access to patrol roads and towers on the north and south side of Clara St. shall remain accessible at all times during construction. L-11-4

Location, B-36. Atlantic/Bandini Blvds (City of Bell and City of Vernon).(City of Bell)

- Reconstruction and realignment of Atlantic Blvd. between the Los Angeles River and the 26th St. overcrossing.

Comment: LADWP access to patrol roads and towers on the north and south side of Atlantic Blvd. east of Los Angeles River shall remain accessible at all times during construction. L-11-5

2) Page 2-18,

- Reconstruction of LAJ Railway Laguna Line underpass at I-710, in Bell and Vernon to accommodate the wider freeway, and an approximate one mile long section of adjacent rail displaced be freeway widening.

Comment: It is unclear exactly where this underground crossing and one mile long section of adjacent rail displaced is located. The undercrossing south of Atlantic Blvd. and one mile of displaced tracks could affect LADWP. Clarification will be required. L-11-6

3) Page 2-53, Table 2.3.3, Local Interchange….,

No. 5C-6. Slauson Ave.

- Reconstruction of Slauson Ave. Atlantic Blvd. between the Los Angeles River and the 26th St. overcrossing.

Comment: LADWP access to patrol roads and towers on the north and south side of Slauson Ave. east of Los Angeles River shall remain accessible at all times during construction. On Figure 2.3-6, per Figure 5C6-Slauson Ave, LADWP access to the north and south of Slauson Ave appears to be affected/blocked by proposed reconstruction. This issue needs to be addressed. L-11-7

North Utility Study

North Segment, I-710 Final Draft Preliminary Strategies Report Volume 1 9-13-2016

4.3.2 Description of Major LADWP Facilities within Project Corridor

1) Page 30, Conflict N2102. A set of two circuit 230 kV 287 kV transmission lines…"

Comment:

There are two (2) 287 kV LADWP lines. See reference to Drawings below. Tables and other references to these lines should be updated throughout. L-11-8

4.4.2 Description of Major MWD Facilities within Project Corridor

1) Page 44, Conflict No. 3201, "….temporary construction easement would be needed from LADWP for construction access and activities within their existing transmission corridor."

Comments:

a) There is a conceptual approval by LADWP for a City of South Gate park at this location, known as RMC Urban Orchard Development (P-100774). L-11-9

b) The temporary construction easement request will require adequate time for review and comments. Drawings MWD construction and construction access will require LADWP review and approval. Formal access routes should be documented for future use. L-11-10

2) Page 44. The undergrounding of SCE lines via directional boring under LADWP transmission line right of ways should be subject to LADWP review and approval. L-11-11

North Segment, I-710 Final Draft Preliminary Strategies Report Volume 2 9-13-2016

1) Major Utility Crossing Matrix –Build Alternative 5C, 7 Conflict No. 2102

Comment:

There are two (2) 287 kV LADWP lines. See reference to Drawings below. Tables and other references to these lines should be updated throughout. L-11-12

2) Drawings U-06 and U-07

Comments

a) Towers 262-D1 easterly thru 261-D6, replace 230 kV with 287 kV. At Tower 262-D1, only a single 230 kV 287 kV shown is line. Same with Tower 261-D6. Between towers there are 2 lines shown. The presentation varies. SCE shows 1 line between towers. The “proposed red tower and lines” shown on U-06 and U-07 have not been approved by LADWP.

b) The northern overhead line (Laguna-Velasco 230 kV) between Tower M2 T3 and Tower H-103 is from SCE right of way to LADWP Tower H-103. The “proposed red tower and lines” shown on U-06 and U-07 have not been approved by LADWP. L-11-13

c) The proposed Southern Ave. loop crosses into LADWP right of way. L-11-14

Central Utility Study

Appendix F2-Utility Plans Alt7

1) Drawing U-39 Set

Comment:

The LADWP overhead transmission line is shown as: (10905) DWP 287 kV Pwr. This north-south transmission line is 230 kV L-11-15

2) Page 44, reference to directional boring

Comment:

The undergrounding of SCE lines via directional boring should be subject to LADWP review and approval. L-11-16

For any questions regarding the above comments, please contact Ms. Jane Hauptman of my staff at (213) 367-0968 or at jane.hauptman@ladwp.com.

*You received this message because Jane Hauptman submitted feedback regarding the I-710 Corridor Project.

Regards,

System Administrator

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L-11-1

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, it is not necessary for Caltrans and Metro to submit final design plans to the City of Los Angeles Department of Water and Power.

L-11-2

Should a build alternative be selected as the Preferred Alternative, with implementation of Measure US&E-2 in Section 3.4.3 of the RDEIR/SDEIS, potential conflicts of the build alternatives related to maintenance access would be resolved in consultation with the LADWP. However, as stated in Response to Comment L-11-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the patrol road on the north and south sides of Firestone Boulevard will not be blocked.

L-11-3

Please refer to Response to Comment L-11-2 regarding LADWP access to patrol roads and towers.

L-11-4

Please refer to Response to Comment L-11-2 regarding LADWP access to patrol roads and towers.

L-11-5

Please refer to Response to Comment L-11-2 regarding LADWP access to patrol roads and towers.

L-11-6

The reconstruction of the LAJ Railway Laguna Line and associated rail relocation under the Alternative 5C could be found on sheet 20 of 23 of Appendix O-1, Concept Plans, of the RDEIR/SDEIS. Please also refer to Response to Comment L-11-1 regarding the need to submit final design plans to the City of Los Angeles Department of Water and Power.

L-11-7

Please refer to Response to Comment L-11-2 regarding LADWP access to patrol roads and towers.

L-11-8

Section 3.4.2.2 of the RDEIR/SDEIS includes the correct information regarding Conflict N2102, stating that this conflict involves “a set of two circuit 287.5-kilovolt overhead lines (N2102) crossing I-710 just south of Firestone Ave…” Although the utility studies prepared in support of the RDEIR/SDEIS will not be updated at this time, as stated in Response to Comment L-11-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, it is not necessary for this information to be reconfirmed and updated in detailed design plans as the design progresses.

L-11-9

The South Gate Urban Orchard is listed as Project ID No. LD-90 in Table 3.25-1 in Section 3.25.3 of the RDEIR/SDEIS, and Caltrans and Metro have been coordinating with the City of South Gate regarding this proposed facility. As discussed in Section 3.4.2.2, an MWDSC 79-inch water line (N3201) located within the existing electrical transmission corridor, which crosses I-710 south of Firestone Avenue, within the City of South Gate, is located under the proposed Alternative 7 footprint. It would not be within direct physical conflict with the proposed improvements under Alternative 5C, and, should Alternative 5C be selected as the Preferred Alternative, would be protected in place .

L-11-10

Please refer to Response to Comment L-11-2 regarding LADWP access to patrol roads and towers.

L-11-11

As stated in Response to Comment L-11-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, it is no longer necessary for Caltrans and Metro to coordinate with LADWP regarding any undergrounding of SCE lines via directional boring under LADWP transmission line right-of-way.

L-11-12

Please refer to Response to Comment L-11-8 regarding conflicts with major utilities.

L-11-13

Please refer to Response to Comment L-11-8 regarding conflicts with major utilities.

L-11-14

Please refer to Response to Comment L-11-8 regarding conflicts with major utilities.

L-11-15

Please refer to Response to Comment L-11-8 regarding conflicts with major utilities.

L-11-16

Please refer to Response to Comment L-11-11 regarding the need for LADWP review and approval.

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City of Long Beach
Working Together to Serve

Memorandum

L-12

Date: October 9, 2017

To: Ron Kosinski, Deputy Director, Environmental Planning Division, Caltrans District 7

From: Marie Knight, Director, Department of Parks, Recreation and Marine

Subject: Comments on Proposed Impacts on Cesar E. Chavez Park, Drake/Chavez Greenbelt, Coolidge Park, Los Cerritos Park, Cressa Park and Wrigley Greenbelt from Interstate 710 Corridor Project

On July 27, the City of Long Beach received correspondence from Caltrans, who is currently evaluating alternatives for the Interstate 710 Corridor Project (Project). In this letter, Caltrans identified the Cesar E. Chavez Park and the Drake/Chavez Greenbelt as Section 4(f) resources that are managed by the Department of Parks, Recreation and Marine (PRM) that would be permanently impacted by the proposed 710 Realignment Project alternatives. There are significant land use, operational, and programmatic impacts. The City's comments on these impacts are outlined below.

Overall Comments

1. In 2002, the Long Beach City Council adopted Ordinance No. C-7826, which is incorporated into the City Municipal Code Section 21.35.205, requiring: "*Any conversion of park land must be replaced on amenity for amenity basis on at least a two to one (2:1) ratio. One (1) acre of replacement land shall be located in the park service area where the land was converted and an additional acre of replacement land shall be located in a park service area needing park land as determined by the recreation commission."* This would require a 2:1 replacement of publicly-accessible parkland for the acres lost, with at least 50 percent to be located in the surrounding park service area. This applies to all permanent park impacts resulting from the I710 Project. L-12-1
2. Removal and addition of park area shall require a design of the entire consistent with adopted City plans and codes, with input from the community, to determine the site layout, park amenities, buffer between the park and freeway, parking, ADA access, fencing, signage, neighborhood connection, etc. L-12-2
3. Many affected park parcels were acquired or improved using County, State and/or Federal grant funds. These grants carry requirements for a duration (20 years to perpetuity) that improvements or property are available to the community. Replacement of these amenities to the satisfaction of the City and grant agencies shall be required, should affected property or amenities become permanently removed. The proposed realignment impacts these properties. Any resulting replacement or other financial burden required by the grant agencies for the taking of park property for freeway use shall be mitigated at no cost or impact to the City. L-12-3
4. All permanent impacts shall require approval from the Long Beach Parks and Recreation Commission. Approval must be secured prior to final design. L-12-4

5. A City maintenance fund shall be established with funding deposited by Caltrans prior to the completion of construction. The account shall be available to the City Department of Parks, Recreation and Marine to address unforeseen maintenance issues at each affected park site due to temporary or permanent construction impacts that become apparent after construction is complete. L-12-5

Cesar E. Chavez Park Comments

1. Permanent Impacts
   1.1. The proposed realignment would move the freeway so that it is entirely west of Chavez Park. The Department is supportive of the proposed realignment, which would result in neighborhood access to existing acres of parkland not currently accessible to the public. However, in order to achieve the realignment, the freeway would require the permanent reincorporation of 2.90 acres of land from Chavez Park. In this instance, the City's municipal code would apply. In 2002, the City of Long Beach City Council adopted Ordinance No. C-7826, which is incorporated into the City Municipal Code Section 21.35.205, requires: 'Any conversion of park land must be replaced on amenity for amenity basis on at least a two to one (2:1) ratio. One (1) acre of replacement land shall be located in the park service area where the land was converted and an additional acre of replacement land shall be located in a park service area needing park land as determined by the recreation commission.' This would require a 2:1 replacement of publicly-accessible parkland for the acres lost, with at least half in the surrounding park service area of Chavez Park. L-12-6
   1.2. The proposed realignment would also impact planned linkages between Drake Park and Cesar Chavez Park. These linkage areas are currently impacted by overhead Caltrans structures. The realignment would change the locations of the structures, created impaired visibility into areas under the bridge. L-12-7
   1.3. The proposed realignment would remove park area where it exists and add park area where today there is none. This shall require a design of the new park consistent with adopted City plans and codes, with input from the community, to determine the layout of park amenities, the buffer between the park and the freeway, parking, ADA access, fencing, signage, connection to the LA River bike trail, etc. The proposed realignment also renders the existing irrigation system (including the existing irrigation lines, valves and controls, and point of connection) unusable. The irrigation system shall be replaced in its entirety, including irrigation controls that connect to the City's central irrigation system, per the required standards to the satisfaction of the Director of the Department of Parks, Recreation and Marine. L-12-8
   1.4. Many of the park parcels were acquired or improved using County, State and/or Federal grant funds. These grants carry requirements including a designated duration (20 years to perpetuity) that improvements or property are available to the community. Replacement of these amenities to the satisfaction of the City and grant agencies shall be required, should L-12-9

affected property or amenities become permanently removed. The proposed realignment impacts these properties. Any required replacement or other financial burden required by the grant agencies for the taking of park property for freeway use shall be mitigated by Caltrans, at no cost to the City. L-12-9

1.5. The realignment proposes to eliminate basketball courts that serve Cesar E. Chavez Elementary School. Any elimination of these courts shall require the replacement of these courts adjacent to the school they serve. L-12-10

2. Temporary Impacts
   2.1. A construction staging and contractor parking and access plan shall be provided and approved prior to the start of construction at the satisfaction of the Director of Parks, Recreation and Marine. L-12-11
   2.2. At no time during construction shall construction activities impact park programs, services, or budgeted revenue. If budgeted revenue is lost as a result of construction activities, it shall be provided for by Caltrans. L-12-12
   2.3. A construction equipment access plan shall be reviewed and approved by the Department of Parks, Recreation and Marine prior to the start of construction activities. Damage to underground irrigation infrastructure shall be mitigated by placement of plywood in all areas of heavy equipment ingress/egress. L-12-13
   2.4. All areas of construction shall be appropriately secured. The contractor is responsible for monitoring the site, and shall be responsible for any damage to the site caused by vandalism, and shall be responsible for any homeless clean-up and removal costs as a result of homeless activity at the site. L-12-14
   2.5. The contractor/developer shall notify the Department of Parks, Recreation and Marine 72 hours prior to the start of work. Notification shall be directed to the Superintendent of Park Maintenance. L-12-15
   2.6. If Department staff are called to the site to respond to a site issue caused by the contractor (i.e. hitting a main line, marking irrigation infrastructure, causing a significant water leak, damaged irrigation infrastructure, etc.), the contractor shall reimburse the Department for all staff time spent addressing the site issues. L-12-16
   2.7. At the conclusion of construction, the site shall be returned to the same condition in which it was found. This shall include, but is not limited to, replacement of plant material, removal of weeds, removal of trash, regrading and compacting sites. L-12-17
   2.8. Temporary basketball courts to serve Cesar E. Chavez Elementary School shall be provided adjacent to the school during construction. L-12-18
   2.9. Irrigation shall be required during construction to ensure the health of all landscaping. A temporary water meter shall be installed and all associated costs shall be paid by the contractor. L-12-19
   2.10. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply. L-12-20

Drake/Chavez Greenbelt Comments

1. Permanent Impacts
   1.1. Certain areas shown on the map as remaining parkland are not accurately reflected because 1) it is not parkland; 2) it is not functional as parkland (is the location of a building); or 3) it does not belong to the City and likely serves another purpose for the County. There are also open space areas not listed as parkland that are affected permanently that shall remain. The map shall be revised to reflect accurate acres of remaining parkland. L-12-21
   1.2. The 3.77 acres depicted as parkland permanently used by Alternative 5C/7 is the location of a grant-required wetland. A previous State acquisition grant requires the City to provide for 4 acres of wetland in this area and thus, is not available for development for another purpose. This is also the location of the Caltrans-funded Long Beach MUST project, which also includes grant funding and associated requirements from the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy. L-12-22

2. Temporary Impacts
   2.1. A construction staging and contractor parking and access plan shall be provided and approved prior to the start of construction at the satisfaction of the Director of Parks, Recreation and Marine. L-12-23
   2.2. At no time during construction shall construction activities impact park programs, services, or budgeted revenue. If budgeted revenue is lost as a result of construction activities, it shall be provided for by Caltrans. L-12-24
   2.3. A construction equipment access plan shall be reviewed and approved by the Department of Parks, Recreation and Marine. Damage to underground irrigation infrastructure shall be mitigated by placement of plywood in all areas of heavy equipment ingress/egress. L-12-25
   2.4. All areas of construction shall be appropriately secured. The contractor is responsible for monitoring the site, and shall be responsible for any damage to the site caused by vandalism, and shall be responsible for any homeless clean-up and removal costs as a result of homeless activity at the site. L-12-26
   2.5. The contractor/developer shall notify the Department of Parks, Recreation and Marine 72 hours prior to the start of work. Notification shall be directed to the Superintendent of Park Maintenance. L-12-27
   2.6. If Department staff are called to the site to respond to a site issue caused by the contractor (i.e. hitting a main line, marking irrigation infrastructure, causing a significant water leak, damaged irrigation infrastructure, etc.), the contractor shall reimburse the Department for all staff time spent addressing the site issues. L-12-28
   2.7. At the conclusion of construction, the site shall be returned to the same condition in which it was found. This shall include, but is not limited to, replacement of plant material, removal of weeds, removal of trash, regrading and compacting sites. L-12-29

2.8. Irrigation shall be required during construction to ensure the health of all landscaping. A temporary water meter shall be installed and all associated costs shall be paid by the contractor. L-12-30

2.9. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply. L-12-31

Coolidge Park Comments

1. Temporary Impacts
   1.1. Coolidge Park is the only park available to the community in north Long Beach, east of the I710 and shall remain open and operational during construction and shall not have a temporary easement placed on it. L-12-32
   1.2. The eastern edge of the park shall be protected from any construction impacts and have adequate fencing to separate the park activities from construction activities. L-12-33
   1.3. The park shall not be available for access to the freeway for construction activities. Any necessary access shall be located elsewhere, away from the park. L-12-34
   1.4. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply. L-12-35

Los Cerritos Park Comments

1. Temporary Impacts
   1.1. Los Cerritos Park shall remain open and operational during construction and shall not have a temporary easement placed on it. L-12-36
   1.2. The western edge of the park shall be protected from any construction impacts and have adequate fencing to separate the park activities from construction activities. L-12-37
   1.3. The park shall not be available for access to the freeway for construction activities. Any necessary access shall be located elsewhere, away from the park. L-12-38
   1.4. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply. L-12-39

Cressa Park Comments

1. Temporary Impacts
   1.1. There are no issues with the proposed temporary easement at the southern end of Cressa Park. L-12-40
   1.2. The contractor/developer shall notify the Department of Parks, Recreation and Marine 72 hours prior to the start of work. Notification shall be directed to the Superintendent of Park Maintenance. L-12-41
   1.3. If Department staff are called to the site to respond to a site issue caused by the contractor (i.e. hitting a main line, marking irrigation infrastructure, causing a significant water leak, damaged irrigation infrastructure, etc.), the contractor shall reimburse the Department for all staff time spent addressing the site issues. L-12-42

1.4. At the conclusion of construction, the site shall be returned to the same condition in which it was found. This shall include, but is not limited to, replacement of plant material, removal of weeds, removal of trash, regrading and compacting sites. L-12-43

1.5. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply. L-12-44

Wrigley Greenbelt Comments

1. Temporary Impacts
   1.1. The northern and southern areas in Wrigley Greenbelt depicted as parkland temporarily used by Alternative 5C/7 is the location of a grant-funded greenbelt project to begin construction in 2018. Temporary impacts, trail connections and displacement of these amenities shall not be allowed. Any required replacement or other financial burden required by the grant agencies for the taking of park property for freeway use shall be mitigated by Caltrans, at no cost to the City. L-12-45

   1.2. The contractor/ shall notify the Department of Parks, Recreation and Marine 72 hours prior to the start of work. Notification shall be directed to the Superintendent of Park Maintenance. L-12-46

   1.3. If Department staff are called to the site to respond to a site issue caused by the contractor (i.e. hitting a main line, marking irrigation infrastructure, causing a significant water leak, damaged irrigation infrastructure, etc.), the contractor shall reimburse the Department for all staff time spent addressing the site issues. L-12-47

   1.4. At the conclusion of construction, the site shall be returned to the same condition in which it was found. This shall include, but is not limited to, replacement of plant material, removal of weeds, removal of trash, regrading and compacting sites. L-12-48

   1.5. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply. L-12-49

Long Beach Parks Standard Conditions of Approval/Park Development Requirements

1. Standard Conditions of Approval: This is not an exhaustive list of all conditions, but a sampling of those that will likely apply in all cases to each park property. The City of Long Beach reserves the right to apply all park standard conditions and park development requirements during design and plan check.
   1.1. All permanent impacts shall require approval from the Long Beach Parks and Recreation Commission. Approval must be secured prior to final design.

   1.2. The Department of Parks, Recreation and Marine shall be routed design and construction plans for plan check. Plans, at each stage of plan check, shall be routed to the Department of Parks, Recreation and Marine. Address plans to Park Development Officer, 2760 Studebaker Road, Long Beach, CA 90815. L-12-50

1.3. Any park or beach improvements found to be damaged as a result of construction activities related to the project shall be replaced to the satisfaction of the Director of Parks, Recreation and Marine.

1.4. Prior to certificate of completion/occupancy, the following shall be formally submitted to the Department of Parks, Recreation and Marine:

1.4.1. Final as-built plans (two printed copies, one electronic PDF, and one cad file).

1.4.2. Property documentation, including but not limited to, site survey, recorded deed, final map, soils report (one electronic PDF).

1.4.3. Operations and Maintenance Manual and warranty information for all site features (one printed and one electronic PDF).

1.5. Address all documents to Park Development Officer, 2760 Studebaker Road, Long Beach, CA 90815.

L-12-50

1.6. Prior to tree planting, and installation landscaping and irrigation system, the developer shall contact the City Park Landscape Maintenance Superintendent in the Department of Parks, Recreation and Marine, at (562) 570-4879. Department staff will inspect and accept all tree and plant specimens placed prior to planting.

L-12-51

2. Landscaping & Irrigation

2.1. The irrigation control system shall be designed to City standard and connected to the City's central irrigation control system, and use Department standard irrigation products, values and pumps.

L-12-52

2.2. The landscaping design sheet shall show specific location of each plant and coverage area, and planting distance from adjacent plants.

2.3. The irrigation design sheet shall show, in addition to main lines, specific location of each lateral/drip line, valves, wires back to controllers, drip systems, headers, etc.

L-12-53

2.4. The plant palette shall be subject to Director of Parks, Recreation and Marine's review and approval prior to the issuance of a building permit.

L-12-54

2.5. Prior to tree planting, and installation landscaping and irrigation system, the developer shall contact the City Park Landscape Maintenance Superintendent in the Department of Parks, Recreation and Marine, at (562) 570-4879. Department staff will inspect and accept all tree and plant specimens placed prior to planting.

L-12-55

2.6. Prior to final inspection, the developer shall contact the City Park Landscape Maintenance Superintendent in the Department of Parks, Recreation and Marine, at (562) 570-4879, following all tree planting, landscaping, and irrigation system installation. Department staff will perform a final inspection, identify any items for a contractor punch list and will accept all tree planting, landscaping, and irrigation system placed in the park.

L-12-56

2.7. Irrigation lines shall be located in advance of accessing the area.

L-12-57

2.8. Selected trees shall not drop fruit or be susceptible to disease. All trees shall comply with State and local water restrictions and water efficiency codes.

L-12-58

2.9. All trees shall have bubblers rings and shall be mulched to diameter of 3-ft from the trunk. Mulch shall not be in contact with the tree trunk or root crown. All dead, diseased and dying trees shall be removed. L-12-59

2.10. All landscape-related piping under concrete shall be sleeved. Sand bedding of the mainline shall be installed. L-12-60

Attachments:
1. Chavez Park Caltrans Letter
2. Coolidge, Los Cerritos, and Cressa Parks Caltrans Letter

CC: Jason Roach (Jason.Roach@dot.ca.gov)

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DEPARTMENT OF TRANSPORTATION
DISTRICT 7
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Making Conservation a California Way of Life.

July 19, 2017

Marie Knight
City of Long Beach Department of Parks, Recreation and Marine
2760 Studebaker Road
Long Beach, CA 90815

Dear Ms. Knight,

This letter is regarding the proposed impacts on Cesar E. Chavez Park and the Drake/Chavez Greenbelt as a result of the Interstate 710 (I-710) Corridor Project (project). Under Section 4(f) of the United States Department of Transportation Act of 1966, these park properties are considered Section 4(f) resources. The project would require the permanent incorporation of land and temporary construction easements (TCE) in both of these park properties, as well as removal and replacement of the basketball courts and temporary closures in Cesar E. Chavez Park.

The project proposes to construct improvements from Ocean Boulevard in the City of Long Beach to State Route 60 (SR-60) in the City of Los Angeles. A Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was prepared for the project in 2012, which included the analysis of four build alternatives. Subsequent to public circulation of the Draft EIR/EIS, in response to new information and comments received from the public, a revised set of build alternatives were developed. The revised build alternatives under consideration include Alternative 5C (Modernize the I-710 Freeway) and Alternative 7 (Add Clean-Emission Freight Corridor [Truck-Only Lanes] Along I-710). A No Build Alternative is also under consideration.

As shown in **Figure 1**, the build alternatives would include relocating the existing Shoreline Drive to the west side of the park, requiring the permanent incorporation of 2.90 acres of land from Cesar E. Chavez Park, which would constitute a permanent use of a portion of the park. However, by relocating the existing Shoreline Drive that goes through the park, the build alternatives would result in a net increase of 2.99 acres in available park land, creating a contiguous and more accessible park area. The build alternatives would also require removal of the basketball courts west of Cesar Chavez Elementary School during construction of the project, which would constitute a permanent use of a portion of the park. However, the basketball courts would be replaced following construction. Because the project would result in a net benefit to the park by adding 2.99 acres of park land, and measures to minimize harm to the park would be implemented, the permanent use of a portion of the park is not expected to adversely affect the activities, features, and attributes that qualify this park for protection under Section 4(f).

As shown in **Figure 2**, the build alternatives would require permanent incorporation of a portion (approximately 3.77 acres) of the planned linkage between Drake Park and Cesar E. Chavez Park, which would constitute a permanent use of a portion of the greenbelt. While this portion of the Drake/Chavez Greenbelt would be incorporated into the project, the majority of land in the Draft Master Plan for the Drake/Chavez Greenbelt Project is outside of the limits of the project (approximately 46.23 acres would remain after project implementation). Furthermore, the proposed structures on the property are aerial structures that would not affect the continuity of the planned linkage. Therefore, the permanent use of a portion of the greenbelt is not expected to adversely affect the activities, features, and attributes that qualify the greenbelt for protection under Section 4(f).

As shown in **Figure 3**, a TCE of approximately 21.9 acres in Cesar E. Chavez Park would be required during construction of the build alternatives, which would constitute a temporary occupancy of a portion of the park (only 19 acres would be exclusively required for the TCE because 2.90 acres of the TCE area would be permanently incorporated). In addition, portions of Cesar E. Chavez Park may be temporarily closed to public access to protect the safety of park users and project construction workers, which would constitute a temporary occupancy of a portion of the park. A TCE of approximately 3.26 acres on the Drake/Chavez Greenbelt would also be required during construction of the build alternatives, which would constitute the temporary occupancy of a portion of the park.

The TCE areas in the park and greenbelt would be used for construction staging, materials storage, parking of construction equipment and worker vehicles, and other similar activities. The TCE area in Cesar E. Chavez Park includes a detour road of 0.41 acre, which would be graded and paved to allow temporary access during construction of realigned Broadway.

The temporary occupancy of approximately 19 acres in the southern portion of Cesar E. Chavez Park for a TCE during construction of the build alternatives would likely result in the removal of all or nearly all of the existing vegetation on that parcel, including mature trees and shrubs, and grass. Caltrans policy and practice are to return all areas disturbed temporarily during construction, including areas used for TCEs, to a condition as good as or better than prior to the temporary disturbance of those areas. Therefore, the construction activities in the TCE would not result in any permanent adverse physical impacts in that area, and the temporary occupancy would not interfere with the protected activities, features, or attributes of that portion of the park on a temporary or permanent basis.

With implementation of mitigation measures, the permanent use and temporary occupancy of a portion of Cesar E. Chavez Park and the Drake/Chavez Greenbelt would not adversely affect the activities, features, and attributes of the 4(f) resources. Therefore, Caltrans intends to make a *de minimis* determination for the permanent use and temporary occupancy of a portion of Cesar E. Chavez Park and the Drake/Chavez Greenbelt.

Caltrans is initiating consultation and coordination with your agency to determine use and ensure that all reasonable measures to minimize harm have been considered. In addition, because Caltrans intends to make a *de minimis* determination for the permanent use and temporary occupancy of a portion of Cesar E. Chavez Park and the Drake/Chavez Greenbelt, Caltrans is seeking your written concurrence that the project would

not adversely affect the activities, features, and attributes that qualify the properties for protection under Section 4(f).

The revised build alternatives, Alternative 5C and Alternative 7, have been evaluated in a joint Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). The RDEIR/SDEIS, which includes the Section 4(f) evaluation, will be circulated for a 60-day public review period. The United States Department of Transportation Act mandates a minimum of 45 days for receipt of comments regarding Section 4(f) impacts. If comments are not received from your agency by October 9, 2017, a lack of objection may be assumed and the process may proceed to a final evaluation. A copy of the letter notifying the Long Beach Unified School District of this coordination, as it is relevant to the Joint Use Agreement at Cesar E. Chavez Park, has been enclosed here.

The Section 4(f) Evaluation is found in Appendix B of the RDEIR/SDEIS and may be viewed on July 21, 2017 at the following website:

http://www.dot.ca.gov/d7/env-docs/

If you should have any questions or would like to arrange a meeting to discuss further, please contact Jason Roach of my staff at (213) 897-0357 or jason.roach@dot.ca.gov.

Sincerely,

RON KOSINSKI
Deputy District Director, Division of Environmental Planning
Caltrans District 7

enclosures



FIGURE 1. PERMANENT USE OF LAND AT CESAR E. CHAVEZ PARK ALTERNATIVE 5C AND ALTERNATIVE 7

Metro



Metro

FIGURE 2. Permanent Use of Land at Drake/Chavez Greenbelt
ALTERNATIVE 5C AND ALTERNATIVE 7
I-710 Corridor Project



FIGURE 3. TEMPORARY USE OF LAND AT CESAR E. CHAVEZ PARK ALTERNATIVE 5C AND ALTERNATIVE 7

Metro

I-710 Corridor Project

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Making Conservation a California Way of Life.

July 19, 2017

Marie Knight
City of Long Beach Department of Parks, Recreation and Marine
2760 Studebaker Road
Long Beach, CA 90815

Dear Ms. Knight,

This letter is regarding the proposed impacts on Coolidge Park, Los Cerritos Park, Cressa Park, and Wrigley Greenbelt as a result of the Interstate 710 (I-710) Corridor Project (project). Under Section 4(f) of the United States Department of Transportation Act of 1966, these park properties are considered Section 4(f) resources. The project would require temporary construction easements (TCE) on each of these park properties.

The project proposes to construct improvements from Ocean Boulevard in the City of Long Beach to State Route 60 (SR-60) in the City of Los Angeles. A Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was prepared for the project in 2012, which included the analysis of four build alternatives. Subsequent to public circulation of the Draft EIR/EIS, in response to new information and comments received from the public, a revised set of build alternatives were developed. The revised build alternatives under consideration include Alternative 5C (Modernize the I-710 Freeway) and Alternative 7 (Add Clean-Emission Freight Corridor [Truck-Only Lanes] Along I-710). A No Build Alternative is also under consideration.

As shown in **Figure 1**, the build alternatives would require the following TCEs, which would be considered a temporary occupancy of a portion of the parks:

- Approximately 0.60 acre along the eastern edge of Coolidge Park;
- Approximately 0.06 acre along the western edge of the southern portion of Los Cerritos Park; and
- Approximately 0.05 acre in the southern portion of Cressa Park.

In addition, as shown in **Figure 2**, Alternative 5C would require a TCE of 1.23 acre on the Wrigley Greenbelt at West Wardlow Road, 29th Street, and 27th Street during construction; and Alternative 7 would require a TCE on 0.75 acre in these same locations during construction, which would be considered a temporary occupancy of a portion of the greenbelt. Alternative 5C also includes adding a graded path within the greenbelt at Spring Street to connect to a pedestrian/bicycle overcrossing. Under Alternative 5C, the pedestrian/bicycle

connection would be an enhancement to the Wrigley Greenbelt. In addition, because the graded path would be used for recreation purposes and not transportation purposes, no portion of the greenbelt would be permanently incorporated into the transportation facility.

For the purposes of Section 4(f), these types of temporary occupancies would not constitute a use if five conditions listed in 23 Code of Federal Regulation (CFR) 774.13(d) would be met. Those conditions would be met for Coolidge Park, Los Cerritos Park, Cressa Park, and the Wrigley Greenbelt, as follows:

- The duration of construction in the area of the TCEs is temporary (a maximum of two years) and would be less than the total time needed to construct the entire project (approximately 10 years or more). There would be no change in the ownership of the land in the portion of the properties used as TCEs during construction of the build alternatives.
- The scope of work in the portions of the properties used as the TCEs would be minor. The properties would be used for construction staging, materials storage, parking of construction equipment and worker vehicles, and other similar activities. No grading or other substantial construction activities would take place in the portions of the properties to be used for TCEs.
- The construction activities in the TCEs would not result in any permanent adverse physical impacts in that area and would not interfere with the protected activities, features, or attributes of that portion of the properties on a temporary or permanent basis. Recreational uses in the remaining portions of the properties outside the TCE areas would continue to be available during construction. Detours would be provided around the TCE area in the Wrigley Greenbelt to ensure that connectivity along the greenbelt is not substantially affected. Therefore, the protected activities, features, or attributes of the properties would not be substantially affected during construction.
- The areas used for TCEs would be returned to the Long Beach Department of Parks, Recreation, and Marine in condition as good as or better than prior to the use of that area for a TCE.
- There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

The five conditions listed in 23 CFR 774.13(d) would be met for the proposed TCEs for each of these park properties; therefore, these temporary occupancies would not constitute a use.

Caltrans is initiating consultation and coordination with your agency to determine use and ensure that all reasonable measures to minimize harm have been considered. In addition, because Caltrans intends to apply the temporary occupancy exception, Caltrans is seeking your written concurrence that the exception for temporary occupancies in 23 CFR 774.13(d) is applicable to the parks.

The revised build alternatives, Alternative 5C and Alternative 7, have been evaluated in a joint Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). The RDEIR/SDEIS, which includes the Section 4(f) evaluation, will be circulated for a 60-day public review period. The United States Department of Transportation Act mandates a minimum of 45 days for receipt of

comments regarding Section 4(f) impacts. If comments are not received from your agency by October 9, 2017, a lack of objection may be assumed and the process may proceed to a final evaluation.

The Section 4(f) Evaluation is found in Appendix B of the RDEIR/SDEIS and may be viewed on July 21, 2017 at the following website:

http://www.dot.ca.gov/d7/env-docs/

If you should have any questions or would like to arrange a meeting to discuss further, please contact Jason Roach of my staff at (213) 897-0357 or jason.roach@dot.ca.gov.

Sincerely,

RON KOSINSKI

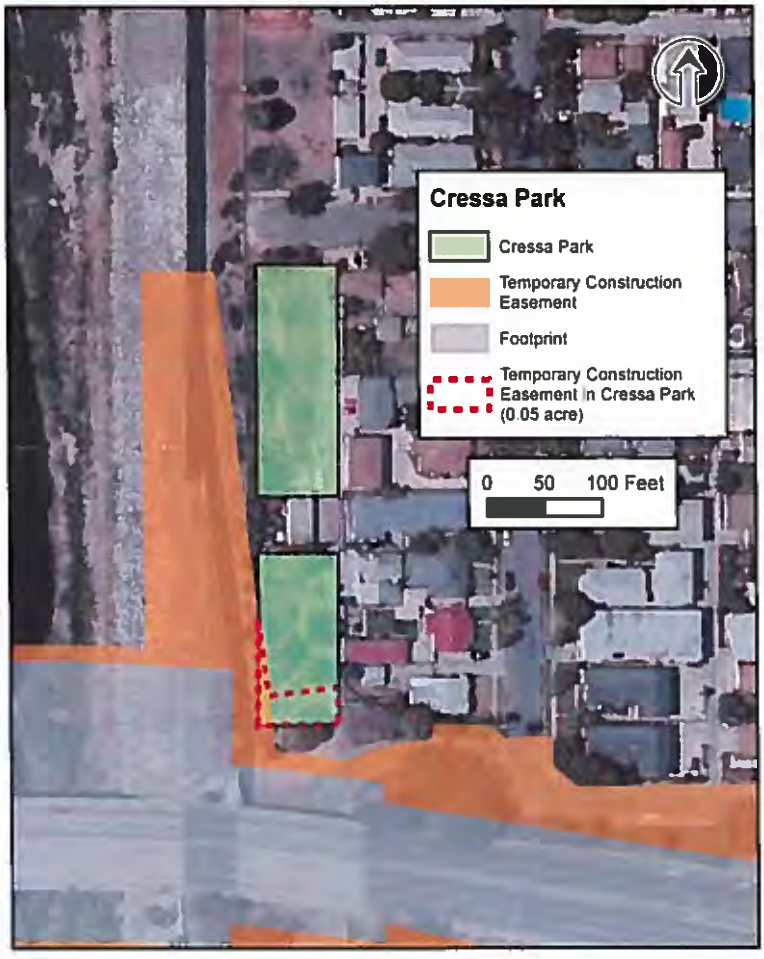
Deputy District Director, Division of Environmental Planning

Caltrans District 7

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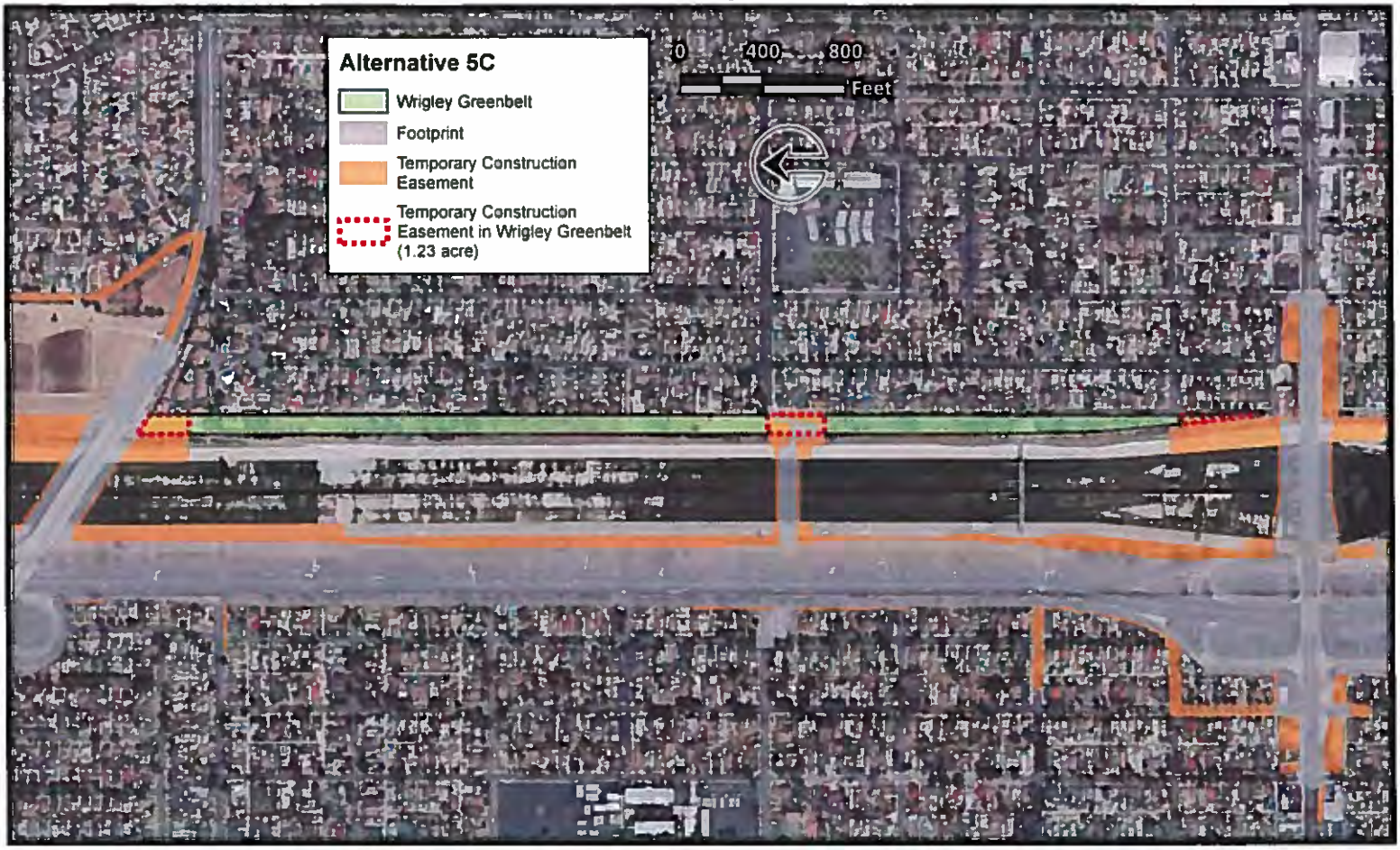


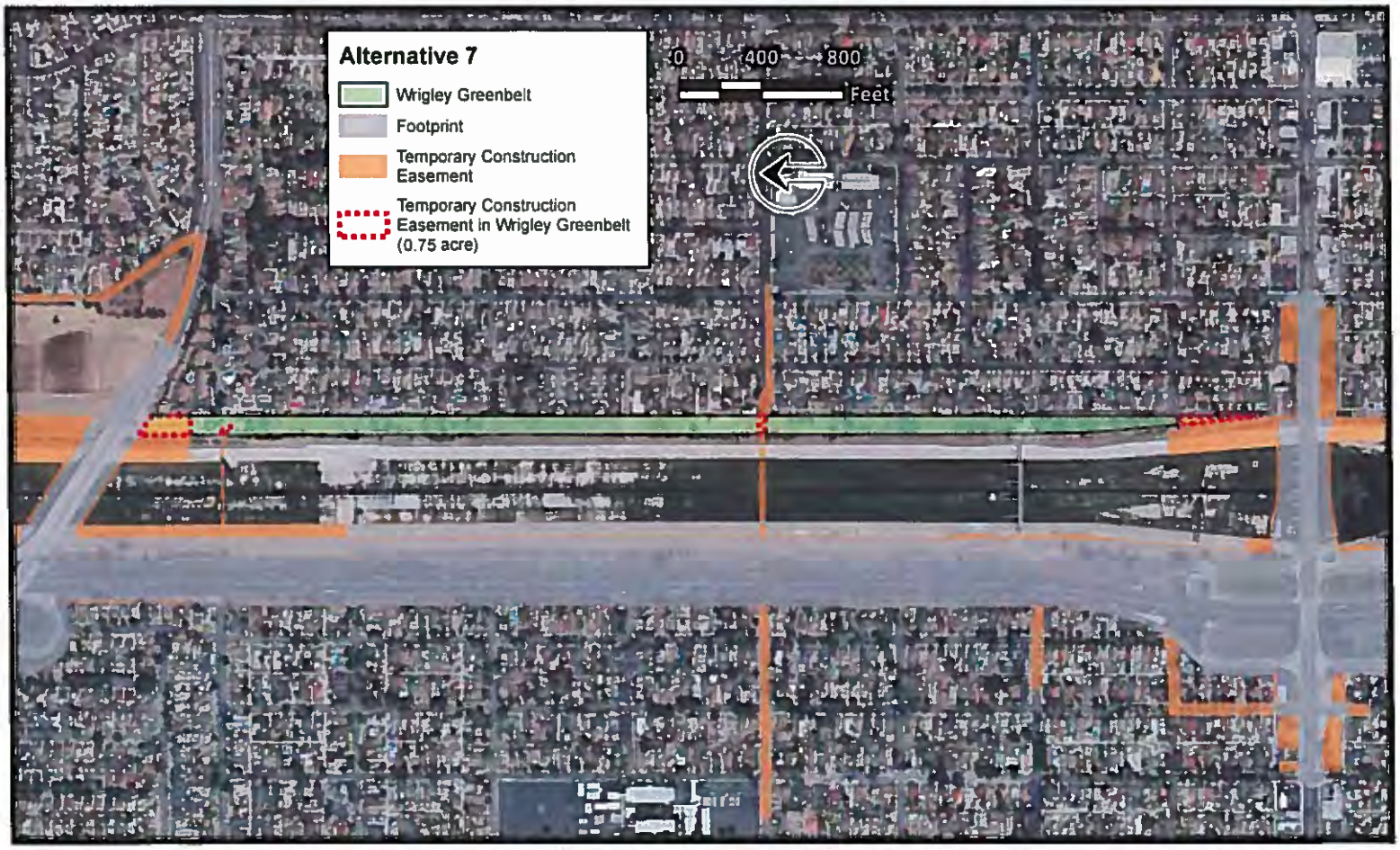




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FIGURE 1. Temporary Occupancies at Coolidge Park, Los Cerritos Park, and Cressa Park
ALTERNATIVE 5C AND ALTERNATIVE 7
I-710 Corridor Project





Metro

FIGURE 2. Temporary Occupancies at Wrigley Greenbelt
ALTERNATIVE 5C AND ALTERNATIVE 7
I-710 Corridor Project

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L-12-1

The Draft Section 4(f) Evaluation was completed in compliance with Section 4(f) of the United States Department of Transportation Act. While avoidance, minimization, mitigation, or enhancement measures are considered under Section 4(f), compliance with Ordinance No. C-78226 is not required under Section 4(f). As indicated in the comment, Ordinance No. C-78226 was incorporated into the Long Beach Municipal Code Section 21.35.205, requiring that conversion of park land be replaced at a 2:1 ratio. Title 21 of the Long Beach Municipal Code is Zoning, and Section 21.10.030, Scope, of the Code states that "to the extent provided by State or Federal law or regulation, the Zoning Regulations shall apply to all development including development by the City of Long Beach or use of property within the City, whether public or private, tidal or submerged, except the following excluded properties: A) Roadways. When dedicated as public freeways, streets, or alleys, the Zoning Regulations shall only apply to issues of dedications, improvements, reservations, signage, parkway landscaping, street trees and curb cut locations…" Therefore, the code requiring 2:1 replacement of park land is not applicable to the I-710 Corridor project. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, there will be no impacts to the activities, features, and attributes of Cesar E. Chavez Park as a result of the Preferred Alternative.

L-12-2

Cesar E. Chavez Park is the only Section 4(f) resource where the build alternatives would require the removal or addition of park area. However, as stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to the Cesar E. Chavez Park as a result of the Preferred Alternative and input from the community to determine the site layout, park amenities, buffer between the park and freeway, parking, ADA access, fencing, signage, neighborhood connection, etc. would on longer be necessary.

L-12-3

Please refer to Response to Comment L-12-2 regarding impacts to Cesar E. Chavez Park.

L-12-4

Please refer to Response to Comment L-12-2 regarding impacts to Cesar E. Chavez Park.

L-12-5

Caltrans requires that all projects incorporate current construction standards into project design. However, as stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a City maintenance fund would not be required to address unforeseen maintenance issues for the Preferred Alternative.

L-12-6

Please refer to Response to Comment L-12-1 regarding impacts to Cesar E. Chavez Park.

L-12-7

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no need to ensure that the Preferred Alternative is consist with the Drake/Chavez Greenbelt project, and that design refinements are considered, in consultation with the City of Long Beach, near the planned linkages between Drake Park and Cesar E. Chavez Park to minimize impacts on the visibility into areas under overhead Caltrans structures.

L-12-8

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no need to ensure that the Preferred Alternative is consist with the City of Long Beach Adopted Plans, Codes, Standard Conditions of Approval, and Park Development, or to state that any necessary irrigation improvements would be incorporated into the design for review and approval by the Director of the Department of Parks, Recreation and Marine.

L-12-9

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no need to ensure that the Preferred Alternative is consistent with grant agency requirements at no cost or impact to the City of Long Beach.

L-12-10

In Section 5.2 of the Draft Section 4(f) Evaluation in the RDEIR/SDEIS and in this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, Measure PR-12 would require replacement of the basketball courts in a location accessible to Cesar E. Chavez Elementary School and park visitors. However, as stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there are no impacts to the basketball courts at Cesar E. Chavez Park.

L-12-11

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a construction staging and contractor parking and access plan does not need to be provided and approved by the Director of Parks, Recreation, and Marine.

L-12-12

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there would be no disruption to park programs, services, or budgeted revenue.

L-12-13

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there would be no damage to underground irrigation infrastructure during construction.

L-12-14

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, securing and monitoring of the construction site, as well as repairing damage caused by vandalism and addressing homeless clean-up and removal costs from homeless activity at the site will not be required.

L-12-15

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, notification to the Department of Parks, Recreation and Marine 72 hours prior to the start of construction work will not be required.

L-12-16

Please refer to Response to Comment L-12-5 regarding unforeseen maintenance issues during construction.

L-12-17

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, restoration of TCE areas will not be necessary.

L-12-18

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, coordination with LBUSD will no longer be necessary regarding the construction of temporary basketball courts to serve Cesar E. Chavez Elementary School during construction.

L-12-19

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, irrigation during construction to ensure the health of landscaping, and installation of a temporary water meter will not be required.

L-12-20

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements will not be required.

L-12-21

The map of the Drake/Chavez Greenbelt was created using a map of the proposed greenbelt from the *Long Beach RiverLink Plan* (February 2007, Long Beach Department of Parks, Recreation and Marine), which was the most recent map that was publicly available at the time the Draft Section 4(f) Evaluation was written. The map includes the entire 50-acre greenbelt as proposed in the Draft Master Plan.

Recreational resources protected under Section 4(f) include both current and planned publicly-owned parks and recreational areas that are shown in a master plan. Because the entire 50-acre site is shown as a recreational area in the Draft Master Plan, all of the land within the resource boundaries, including open space, buildings, and land currently owned by the County, are considered to be a part of the recreational resource under Section 4(f). According to the City of Long Beach website (http://www.longbeach.gov/pw/projects/lbmust/), a portion of the greenbelt to the south of the Shoemaker Bridge is now included within the Long Beach Municipal Urban Stormwater Treatment (LB-MUST) facility.

Based on the most currently available information on the City's website, the Drake Chavez Greenbelt and Artificial Turf Sports Field, located on an 8.7-acre portion of the 50-acre greenbelt, had a grand opening on January 20, 2018 (http://www.longbeach.gov/district1/news/drake-chavez-greenbelt-and-artificial-turf-field-grand-opening/). The following text has been added to Section 5.1 of Appendix B, Section 4(f)/6(f):

An 8.7-acre portion of the Drake/Chavez Greenbelt opened in January 20, 2018, and includes a striped artificial turf soccer field, large grass multi-use areas, landscaped open space, a pedestrian walking trail, and on-site parking spaces. This 8.7-acre portion of the greenbelt is outside the limits of the build alternatives, and no activities, features, or attributes of this area would be affected by the build alternatives.

The following revisions have been made to Section 6.5 of Appendix B, Section 4(f)/6(f):

Drake/Chavez Soccer Fields and Greenbelt Project: In ~~April 2016~~ January 2018, the City of Long Beach ~~Council approved~~ opened new soccer fields adjacent to Drake Park (Drake/Chavez Soccer Fields and Greenbelt Project), which are located on a 8.7-acre portion of the 50-acre Drake/Chavez Greenbelt shown in the *Long Beach RiverLink Plan* (City of Long Beach, 2007). The ~~proposed~~ soccer fields are outside the limits for the project, and no activities, features, or attributes would be affected by the project. There would be no changes to accessibility, and there would be no impacts related to vegetation or wildlife, as no vegetation removal or habitat disturbance would result from the build alternatives. Visual, noise, and air quality impacts would not result in substantial impairment because no severe proximity impacts at the soccer fields/greenbelt are identified in the EIR/EIS.

L-12-22

The proposed structures under the build alternatives on the Drake/Chavez Greenbelt are aerial structures that would allow for wetlands or other City of Long Beach facilities to remain beneath the structures. Therefore, the build alternatives would not conflict with the State acquisition grant requiring the City of Long Beach to provide for four acres of wetlands in this area, and the build alternatives would also be compatible with the Long Beach MUST project. While the aerial structures could require that footings be placed directly within the wetlands, should a build alternative be selected as the Preferred Alternative, these direct impact areas would be minimized to the extent feasible to ensure the build alternatives do not substantially affect the wetland areas, if these wetlands are present at the time of construction of either of the build alternatives. The aerial structures over the wetlands proposed under the build alternatives could create some shading during daylight hours; however, the shading over the wetlands would last for only a portion of the day, and this shading would likely not substantially affect the functioning of the wetlands for water quality purposes or to support wildlife. Should a build alternative be selected as the Preferred Alternative, consultation with resource agencies, permits, and mitigation may be required under the federal Clean Water Act and/or Fish and Game Code if direct or indirect impacts on these wetlands would result from the build alternatives. If the wetlands are not present at the time of construction, the build alternatives would not preclude the later implementation of the wetlands because the wetlands could be located beneath the aerial structures in the remaining area not occupied by the proposed footings. As stated

previously, because the direct impact area required for the footings would be minimized to the extent feasible, the build alternatives would not result in substantial impacts to the grant-required wetland area. However, as stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to the grant-required wetland area.

L-12-23

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a construction staging and equipment access plan, and contractor parking and access plan would not be required prior to the start of construction of either build alternative in the Drake/Chavez Greenbelt.

L-12-24

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, City of Long Beach approvals of temporary closures in the Drake/Chavez Greenbelt to ensure that the build alternatives would not disrupt park programs, services, or budgeted revenue are not required.

L-12-25

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a construction staging and equipment access plan, and contractor parking and access plan would not be required prior to the start of construction of either build alternative; and appropriate measures, such as the placement of plywood in all areas of heavy equipment ingress/egress, are not necessary to prevent damage to underground irrigation infrastructure during construction of either build alternative.

L-12-26

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, securing and monitoring of the construction site, as well as repairing damage caused by vandalism and addressing homeless clean-up and removal costs from homeless activity at the site is not required.

L-12-27

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, notification of the Department of Parks, Recreation and Marine 72 hours prior to the start of construction work is not required.

L-12-28

Please refer to Response to Comment L-12-5 regarding unforeseen maintenance issues during construction.

L-12-29

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, restoration of the TCE area to include, but not be limited to, replacement of plant material, removal of weeds, removal of trash, regrading and compacting of the TCE area is not required.

L-12-30

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, irrigation during construction to ensure the health of landscaping, and installation of a temporary water meter to be installed and paid for by the construction contractor is not required.

L-12-31

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements is not required.

L-12-32

As required under Section 4(f) of the United States Department of Transportation Act, Caltrans has coordinated with the City of Long Beach through the preliminary design process regarding the proposed TCE at Coolidge Park. This coordination has included a discussion of measures to minimize harm to the property, which may include, but not be limited to, design refinements of the build alternatives to minimize the TCE area in the park, or to avoid the TCE in the park if feasible. As a result of this consultation, the need for a TCE at Coolidge Park was reevaluated and subsequently avoided as part of the build alternatives. As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Coolidge Park will not be impacted.

L-12-33

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the eastern edge of Coolidge Park will not be impacted by construction and adequate fencing to separate the park activities from construction activities will not be necessary.

L-12-34

Please refer to Response to Comment L-12-33 regarding impacts to Coolidge Park.

L-12-35

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements is not required.

L-12-36

As required under Section 4(f) of the United States Department of Transportation Act, Caltrans has coordinated with the City of Long Beach regarding the TCE proposed under the build alternatives at Los Cerritos Park. This coordination has included a discussion of measures to minimize harm to the property, which included, but were not limited to, design refinements of the build alternatives to minimize the TCE area in the park, or to avoid the TCE in the park if feasible. As a result of this consultation, the need for a TCE for the build alternatives within Los Cerritos Park has been reevaluated and subsequently avoided. As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Los Cerritos Park will not be impacted.

L-12-37

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the western edge of Los Cerritos Park will not be impacted by any construction impacts and fencing to separate the park activities from construction activities would not be necessary.

L-12-38

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Los Cerritos Park will not be impacted by any access needs to the freeway for construction activities related to the build alternatives.

L-12-39

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements is not necessary.

L-12-40

The City of Long Beach states that no issues have been identified with the proposed TCE at the southern end of Cressa Park. However, during consultation with the City in 2019, the City raised objections to the TCE necessary for the build alternatives within Cressa Park. As a result of that consultation, the need for the TCE within Cressa Park was reevaluated and subsequently avoided as part of the design of the build alternatives. As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no impacts from TCEs within Cressa Park as part of the No Build Alternative.

L-12-41

As discussed in the Response to Comment L-12-40, the need for a TCE within Cressa Park is not necessary. Also, please refer to Response to Comment L-12-33 regarding notification to the Department of Parks, Recreation, and Marine 72 hours before construction.

L-12-42

Please refer to Response to Comment L-12-5 regarding unforeseen maintenance issues during construction.

L-12-43

Please refer to Response to Comment L-12-40 regarding the replacement of disturbed sites post-construction.

L-12-44

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements is not required.

L-12-45

As required under Section 4(f) of the United States Department of Transportation Act, Caltrans has coordinated with the City of Long Beach regarding the TCE at Wrigley Greenbelt proposed under the build alternatives. This coordination has included a discussion of measures to minimize harm to the property, which included, but were not limited to, design refinements of the build alternatives to minimize the TCE area in the park, or to avoid the TCE in the park if feasible. As a result of this consultation, the need for a TCE within Wrigley Greenbelt has been reevaluated and subsequently avoided as part of the design of the build alternatives. As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred

Alternative. Therefore, there are no impacts from TCEs within the Wrigley Greenbelt as part of the No Build Alternative.

L-12-46

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the Wrigley Greenbelt will not be impacted, and the Department of Parks, Recreation and Marine will not need to be notified 72 hours prior to the start of work.

L-12-47

As discussed in Response to Comment L-12-45, the TCE at Wrigley Greenbelt is not necessary.

L-12-48

Please refer to Response to Comment L-12-45 regarding the replacement of disturbed sites post-construction.

L-12-49

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements is not necessary.

L-12-50

As stated in Response to Comment L-12-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements for all affected parks and recreation facilities is not necessary.

L-12-51

Please refer to Response to Comment L-12-50 regarding consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements.

L-12-52

Please refer to Response to Comment L-12-50 regarding consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements.

L-12-53

Please refer to Response to Comment L-12-50 regarding consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements.

L-12-54

Please refer to Response to Comment L-12-50 regarding consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements.

L-12-55

Please refer to Response to Comment L-12-50 regarding consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements.

L-12-56

Please refer to Response to Comment L-12-50 regarding consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements.

L-12-57

Please refer to Response to Comment L-12-50 regarding consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements.

L-12-58

Please refer to Response to Comment L-12-50 regarding consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements.

L-12-59

Please refer to Response to Comment L-12-50 regarding consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements.

L-12-60

Please refer to Response to Comment L-12-50 regarding consistency with the City of Long Beach Standard Conditions of Approval and Park Development Requirements.

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OFFICE OF THE SHERIFF

COUNTY OF LOS ANGELES

HALL OF JUSTICE

JIM MCDONNELL, SHERIFF

October 12, 2017

Mr. Ronald Kosinski, Deputy District Director
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, California 90012

Dear Mr. Kosinski:

REVIEW COMMENTS
NOTICE OF AVAILABILITY OF RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT/SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT (RDEIR/SDEIS) FOR THE INTERSTATE 710 CORRIDOR PROJECT (07-LA-710, PM 5.4/24.5)

Thank you for inviting the Los Angeles County Sheriff's Department (Department) to review and comment on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIR), dated September 11, 2017, for the Interstate 710 Freeway Project, as referred to the I-710 Corridor Project (Project). The RDEIR/SDEIR provides changes, updates, and developed and revised build alternatives based on the feedback received during the 2012 Draft Environmental Impact Report/Environmental Impact Statement circulation period. The proposed Project will construct improvements to the I-710 Corridor, from Ocean Boulevard in Long Beach to State Route 60, a distance of approximately 19 miles. These improvements include, but are not limited to, widening of the I-710 mainline by adding mixed-flow lanes, truck bypass lanes, and a "Modernization Plus Zero/Near Zero Emission Freight Corridor."

Within the Project Study Area (RDEIR/SDEIR, Figure 1.1-2), the Department serves the cities of Carson, Commerce, Compton, East Los Angeles, Lakewood, Lynwood, Maywood, Cudahy, and Paramount. According to the RDEIR/SDEIR, the proposed Project is not expected to significantly impact the Department's operations or resources because the proposed Project would not result in increased population, and none of the Department's Sheriff Stations are located within 0.5 miles of the Project Study Area. The Department does not dispute this conclusion. However, emergency access for Department personnel, vehicles, and equipment must be maintained through the Project L-13-1

site during all phases of construction activities. As discussed in the RDEIR/RDEIS, a Transportation Management Plan (TMP) shall be prepared for the proposed Project to address short-term traffic impacts during construction of the Project. The TMP shall be reviewed by the Department and other agencies that provide emergency response services to the Project site and vicinity (see Mitigation Measure CON-TR-1, Section 3.24.4.5). The TMP should then be implemented during the construction activities to reduce construction-related emergency access impacts to a level of insignificance. L-13-1

In addition, the Department's Transit Services Bureau (TSB) has the policing responsibility for the Los Angeles County Metropolitan Transportation Authority (Metro), and shares jurisdiction in the Project Study Area for transit-related crimes only. TSB patrols the Metro Blue Line, Metro Green Line, and Metro Gold Line, as well as local and rapid buses that run through some or most of the Project Study Area. Accordingly, TSB reviewed the RDEIR/SDEIR and authored the attached comments (see correspondence, dated October 10, 2017, from Captain Jennifer L. Bateman). L-13-2

Should you have any questions regarding this matter, please contact me at (323) 526-5657, or your staff may contact Ms. Maynora Castro at (323) 526-5578.

Sincerely,

JIM McDONNELL, SHERIFF

Tracey Jue, Director
Facilities Planning Bureau

761551N52A – SH-AD (3/16)

COUNTY OF LOS ANGELES

SHERIFF'S DEPARTMENT

"A Tradition of Service Since 1850"

DATE: October 10, 2017

OFFICE CORRESPONDENCE FILE NO:

FROM: JENNIFER L. BATEMAN, CAPTAIN
TRANSIT SERVICES BUREAU

TO: TRACEY JUE, DIRECTOR
FACILITIES PLANNING BUREAU

SUBJECT: REVIEW COMMENTS ON THE RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT/SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE INTERSTATE 710 CORRIDOR (I-710 FREEWAY) PROJECT

The Los Angeles County Sheriff's Department (Department), Transit Services Bureau (TSB), reviewed the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIR) dated September 11, 2017, for the Interstate 710 Freeway Project, referred to as I-710 Corridor Project (Project). The RDEIR/SDEIR is an update from the Draft Environmental Impact Report/Environmental Impact Statement circulated in 2012. The proposed Project will construct improvements to the I-710 from Ocean Boulevard in Long Beach to State Route 60, a distance of approximately 19 miles. These improvements include, but not limited to, widening of I-710 mainline by adding mixed-flow lanes, Truck bypass lanes, and modernization plus a Zero-/Near Zero-Emission Freight Corridor.

Within the Project Study Area (RDEIR/SDEIR, Figure 1.1-2), the Department serves the Cities of Carson, Commerce, Compton, East Los Angeles, Lakewood, Lynwood, Maywood, Cudahy, and Paramount. TSB has the policing responsibility for the Los Angeles County Metropolitan Transportation Authority (Metro) and shares jurisdiction in these areas for transit-related crimes only. TSB patrols the Blue Line, Green Line, and Gold Line (RDEIR/SDEIR, Figure 1.1-6), as well as the local and rapid buses that run through some or most of the Project Study Area.

According to the RDEIR/SDEIS, the proposed Project is not expected to significantly impact the Department Stations' operations or resources because none of the Stations are within 0.5 miles of the Project Study Area and the proposed Project would not result in increased population because the proposed Project would not construct new housing or businesses (RDEIR/SDEIS, S.5.4, page 13). The Department and TSB do not dispute this conclusion. However, there are transit improvements provided as part of the proposed Project (RDEIR/SDEIS pages 2-26 to 2-33). The transit improvements discussed in the RDEIE/SDEIS include the creation of three (3) new high-

L-13-3

frequency Express Bus and Rapid transit routes serving the 1-710 Corridor. It also include increase in service frequency for the Blue Line (estimated increase of 50 trains daily) and the Green Line (estimated increase of 48 trains daily). Accordingly, there will be a potential increase in the transit riding population within the Project Study Area.

TSB is responsible for providing contracted law enforcement services to Metro. The expansion of transit services, as part of the mobility solution, will most likely be a factor in the future negotiations for contracted services, as transit line stations requires some level of law enforcement support by both sworn and civilian staff assigned to TSB. TSB will continue to monitor and will work together with Metro to reevaluate and assess if the current staff and support services are adequate. At an appropriate time, a determination will be made as to what exact level of TSB patrol staffing will be required. L-13-3

TSB has no further comment to submit at this time. Thank you for including the Department and TSB in the environmental review process for the proposed Project. We look forward to providing additional input as the development process moves forward. Should you have any questions of the Department regarding this matter, please feel free to contract me at (323) 563-5082, or Lt. Chris Mouat at (323) 563-5075.

JLB:CJM:cjm

L-13-1

Caltrans and Metro understand the importance of maintaining emergency access during construction activities. Measure CON-TR-1 described in Section 3.24.4.5 was included to mitigate for impacts related to the build alternatives and specified that should a build alternative be selected as the Preferred Alternative, Caltrans and Metro would work in cooperation with the Los Angeles County Sheriff's Department and other emergency service providers to ensure that construction activities would not impede emergency response access and services. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, there is no construction and emergency access will not be impeded.

L-13-2

This comment provides information on the Los Angeles County Sheriff's Department Transit Services Bureau's (TSB) responsibility for patrolling the Metro Blue Line, Green Line, and Gold Line. The comment does not include any substantive comments or questions about the RDEIR/SDEIS and no further response is required. This comment has been made available to decision makers for their consideration.

L-13-3

It is acknowledged that an increase in transit ridership would potentially increase the need for law enforcement services for Metro facilities. However, as stated in Response to Comment L-13-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will not be an increase in need for law enforcement services for Metro facilities as a part of the Preferred Alternative.

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City of Vernon

PUBLIC WORKS
4305 Santa Fe Avenue, Vernon, California 90058
Telephone (323) 583-8811 Fax (323) 826-1435

October 12, 2017

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 164
Los Angeles, CA 90012

Re: City of Vernon's Written Comments on the I-710 Corridor Project Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS)

Dear Mr. Kosinski:

The City of Vernon appreciates the opportunity to review and provide written comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Interstate 710 (I-710) Corridor Project, dated July 2017. This letter represents the official comments from the City of Vernon.

The technical review and comments provided herein focus on the subject matters pertaining to Vernon and are limited to that portion of the project study area within or adjacent to Vernon's city limits (primarily from Slauson Avenue to Washington Boulevard). The review comments are associated with the following sections of the RDEIR/SDEIS:

- Section 2.3 Project Alternatives (including supplementary conceptual plans provided to the City)
- Section 3.3 Community Impacts
- Section 3.5 Traffic and Transportation/Pedestrian and Bicycle Facilities
- Section 3.6 Visual/Aesthetics
- Section 3.24 Construction Impacts
- Appendix O Concept plans

The City of Vernon recognizes the regional significance and fully supports the I-710 Corridor Project. The City thanks Caltrans and Metro in advance for their attention to the City's technical review comments on the I-710 Corridor Project RDEIR/SDEIS and looks forward to working with Caltrans and Metro towards a successful completion of the project. If you have any questions regarding this letter, please contact Brandon Araujo at 323.583.8811, Ext. 237 or baraujo@ci.vernon.ca.us.

Sincerely,

Daniel Wall
Director of Public Works

DW/ba

BACKGROUND

The I-710 Corridor Project is being undertaken by the Department of Transportation (Caltrans) as the lead agency, in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro) as the sponsoring agency. The purpose of the project is to modernize a 19-mile segment of the I-710 corridor from Ocean Boulevard in Long Beach to State Route 60 (SR-60) in Los Angeles, address projected growth and traffic demand, improve air quality and public health, and enhance traffic safety. A No-Build and two build alternatives are being considered in the RDEIR/SDEIS, as briefly described below:

- Alternative 1 (No-Build) would maintain the existing lane and interchange configuration with no additional improvements to be provided, other than those projects that are already funded and/or committed to be constructed by or before the planning horizon year 2035.
- Alternative 5C (Modernize the I-710 Freeway) would add up to one general purpose (GP) lane in each direction of I-710 between Anaheim Street in Long Beach and Olympic Boulevard in east Los Angeles.
- Alternative 7 (Add Clean-Emission Freight Corridor along I-710) would add two controlled-access truck lanes in each direction of I-710 from Anaheim Street in Long Beach to Washington Boulevard in Commerce.

The I-710/Atlantic Boulevard/Bandini Boulevard interchange is located within the City of Vernon and is proposed to be reconfigured as part of the project. Major construction components proposed at this interchange under both build alternatives include:

- Removal of existing SB ramps and replacement with an exit ramp to Bandini Boulevard, a one-way street connection between Bandini Boulevard and Atlantic Boulevard, and an entrance ramp from Atlantic Boulevard;
- Removal of existing NB ramps and replacement with an exit ramp that splits into two separate alignments (one to Bandini Boulevard and the other to Atlantic Boulevard) and an entrance ramp from Bandini Boulevard that splits into two alignments (one connecting with NB I-710 and the other connecting with a Collector-Distributor road to I-5);
- Reconstruction and realignment of Atlantic Boulevard between the Los Angeles River and the 26th Street overcrossing;
- Reconstruction of Bandini Boulevard between Ayers Avenue and Pennington Way/26th Street; and
- Under Alternative 7, the proposed freight corridor would generally begin just north of the Atlantic Boulevard/Bandini Boulevard interchange (in the SB direction) and end (in the NB direction) within the Atlantic Boulevard/Bandini Boulevard interchange.

The build alternatives include three design variations which are called Option 1A, 2A, and 3A for Alternative 5C and Option 1B, 2B, and 3B for Alternative 7. Only Design Option 1A/1B are within Vernon's city limits. Design Option 1A/1B would modify the proposed freeway, ramp, connector, and/or freight corridor alignments between the Atlantic Boulevard/Bandini Boulevard and the Washington Boulevard interchanges to reduce impacts to BNSF operations at the Hobart intermodal rail yard.

SECTON 2.3 PROJECT ALTERNATIVES

Comment 1 – I-710/Slauson Avenue Interchange

The current project design analyzed in the RDEIR/SDEIS does not include a new I-710 interchange at Slauson Avenue under Alternative 5C. Under Alternative 7, a partial interchange consisting of a NB off-ramp and a SB on-ramp would be provided at Slauson Avenue for the freight corridor. Construction of a full I-710 interchange at Slauson Avenue was previously proposed under Alternatives 6A/6B/6C in the 2012 Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) and was strongly supported by the City of Vernon.

The City again would like to express support for construction of a full I-710 interchange at Slauson Avenue in both build alternatives under consideration. A new interchange at Slauson Avenue would provide a much-needed alternative access route to the residential communities west of I-710 and industrial areas east of I-710 and will also improve traffic and transportation system in and around the Gateway Cities area.

In addition, the City supports a new interchange at Slauson Avenue as it would help relieve traffic impacts during construction. Construction of the Atlantic Boulevard/Bandini Boulevard interchange would impact the traffic and transportation system in and around the City of Vernon. Full closures and lane reductions on interchange ramps and local arterials would be unavoidable during construction. With current heavy congestion along the I-710 corridor and interchanges, the adjacent Washington Boulevard interchange is not likely to have sufficient capacity to handle additional traffic during construction. Providing a new interchange at Slauson Avenue, possibly as an Early-Action Project, will provide an additional alternative route for emergency services and traffic diversion during construction. L-14-1

Comment 2 – NB Freight Corridor Merge

This comment is applicable to Alternative 7. In Alternative 7, the 2-lane NB freight corridor would terminate at the Atlantic Boulevard/Bandini Boulevard interchange, by joining and continuing on NB I-710 with two additional lanes (5th and 6th lanes) before dropping the 6th lane near the Washington Boulevard interchange and the 5th lane at the Olympic Boulevard NB off-ramp. Downstream of the NB freight corridor merge, the Bandini Boulevard NB on-ramp also merges onto NB I-710. The City is concerned that it would be difficult for the Bandini Boulevard NB on-ramp traffic to merge with truck traffic in the 6th lane as described in the RDEIR/SDEIS and requests that the project team fully evaluate this condition. L-14-2

Comment 3 - Atlantic Boulevard NB Off-Ramp Intersection

The City believes that a traffic signal is warranted at the Atlantic Boulevard NB off-ramp intersection (Intersection #123) based on the projected traffic demand for this ramp in the horizon year 2035. In addition, the City is concerned that the proposed NB freeway exit configuration may create a confusing condition to motorists destined for NB Atlantic Boulevard as they will need to use the Bandini Boulevard NB off-ramp instead of the Atlantic Boulevard NB off-ramp. Even though signage would be provided to direct "Atlantic Blvd - North" and "Atlantic Blvd - South" traffic to separate ramps, it is potentially confusing and requires additional decision making. The City requests that the project team fully evaluate this exit ramp design, possibly considering a left turn from the Atlantic Boulevard NB off-ramp to NB Atlantic Boulevard. L-14-3

In addition, the City requests that the proposed design maintain the free right turn from the Atlantic Blvd – South NB off-ramp to WB Bandini Boulevard that exists currently. L-14-3

Comment 4 – Restricted Movements at Atlantic Boulevard/Bandini Boulevard Intersection

In general, the City does not object to the proposed design of the Atlantic Boulevard/Bandini Boulevard intersection and recognizes that certain turning movements may be prohibited. However, the City would support a design that provides a left-turn movement from WB Bandini Boulevard to the SB entrance road (currently restricted by a raised median) and a right-turn movement from EB Bandini Boulevard to SB Atlantic Boulevard (currently restricted by a tight curb return). The City requests that the project team consider allowing these turn movements which are anticipated to have very low volume and should not adversely affect the intersection operation, or evaluate additional traffic control methods (in addition to signage) that may be incorporated in the project design if these movements are to be prohibited. L-14-4

Comment 5 – Entrance Ramp Acceleration

Due to the large volume of truck traffic using the Atlantic Boulevard and Bandini Boulevard ramps, the City of Vernon supports the Caltrans Highway Design Manual Index 504.3(2)(c), advisory design standard and requests that provision of a 300-foot minimum auxiliary lane be incorporated at the Atlantic Boulevard and Bandini Boulevard entrance ramps to facilitate the acceleration before merging with the freeway mainline. L-14-5

Comment 6 – Ramp Lane Widening for Trucks

Based on the Appendix O (Concept plans) of the RDEIR/SEIS, all lanes on the Bandini Boulevard NB on-ramp appear to be 12 feet wide. Please confirm that the two outside lanes on this ramp (at the 300-foot radius curve) before splitting to two separate alignments (middle lane to I-710 and outside lane to I-5) can accommodate STAA trucks side by side. Please also evaluate the need to widen the Atlantic Boulevard NB off-ramp (at the 292-foot radius curve) to accommodate truck turning in accordance with Caltrans Highway Design Manual Index 504.3(1)(b). L-14-6

Comment 7 - Truck Turning at Intersections

Please confirm that all intersections under improvements in the City of Vernon can accommodate STAA truck turning movements, preferably with 67-foot radius template. The intersection geometrics at the following locations appear slightly narrow to accommodate large truck wheel paths (and side by side with another vehicle at dual turning locations). L-14-7

- Free right turn from WB Bandini Boulevard to NB Atlantic Boulevard
- Dual left turns from SB Atlantic Boulevard to SB on-ramp
- Dual left turns from SB Atlantic Boulevard to EB Bandini Boulevard
- Dual left turns from WB Bandini Boulevard to NB loop on-ramp
- Dual right turns from EB Bandini Boulevard to NB loop on-ramp
- Dual left turns from SB Pennington Way to EB Bandini Boulevard

Comment 8 – Corner Sight Distance

Based on the Appendix O (Concept plans) of the RDEIR/SEIS, the proposed Atlantic Boulevard NB off-ramp would intersect Atlantic Boulevard approximately 120 feet south of the Pennington Way overcrossing structure. At this intersection, the corner sight distance between the drivers on the Atlantic Boulevard NB off-ramp waiting to turn at the intersection and the approaching SB traffic may be restricted by the slope paving in front of the Pennington Way bridge abutment. Adequate corner sight distance should be provided even if the intersection is signalized in case of unanticipated conflicts/signal violations or malfunction of the signal. L-14-8

Comment 9 – Stopping Sight Distance

Based on the Appendix O (Concept plans) of the RDEIR/SEIS, the project design at the Atlantic Boulevard/Bandini Boulevard interchange includes several small curve alignments on the interchange ramps. Adequate stopping sight distance may not be obtainable at some of the curve locations (noted below) due to obstructions such as bridge railings, retaining walls, concrete barriers, and cut slopes. L-14-9

- Atlantic Boulevard NB off-ramp at the 292-foot radius curve
- Bandini Boulevard NB off-ramp at the 538-foot radius curve
- Bandini Boulevard NB on-ramp at the 300-foot radius curve

Please verify that adequate stopping sight distance is provided that these locations. If not, please propose changes to the design to ensure adequate stopping sight distance is provided.

Comment 10 – Free Right Turn from WB Bandini Boulevard to NB Atlantic Boulevard

The City requests that the project team evaluate the free right turn from WB Bandini Boulevard to NB Atlantic Boulevard and adjust the project design to provide an acceleration lane on NB Atlantic Boulevard to facilitate the merge. The City recommends shifting the alignment of Atlantic Boulevard slightly to the west to accommodate an acceleration lane on NB Atlantic Boulevard. L-14-10

Comment 11 – NB Freight Corridor Bridge Column in Alternative 7

A bridge column supporting the SB Freight Corridor structure over Atlantic Boulevard in Alternative 7 is located within the Atlantic Boulevard/SB on-ramp/SB entrance road intersection. The City requests that the project team adjust the location of this column or consider realigning the SB Freight Corridor structure slightly to the west to avoid column placement within the intersection. L-14-11

Comment 12 – Atlantic Boulevard NB Off-Ramp Bridge Column in Alternative 7

A bridge column supporting the Atlantic Boulevard NB off-ramp structure is located in the southwest corner of the Atlantic Boulevard/Bandini Boulevard intersection. The City requests that the project team adjust the location of this column to avoid potential conflict with the traffic signal pole placement for the SB Atlantic Boulevard approach (especially in Alternative 7). L-14-12

Comment 13 – Atlantic Boulevard/Bandini Boulevard UC Structure – Open Area

The City requests that the project team evaluate incorporation of closure walls to curtain off open areas under the Atlantic Boulevard/Bandini Boulevard undercrossing bridge structures, as the open areas may be prone to transient use and illegal activities. L-14-13

Comment 14 – Safety Lighting under Bridges

The City requests that the project team consider additional illumination under undercrossing bridge structures along Atlantic Boulevard and Bandini Boulevard during day and night times for vehicular as well as bicycle and pedestrian traffic. L-14-14

Comment 15 – Sight Lines to Traffic Signal Heads under Bridges

Several large structures will be constructed over Atlantic Boulevard and Bandini Boulevard, with bridge soffits potentially restricting motorists' sight lines to the traffic signal heads. The City requests that the project team evaluate and address the potential sight line restriction to traffic signal heads in the project design. L-14-15

Comment 16 – Sidewalk Width

The project design for sidewalks should take into consideration the addition space needed to accommodate utility poles, street signs, bus stops and benches, and various facilities. L-14-16

Comment 17 – Bus Stops

There are currently two Metro bus stops on Atlantic Boulevard: one on the northeast corner of the Atlantic Boulevard/Bandini Boulevard intersection and the other on the southwest corner. These bus stops will need to be relocated due to proposed reconstruction/realignment of these streets and the intersection. Relocation of these bus stop could be difficult due to right of way constraint in the northeast corner adjacent to the Preferred Freezer Services, Inc. and due to potential conflict with proposed bridge columns in the southwest corner of the intersection.

The Atlantic Boulevard/Bandini Boulevard intersection is one of the busiest intersections in the City of Vernon because of the I-710 freeway access and the proximity to the Hobart intermodal rail yard. Provisions of bus stops at this busy intersection is not ideal. The City does not believe there is a heavy usage currently served by these bus stops. In addition, the proposed interchange reconfiguration would acquire several parcels adjacent to this intersection, thus reducing the pedestrian volumes at this intersection. The City request that the project team investigate the bus use demand and consider relocating both bus stops farther away from the Atlantic Boulevard/Bandini Boulevard intersection. New locations for bus stops should include bus bays to allow a bus to stop without blocking through vehicular and bicycle lanes. L-14-17

Comment 18 – Crosswalks at Atlantic Boulevard/Bandini Boulevard Intersection

Currently, crosswalks at the Atlantic Boulevard/Bandini Boulevard intersection are provided across the south and east legs of the intersection. The City requests that that the project team evaluate the need for proposed new crosswalks across the north and west legs of this intersection in the project design. In addition, if the bus stops mentioned in Comment 17 are relocated farther away from the Atlantic Boulevard/Bandini Boulevard intersection, there would be less pedestrian traffic to warrant these additional crosswalks. L-14-18

Comment 19 – Bike Lanes

The City requests the project team evaluate providing a bike lane between the through and right-turn lanes at the following locations:

- Between the NB through and right-turn lanes on NB Atlantic Boulevard at its intersection with Bandini Boulevard.
- Between the EB through and right-turn lanes on EB Bandini Boulevard at its intersection with the NB ramps/Pennington Way intersection.
- Between WB through and right-turn lane on WB Bandini Boulevard at its intersection with Ayers Avenue.

L-14-19

Comment 20 – Modified Access Report

Due to modifications proposed at Atlantic Boulevard/Bandini Boulevard interchange in combination with the termination of the NB freight corridor in the City of Vernon, the City requests a copy of the Modified Access Report (MAR), to review the impact analysis specific to proposed access modifications in Vernon. L-14-20

SECTION 3.3 COMMUNITY IMPACT

Comment 21 – Relocation of Fire Station No. 4

The Fire Station No. 4 (4530 Bandini Boulevard) would be impacted by the project improvements and requires relocation from its current location to a new location. The need to relocate and replace the Fire Station No. 4 (4530 Bandini Boulevard) before it is demolished is a priority for the City. The City intends to nominate the relocation of Fire Station No. 4 as an Early-Action Project and requests assistance from Caltrans and Metro in the Early-Action Project nomination process. L-14-21

Comment 22 - Billboards

Several billboards along both sides of I-710 will be impacted by the interchange reconstruction, requiring replacement. Section 3.3 of the RDEIR/SDEIS includes general discussion relating to the potential relocations of billboards along the project corridor. For some instances, it may not be feasible to relocate the billboards within the same general locations due to the increased height resulting from higher roadway profiles. The City requests that they have an opportunity to assist in the evaluation of potential sites during the final design phase. L-14-22

Comment 23 – Driveways

Temporary construction easements may be required from adjacent properties to accommodate the driveway reconstruction at the following locations.

- The northerly driveway to a warehouse on NB Atlantic Boulevard between the LA Railroad Junction and the I-710 SB on-ramp.
- The driveway on EB Bandini Boulevard east of Ayers Avenue, serving FedEx.
- The driveway on 26th Street to BNSF property.

L-14-23

Comment 24 – Relocations

Page 3.25-54 of the RDEIR/SDEIS reads "As stated in the discussion of Public Health Considerations, there are residential property impacts for some design options of Alternative 7 in the cities of Commerce and Vernon, where Housing of Last Resort[3] may have to be considered for relocating the affected residential properties." This statement is repeated on Page 3.25-58 of the RDEIR/SDEIS: "Last Resort Housing may be required for relocation of residents in the Cities of Commerce and Vernon for the I-710 Corridor Project."

The above statements are in conflict with Table 3.3-12 (Relocations by City) of the RDEIR/SDEIS, which shows 0 residential relocation and 8 nonresidential relocations in the City of Vernon under Alternative 7. L-14-24

SECTION 3.5 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYLE FACILITIES

Comment 25 – Traffic Volumes

Section 3.5 of the RDEIR/SDEIS includes various tables showing level of service (LOS), traffic flow density and/or volume-to-capacity ratio, and intersection delay information for a.m., mid-day, and p.m. peak hours for the freeways, ramps, and local arterials. The City requests that peak hour traffic volumes be provided in these tables as well to allow the City to fully understand the traffic demand and review the potential impacts the I-710 Project Corridor will have on the traffic and transportation system. L-14-25

Comment 26 – Peak Hour Factor

Per Section 2.4.2 of the Traffic Operations Analysis Report (AECOM, March 2017), which is a supporting document for Section 3.5 of the RDEIR/SDEIS, peak hour factor (PHF) is determined from the existing traffic counts. The City assumes that this implies that the same PHF will be used in the analysis of existing as well as future conditions.

Based on the LOS worksheet for Atlantic Boulevard/Bandini Boulevard intersection provided to the City of Vernon at the August 8, 2017 meeting with AECOM, PHF of 0.98 is used for existing condition and PHF of 0.92 is used for future condition. It is assumed that the existing PHF of 0.98 is based on the traffic count. L-14-26

The City requests a clarification or justification as to why the PHF for the future year (0.92) is different from the PHF used in the existing condition (0.98). The City is concerned that if the future PHF of 0.92 is not justified, projected traffic volumes would be underestimated and the operational LOS would be miscalculated.

Comment 27 – Impact of Increased Truck Traffic on Pavement

The City understands that per Measure CON-TR-2, damages to local street pavement due to project-related construction traffic would be addressed and that new pavement would be provided on local arterials where such roadways are directly affected by the project construction. However, there will be arterials within the City of Vernon that will not be directly affected by the project construction or constructed-related traffic, but will be affected by the projected increase in truck volumes due to the project. L-14-27

According to Table 5-1 (Alternative 1 North-South Roadway Segment Volumes) and Table 6-1 (Alternative 5C North-South Roadway Segment Volumes) of the Intersection Traffic Impact Analysis

Report (AECOM, March 2017), truck traffic along Atlantic Boulevard between Bandini Boulevard and Washington Boulevard is projected to increase by 11 percent under Alternative 5C, as compared to the volume projected for the No-Build condition. Similarly, a comparison between Table 5-2 (Alternative 1 East-West Roadway Segment Volumes) and Table 6-7 (Alternative 7 East-West Roadway Segment Volumes) of the Intersection Traffic Impact Analysis Report (AECOM, March 2017) reveals a 29 percent increase in truck traffic along Washington Boulevard between Soto Street and I-710 under Alternative 7, when compared to the volume projected for the No-Build condition.

The projected increase in the truck traffic will have a substantial impact to the existing pavement system on local streets within the City of Vernon. The City requests that the potential impact to the local street pavement system be evaluated in the appropriate section of the RDEIR/SDEIS and suitable mitigation measures, such as pavement rehabilitation or replacement, be identified as part of the I-710 Corridor Project. L-14-27

In addition, due to the significant amount of truck traffic within the City of Vernon, concrete pavement should be considered for ramp terminal intersections, as well as, along Atlantic Boulevard, Bandini Boulevard, and other impacted roadways requiring pavement rehabilitation or replacement due to increased truck traffic.

Comment 28 - 37th Street/Santa Fe Avenue Intersection Mitigation

Per Table 3.5-23 of the RDEIR/SDEIS, the 37th Street/Santa Fe Avenue intersection is one of the intersections determined to be adversely impacted by the project under both build alternatives due to increased traffic volume and delay relative to the future No-Build condition. A potential mitigation to provide an acceptable level of service (LOS) at this intersection would be to add a separate right-turn lane on the westbound approach. However, mitigation is not recommended at this intersection due to the right of way impact in the northeast quadrant of the intersection. L-14-28

While the City understands the importance of minimizing right of way acquisition of private properties and displacement of businesses, in this instance, the City feels that the need for safe and efficient transportation improvement at this intersection should be further investigated. Mitigation improvement should be pursued as part of the environmental clearance.

Comment 29 - LOS E on Atlantic Boulevard

Per Figure 5-4, Figure 6-1, and Figure 6-6 of the Intersection Traffic Impact Analysis Report (AECOM, March 2017), level of service (LOS) D or better is projected for Atlantic Boulevard between Bandini Boulevard and Washington Boulevard under the No-Build Alternative, while LOS E is projected for this roadway segment under both build alternatives in the planning horizon year 2035. However, the RDEIR/SDEIS does not identify this LOS degradation as an adverse impact and no mitigation is proposed to address the degradation of this roadway segment under the build alternatives. L-14-29

Comment 30 - Intersection Queues

Table 7-41 of the Traffic Operations Analysis Report (AECOM, March 2017) indicates that adequate storage is provided at all studied intersections in Vernon under the planning horizon year 2035 build conditions, except at the following six approaches: L-14-30

- WB Bandini Boulevard through the junction at -710 NB ramps (Alt 5C & Alt 7)

- Left-turn pocket from WB Bandini Boulevard to I-710 NB on-ramp (Alt 5C & Alt 7)
- Right-turn pocket from Atlantic Boulevard to I-710 SB on-ramp (Alt 5C & Alt 7)
- Left-turn pocket from SB Pennington Way to Bandini Boulevard (Alt 5C & Alt 7)
- Right-turn pocket from WB Bandini Boulevard to Pennington Way (Alt 5C)
- Right-turn pocket from WB Bandini Boulevard to Atlantic Boulevard (Alt 5C)

The City requests that the project team consider extending the turn pockets at each of the above left- and right-turn locations which may be accomplished with minimal or no additional impacts to right of way. In some instances, minor realignment of Atlantic Boulevard or Bandini Boulevard would allow the turn pockets to be extended without right of way impacts. The City requests the project team consider adjusting the project design to provide adequate queue storage at these locations. L-14-30

Comment 31 – Left-Turn Pocket from WB Washington Boulevard to SB Downey Road

The City requests that the project team perform an analysis of the adequacy of the left-turn pocket queue length from WB Washington Boulevard to SB Downey Road. Under Alternative 7, the project is proposed to increase vehicular traffic volumes along Washington Boulevard. Mitigation (an extra left-turn lane in the NB and SB approaches) is recommended for the Washington Boulevard/Downey Road intersection under Alternative 7. However, no improvements to the westbound left-turn pocket are proposed. Due to high truck-turning volumes at this intersection the existing westbound left-turn pocket from time to time currently experiences queue lengths into the through lanes. Additional traffic volumes, especially trucks, on Washington Boulevard will exacerbate this condition. An analysis should be conducted to determine if additional improvements are required at this intersection to mitigate this impact. L-14-31

SECTION 3.6 VISUAL/AESTHETICS

Comment 32 – Screen Wall on Elevated SB Freight Corridor

Under Alternative 7, the SB freight corridor begins just north of the Atlantic Boulevard/Bandini Boulevard interchange with an elevated structure that runs parallel the west side of I-710 and crosses over Atlantic Boulevard and Bandini Boulevard, before crossing over to the east side of I-710. In this area, the SB freight corridor would be elevated approximately 25 to 30 feet over the I-710 freeway, which would also be raised 10 to 15 feet higher than the existing freeway profile. The City requests that the project team evaluate the potential glare, light, and aesthetic impacts from the elevated freight corridor and consider screen walls on the SB freight corridor through the portion within the City of Vernon. L-14-32

SECTION 3.24 CONSTRUCTION IMPACTS

Comment 33 – Construction Impacts on Traffic and Transportation

Section 3.24.3.5 of the RDEIR/SDEIS indicates that an analysis of temporary traffic impacts during construction is provided in the Intersection Traffic Impact Analysis Report (AECOM, March 2017), including levels of service expected during construction and a general description of anticipated ramp closures during construction. However, the City could not find this discussion in the referenced report. Please provide the aforementioned report. L-14-33

Comment 34 – Ramp and Street Closures

The project construction in and near the City of Vernon is estimated to take 54 to 84 months depending on the alternative chosen. In addition, the Construction Staging Concepts report, dated May 18, 2017, reveals that there is high likelihood that all of the Atlantic Boulevard/Bandini Boulevard interchange ramps as well as sections of Atlantic Boulevard and Bandini Boulevard would need to be closed for a prolonged period, possibly ranging from 4 to 36 months.

Prolonged closure of local streets and ramps (i.e. more than 10 consecutive days) would have significant economic impacts to the businesses in the City of Vernon. The City requests that each of the closure is limited to less than 10 consecutive days and that the number of closure periods be limited to a maximum of three times within a 12-month period. Construction of temporary ramp pavement and temporary street widening should be considered where feasible to keep the street and interchange open and minimize closures during construction. L-14-34

Additionally, the City requests that Mitigation Measure CON-TR-1 on page 3.24-48, include language that any ramp closures that exceed 10 days will need a formal "Ramp Closure Study".

Comment 35 – Construction of Atlantic Boulevard/Bandini Boulevard Interchange

The response to the City's previous comment on the 2012 Draft EIR/EIS (L-14-107 in Appendix S of the RDEIR/SDEIS) indicates that if a build alternative is selected that includes improvements to the I-710/Washington Boulevard interchange as the preferred alternative, the City's request to construct the I-710/Washington Boulevard interchange before any construction begins at the I-710/Atlantic Boulevard/Bandini Boulevard interchange, will be considered in developing the construction sequencing of the project.

The City appreciates the response that consideration to improve the Washington Boulevard interchange before reconstruction of the Atlantic Boulevard/Bandini Boulevard interchange will be made in the construction staging development during the final design. To ensure that this intent is communicated to the final design project team, the City requests that a mitigation measure specifying this intent be added in the RDEIR/SDEIS. The City also requests that the mitigation measure includes the City's involvement in the construction staging development for the improvements in and near Vernon during the final design phase. L-14-35

L-14-1

Interchange improvements at the Slauson Avenue/I-710 interchange under Alternative 5C are shown in Figure 2.3-6, Sheet 7 in Section 2.3.2.2 of the RDEIR/SDEIS and in Figure 2.3-11, Sheet 7 in Section 2.3.2.3 for Alternative 7. As discussed in Table 2.3-3, under Alternative 5C, the interchange improvements would include the reconstruction of Slauson Avenue, including the freeway overcrossing from the Los Angeles River to approximately 700 feet east of the existing Los Angeles Junction Railway at-grade crossing. In addition, as discussed in Table 2.3-4, under Alternative 7, the interchange improvements would include construction of a partial interchange at Slauson Ave., including a southbound entrance ramp and a northbound exit ramp for the truck lanes and reconstruction of Slauson Ave., including the freeway overcrossing and the bridge over the Los Angeles River, from approximately 200 feet west of Alamo Ave. to approximately 700 feet east of the existing Los Angeles Junction Railway at-grade crossing Please refer to Section 1.7 of this appendix for more information on I-710 Early Action Projects.

A full service local interchange at Slauson was evaluated as part of the 2012 DEIR/EIS. Further evaluation of a full service interchange was conducted as part of the refinement of build alternatives. Due to impacts to existing infrastructure, adjacent property, and freeway operations, a new interchange at Slauson was not considered viable. The impacts under this refinement included relocation of the LA Junction Railroad and corresponding property impacts required for its relocation, additional property acquisition and business relocations in the City of Commerce along Slauson Avenue, additional property acquisition and business relocation in Bell (including the Salvation Army Homeless Shelter), and relocation of LADWP electrical transmission towers. Furthermore, the new interchange would not be compatible with proposed interchange improvements at the Atlantic Boulevard/Bandini Boulevard Interchange. These assessments, along with the proposed build alternatives, were reviewed with the City's Public Works Director, Kevin Wilson, and City Council at the Council meeting on July 21, 2015, prior to the public review period of the RDEIR/SDEIS.

L-14-2

Due to public and agency input, the Preferred Alternative has been identified as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

L-14-3

In accordance with the Caltrans *Highway Design Manual* (6th edition, December 2018), the build alternatives were designed to accommodate merging requirements, turning movements, sight distance, and appropriate signage, lighting, and fencing, and closure requirements to enhance safety. Several deficiencies at the existing interchange would be eliminated or minimized by the ramp configuration proposed under the build alternatives, thereby enhancing

safety. Relocation of the ramp termini away from the Atlantic Boulevard/Bandini Boulevard intersection would be fundamental to proposed safety enhancements as driver confusion would be reduced because advance guide signs would be installed which would provide sufficient time for driver decision making. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, left turn movements will not need to be considered at the Atlantic Boulevard northbound off-ramp intersection. Please refer to Section 1.1 of this appendix for more detail on the Preferred Alternative.

L-14-4

The traffic analysis performed for the build alternatives showed that there is no turning movement demand from WB Bandini to the SB entrance road. The same movement would be more efficiently accomplished at the Atlantic Boulevard/Bandini Boulevard intersection preceding the subject intersection. Similarly, there is no turning movement demand from EB Bandini to the SB Atlantic. The same movement would be more efficiently accomplished at the Bandini/SB Atlantic entrance road intersection preceding the subject intersection. Furthermore, larger vehicles could not safely make the suggested right turn at the Atlantic Boulevard/Bandini Boulevard intersection without adversely affecting the intersection's operation.

L-14-5

The Caltrans *Highway Design Manual* was updated after completion of the conceptual design of the build alternatives. Refinements to the build alternatives have been incorporated to address the design standard. Documentation has been prepared for nonstandard features in Alternative 5C, should the design feature not meet current standards. However, as stated in Response to Comment L-14-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the provision of a 300-foot maximum auxiliary lane incorporated at the Atlantic Boulevard and Bandini Boulevard entrance ramps does not need to be evaluated.

L-14-6

Refinements to lane widths to accommodate truck turning have been incorporated at ramp terminal intersections, including the Bandini Boulevard northbound on-ramp and the Atlantic Boulevard northbound off-ramp, for Alternative 5C.

L-14-7

Refinements to lane widths and curb return radii to accommodate truck turning have been incorporated at ramp terminal intersections and the adjacent Atlantic Boulevard/Bandini Boulevard intersection for Alternative 5C.

L-14-8

Along with other checks, corner sight distance has been checked at all locations and refinements have been incorporated to meet standards. At locations where standards are not met in Alternative 5C, documentation has been prepared for the nonstandard features.

L-14-9

Along with other checks, stopping sight distance has been checked at all locations and refinements have been incorporated to meet standards. At locations where standards are not met in Alternative 5C, documentation has been prepared for the nonstandard features.

L-14-10

A free-right turn movement was previously evaluated and was not considered practical given the 3-lane through movement on NB Atlantic Boulevard and the greater potential for vehicle-pedestrian/bicycle conflicts. A yield-controlled movement is proposed under the build alternatives. The outermost lane on NB Atlantic Boulevard, which is forced to merge prior to the Pennington Way overcrossing, serves as an acceleration lane for right turning traffic. An additional acceleration off a free-right turn, as requested, would make merging conditions more difficult and introduce greater conflicts to bicycle travel on Atlantic Boulevard.

L-14-11

Please refer to Response to Comment L-14-2 regarding the selection of the No Build Alternative as the Preferred Alternative. Therefore, the freight corridor will not be constructed and will therefore not need to be realigned.

L-14-12

Please refer to Response to Comment L-14-2 regarding the selection of the No Build Alternative as the Preferred Alternative. Therefore, the Atlantic Blvd. NB off-ramp structure will not be constructed and will therefore not need to be realigned.

L-14-13

As stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, it is no longer necessary for Caltrans to coordinate with the City regarding design features that may be feasibly employed that discourage encampments.

L-14-14

As stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, additional illumination under undercrossing bridge structures along Atlantic Boulevard and Bandini Boulevard does not need to be evaluated.

L-14-15

Sight lines and sight distances are design elements governed by Caltrans' *Highway Design Manual*, which establishes uniform policies and procedures to carry out its State highway design functions. As stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, specific design elements such as this will not need to be evaluated.

L-14-16

The design for sidewalks under the build alternatives took into consideration the additional space needed to accommodate utility poles, street signs, bus stops, benches, and various facilities as required by current design standards.

L-14-17

The proposed design of the build alternatives would help eliminate turning conflicts at the Atlantic Boulevard/Bandini Boulevard intersection by relocating existing I-710 ramp ingress and egress locations further away from this very busy intersection. For the Metro bus stop in the southbound direction of Atlantic Boulevard, at the southwest corner of Atlantic Boulevard/Bandini Boulevard, the need for a free right from Bandini Boulevard has been eliminated and sight distances would be improved relative to existing conditions for this far side stop. The Metro bus stop in the northbound direction of Atlantic Boulevard, at the northeast corner of Atlantic Boulevard/Bandini Boulevard, would need to be relocated by the build alternatives approximately 100 feet to a location just north of the gated driveway to the Preferred Freezer Services business. Under the proposed design, there would be sufficient space within the public street right-of-way within the curve of the lane drop to accommodate this stop. However, as stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to these bus stops.

L-14-18

Caltrans' Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians (Caltrans 2010) has been used during the design process of the build alternatives. As discussed in Section 3.5.3.2 of the RDEIR/SDEIS and in this Final EIR/EIS, because sidewalks would be improved under the build alternatives, bikeways and trails would be maintained, and bicycle and pedestrian connectivity would be enhanced, the build

alternatives would improve conditions for pedestrian and bicycle travel. In addition, as discussed in Section 2.3 of the RDEIR/SDEIS and in this Final EIR/EIS, with respect to “Complete Streets” improvements, inclusion of pedestrian paths (sidewalks, curb ramps, and crosswalks) and sufficient outside shoulder width to accommodate Class II bikeways on local street crossings would be provided as part of local interchange modifications under the build alternatives. However, as stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the addition of new crosswalks will no longer need to be evaluated Please also refer to Response to Comment L-14-17 regarding the transit stops at Atlantic Boulevard/Bandini Boulevard.

L-14-19

Refinements to bike lanes have been incorporated at the suggested locations in Alternative 5C.

L-14-20

A Modified Access Report (MAR) has been prepared for the build alternatives and reflects proposed modifications featured in Alternative 5C. Should Alternative 5C be selected as the Preferred Alternative, Caltrans would coordinate with the City prior to final design development to update Freeway Agreements as necessary. The Freeway Agreement would document the understanding between Caltrans and the local agency relating to the planned traffic circulation features of the proposed freeway or controlled access highway.

L-14-21

The City of Vernon’s desire for the relocation of Fire Station No. 4 to be an Early Action Project is acknowledged. As discussed in Section 3.3.1, Community Character and Cohesion, of the RDEIR/SDEIS and in this Final EIR/EIS, the build alternatives include improvements to the existing Bandini Boulevard/Atlantic Avenue interchange which would require acquisition and relocation of the City of Vernon Fire Station No. 4. However, as stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Fire Station No. 4 will no longer need to be relocated.

L-14-22

Table 3.3-12 of this Final EIR/EIS was revised to more clearly indicate wherein billboard or cellular tower relocation would be required under the build alternatives. As shown in that revised table, Alternatives 5C and 7 would require displacement of one billboard in the City of Vernon, located on the parcel at 4651 Bandini Boulevard. However, as stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, this billboard will no longer require relocation.

L-14-23

As stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Temporary construction easements for driveway reconstruction will are not necessary.

L-14-24

This comment regarding the inconsistent data provided in Section 3.25, Cumulative Impacts, and Table 3.3-12 in Section 3.3, Community Impacts, of the RDEIR/SDEIS is acknowledged and included in the project record. Table 3.3-12 correctly states that no residential relocations are proposed under either build alternative or Design Option within the City of Vernon. The Cumulative Impact section of the Final EIR/EIS has been revised to accurately reflect that there are no residential displacement impacts in the City of Vernon.

L-14-25

Peak hour traffic volumes are not typically shown in these summary tables in the RDEIR/SDEIS. However, this level of detail can be found in the supporting traffic technical reports prepared for the RDEIR/SDEIS, specifically the *Intersection Traffic Impact Analysis Report* (March 2017) and the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017), which are publicly available documents that are available upon request by contacting Caltrans District 7.

L-14-26

For the Atlantic Blvd/Bandini Blvd intersection (No. 74), existing peak hour factor (PHF; AM/MD/PM - 0.98/0.99/0.96) was carried over to the 2035 No Build Alternative, but a more conservative factor of 0.92 was used for the build alternatives due to the uncertainty associated with future build operations.

L-14-27

The commenter's concern regarding pavement deterioration on local streets as a result of increased traffic from the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will not be increased traffic and pavement deterioration on local roads as a result of the build alternatives.

L-14-28

Caltrans and Metro strive to examine and develop the most appropriate avoidance, minimization and/or mitigation measures for the build alternatives, taking into consideration right-of-way constraints, safety, and feasibility in implementing any proposed mitigation. However, as stated

in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, adding a separate right-turn lane on the westbound approach at the 37th Street/Santa Fe Avenue intersection is no longer necessary to evaluate as a mitigation measure.

L-14-29

The roadway segment Volume/Capacity (V/C) analyses in the *Intersection Traffic Impact Analysis Report* (March 2017) provides a broad overview of how the alternatives affect traffic performance on the major north/south and east/west arterials serving the I-710 corridor. The more detailed intersection Level of Service (LOS) analysis is the appropriate methodology for evaluating the traffic impacts of the alternatives on the arterial street network, as intersections control the flow of traffic on these streets. The traffic impact thresholds focus on the study intersections as that is where the delay to motorists using the arterial network typically occurs and where the quantitative traffic analysis is most sensitive to changes in traffic flows and traffic movements associated with the proposed project. Impact methodologies and thresholds are specific to the 185 intersections that were evaluated for the Preferred Alternative throughout the arterial network and should not be applied to the roadway segments in the I-710 Study Area. The detailed discussion of intersection impact thresholds and methodologies can be found in Sections 2.2 and 7 of the *Intersection Traffic Impact Analysis Report* (March 2017) and were summarized in Section 3.5.3.1 of the RDEIR/SDEIS. The Atlantic Blvd/Bandini Blvd and Atlantic Blvd/Washington Blvd intersections were analyzed in the *Intersection Traffic Impact Analysis Report* referenced in the comment, and provide a more detailed assessment of the traffic performance on this segment of Atlantic Boulevard.

L-14-30

Impact thresholds are based on delay at the intersections, as discussed on page 3.5-91 of the RDEIR/SDEIS. For further detail, please refer to Section 7 of the *Intersection Traffic Impact Analysis Report* (March 2017). Queue lengths are not used for impact determination. However, as stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, extending the turn pockets at each of the cited left- and right-turn locations will not be examined.

L-14-31

The City of Vernon's recommendation for mitigation at Washington Boulevard/Downey Road has been acknowledged. However, the No Build Alternative has been identified as the Preferred Alternative. It should be noted that improvements at this location would be in accordance with Measure TR-1 which is only applicable to Alternative 7 only. Please refer Response to Comment L-14-30 for further information on queue lengths and impact determinations and to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

L-14-32

Key Views 22 and 23, although not within the limits of the City of Vernon, are representative views for Vernon and a discussion of the environmental consequences to visual quality as a result of the elevated corridor under Alternative 7 was discussed in Section 3.6.3 of the RDEIR/SDEIS. Please note that the nature of the Visual Impact Assessment prepared in support of Section 3.6 of the RDEIR/SDEIS is not to examine every view to and from the project, but to select a comprehensive suite of representative key views. More information on the necessity of screen walls is described in Section 3.6.3.1 of the RDEIR/SDEIS, which states that “glare from vehicle headlights in the general purpose lanes and the elevated portions of the freight corridor are expected to be minimized by the construction of soundwalls and screen walls.” Per Measure VIS-9 identified in Section 3.6.4 of the RDEIR/SDEIS, "During final design, Caltrans will review with each local jurisdiction the aesthetic features and treatments [including screen walls] proposed to be incorporated in the final facility design for freeway components adjacent to each local jurisdiction, in accordance with the *I-710 Corridor Aesthetics Master Plan* described in Measure VIS-1.” However, the No Build Alternative has been identified as the Preferred Alternative. Therefore, there will be no need for screen walls.

L-14-33

A construction staging analysis provided in the *Construction Staging Concepts Report* (2017), which identifies the sequence of construction activities and ramp closures, was performed for the build alternatives as one of the supporting technical documents for the *Draft Project Report* (2017). However, the No Build Alternative has been identified as the Preferred Alternative. Therefore, defining further detail regarding traffic detours, approximate timelines for construction activities, and specifics related to ramp closures during construction will not be necessary

L-14-34

As stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure CON-TR-1 of this Final EIR/EIS does not need to be revised to include the following statement: “If full ramp closures (lasting 10 days or longer) are found to be necessary during future phases of the project, a Ramp Closure Study will be performed to evaluate any potential impacts.”

L-14-35

Please refer to Section 1.7 of this appendix regarding Early Action Projects. A preliminary construction staging analysis was prepared for the *I-710 Corridor Project Draft Project Report* (2017) to evaluate the two build alternatives for feasibility and constructability. The preliminary construction staging analysis shows that the construction elements of the Atlantic-Bandini interchange would need to be sequenced with the construction stages of the Washington

Boulevard interchange due the complexity of the overall Atlantic-Bandini/Washington/I-5 segment. However, this information is preliminary. As stated in Response to Comment L-14-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the City's suggestion regarding construction sequencing to construct improvements at the I-710/ Washington Boulevard interchange prior to reconstruction of the I-710/Atlantic Boulevard/ Bandini Boulevard interchange will no longer need to be taken under consideration in development of the detailed construction staging strategy and schedule.

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Community Development Department

October 17, 2017

Caltrans District 7
Division of Environmental Planning
Attention: Mr. Ronald Kosinski
100 South Main Street, MS 16A
Los Angeles, CA 90012

SCH# 2008081042
07-LA-710-PM 5.4/24.5

SUBJECT: CITY OF HUNTINGTON PARK COMMENTS ON THE I-710 CORRIDOR PROJECT RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT/SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Kosinski:

The City of Huntington Park (City) is submitting this letter in response to the public release of the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) and Section 4(f) Evaluation for the I-710 Corridor Project. This letter represents the official comments of the City of Huntington Park on the RDEIR/SDEIS, and as such, our review was focused on the potential project impacts that would most directly impact the City. As reflected below our review and corresponding concerns are related to growth, real property resources, traffic, and air quality.

1. Comments on the RDEIR/SDEIS

a. Growth

Table 3.3-2 of the RDEIR/SDEIS estimates that the population growth percent change between 2012 and 2035 is +12% for the City of Huntington Park. Based on this population growth estimate, if relocation housing has been identified within the City of Huntington Park as part of residential displacement inventory from the neighboring cities, then what percentage of the estimated growth would those relocations account for, in addition to or as part of the projected growth increase? L-15-1

b. Relocations

The RDEIR/SDEIS notes that the Project would not be able to relocate all displaced residents within their respective communities or within an area with reasonable proximity to their community. However, there is a contradiction as currently presented that needs attention., The analysis goes on to note that adequate resources appear to exist at the present time to relocate existing residential occupants to comparable replacement housing. This apparent contradiction warrants either correction or a higher level of discussion to clarify and address this contradiction, including specific reference to the location and comparable make-up of the supposed replacement resources. Since the City of Huntington Park is included in the Project's study area we need to understand, again with a higher level of detail, if the City of Huntington Park has been identified as a potential resource to meet the need for replacement housing? A secondary and potentially cumulative impact also warranting detailed discussion is how would the relocations from surrounding communities potentially impact the City of Huntington Park's current/projected housing supply? L-15-2

c. Traffic

i. On page 3.5-110 of the RDEIR/SDEIS, the intersection of Slauson/Boyle (#170) is listed under the City of Huntington Park, but throughout the rest of the document (and the traffic reports) this intersection is listed under the City of Vernon. This intersection spans the jurisdictional boundaries between the two cities, along a north-south split with the City of Huntington Park to the west and the City of Vernon to the east. The analysis should be updated to include this jurisdictional boundary and should be accurately reflected throughout the RDEIR/SDEIS. The analysis should also specifically discuss the needed coordination and concurrence regarding any potential modifications to this intersection. Both Cities will need to be party to and agree upon any determinations and/or proposed improvements. L-15-3

Figure 5-1 in the Traffic Impact Analysis Report (TIAR) shows No-Build volumes of 33,600/0/2000 (Auto/Port/Non-Port Trucks) on Slauson north of Atlantic. Figure 5-3 shows a change to 31,700/400/2500 with Alternative 7. However, the necessary discussion regarding the shift in traffic generation and change in volumes between these two figures has not been provided. Please provide further clarification as to why 400 Port trucks would use Slauson under Alternative 7. The shift and increase in port-related truck traffic based on the I-710 improvements should encourage Port trucks to use the freeway instead of local streets. Additionally, the analysis does not provide supporting documentation regarding the decline in the total auto traffic volumes. L-15-4

ii. The identified impacts at the two or three Huntington Park intersections are relatively minor across most of the build alternatives; however, for Alternative 7 L-15-5

there is a projected increase in delay by approximately 10 seconds for the following intersections:

- Slauson Ave./Alameda St.
- Slauson Ave./Santa Fe Ave.
- Slauson Ave./Boyle Ave. (City of Vernon or City of Huntington Park?)

L-15-5

The needed analysis and explanation regarding the cause of these delays and the corresponding impacts has not been provided. If the delays are caused by an increase in traffic associated with the corridor (i.e., induced demand) or some other influencing factor, that discussion is necessary, along with potential measures to minimize impacts.?

iii. If the impacts are volume-related, they are presumably related to the increase in trucks on the City of Huntington Park streets, as noted in comment ii. Instead of geometric modifications, we recommend serious consideration of travel demand management (TDM) or other strategies be employed to keep truck traffic off City streets. While the suggested mitigation strategies appear to be effective for traffic operations at those three intersections, the additional trucks will potentially affect traffic operations, safety, and quality of life on all other intersections in the City where truck traffic will increase. The City recommends the consideration of other mitigation strategies to address this impact. L-15-6

iv. Table 6-6 in the TIAR shows high volumes on City of Huntington Park streets, and some of these volumes (especially trucks) will result in impacts. What impact criteria were used to assess these arterial volumes? Section 3.5.3 of the RDEIR/SDEIS describes changes in vehicle level of service (LOS) for freeways, arterials, and intersections, but only intersection impacts are quantified. Please provide further clarification regarding impact criteria, including quantification of impacts for freeways and arterials. L-15-7

v. Figure 6-6 in the TIAR (and other similar figures) do not show V/C ratios on Gage or Santa Fe. Consistent illustration of these ratios across the figures is needed to allow for comparative evaluation. In addition, Santa Fe, which is an intersection determined to have an impact, has this street been evaluated for arterial impacts? L-15-8

vi. Based on our review of the traffic analysis presented, it appears that impact criteria were only developed for the intersection analysis. Please clearly identify which criteria were used to evaluate the project-related changes and potential impacts to freeway and arterial LOS. It is also unclear whether the intersection impact criteria are the same for signalized and unsignalized intersections. An explanation should be provided for why they are the same or whether a different criterion was used. If a different criterion was used, an explanation supporting its use and benefit to the analysis is also needed. L-15-9

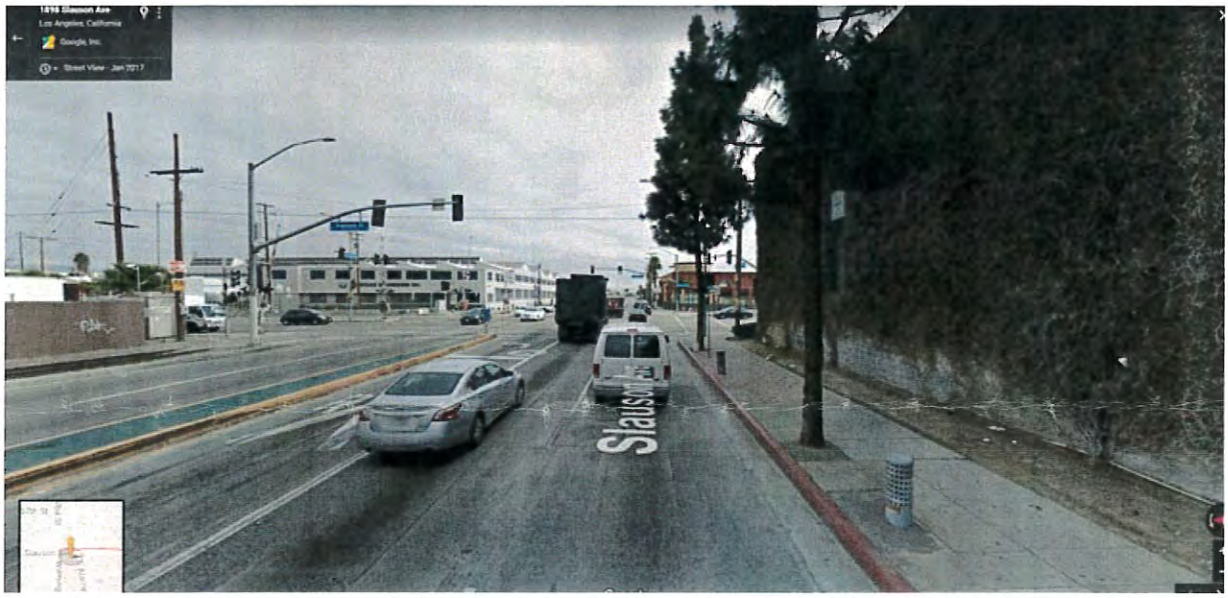
vii. The analysis as currently presented does not include an assessment of potential impacts to pedestrians and bicyclists. Per comments ii. and vi., if truck traffic will increase on local street, then these two user groups will be affected. Please provide a more comprehensive assessment of impacts to non-motorized modes. Page 3.5-106 of the RDEIR/SDEIS states that the build alternatives "will provide facilities for bicycles and pedestrians" where non-motorized traffic would be affected during construction, but without specific discussions regarding the location and make-up of these facilities for bicycles and pedestrians, the City is presuming they would be adjacent to the I-710 freeway. Additional discussion regarding these to-be provided facilities, along with any other improvements anticipated on streets away from the freeway should be provided in an updated discussion. This is of particular importance in locations within the City of Huntington Park, where traffic will increase. L-15-10

In addition, the City of Huntington Park, along with the cities of Bell, Maywood, and County of LA, have plans for the LA River pedestrian/cycling path trail adjacent to I-710. The RDEIR/SDEIS should address any modifications to the I-710 right-of-way that may potentially impact any plans to this trail, and whether the proposed trail plans would be viable and not conflict with any planned improvements for the LA River. L-15-11

viii. The analysis and documentation as presented has not presented any substantive discussion regarding safety. The potential for either positive or negative safety impacts in relation to traffic should be provided. There is limited data on the freeways in Section 3.5.2.1, but a more robust narrative is warranted and there is no discussion regarding arterials or intersections. L-15-12

ix. In the Traffic Operations Analysis Report (TOAR) (page 6-20), induced demand is mentioned: "the induced truck traffic would further increase the projected traffic demand on eastbound SR-91, causing segments that are outside of the improvement area to experience heavy congestion." Would the streets in the City of Huntington Park experience negative effects of induced demand? Please provide description of induced demand (i.e., what it is, how it was analyzed) and assessment for local streets within the City of Huntington Park. L-15-13

x. At Slauson/Alameda West, there is an identified mitigation to add a separate right-turn lane on the southbound approach. There does not appear to be sufficient right-of-way to add a right-turn lane without right-of-way impacts to the building on the northwest corner (see photo below). How would this mitigation improvement be implemented without causing secondary right-of-way/relocation impacts? L-15-14



Southbound Alameda West, approaching the Slauson intersection (looking south, from north of the intersection).

L-15-14

xi. At Slauson/Santa Fe there is an identified mitigation to add a separate right-turn lane on the northbound approach. There does not appear to be sufficient right-of-way to add a right-turn lane without right-of-way impacts to the gas stations on the southeast and southwest corners (see photo below). Again, how would this mitigation improvement be implemented without causing secondary right-of-way/relocation impacts?



L-15-15

Northbound Santa Fe, approaching the Slauson intersection (looking north, from south of the intersection).

L-15-15

xii. At Slauson/Boyle there is an identified mitigation to add a separate right-turn lane on the eastbound approach. There does not appear to be sufficient right-of-way to add a right-turn lane without right-of-way impacts to the Staples parking lot, landscaping, and sign on the southwest corner (see photo below). How would this mitigation improvement be implemented without causing secondary right-of-way/relocation impacts?



Eastbound Slauson, approaching the Boyle intersection (looking east, from west of the intersection).

L-15-16

Any proposed improvements would need to be discussed and coordinated closely with the City of Huntington Park before any proposed measures can be considered viable mitigation strategies. Specifically, any plans to widen the street or convert lanes need to be adequately assessed along with other secondary financial and logistical impacts. Additionally, the City of Huntington Park would like Caltrans to evaluate to streets that will be impacted as a result of increased traffic. Cost for repairs to streets and sidewalks, especially along Florence Avenue, should be discussed with the City.

L-15-17

d. Air Quality

i. The RDEIR/SDEIS presented the overall emission changes for different study areas (SCAB, AOI, and I-710). Localized impacts to the near-road communities along the I-710 corridor were not identified. Although the project's Air Quality,

L-15-18

Greenhouse Gases, and Health Risk Technical Study (June 2017) included figures showing emission changes and incremental criteria pollutant concentrations along I-710, it is impossible to identify the impacted locations on these figures due to the large areas the figure covers. The City requests that areas adversely impacted by the project be presented in a legible manner with enough detail both graphically and in tabular form so an informed evaluation and understanding can be obtained. This assessment and documentation should be presented separately from the regional maps to clearly show the size of the impacted areas and the level of impacts. L-15-18

In addition, it is not clear what emissions are presented in Figures 4-1a through 4-1c of the Air Quality, Greenhouse Gases, and Health Risk Technical Study. The figures appear to show emission changes for both $PM_{2.5}$ and PM_{10} in each figure. However, the table title indicates that the figure is only for $PM_{2.5}$ emissions. Within each figure, two sub-figures were labeled as PM_{10}, and the rest of the two sub-figures do not have any labels. The City requests that the figure titles and labels be revised to again clearly indicate the corresponding pollutant for each figure and to facilitate an understanding of the information/results being illustrated/presented. L-15-19

ii. Locations of potential cancer risk increases were not discussed in the RDEIR/SDEIS, other than a general discussion indicating that increased cancer risk would occur "within 110 yards of the I-710 freeway". Although figures showing cancer isopleths are included in the Air Quality, Greenhouse Gases, and Health Risk Technical Study (June 2017), it is impossible to identify the areas with increased cancer risks on these figures due to the large area the figure covers. The City requests that areas identified with increased cancer risks be presented in a legible manner with enough detail both graphically and in tabular form so an informed evaluation and understanding can be obtained. This assessment and documentation should be provided separately from the regional maps to clearly show the impacted communities and level of cancer risk increases. L-15-20

iii. Table 4.2-1 of the RDEIR/SDEIS showed that all project alternatives would have decreased cancer risks when compared to the 2012 baseline. However, the paragraph following the table on Page 4-55 concluded that the cancer risks would increase by 1 in a million for Alternative 7, and would increase by 3 in a million for Alternative 5C. The City request clarification and internal consistency on the results of the health risk assessment. L-15-21

e. **Comments on newly proposed alternatives and design options**

i. **Slauson Boulevard Interchange**: The City supports the construction of a new interchange at Slauson Boulevard. This interchange would provide additional needed access to the I-710 corridor. L-15-22

ii. **Support for Limiting Impact to Exiting State Right-of-Way**: The City appreciates Caltrans efforts to limit the impacts to the exiting right-of-way and reducing impacts in the form of property acquisition. L-15-23

iii. **Support for Zero Emission Design Options**: The City fully supports all efforts to reduce emissions within the I-710 Corridor. L-15-24

The City is committed to our continued partnership through the project development process and we look forward to working with Caltrans to resolve the aforementioned issues for this important transportation project. Please direct any questions and coordination efforts to Juan Arauz at (323) 584-6270.

Sincerely,

Sergio Infanzon
Community Development Director

L-15-1

It was not known at this time this document was prepared where specific relocation housing would be located should a build alternative be selected as the Preferred Alternative. Typically, the right-of-way acquisition process would not commence until the Final EIR/EIS and a Record of Decision for a build alternative has been approved, funding is secured, and final design is underway. Additionally, the details of relocation properties are also subject to the local real estate market conditions at the time. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail.

L-15-2

It should be clarified that Section 3.3.2.4, Environmental Consequences, of the RDEIR/SDEIS and this Final EIR/EIS indicates that adequate comparable replacement housing exists in general within the Study Area, with the exception of special properties such as mobile homes. In addition, no displacements are proposed under the build alternatives within the City of Huntington Park. According to the *Final Relocation Impact Report* (March 2019), Huntington Park was identified as part of the "replacement area" analyzed for available housing stock and as a basis for relocation resources should a build alternative be selected as the Preferred Alternative. However, it should be noted that Caltrans shall, wherever feasible, relocate displaced persons within their existing communities/cities. The relocation of businesses and residential properties is ultimately decided by the displacee. It should also be noted that real estate markets and availability can change drastically from the time an environmental document is prepared to the time a build alternative is constructed, and so a detailed analysis of potential relocations from surrounding communities impacting the City of Huntington Park's current and projected housing supply would be highly speculative. In addition, as stated in Response to Comment L-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, relocations would no longer be necessary.

L-15-3

Section 3.5 of this Final EIR/EIS has been updated to reflect that the Slauson Avenue/Boyle Avenue intersection is a shared jurisdiction between the cities of Huntington Park and Vernon. As stated in Section 3.5.4 of the RDEIR/SDEIS and this Final EIR/EIS, mitigation for impacts to local intersections by the build alternatives would be implemented by Caltrans as the lead agency in coordination with the local jurisdiction (if applicable and should a build alternative be selected as the Preferred Alternative). Therefore, should a build alternative be selected as the Preferred Alternative, any modifications to the Slauson Avenue/Boyle Avenue intersection would be coordinated with both the cities of Huntington Park and Vernon. However, as stated in

Response to Comment L-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, modifications to the Slauson Avenue/Boyle Avenue intersection are no longer necessary.

L-15-4

The explanation of why 400 daily port trucks are forecast to travel on Slauson Avenue west of Atlantic Boulevard in Alternative 7 compared to none under the 2035 No Build Alternative, is that the freight corridor proposed in Alternative 7 has entrance and exit ramps at Slauson Avenue. The freight corridor would attract Port (and non-Port) truck trips from other routes due to the travel time savings it would offer for a subset of truck trip origins and destinations in the I-710 Corridor. Those Port truck trips using the freight corridor that would be destined for land uses on or near Slauson Avenue west of Atlantic Avenue would likely use Slauson Avenue to get to those locations.

The decline in forecast auto volumes between Alternative 1 and Alternative 7 on Slauson Avenue west of Atlantic Avenue is a consequence of the traffic forecasting model reallocating auto trips among different roadways such that each are on the streets that would give them the quickest route to their destinations. The freight corridor under Alternative 7 would shift some truck traffic from the I-710 general purpose lanes to the freight corridor, which would free up capacity on the I-710 general purpose lanes for more auto traffic. Some of this auto traffic would shift from arterial streets, including Slauson Avenue, to the I-710 in order to take advantage of the shorter travel times that would be provided in Alternative 7 compared to the No Build Alternative.

L-15-5

The City's concern regarding the projected increase in delay under Alternative 7 at the referenced intersections is acknowledged. However, Alternative 7 has not been identified as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative. Both the Slauson Avenue/Alameda Street and Slauson Avenue/Santa Fe Avenue intersections would not be impacted by Alternative 5C. However, under future year No Build Alternative conditions, the Slauson Avenue/Boyle Avenue intersection is projected to experience LOS F in the p.m. peak hour, and Alternative 5C would add approximately six seconds of delay to this intersection in the p.m. peak hour. For those intersections that are projected to be highly congested under the future No Build Alternative (i.e., LOS E or worse), only relatively minor increases in delay are sufficient to trigger potential impacts. As a result, mitigation is proposed for Slauson Avenue/Boyle Avenue (Measure TR-1) that would improve this intersection from LOS F to LOS E in the p.m. peak hour. The proposed improvements were included in the text of Measure TR-1 (which would apply if a build alternative is selected as the Preferred Alternative), found in Section 3.5.4 of the RDEIR/SDEIS; please also refer to Appendix E in the *Intersection Traffic Impact Analysis Report* (March 2017)

for a conceptual sketch of these improvements. However, as stated in Response to Comment L-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, mitigation for the build alternatives will no longer be necessary at the Slauson Avenue/Boyle Avenue intersection.

L-15-6

As stated in Response to Comment L-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, mitigation will no longer be necessary within the City of Huntington Park. Please also refer to Response to Comment L-15-5 regarding impacts to the Slauson Ave./Alameda St., Slauson Ave./Santa Fe Ave., and Slauson Ave./Boyle Ave. intersections.

L-15-7

Truck volumes were estimated as part of the vehicle flows on major arterials and analysis calculations within the I-710 Study Area, including Huntington Park. Quantitative information on freeway Levels of Service (LOS) associated with the build alternatives on I-710 is reported in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017). Levels of service as characterized by volume-to-capacity (VC) estimates for the major arterials for the build alternatives were quantified and are mapped in Figure 6-1 of the *Intersection Traffic Impact Analysis Report* (March 2017). Figure 6-1 shows no degradation of arterial roadway segment LOS levels for the build alternatives relative to No Build future conditions (Figure 5-4) within the City of Huntington Park. Impact thresholds focus on the study intersections, as that is where the delay to motorists using the arterial network typically occurs and where the quantitative traffic analysis is most sensitive to changes in traffic flows and traffic movements associated with the build alternatives. A detailed discussion of intersection impact thresholds and methodologies can be found in Section 2.2 of the *Intersection Traffic Impact Analysis Report* (March 2017)

L-15-8

The selection of the arterial roadway segments to include in the traffic analyses performed in support of the RDEIR/SDEIS was determined based upon the role that these major arterial roadways perform with regard to I-710 as well as the regional arterial network. Generally, contiguous north-south arterials of sufficient length that run parallel to the 19-mile I-710 Corridor, and the east-west arterials that have an interchange with I-710 were identified for evaluation, as these regionally significant facilities would be most likely to be influenced by circulation changes on I-710 generated by the build alternatives. Based on volumes reported on the approach legs for the Slauson Ave./Santa Fe Ave. intersection, there would be no appreciable change to traffic on Santa Fe Ave. within the City of Huntington Beach under the build alternatives. Please refer to Figures 5-6.f, 6-3.f, and 6-8.f in the *Intersection Traffic Impact Analysis Report* (March 2017) for detailed information. In addition, as described in Response to

Comment L-15-5, the intersection of Slauson Ave./Santa Fe Ave. would not be impacted by the build alternatives.

L-15-9

A detailed discussion of intersection impact thresholds and methodologies can be found in Section 7 of the *Intersection Traffic Impact Analysis Report* (March 2017), and summarized in Section 3.5.3.1 of the RDEIR/SDEIS. Impact thresholds focus on the study intersections, as that is where the delay to motorists using the arterial network typically occurs, and where the quantitative traffic analysis is most sensitive to changes in traffic flows and traffic movements associated with the build alternatives. While the criteria used to determine LOS for signalized intersections does differ from unsignalized intersections – please refer to Section 2.2.2.1 and Section 2.2.2.2, respectively, of the *Intersection Traffic Impact Analysis Report* (March 2017) for this detailed discussion – the impact thresholds are the same for both signalized and unsignalized intersections.

L-15-10

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, the build alternatives would provide facilities for bicycles and pedestrians in locations *where local roadways are affected by the construction of the build alternatives* [italics added]. Should a build alternative be selected as the Preferred Alternative, these facilities would be designed consistent with the local General Plan Circulation Element and would comply with ADA requirements. The build alternatives would improve pedestrian facilities (sidewalks) by replacing those that would be removed as part of the build alternatives. Bike travel would also be improved under the build alternatives by providing new pavement on the arterial bridges that would be replaced over I-710 and the Los Angeles River. Class I Bikeways within the Study Area would be maintained with the proposed build alternatives.

The addition of the pedestrian and bicycle-only overcrossings under the build alternatives, proposed at locations in which gaps in freeway crossing opportunities have been identified, would also improve pedestrian and bicycle travel within the I-710 Corridor by introducing new connectivity points traversing the I-710 and the Los Angeles River (and in the case of the Pacific Place overcrossing, the I-405 and Metro Blue Line). Therefore, bicycle and pedestrian facilities provided as a result of the build alternatives would be equal to or better than the current condition.

L-15-11

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, under the build alternatives, access to the Los Angeles River Trail would be maintained or upgraded as a result of modifications to trail entrances at the arterial highways that cross the trail. As discussed in

Section 3.24.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, construction of the build alternatives would result in temporary impacts to pedestrian and bicyclist access points to regional and local trails and bikeways (including the Los Angeles River Trail), and short-term closures of segments of bikeways in the vicinity of new and/or modified interchanges. As discussed in Section 3.1.3.3 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, Measures PR-17 through PR-20 would be implemented to minimize temporary impacts resulting from short-term changes in access to, and closures of, the Los Angeles River Trail during construction.

L-15-12

Most of the discussion related to the relative safety and operational effects of the build alternatives focus on the conceptual design of the improvements that take place on the I-710 freeway mainline, local interchanges and ramp intersections, and freeway to freeway interchanges with I-405, SR-91, I-105, and I-5. Safety and traffic issues associated with different I-710 interchange design concepts of the build alternatives are evaluated and discussed in the Intersection Control Evaluation (ICE) reports prepared in support of the Project Report. In addition, an assessment of the relative safety performance of the alternatives was developed as part of the evaluation process used to select the Preferred Alternative. This technical, evaluative information on I-710 safety and operations was presented and discussed in a public forum with the I-710 advisory committees, community groups, and key stakeholders during the period from October 2017 to January 2018. As evidenced in the traffic volume schematics for the arterial system presented in Section 6.1.2 of the *Intersection Traffic Impact Analysis Report* (March 2017), any traffic or operational effects of the build alternatives become more dispersed and muted on the arterial system as the distance from the I-710 freeway increases. Table 6-3 provides a side-by-side comparison of the relative increases and decreases in traffic operation service levels of the build alternatives relative to no build conditions for key intersections throughout the I-710 Study Area. Within the City of Huntington Park, there is no difference in LOS or the changes are so minor that safety would not be materially affected either way.

L-15-13

The reference to “induced truck traffic” within the context of this comment regarding page 6-20 of the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) does not refer to new truck trips traveling on SR-91 created by Alternative 7 that are not forecast in the No Build Alternative. Rather, it refers to truck trips that have rerouted part or all of their trips to utilize I-710 under Alternative 7 and then connect to SR-91. This rerouting is a result of the reduction of travel time for a portion of truck trips due to the availability of the dedicated freight corridor that was proposed under Alternative 7, which includes direct truck only connector ramps to/from SR-91. The streets within the City of Huntington Park would generally see a decrease in truck traffic under either Build Alternative, as some of those trucks would reroute a greater proportion of

their trip onto the I-710 and off of City streets. This is due to Alternative 7 offering a travel time savings compared to other possible truck routes that would travel on City streets.

L-15-14

The conceptual sketches illustrating the mitigation measure (Measure TR-1) identified for the Slauson Ave./Alameda St. intersection indicate that a partial right-of-way acquisition would be needed to implement the mitigation identified under Alternative 7. This intersection was identified to be adversely impacted only under Alternative 7 and is not projected to have any impacts under Alternative 5C. As stated in Response to Comment L-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure TR-1 is not applicable to this intersection.

L-15-15

The conceptual sketches illustrating the mitigation measure (Measure TR-1) identified for the Slauson Ave./Santa Fe Ave. intersection indicate that a partial right-of-way acquisition would be needed to implement the mitigation identified under Alternative 7. This intersection was identified to be adversely impacted only under Alternative 7 and would not have any impacts under Alternative 5C. As stated in Response to Comment L-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure TR-1 is not applicable to this intersection.

L-15-16

The conceptual sketches illustrating the mitigation measure identified at the Slauson Ave./Boyle Ave. intersection indicate that a partial right-of-way acquisition would be necessary to implement the proposed mitigation. For reference, the conceptual sketches are included as Appendix E in the *Intersection Traffic Impact Analysis Report* (March 2017). However, As stated in Response to Comment L-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there would not be any impacts from the proposed mitigation.

L-15-17

Impacts to local intersections from increases in traffic were analyzed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, of the RDEIR/SDEIS and this Final EIR/EIS. Impacted intersections are shown in Figure 3.5-8 and summarized in Table 3.5-23. As discussed in Table 3.5-23 and Measure TR-1, improvements are proposed at the impacted intersections to mitigate for impacts related to the build alternatives. As discussed in Section 3.5.4 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, Caltrans would coordinate local intersection improvements with the local jurisdictions. These improvements would be funded as mitigation due to impacts related to the

build alternatives. As discussed in Measure CON-TR-2 in Section 3.24.4.5 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, prior to construction, new pavement would be provided on local arterials that connect to or cross over (or under) I-710 if they are damaged or affected by construction. However, As stated in Response to Comment L-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no need to coordinate with the City of Huntington Park regarding mitigation strategies or cost for repairs to streets and sidewalks.

L-15-18

Impacts to near-roadway receptors were discussed in Section 3.13, Air Quality, and depicted on the maps in Appendix Q of the RDEIR/SDEIS and this Final EIR/EIS. As discussed in the Air Quality section and shown in Appendix Q, along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations within 100 meters of I-710 or the freight corridor (in the case of Alternative 7) where there would be an increase in certain emissions. Please refer to Figures 3.3-4 through Figure 3.3-9 in this Final EIR/EIS for larger scale contour maps of PM_{10} emissions, $PM_{2.5}$ emissions, and cancer risk for Alternatives 5C and 7.

L-15-19

Figures 4-1a through 4-1c of Appendix Q, AQ/HRA Maps, of the RDEIR/SDEIS, depicted both $PM_{2.5}$ and PM_{10} emissions. On these figures, the larger map depicts $PM_{2.5}$ emissions. The smaller inset shows PM_{10} emissions.

L-15-20

As discussed in the Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Report, cancer risk would decrease in residential areas and at sensitive receptors (e.g., schools, hospitals, daycare and elder care centers, etc.) for all 2035 build alternatives when compared to the 2010 baseline, with the greatest reductions generally occurring for Alternative 7. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would be along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million. Section 4.2.4.1 in this Final EIR/EIS was revised to include this additional clarification.

L-15-21

The discussion of cancer risk in Section 4.2.4.1 in this Final EIR/EIS was revised to clarify that cancer risk would increase at some locations for the 2035 build alternatives compared to the 2035 No Build Alternative. However, cancer risk would decrease for the 2035 build alternatives compared to the 2012 Baseline.

L-15-22

The City's support for construction of a new interchange at Slauson Blvd. is noted and included in the project record. However, As stated in Response to Comment L-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, construction of a new interchange at Slauson Blvd. will not occur with this project.

L-15-23

The City's support for limiting impacts to the existing state right-of-way and reducing impacts in the form of property acquisition are acknowledged and included in the project record. However, As stated in Response to Comment L-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to the existing state right-of-way or a need to acquire property.

L-15-24

The City of Huntington Park's support of a ZE design option is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and to Section 1.3 of this appendix for additional discussion of ZE options.

Los Angeles Unified School District

Office of Environmental Health and Safety

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October 18, 2017

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Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
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SUBJECT: PROJECT NAME: I-710 Corridor Project
PROJECT LOCATION: I-710 between Ocean Blvd. and State Route 60
STATE CLEARINGHOUSE NUMBER: 2008081042

Presented below are comments submitted on behalf of the Los Angeles Unified School District (LAUSD) regarding the Recirculated Environmental Impact Report/Supplemental Draft Environmental Impact Statement for the proposed I-710 Corridor Project (Project). Due to the proximity of Humphreys Avenue Elementary School (ES), Ford Boulevard ES, Slawson Occupational Center, Ellen Ochoa Learning Center, Heliotrope Avenue ES, Marianna ES, Perez Special Education Center, Park Avenue ES, Legacy HS, Dominguez ES, and Maywood ES to the proposed Project corridor, LAUSD is concerned about the potential negative impacts of the Project on our students and staff.

Air Quality

Construction

Construction activities for the proposed Project would result in short term impacts on ambient air quality in the area surrounding the Project corridor resulting from equipment emissions and fugitive dust. To ensure that effective mitigation is applied to reduce construction air pollutant impacts on District schools, we ask that the following language be included as a mitigation measure for air quality impacts:

- If the proposed mitigation measures do not reduce air quality impacts to a level of insignificance, the Project applicant shall develop new and appropriate measures. Provisions shall be made to allow the school and or designated representative(s) to notify the Project applicant when new or more stringent measures are warranted to effectively reduce adverse air quality impacts at the affected schools.

L-16-1

Operation

Humphreys Avenue ES – Humphreys Avenue ES was identified as a sensitive receptor location that would experience increased pollutants and would be subject to an increase in cancer risk under Alternative 5C and 7. Mitigation Measure C-8 states that if Alternative 5C or 7 are selected, "upgraded or new filtration or heating, ventilation, and air conditioning (HVAC) systems will be

L-16-2

provided for" Humphreys ES. LAUSD concurs that this mitigation should be included and requests that the Mitigation Measure be revised to state that, due to the adjacency of Humphreys Avenue ES to the Project corridor, a high-performance panel filter (HP-PF) system with a Minimum Performance Reporting Value (MERV) of 16 will be provided for Humphreys Avenue ES. In addition, as the cost of the high-performance panel filters are expected to exceed the cost of the filters currently in use, the mitigation measure should stipulate that the Project would fund in perpetuity the difference in cost between the high-performance filters and the filters currently being used.

Slawson Occupational Center – Given that the Slawson Occupational Center is located adjacent to the Project corridor, LAUSD requests that mitigation be provided stipulating that a HP-PF with a MERV 16 rating be included at Slawson Occupational Center. If the current HVAC cannot accommodate MERV 16 filters, a new system or retrofits to the existing system that will allow for MERV 16 filters would be provided. In addition, as the cost of the high-performance panel filters are expected to exceed the cost of the filters currently in use, the mitigation measure should stipulate that the Project would fund in perpetuity the difference in cost between the high-performance filters and the filters currently being used. L-16-2

Additional District Schools – The Project includes Mitigation Measure AQ-2, which would require that:

> To further reduce exposure of children and other people to near roadway emissions, air filtration systems shall be provided for any of the following schools within 0.25 mile of I-710 that currently lack adequate air filtration systems. As stated in the California Air Resources Board (ARB) Technical Advisory (April 2017), high-efficiency filters in ventilation systems can remove from 50 to 99 percent of the particles in the air.

District schools within 0.25 miles of the Project corridor include Park Avenue ES, Legacy HS, Dominguez ES, Slawson Occupational Center, Ford Boulevard ES, Humphreys ES, Ellen Ochoa Learning Center, Marianna ES, and Perez Special Education Center. LAUSD requests that this mitigation measure be revised to include all the above District schools. For those schools within 0.25 mile of, but not immediately adjacent to, the Project corridor, the mitigation should stipulate that air filtration systems with a MERV 13 rating be provided and, if the existing HVAC system will not accommodate MERV 13 filters, an HVAC system that will accommodate the appropriate level of filtration would be provided. In addition, the mitigation measure should stipulate that the Project would fund in perpetuity the difference in cost between the MERV 13 rated filters and the filters currently being used. L-16-3

Noise and Vibration

LAUSD established maximum allowable noise levels to protect students and staff from noise impacts generated in terms of L_{eq}. These standards were established based on the California High Performance Schools (CHPS) noise criteria. LAUSD's exterior noise standard is 67 dBA L_{eq}, which is consistent with the exterior noise standard used in the noise analysis for the Project. LAUSD's interior noise standard is 45 dBA L_{eq}, which is more stringent than the 52 dBA Leq that was used in the DEIS/DEIR. In addition, a noise level increase of 3 dBA or more over ambient noise levels is considered significant for existing schools and would require mitigation to achieve levels within 2 dBA of pre-Project ambient level. LAUSD requests that the Project noise impacts be analyzed in accordance with LAUSD's 45 dBA L_{eq} interior noise standard and 3 dBA increase threshold. L-16-4

Construction

To ensure that effective mitigations are employed to reduce construction related noise impacts on District sites, we ask that the following language be included in the mitigation measures for noise impacts:

- If the proposed mitigation measures do not reduce noise impacts to a level of insignificance, the Project applicant shall develop new and appropriate measures. Provisions shall be made to allow the school and or designated representative(s) to notify the Project applicant when new or more stringent measures are warranted to effectively reduce adverse construction-related noise impacts at the affected schools. L-16-5

Operation

Humphreys Avenue ES – The REIR/SEIS indicates that freeway traffic noise impacts have been predicted for Humphreys Avenue ES. It is unclear whether the REIR/SEIS concludes that this is a significant and unavoidable impact; however, the lack of any proposed mitigation for this impact suggests that it is a significant and unavoidable impact. If the finding is that the noise impacts at Humphreys ES is significant and unavoidable, this should be clearly stated in the REIR/SEIS. The REIR/SEIS ruled out extending the height of the existing soundwall between Humphreys ES and the 710 from 12 feet to 16 feet because the increase in height would only provide a noise level reduction of one to two dB and would not provide the minimum required noise reduction of five dB for acoustical feasibility. L-16-6

With Alternatve 5C the difference between the build and no-build alternative would be 4.8 dB. With a 16-foot sound wall the increase would be lowered to 2.8 dB and would be less than significant. Therefore, the District requests that a 16-foot soundwall be installed between Humphreys ES and the Project corridor.

Slawson Occupational Center – As previously discussed, given that the Slawson Occupational Center is located adjacent to I-710 and given that Appendix L of the REIR/SEIS indicates that a partial portion of the Occupational Center parcel would be acquired under the Project's build alternatives, it is likely that noise impacts would occur as a result of the Project and evidence is needed to support the statement that the Project will not directly or indirectly impact the Occupational Center. In addition, concept plans in Appendix O show Project components (freight corridor feature, structure and bypass feature/structure, express lane, local feature/structure, ramps, and other improvements) crossing the Slawson Occupational Center parcel. With the Project planning new construction on the Slawson Occupational Center parcel, the District requests that a thorough analysis of the potential noise and vibration impacts of the proposed Project to the Occupational Center be conducted. L-16-7

Ford Boulevard ES – The Community Impact Assessment states that Ford Boulevard ES, "is not located adjacent to the I-710 mainline or along arterials impacted as a result of the I-710 Corridor Project build alternatives," then concludes that, "therefore, the I-710 Corridor Project build alternatives would not result in direct or indirect impacts to this school." As Ford Boulevard ES is only 300 feet from the existing I-710 corridor, the District requests that an analysis of the potential noise impacts of the proposed Project on Ford Boulevard ES be conducted. L-16-8

Traffic/Transportation

LAUSD understands that the proposed Project would have traffic impacts during construction. LAUSD's Transportation Branch **must be contacted** at (213) 580-2950 regarding the potential impact upon existing school bus routes. The Project Manager or designee will have to notify the LAUSD Transportation Branch of the expected start and ending dates for various portions of the Project that may affect traffic within nearby school areas. To ensure that effective mitigations are employed to reduce construction and operation related transportation impacts on District sites, we ask that the following language be included in the mitigation measures for traffic impacts:

- School buses must have unrestricted access to schools.
- During the construction phase, truck traffic and construction vehicles may not cause traffic delays for our transported students.
- During and after construction changed traffic patterns, lane adjustment, traffic light patterns, and altered bus stops may not affect school buses' on-time performance and passenger safety. L-16-9
- Construction trucks and other vehicles are required to stop when encountering school buses using red-flashing-lights must-stop-indicators per the California Vehicle Code.
- Contractors must install and maintain appropriate traffic controls (signs and signals) to ensure vehicular safety.
- Contractors must maintain ongoing communication with LAUSD school administrators, providing sufficient notice to forewarn children and parents when existing vehicle routes to school may be impacted.
- Parents dropping off their children must have access to the passenger loading areas.

Ford Boulevard ES – As previously discussed, Ford Boulevard ES is only 300 feet from the existing I-710 corridor; therefore, the District requests that an analysis of the potential traffic impacts of the proposed Project on Ford Boulevard ES be conducted. L-16-10

Pedestrian Safety

Construction activities that include street closures, the presence of heavy equipment, and increased truck trips to haul materials on and off the Project site can lead to safety hazards for people walking in the vicinity of the construction site. To ensure that effective mitigations are employed to reduce construction and operation related pedestrian safety impacts on District sites, we ask that the following language be included in the mitigation measures for pedestrian safety impacts:

- Contractors must maintain ongoing communication with LAUSD school administrators at all schools within 0.25-mile of the corridor or at schools beyond 0.25 miles where temporary traffic impacts were identified, providing sufficient notice to forewarn children and parents when existing pedestrian routes to school may be impacted. L-16-11
- Contractors must maintain safe and convenient pedestrian routes to all nearby schools. The District will provide School Pedestrian Route Maps upon your request, which are also available on our website at: https://achieve.lausd.net/Page/3990.
- Contractors must install and maintain appropriate traffic controls (signs and signals) to ensure pedestrian and vehicular safety.
- Haul routes are not to pass by ***any*** school, except when school is ***not*** in session.

- No staging or parking of construction-related vehicles, including worker-transport vehicles, will occur on or adjacent to a school property.
- Funding for crossing guards and/or flag person(s) at the contractor's expense is required when safety of children may be compromised by construction-related activities at impacted school crossings.
- Barriers and/or fencing must be installed to secure construction equipment and to minimize trespassing, vandalism, short-cut attractions, and attractive nuisances.
- Contractors are required to provide security patrols (at their expense) to minimize trespassing, vandalism, and short-cut attractions.

L-16-11

Ford Boulevard ES – As previously discussed, Ford Boulevard ES is only 300 feet from the existing I-710 corridor; therefore, the District requests that an analysis of the potential pedestrian safety impacts of the proposed Project on Ford Boulevard ES be conducted.

L-16-12

The District's charge is to protect the health and safety of students and staff, and the integrity of the learning environment. The comments presented above identify potential environmental impacts related to the proposed Project that must be addressed to ensure the welfare of the students attending District schools, their teachers and the staff, as well as to assuage the concerns of the parents and guardians of these students. Therefore, the measures set forth in these comments should be adopted by Caltrans as conditions of Project approval to offset unmitigated impacts on the affected school students and staff.

Thank you for your attention to this matter. If you need additional information please contact me at (213) 241-3199.

Regards,

Patrick A. Schanen, P. G.,
Environmental Health Manager
LAUSD, Office of Environmental Health & Safety

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L-16-1

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, Measure AQ-2 in Section 3.13.4 of this Final EIR/EIS does not need to be revised to require filters on the ventilation systems of schools near I-710 ***prior*** to construction.

L-16-2

As stated in Section 3.13.4 of the RDEIS/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, mitigation measure AQ-2 would require filters on the ventilation systems of schools located within 0.25 mile of the I-710 freeway that currently lack such filtration systems (including the Slawson Southeast Occupational Center). However, as stated in Response to Comment L-16-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, specifics regarding the air filtration systems to be provided to the listed facilities does not need to be determined.

L-16-3

As stated in Section 3.13.4 of the RDEIS/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would require filters on the ventilation systems of schools located within 0.25 mile of the I-710 freeway that currently lack such filtration systems. However, Marianna Elementary School, the Perez Special Education Center, and Legacy High School are more than 0.25 mile from the improvements proposed under the build alternatives and are, therefore, not included under Measure AQ-2. Dominguez Elementary School meets the criteria and has been added to the text of Measure AQ-2. However, as stated in Response to Comment L-16-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure AQ-2 will not be implemented. However, please refer to Section 1.10 of this appendix for a discussion on the Community Health Benefit Program and how it may be implemented by other agencies separate from this Final EIR/EIS.

L-16-4

It is acknowledged that LAUSD's interior noise standard of 45 dBA L_{eq} is more stringent than Caltrans 52 dBA L_{eq} and that LAUSD considered a noise increase of 3 dBA significant. CEQA requires that an EIR identify the significant environmental effects of a project (State CEQA Guidelines Section 15126), but does not promulgate specific thresholds for significance. Instead, State CEQA Guidelines Section 15064(b) states that "the determination...calls for careful judgment on the part of the public agency involved..." and that "an ironclad definition of

significant effect is not possible because the significance of an activity may vary with the setting." CEQA encourages lead agencies to develop and publish their own thresholds of significance for the purpose of determining the significant effects of their projects. Caltrans Noise Abatement Criteria (NAC) are published in the Caltrans Traffic Noise Analysis Protocol, which establishes an interior NAC of 52 dBA-L_{eq}(h) for schools. As discussed in Section 4.2.3.6, Noise, in Chapter 4.0, CEQA Evaluation, of the RDEIR/SDEIS, the Federal NAC was used as the "applicable standards of other agencies" and a 12 dBA increase in noise over existing levels is considered the "substantial permanent increase" for the CEQA analysis. None of the school interior classroom noise levels approached or exceeded the NAC of 52 dBA-L_{eq}(h) with the build alternatives. However, regardless of the noise threshold utilized, the only LAUSD school adjacent to I-710 is Humphreys Avenue Elementary School, as shown in Figure 3.3-1, Community Facilities, in Section 3.3, Community Impacts. An existing 12-foot soundwall is already in place along I-710 to reduce noise levels at Humphrey Avenue Elementary School. Therefore, utilizing the LAUSD interior noise standard would not change the findings or conclusions of the RDEIR/SDEIS regarding noise impacts.

L-16-5

Please refer to Response to Comment L-16-4. The only school in close enough proximity to be affected by noise generated by the build alternatives is Humphreys Avenue Elementary School. However, there is already an existing 12-foot soundwall in place along I-710 to reduce noise levels at Humphreys Avenue Elementary School.

L-16-6

As indicated in Section 4.2.3.6 of the Final EIR/EIS, there would be no significant and unavoidable adverse noise impacts under either Alternative 5C or Alternative 7. Per the Caltrans Traffic Noise Analysis Protocol, a noise increase is defined as "substantial" when the predicted noise levels under build conditions exceed existing noise levels by 12 dBA, which is considered the "substantial permanent increase" per CEQA Checklist question XII.C. As indicated in the comment, the predicted noise level at the referenced location exceeds the existing noise levels by 4.8 dBA. For reference, although a 5 dBA increase in noise is considered readily perceptible to the human ear[1]; the increase of 4.8 dBA is not considered significant under CEQA. Additionally, the reduction of one to two dBA that would be realized from an increase in height of the soundwall in question would not be perceptible to the human ear (a sound level change of 3 dBA is considered the level at which one perceives as "barely

[1] Federal Highway Administration. 2017. Noise. Highway Traffic Noise Analysis and Abatement Policy and Guidance. Website: https://www.fhwa.dot.gov/environMent/noise/regulations and_guidance/ polguide/polguide 02.cfm (accessed July 18, 2018).

perceptible"). Therefore, no change to the existing soundwall at this location is proposed under the build alternatives.

L-16-7

Although considered an educational facility, the Slawson Occupational Center does not meet the definition of a school as provided for in California Streets and Highways Code Section 216, which describes a school as "a public or private elementary or secondary school,[2]" or colloquially, kindergarten through 12th grade compulsory education. The Slawson Occupational Center is an adult education facility and is therefore not considered a noise-sensitive land use as defined by the Caltrans Traffic Noise Analysis Protocol. Noise-sensitive land uses include residences, active sport areas, hospitals, libraries, parks, places of worship, etc. Noise abatement is considered only where frequent human use occurs and where a lowered noise level would be of benefit. In addition, there are no defined exterior areas of frequent human use at the Occupational Center that would benefit from a lowered noise level.

L-16-8

A detailed analysis of the potential noise impacts in the area of Ford Boulevard Elementary School was contained in Section 3.14, Noise, of the RDEIR/SDEIS and this Final EIR/EIS. As is stated in Section 3.14.4.10, under the build alternatives, two 16-foot soundwalls are recommended for construction, replacing existing 12-foot soundwalls. The proposed walls would provide up to a 10 dBA noise reduction to receptors between Olympic Boulevard and Humphreys Avenue along northbound I-710, including at Ford Boulevard Elementary School. However, as stated in Response to Comment L-16-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no soundwalls will be constructed as a part of this project.

L-16-9

As detailed in Measure CON-U&ES-1, prior to and during construction, should a build alternative be selected as the Preferred Alternative, Caltrans and the Construction Contractor would coordinate all temporary ramp closures and detour plans with local school districts and individual schools as identified by the school districts to minimize temporary delays to school bus services and to minimize effects on students who walk to school, including ensuring that pedestrian detours are safe for student use. In addition, Measure CON-TR-1 indicates that, should a build alternative be selected as the Preferred Alternative, the TMP would include public outreach, including information on current and upcoming construction activities, lane and

[2] FindLaw. For Legal Professionals. 2018. California Code, Streets and Highways Code, SHC Section 216. Website: https://codes.findlaw.com/ca/streets-and-highways-code/shc-sect-216.html (accessed July 18, 2018).

other closures, detours, and other information to assist residents, students, visitors, and business patrons to more effectively travel around and in the vicinity of active construction areas. However, as stated in Response to Comment L-16-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, temporary ramp closures and detour plans will not be necessary.

L-16-10

Per the District's request, this segment of Ford Boulevard between Olympic Boulevard and Verona Street was investigated further to better understand the long-term operational effects of the proposed project under future year (2035) traffic conditions. The overall traffic network is projected to be saturated in the future year. Both Alternative 5C and No Build Alternative traffic volumes from the I-710 travel demand forecast model for this roadway link were examined. Ford Boulevard runs directly parallel with I-710 and serves as a key role in the arterial network, providing connections to I-710, to Olympic Boulevard, and to Whittier Boulevard. When traffic queues develop on I-710, it is not unusual for freeway traffic to divert to the arterial system, seeking alternative routes to bypass the freeway congestion. The build alternatives include the addition of auxiliary lanes to a highly congested segment of I-710 between I-5 and SR-60 to help ease existing and future traffic bottlenecks. As a consequence, the I-710 travel demand forecast model projects higher daily traffic volumes on this segment of I-710 and lower traffic volumes on Ford Boulevard between Olympic Boulevard and Verona Street for the build alternatives, relative to no build traffic conditions. However, as stated in Response to Comment L-16-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, additional analyses do not need to be conducted to determine the timing of construction, to finalize construction staging plans, or to develop a Transportation Management Plan detailing anticipated traffic diversion routes for the different construction stages of the build alternatives.

L-16-11

Safety of pedestrians during construction is of the utmost importance to both Caltrans and Metro. Please refer to Response to Comment L-16-9 regarding the elements of Measures CON-U&ES-1 and CON-TR-1 that address LAUSD's request for ongoing communication with LAUSD and safe and convenient pedestrian routes, should a build alternative be selected as the Preferred Alternative. Specific haul routes and staging/parking areas, including routes into and out of the staging/storage areas, had not been identified at the time this Final EIR/EIS was prepared, and typically are not known in detail until final design. Please also refer to Response to Comment L-16-10 regarding pedestrian safety.

L-16-12

Please refer to Response to Comment L-16-11 regarding pedestrian safety.

City of Downey

October 19, 2017

Ronald Kosinski RK
Caltrans District 7
Division of Environmental Planning
100 South Main Street, MS 164
Los Angeles, CA 90012

Re: **City of Downey's Written Comments on the I-710 Corridor Project Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS)**

Dear Mr. Kosinski:

The City of Downey appreciates the opportunity to review and provide written comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Interstate 710 (I-710) Corridor Project, dated July 2017. This letter represents the official comments from the City of Downey.

The technical review and comments provided herewith focus on the subject matters pertaining to Downey and are limited to that portion of the project study area in vicinity of Downey (primarily the Imperial Highway, Firestone Boulevard, and Florence Avenue interchange areas). The review comments are associated with the following sections of the RDEIR/SDEIS:

- Section 2.3 Project Alternatives (including Concept Plans in Appendix O)
- Section 3.1 Land Use
- Section 3.4 Utilities and Emergency Services
- Section 3.5 Traffic and Transportation/Pedestrian and Bicycle Facilities
- Section 3.24 Construction Impacts
- Section 3.25 Cumulative Impacts

The City thanks Caltrans in advance for their attention to the City's technical review comments on the I-710 Corridor Project and looks forward to working with Caltrans and Metro on this significant project.

If you have any questions regarding this letter, please do not hesitate to contact me at 562.904.7110 or enorris@downeyca.org.

Sincerely,

Edwin J. Norris, P.E.
Deputy Director of Public Works

BACKGROUND

The I-710 Corridor Project is being undertaken by the Department of Transportation (Caltrans) as the lead agency, in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro) as the sponsoring agency. The purpose of the project is to modernize a 19-mile segment of the I-710 corridor from Ocean Boulevard in Long Beach to State Route 60 (SR-60) in East Los Angeles, address projected growth and traffic demand, as well as improve air quality and public health, and traffic safety. A No Build and two build alternatives are being considered in the RDEIR/SDEIS, as briefly described below:

- Alternative 1 (No Build) would maintain the existing lane and interchange configuration with no additional improvements to be provided, other than those projects that are already funded and/or committed to be constructed by or before the planning horizon year 2035.
- Alternative 5C (Modernize the I-710 Freeway) would add up to one general purpose (GP) lane in each direction of I-710 between Anaheim Street in Long Beach and Olympic Boulevard in East Los Angeles.
- Alternative 7 (Add Clean-Emission Freight Corridor along I-710) would add two controlled-access truck lanes in each direction of I-710 from Anaheim Street in Long Beach to Washington Boulevard in Commerce.

The I-710 freeway is within ½ mile of Downey's City limits and several interchanges along the I-710 corridor serve as accesses for Downey. Construction of the I-710 freeway and several interchanges as well as associated roadway improvements would have direct effects on the City of Downey including:

- Reconstruction of the I-710/Imperial Highway interchange from cloverleaf to diverging diamond configuration;
- Extension of Southern Avenue over I-710 and the Los Angeles River;
- Reconstruction of the I-710/Firestone Boulevard interchange (maintain two-quadrant partial cloverleaf configuration); and
- Reconstruction of the I-710/Florence Avenue interchange from cloverleaf to diverging diamond configuration.

The build alternatives include three design variations which are called Option 1A, 2A, and 3A for Alternative 5C and Option 1B, 2B, and 3B for Alternative 7. None of the design options would affect the project design in the area adjacent to Downey. For Alternative 7, Option 7ZE is also proposed to provide exclusive use of the freight corridor by zero emission trucks. This option is operational in nature and does not result in different geometric design of Alternative 7.

SECTON 2.3 PROJECT ALTERNATIVESs

Comment 1. Extension of Southern Avenue

The City is concerned about the potential traffic increase in the City of Downey due to the proposed extension of Southern Avenue, also known as Steward and Gray Road. This arterial primarily serves the City of Downey's residential communities and currently experienced high collision rates. The City requests that the environmental document includes analyses of the future traffic conditions along Stewart and Gray Road, including operational analyses for the roadway segments and key intersections along this arterial, and discloses potential impacts due to the proposed arterial extension. L-17-1

SECTION 3.1 LAND USE

Comment 2. Business Traffic

The City requests that the potential impact to business traffic within the City of Downey be evaluated in the appropriate section of the RDEIR/SDEIS and suitable mitigation measures be identified as part of the I-710 Corridor Project. L-17-2

In addition, please confirm that the traffic analyses and impact assessment performed for the I-710 Corridor Project include consideration of the potential traffic increases associated with the planned revitalization of the Rancho Los Amigos South Campus. L-17-3

SECTION 3.4 UTILITIES AND EMERGENCY SERVICES

Comment 3. Traffic Delays and Emergency Response Times

The Cumulative Resource Study Area, on pages 3.25-59 of the RDEIR/SDEIS, includes City of Downey's Fire Department and Police Department as responders. The City requests that the RDEIR/SDEIS evaluate the potential increased response times on emergency calls due to projected future traffic volume increase on several arterials within the City of Downey as well as for construction periods that are substantial. L-17-4

SECTION 3.5 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

Comment 4. Traffic Volumes

Section 3.5 of the RDEIR/SDEIS includes various tables showing level of service (LOS), traffic flow density and/or volume-to-capacity ratio, and vehicle delay information for a.m., mid-day, and p.m. peak hours for the freeways, ramps, and local arterials. The City requests that a.m./mid-day/p.m. peak hour traffic volumes for I-710 mainline, interchange ramps, and local arterials be presented in the RDEIR/SDEIS as well. L-17-5

In addition, the City requests that traffic volume information and operational analyses be presented in the environmental document for major, primary, and secondary arterials within the City of Downey (see City's Circulation Plan 2-3 attached herewith). Some of the City's arterials are currently not analyzed, including but not limited to, Stewart and Gray Road, Old River School Road and Telegraph Road. L-17-6

Comment 5. Impact of Increased Traffic on Pavement

The projected traffic increase along various arterials will potentially increase the impact to the pavement system on local streets within the City of Downey. The City requests that the potential impact to the local street pavement system be evaluated in the appropriate section of the RDEIR/SDEIS and suitable mitigation measures, such as pavement rehabilitation or replacement identified for all affected arterials as part of the I-710 Corridor Project. L-17-7

Comment 6. Intersection Impacts

The Imperial Highway/Paramount Boulevard intersection is projected to operate at LOS F during the p.m. peak hours in 2035. The vehicle delay in Alternative 5C would be longer at 96.3 seconds, as compared to 95.5 seconds projected for the No Build Alternative. While the projected increase in vehicle delay does not meet the established threshold of 2 seconds discussed on Page 3.5-91 of the RDEIR/SDEIS, the operational degradation at this intersection is due to the project's build alternative and the City requests that mitigation be considered for this intersection. L-17-8

In addition, the City requests that additional intersections be analyzed in the environmental document including all intersections along the City's major, primary, and secondary arterials.

Comment 7. Public Transportation

The City recognizes that Table 3.25-1 (page 1569) mentions Eco Rapid, however, no potential impacts to this project are addressed in the RDEIR/SDEIS. The City requests that a discussion of potential impacts and possible mitigation measures be included. L-17-9

During construction, the project may result in increased time for Metro bus service along Imperial Highway, Firestone Boulevard, and Florence Avenue, as well as for the Downey LINK and the Downey Dial-A-Ride services. The City requests that these potential impacts be discussed in the RDEIR/SDEIS. L-17-10

During construction, bus stops in the vicinity of the proposed improvements for Imperial Highway, Firestone Boulevard, and Florence Avenue, would be temporarily relocated. The City recognizes that these impacts would be temporary and would cease after completion of any construction in the vicinity of these service routes.

SECTION 3.24 CONSTRUCTION IMPACTS

Comment 8. Construction Impacts on Traffic and Transportation

Section 3.24.3.5 of the RDEIR/SDEIS indicates the analysis provided in the Intersection Traffic Impact Analysis Report (AECOM, March 2017) discusses the levels of service expected during construction and provides a general description of anticipated ramp closures during construction. However, the City could not find this discussion in the referenced report. Please verify. L-17-11

Additionally, the City requests that:

- RDEIR/SDEIS discloses how construction closures on I-710 will increase traffic level on Interstate 5 (I-5), including the segment of the freeway that is within the Downey city limits. L-17-12
- RDEIR/SDEIS discloses how the construction of the Firestone Boulevard Bridge Widening over the Los Angeles River may impact the circulation of traffic and residents entering and exiting the City of Downey through Firestone Boulevard. L-17-13
- The upcoming Transportation Management Plan (TMP) specifically addresses all affected streets in the City of Downey due to the expected increase in traffic during construction, including TMP strategies to mitigate construction traffic impacts such as on-street parking restrictions, and signal timing changes and synchronization, should be included and discussed with the City. L-17-14

Comment 9. Ramp and Street Closures

Based on the Construction Staging Concepts report, dated May 18, 2017, which presents one possible construction concept for the I-710 Corridor Project to estimate the project duration and costs, and identify potential constructability issues and impacts, there is high likelihood that several of the I-710 interchange ramps providing access to Downey as well as portions of local arterials would need to be closed for a prolonged period, possibly up to 16 months.

Prolonged closure (i.e. more than 10 consecutive days) would have significant impacts to the residents and businesses in the City of Downey. The City requests that a mitigation measure be added to limit each of the closure to less than 10 consecutive days and that the number of closure periods be limited to a maximum of three times within a 12-month period. Construction of temporary ramp pavement and temporary street widening should be considered where feasible to keep the street and interchange open and minimize closures during construction. L-17-15

Additionally, the City requests the following:

- CON-TR-1, on page 3.24-48, includes language that any ramp closures that exceed 10 days will need a formal "Ramp Closure Study". L-17-16
- CON-TR-1, on page 3.24-48 includes language that the upcoming TMP development will include coordination with affected local agencies. L-17-17

Comment 10. Construction Traffic Impacts on Pavement and Structures

The City requests that CON-TR-2 be updated to include an evaluation of all routes that may be utilized by construction traffic, and new pavement for all routes that are affected. This includes, but may not be limited to impacts on Imperial Highway, Firestone Boulevard, Stewart and Gray Road, Old River School Road, Florence Avenue and Telegraph Road in the City of Downey. L-17-18

The City also requests that funds be set aside and available to the City for pavement rehabilitation, structure rehabilitation, signal synchronization, and other mitigations required to address the construction traffic impacts. L-17-19

Comment 11. Construction Duration Discrepancy

Page 2-89 indicates that construction duration would be a minimum of 10 years. However, a footnote on page 3.24-31 states a maximum construction duration of 87.4 months (7.3 years) if all segments are constructed at the same time. Please clarify. L-17-20

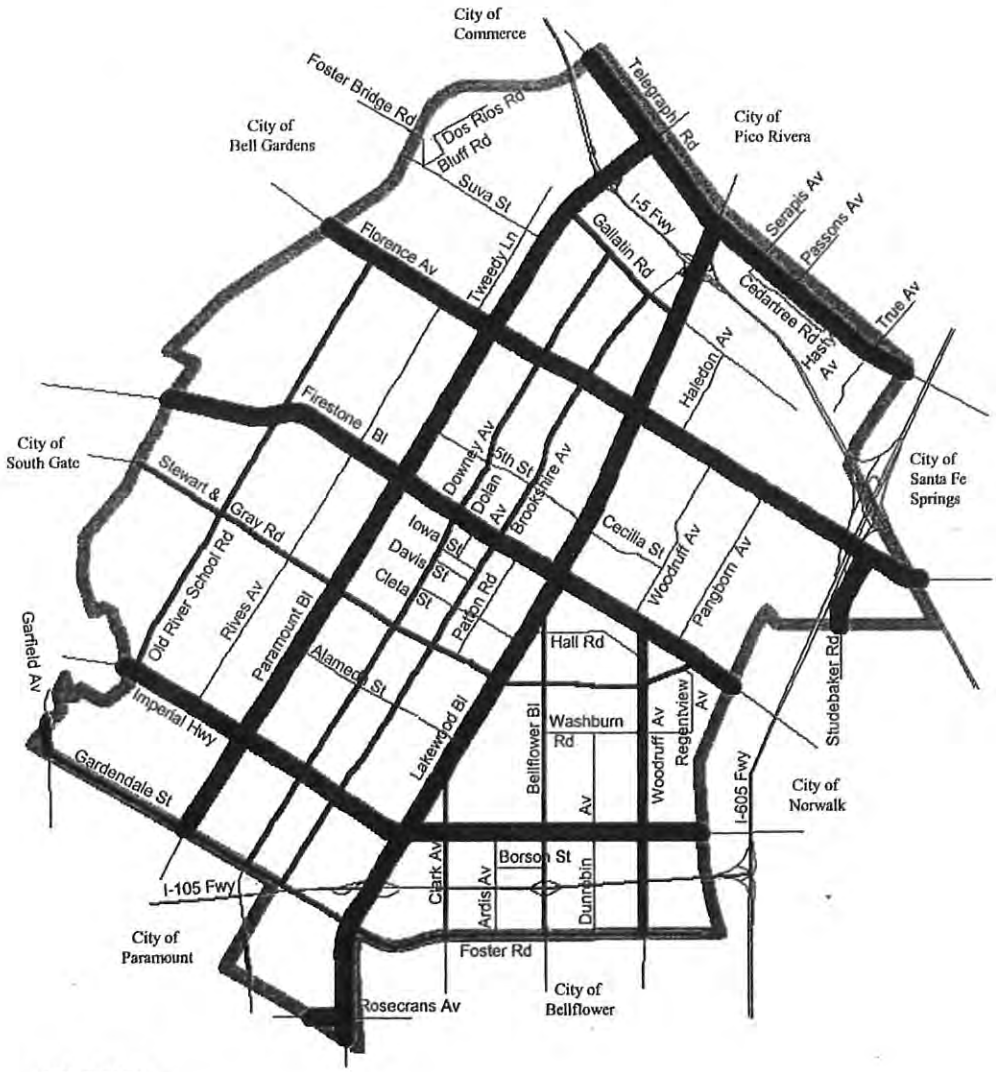
SECTION 3.25 CUMULATIVE IMPACTS

Comment 12. Relocation Plan

The City recognizes that the potential closure and/or relocation of the Salvation Army shelter in the City of Bell may require the relocation of homeless people in the area, and into neighboring cities. The City requests that a plan be presented in the RDEIR/SDEIS for the relocation of the facility. L-17-21

DOWNEY VISION 2025
CHAPTER 2. CIRCULATION

FIGURE 2.1-1
CIRCULATION PLAN



ADOPTED 1-25-2005

PAGE 2 - 3

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L-17-1

The selection of the arterial roadway segments to include in the traffic analyses performed in support of the RDEIR/SDEIS was determined based upon the role that these major arterial roadways perform with regard to I-710 as well as the regional arterial network. Generally, contiguous north-south arterials of sufficient length that run parallel to the 19-mile I-710 Corridor, and the east-west arterials that have an interchange with I-710, were identified for evaluation, as these regionally significant facilities are most likely to be influenced by circulation changes on I-710 generated by the build alternatives. While the extension of Southern Avenue over I-710 would improve the City's access to the regional transportation network, it would also likely result in increases in traffic on this east-west arterial in direct proximity to I-710. [Please refer to Figures 5-6.e and 6-3.e in the *I-710 Traffic Impact Analysis Report* (March 2017).] As a result, additional eastbound, southbound, and northbound left-turn lanes have been proposed at Southern Avenue/Garfield Avenue to facilitate turning movements from Southern Avenue (east-west arterial) to Garfield Avenue (north-south arterial), between I-710 and Garfield Avenue. Please refer to Table 7-2 in the *I-710 Traffic Impact Analysis Report*, as well as to Measure TR-1 contained in Section 3.5.4 of Section 3.5 of this Final EIR/EIS. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more detail. Therefore, additional traffic analyses will not need to be performed to better understand the shifts in circulation patterns on Stewart and Gray Road within the City of Downey.

L-17-2

Regarding land use, the City of Downey is not located directly adjacent to I-710 and is buffered by any direct physical impacts of the build alternatives by the City of South Gate. As discussed in Section 3.1 of the RDEIR/SDEIS, improvements to I-710, as well as improved interchanges with I-710 under the build alternatives, do improve regional transportation access for businesses located within the City of Downey. While the traffic analysis included in the RDEIR/SDEIS does not show any traffic impacts to intersections or arterials within the City of Downey, as stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the traffic analysis will not need be further refined during final design. Please also refer to Response to Comment L-17-1 regarding the selection of the arterial roadway segments to include in the traffic analyses performed in support of the RDEIR/SDEIS.

L-17-3

The I-710 travel demand forecasting model is a focused subarea model for the I-710 corridor, derived from the SCAG regional travel demand forecasting model and refined and calibrated to observed traffic volumes in the I-710 Corridor. The traffic volume forecast for the year 2035 to

support the RDIER/SDEIS does not specifically include consideration of the more recent redevelopment of the Rancho Los Amigos campus, as traffic effects of this facility in particular are at a level of detail beyond the scope of the traffic analysis performed for the I-710 Corridor Project.

L-17-4

As stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the potential increase in response times on emergency calls due to projected future traffic volumes on arterials within the City of Downey during construction of the build alternatives does not need to be analyzed further.

L-17-5

Peak-hour traffic volumes are provided in the supporting traffic technical reports prepared for the RDEIR/SDEIS, specifically the *Intersection Traffic Impact Analysis Report* (March 2017) and the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017), which are publicly available documents that can be found at: http://www.dot.ca.gov/d7/env-docs/docs/710corr-eir/. In addition, Figures 3.5-3, 3.5-4, 3.5-6, and 3.5-7 illustrate Levels of Service on the I-710 for 2012 existing conditions, the 2035 No Build Alternative, the 2035 Alternative 5C, and 2035 Alternative 7, respectively. LOS is a function of volumes to capacity.

L-17-6

The selection of arterial highway segments to include in the RDEIR/SDEIS traffic analyses was determined based upon the role that these major arterial roadways perform with regard to I-710 as well as the regional arterial system. Generally, contiguous north-south arterials of sufficient length that run parallel to the 19-mile I-710 Corridor and the east-west arterials that have an interchange with I-710 were identified for evaluation. These regionally significant arterials would be most likely to be influenced by traffic changes on I-710 as a result of the build alternatives.

L-17-7

The City's concern regarding pavement deterioration on local streets as a result of increased construction traffic from the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no pavement deterioration on local roads due to increased construction traffic.

L-17-8

As the City notes in its comment, the increase in vehicle delay at the Imperial Hwy./Paramount Blvd. intersection does not meet the threshold to warrant mitigation. However, this intersection

may be a candidate for the Congestion Relief Program, which is a programmatic element of the build alternatives.

The main purpose of the proposed freeway improvements included under the build alternatives are to address congestion, design deficiencies, traffic operations, and safety concerns on I-710, as well as related air quality issues associated with operation of the I-710 freeway. Over 185 intersections were evaluated as part of this process to determine if the build alternatives would result in traffic impacts to the I-710 Corridor's major arterial system, and if so, to identify measures to address these impacts. The number and locations of the study intersections were identified prior to the initiation of the traffic studies performed for the RDEIR/SDEIS and were reviewed and approved by the I-710 Technical Advisory Committee.

L-17-9

Section 15126.2(a) of the State CEQA Guidelines states that "an EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced." Section 3.25 of the RDEIR/SDEIS discusses construction of the Eco-Rapid Transit Corridor as part of the West Santa Ana Branch Corridor in a cumulative context as a reasonably foreseeable project. However, as noted in the RDEIR/SDEIS no environmental document had been prepared for this project at the time this Final EIR/EIS was prepared and as such, no information regarding environmental impacts are available at this time. Because the Eco-Rapid Transit Corridor has not been constructed and no environmental document is available, CEQA does not require analysis of impacts of the I-710 Corridor Project to this facility.

L-17-10

As noted in Section 3.24 of the RDEIR/SDEIS, during construction of the build alternatives, temporary impacts and traffic delays may occur along those routes designated as detour or alternative routes to I-710. Since detailed construction information is not available at this stage of the project, and, as stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative, there will no longer be potential impacts to transit services during construction of the build alternatives within the City of Downey.

L-17-11

A construction staging analysis provided in the Construction Staging Concepts report (2017), which identifies the sequence of construction activities and ramp closures for the build alternatives, was performed for the project as one of the supporting technical documents for the

Draft Project Report (2017). However, as stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, further detail, including traffic detours, approximate timelines for construction activities, and specifics related to ramp closures during construction, do not need to be prepared as part of the Traffic Management Plan (TMP) which is developed during the design phase of a project.

L-17-12

A preliminary construction staging analysis, which identifies the sequence of construction activities and ramp closures for the build alternatives, was provided in the Construction Staging Concepts Report that was prepared as one of the supporting technical documents for the *Draft Project Report* (2017). However, as stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, further detail, including specific information related to traffic detours, does not need to be prepared as part of the TMP which is developed during final design of a project.

L-17-13

A preliminary construction staging analysis was completed for the build alternatives in the Construction Staging Concepts Report that was prepared as one of the supporting technical documents for the *Draft Project Report* (2017). The construction staging analysis preliminarily identifies the sequence of construction activities and ramp closures for the build alternatives. With regard to traffic along Firestone Boulevard, traffic volumes would not be adversely affected during construction of the build alternatives. However, as stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, further detail, including traffic detours, does not need to be prepared as part of the TMP which is developed during final design of a project.

L-17-14

As stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a Transportation Management Plan (TMP) will no longer need to be prepared prior to construction that addresses traffic delays, detour routes, public awareness, and other construction-related traffic and transportation issues. Please also refer to Responses to Comments L-17-11, L-17-12, and L-17-13.

L-17-15

As stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure CON-TR-1 of this Final EIR/EIS does not need to be revised to limit full ramp closures to 10 consecutive days

L-17-16

Please refer to Response to Comment L-17-15 regarding revisions to the Transportation Management Plan.

L-17-17

Should a build alternative be selected as the Preferred Alternative, tt is Caltrans' policy to coordinate the Transportation Management Plan with the affected jurisdictions. Measure CON-TR-1 was revised to clarify this requirement.

L-17-18

The commenter's concern regarding pavement deterioration on local streets as a result of increased traffic from the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no pavement deterioration on local roads due to increased traffic during construction of the build alternatives.

L-17-19

As detailed information regarding impacts from construction traffic related to the build alternatives (i.e., pavement rehabilitation, structure rehabilitation, and signal synchronization) is unknown at this time, a commitment to any specific funding contributions cannot be made at this time. As described in the previous responses, the No Build Alternative has been selected as the Preferred Alternative. Therefore, additional analyses do not need to be conducted to determine the timing of the construction staging, to finalize construction staging plans, or to develop a Transportation Management Plan detailing anticipated traffic diversion routes for the different construction stages of the build alternatives. It should be noted that allowances for local roadway construction impacts were accounted for in the cost estimate of the build alternatives developed for the EIR/EIS.

L-17-20

The commenter is correct. The data provided in Table 2.3-5 in Chapter 2.0, Project Alternatives, represents the best available information on the estimated construction durations of the build alternatives, while the footnote below Table 3.24-4 in Section 3.24 of the RDEIR/SDEIS is erroneous. The footnote for this table has been corrected in this Final EIR/EIS.

L-17-21

As discussed in Section 3.3.1.3 of this Final EIR/EIS, Alternative 5C would not result in the relocation of the Bell Shelter. In addition, as stated in Response to Comment L-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to the Bell Shelter.

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

October 19, 2017

Ronald Kosinski, Deputy District Director
Department of Transportation
Environmental Planning
100 South Main Street
Los Angeles, CA 90012

Dear Mr. Kosinski:

NOTICE OF AVAILABILITY OF RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT, "710 CORRIDOR PROJECT," THE PURPOSE IS TO ACHIEVE THE FOLLOWING: IMPROVE AIR QUALITY AND PUBLIC HEALTH, IMPROVE TRAFFIC SAFETY, PROVIDE A MODERN DESIGN FOR THE I-710, ADDRESS PROJECTED TRAFFIC VOLUMES, AND ADDRESS PROJECTED GROWTH IN POPULATION, EMPLOYMENT, AND ACTIVITIES RELATED TO GOODS MOVEMENT, LOS ANGELES COUNTY, FFER 201700119

The Notice of Availability of Recirculated Draft Environmental Impact Report has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department.

The following are their comments:

PLANNING DIVISION:

In Section 3.4.1.1 EMERGENCY SERVICES, Fire Protection, Paragraph one, the last sentence should be corrected as follows:

"These cities and communities are part of LACFD's Consolidated Fire Protection District, Battalions 3, 7, 9, 13, and 19."

L-18-1

LAND DEVELOPMENT UNIT:

The Fire Prevention Division's Land Development Unit, has no additional comments regarding this project. The conditions that were addressed in EIR 201200096, dated July 2012, have not been changed at this time.

Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department Land Development Unit's, Inspector Nancy Rodeheffer at (323) 890-4243.

The County of Los Angeles Fire Department's Land Development Unit appreciates the opportunity to comment on this project.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed.

The County of Los Angeles Fire Department's Forestry Division has no further comments regarding this project.

HEALTH HAZARDOUS MATERIALS DIVISION:

The Health Hazardous Materials Division of the Los Angeles County Fire Department has no requirements for the project at this time. The Cal-EPA Department of Toxic Substances Control would be the lead environmental oversight agency for this project, when applicable.

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

Michael Y. Takeshita

MICHAEL Y. TAKESHITA, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

MYT:ac

L-18-1

Caltrans and Metro thank the commenter for providing this input. Currently, the sentence provided is the same as the information that was provided in the RDEIR/SDEIS. Therefore, no change to this sentence has been made.

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CITY OF COMMERCE

Office of the
Interim City Administrator

Mr. Ronald Kosinski
CALTRANS DISTRICT 7
Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

SCH# 2008081042
07-LA-710-PM 5.4/24.5

October 20, 2017

Re: CITY OF COMMERCE COMMENTS ON THE I-710 CORRIDOR PROJECT RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT/SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Kosinski:

The City of Commerce (City) is submitting this letter in response to the public release of the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) and Section 4(f) Evaluation for the I-710 Corridor Project. This letter represents the official comments of the City of Commerce on the RDEIR/SDEIS, and as such, it is focused on the potential project impacts that most directly affect the City. As stated by the City previously, in our letter dated September 27, 2012 in response to the Draft EIR/EIS, the City of Commerce appreciates Caltrans and its partner agencies in their attempt to find a solution to the gridlock and negative impacts on traffic safety, air quality, noise, and human health that currently exist near the I-710 corridor - impacts which are expected to increase with the projected increases in truck traffic over the next few decades.

The City strongly supports the proposed dedicated Zero Emission Freight Corridor and requests that Caltrans consider including it as a mandatory feature of the project. The City also supports a Zero Emissions Extension (ZEE) design option, which would extend this technology and the associated infrastructure beyond the freeway mainline onto the truck ramps within the City of Commerce, as close as possible to the railyards. It appears that the RDEIR/SDEIS no longer includes a ZEE design option. The City requests that Caltrans incorporate this into the final design option. L-19-1

The City acknowledges the effort that has been undertaken to further reduce right-of-way impacts as evaluated in this RDEIR/SDEIS and supports the overall regional benefit the proposed project would achieve. However, the City remains concerned that although there may be regional traffic and air quality benefits, the residents and businesses in the City of Commerce continue to be the most negatively impacted within the corridor with the greatest number of residential relocations than any other affected city. The City has a limited housing supply and the proposed project would exacerbate the existing demand for housing. The City of Commerce's 2014-2021 Housing Element Update (October 2013) sets goals to accommodate future housing. The City has extensively analyzed and identified the Housing Opportunity Overlay area within the General Plan as an appropriate area for future housing

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development. The City would like to maintain consistency with the General Plan and existing zoning and land use designations and implement this provision in order to balance and stabilize housing availability and affordability with the impacts anticipated from the proposed project.

The City also recognizes the difficulty of any alignment in conflict with railroads and/or railyards, however, the City's expectation is for Caltrans to reconsider the disproportionate right-of-way impacts to this predominantly disadvantaged and minority community and a greater effort made to further avoid residential and business displacement. The proposed project's regional benefits are not realized in this community and as a result, the City requests additional mitigation to offset the impacts borne by this community. L-19-2

The City would like to refer to our previous letter to Caltrans, which is attached, as we continue to have concerns about the potential impacts to our residents. These concerns still include: the displacement of families, neighborhoods, and businesses; decrease in tax revenue; disruption of local traffic patterns; and increase in exposure to unhealthful levels of air pollutants, noise and extended construction though our city. The City of Commerce feels that several of our previous comments were not adequately addressed and/or reflected within the RDEIR/SDEIS as outlined below.

1. Previous comments on the Draft EIR/EIS

a. Section 3.1, Land Use

i. Comment L-19-19: Significant Community Impacts Not Disclosed

The City of Commerce appreciates the incorporation of Mitigation Measure C-1 (Uniform Relocation Assistance and Real Property Acquisitions Policies Act). The discussion in the community cohesion section recognizes that community cohesion impacts do occur at a localized level within the City of Commerce, but concludes that the project would not result in permanent impacts. The City continues to be concerned with the impact conclusion, since the City of Commerce has the greatest number of relocations with a very limited amount of available replacement housing. L-19-3

The analysis does not include detailed information such as number of apartments or rentals available within the City for those that are displaced and how impacts would be reduced below a level of significance with the lack of available housing within the City. The City requests that additional information on available stock of replacement and comparable residential housing within the City of Commerce be specifically incorporated in the Final EIR/EIS. L-19-4

b. Section 3.4, Utility/Emergency Services

i. Comment L-19-33: Unsupported Conclusions for Emergency Access and Response Times

Implementation of Design Option 3A under Alternative 5C, and Design Option 3B under Alternative 7 would have additional impacts to emergency services associated with changes in access that reduce access options and potentially increase response times on emergency calls in the City of Commerce. The RDEIR/SDEIS does not provide evidence to support the finding that potential impacts to emergency vehicles with these changes in L-19-5

access would have no effect or how they would be minimized. The City requests a more detailed analysis with regard to emergency access and emergency response times in this area. The City specifically requests a preliminary assessment and identification of proposed routing options that have been analyzed for emergency response providers. The City requests that adequate coordination with emergency responders be included as mitigation in the Environmental Commitments Record. L-19-5 L-19-6

c. Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities

i. Comment L-19-17: Traffic Management Plan

The City specifically requested that the City be included as a reviewing agency for the MMRP. The discussion of the TMP (Section 3.24.4.5) in the RDEIR/SDEIS is generic and brief, and does not provide the detailed discussion needed on how the TMP mitigation will be confirmed. Similarly, Comment L-19-48 requested more information regarding lane closures, even if those closures are preliminary. This level of detail and type of informative discussion will provide the framework for development of the TMP as the project move into the final design phase. L-19-7

ii. Comment L-19-37: Traffic Impact Thresholds Not Provided

The City requested that thresholds be established at a minimum for the following impact areas: vehicle traffic operations (specific to each type of facility); goods movement; transit facilities and operations; bicycle facilities and operations; pedestrian facilities and operations; safety; and construction. These areas of analysis are standard sections included in an EIR/EIS, particularly for a project of this magnitude. The project's potential impacts (beneficial or adverse) should be identified for each of these impact areas and included in Section 3.5.3 Environmental Consequences. L-19-8

iii. Comment L-19-39: Impacts to Bicycles and Pedestrians Not Addressed

Section 3.5.3 (Environmental Consequences) provides only a high-level discussion of impacts to pedestrians and bicycle facilities. The City requested that impacts upon bicycles and pedestrians, due to increased traffic volumes on arterials, be addressed and evaluated against the appropriate significance criteria. While an expanded discussion of impacts has been added to the Section 3.5.3 (page 3.5-106), there is still no discussion of impacts to pedestrians and bicycles because of an increase in traffic volumes. An analysis of how permanent changes in vehicle circulation and traffic volumes would affect pedestrians and bicycles should be included. The Project's potential impacts to non-motorized circulation and safety, associated with pedestrians and bicyclists, is needed to provide a complete analysis. L-19-9

iv. Comment L-19-41: City of Commerce Thresholds Not Considered

The City requested City-specific traffic impact thresholds of significance be used. The RDEIR/SDEIS response to comments provides an explanation as to why the HCM methodology was used, but the comment does not address LOS impact criteria. The methodology for analyzing LOS and the criteria for determining impacts are two entirely different matters. The RDEIR/SDEIS states that the impact criteria were developed L-19-10

collaboratively among Caltrans and Metro. For example, it was determined that an intersection would be impacted by the project if the intersection is projected to operate at LOS E and the increase in delay over 2035 No Build conditions is five seconds or more. The RDEIR/SDEIS should be more specific about why five seconds was selected and how this criterion compares to criteria established by the affected local jurisdictions. Lastly, the methodologies and assumptions evaluated by Caltrans and Metro in selecting the chosen metric should be provided in concert with the requested revisions. L-19-10

v. **Comment L-19-44: Full Extent of Project-Related Traffic Congestion Not Presented**

There is almost no discussion of induced demand in any of the transportation analysis. The City requested more information about induced travel effects. The Travel Demand Methodology Tech Memo is silent on this topic. Page 6-20 of the Traffic Operations Analysis Report (TOAR) notes that "the induced truck traffic would further increase the projected traffic demand on eastbound SR-91, causing segments that are outside of the improvement area to experience heavy congestion." Is that the only place induced demand is a factor? At a minimum, define induced demand, described qualitatively how it does or does not affect the forecasts, and highlight the limitations related to this issue. L-19-11

vi. **Comment L-19-47: Unapproved Future Projects Used as a Basis for Sufficient Future Rail Capacity**

The City requested clarification on the inconsistency of reasonable foreseeable future rail capacity demand associated with the SCIG and ICTF Projects. Page 2-3 of the RDEIR/SDEIS notes that these two projects are not considered reasonably foreseeable. However, later in that paragraph, it is noted that the Superior Court vacated the certification of the SCIG EIR. If the SCIG project is not in place, there will be more trips to the Hobart Yard, including traffic in and around the City of Commerce. The City requests additional clarification on the inclusion or exclusion of these two rail projects as part of the analysis. L-19-12

vii. **Comment L-19-53: Insufficient Analysis of Impacts Due to Loss of On-Street Parking**

The City requested that preparation of a detailed parking utilization study and full assessment of the loss of on-street parking be conducted. Section 3.5.5 (page 3.5-90) includes an expanded analysis of the parking restrictions and utilization and concludes that "much of the parking demand is expected to be absorbed in off-street parking areas for uses that generate the parking demand and in nearby available on-street parking areas". Please clarify which off-street and on-street parking areas, particularly in the City of Commerce, are meant to absorb the parking demand. Please also clarify whether a parking utilization study of these other areas was conducted. L-19-13

viii. **Comment L-19-54: Incorrect Assumptions Used for Signal Cycle Lengths at Study Intersections**

The City requested that the potential impact of underestimating the signal cycle lengths be fully addressed in the Final EIR/EIS. While it is recognized that the RDEIR/SDEIS analyzed 180 arterial intersections and some broad assumptions were needed, the City of Commerce specifically noted that the signal timing assumptions used for the City of L-19-14

Commerce's traffic signals (5 intersections) are likely inaccurate. The analysis should either be updated with the correct signal timing information or this discrepancy should be clearly stated in the RDEIR/SDEIS. L-19-14

ix. Comment L-19-56: Impacts to Major Intersections Not Analyzed

The City requested that the intersections of Bandini Blvd./Garfield Ave., Telegraph Rd./Garfield Ave., and Atlantic Ave./Eastern Ave. be included in the traffic analysis. Please include an analysis of these intersections in the Final EIR/EIS. L-19-15

x. Comment L-19-57: Potential Transit System Impacts Not Analyzed

Section 3.5.3 (Environmental Consequences) does not include a discussion of changes (beneficial or adverse) to transit. The City requested that an evaluation of the potential transit system impacts be included. This information should include potential changes in ridership and schedule reliability, but it is not provided in Section 3.5, Table 3.5-21 of the RDEIR/SDEIS as noted in the RDEIR/SDEIS response to comments and this information does not appear to be included elsewhere in the document. The Build alternatives would provide increased transit service, but there is no analysis of these changes. L-19-16

d. Section 3.10, Geology/Soils/Seismic/Topography

i. Comment L-19-70: Liquefaction mitigation and construction activities; associated ground settlement and vibration impacts

Regarding settlement and vibration as a result of liquefaction mitigation, Mitigation Measure CON-N-10 indicates that the contractor will be required to use alternatives for pile driving thus limiting vibrations to a negligible level. Caltrans indicates the same requirement as CON-N-9, but goes on to state that "Caltrans will conduct pre- and post-construction surveys for all structures within 100 feet of locations where pile driving will occur." CON-N-9 and CON-N-10 are not consistent with regard to whether pile driving will be conducted. Clarification is warranted to alleviate the City's concerns regarding the potential impacts due to liquefaction mitigation techniques. Additionally, Section 3.24.3.14 of the RDEIR/SDEIS indicates that pre- and post-construction surveys would be implemented for residential structures that are located 50 feet or closer from pile driving activities. This inconsistency (100 feet vs 50 feet) should also be rectified if pile driving will be conducted as part of the Project. L-19-17

e. Section 3.14, Noise

i. Comment L-19-81: Potential Noise Impacts not Evaluated or Mitigated

The City requested the addition of a mitigation measure that would establish a "Noise Community Protection Plan." The RDEIR/SDEIS states, "During construction of the project, noise from construction activities may occasionally dominate the noise environment in the immediate project area. Construction noise is regulated by Caltrans Standard L-19-18

Specifications, Section 14-8.02, "Noise Control." These requirements state that noise levels generated during construction would be controlled and monitored and not to exceed 86 dBA Lmax at 50 feet from the job site between the hours of 9:00 p.m. to 6:00 a.m."

The City of Commerce Noise Standards establish thresholds that must be considered and at a minimum, the "Noise Community Protection Plan" should be included as a mitigation measure which would include minimization measures such as temporary noise barriers, as needed, to protect sensitive receptors against excessive noise from construction activities; efficient rerouting of trucks and control of traffic activity on construction sites to reduce noise due to vehicle idling, gear shifting and accelerating under load. L-19-18

Rerouting trucks would not necessarily reduce noise levels but would transfer noise to other land use areas that may be less sensitive to noise. The "Noise Community Protection Plan" should also include a robust public relations program with the community to minimize objections to unavoidable construction impacts; provide frequent activity updates of all construction activities and schedules; and implement a construction noise and/or vibration monitoring program to further minimize nighttime construction noise impacts.

f. Section 3.13, Air Quality

i. Comment L-19-76: Potential Impacts Not Studied

The potential of increased truck queuing on local roadways in the vicinity of the rail yards in the City of Commerce should be evaluated. Increased truck queuing could result in greater vehicle emissions, which could cause additional adverse impacts on air quality and expose nearby residents and workers to increased mobile source air toxic emissions. Currently, the local streets near the rail yard already experiences issues related to truck queuing near Washington Boulevard and Atlantic Boulevard. The City requests that the impacts of trucks queuing near the rail yards in the City to be evaluated and the impacts discussed in the Final EIR/EIS. L-19-19

g. Section 3.24, Construction

i. Comment L-19-31 and L-19-86: Traffic Management Plans

In regards to construction staging areas not being identified in the Draft EIR/EIS or RDEIR/SDEIS, the City would like to request again that the staging and storage areas be identified for each alternative within the City limits. Construction will take place within the City limits and proposed construction staging and storage of equipment impacts must be identified within the Final EIR/EIS. This information should also include anticipated routes into and out of the identified staging and storage areas. L-19-20

ii. **Comment L-19-91 Noise**

The City appreciates that Caltrans will develop a Noise Community Protection Plan to avoid, minimize, and/or mitigate construction-related noise impacts. However, the development of this Plan should have been included as a mitigation measure to the RDEIR/SDEIS. This mitigation measure also needs to be included in the Environmental Commitments Record (ECR). These commitments must be recorded within the identified documents, and the early and ongoing coordination between the City and Caltrans is needed to develop the success criteria of the Noise Community Protection Plan. Please include this as a mitigation measure in the Final EIR/EIS. L-19-21

2. RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT/SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT - ALTERNATIVES

In addition to the comments the City believes were not previously addressed, the City has reviewed the newly proposed alternatives and design options as they relate to the City of Commerce, as well as the RDEIR/SDEIS in its entirety.

a. COMMENTS ON NEWLY PROPOSED ALTERNATIVES 5C and 7 AND DESIGN OPTIONS

i. Alternative 5C

Alternative 5C proposes to widen the I-710 mainline by adding mixed-flow lanes (one in each direction) between I-405 and I-105, and between I-105 and SR-60. Truck bypass lanes are also proposed on I-710 through the I-405 interchange. This alternative will modernize the design at the I-405, SR-91, and I-5 interchanges, modernize and reconfigure most local arterial interchanges throughout the I-710 corridor, modify freeway access at various locations, and shift the I-710 centerline at various locations to reduce right-of-way impacts. In addition to improvements to the I-710 mainline and the interchanges this alternative includes: a Zero Emission/Near Zero Emission Truck Technology Deployment Program, Community Health and Benefit Program, I-710 TSM/TDM Congestion Relief Program, future provision of ramp metering, parking restrictions during peak periods, I-710 Transit Program, ITS improvements, visual and aesthetic features.

According to the RDEIR/SDEIR, Alternative 5C would result in up to 109 residential relocations and up to 165 nonresidential relocations. Of all the affected cities within the I-710 Corridor, the City of Commerce would experience the greatest number of residential relocations under Alternative 5C and 7 (including each of the design options). The City of Commerce would also experience the greatest number of non-residential relocations under Alternative 5C (Table 3.3-12 and 3.3-14 of the RDEIR/SDEIS). The number of employees and residents that would be displaced as a result of this Project would be more than that of any other community in the corridor as well as the associated loss of sales tax and property tax revenue. The City of Commerce alone would bear over 50% of the total residential L-19-22

relocations (58 of 109) for the entire project and over 25% of the total nonresidential relocations (40 of 158) which should be considered a disproportionate impact to an environmental justice community. L-19-22

	Residential	Non-residential	Emp. Displaced	Total Res. Displaced
Alternative 5C	58 of 109	40 of 158	325 of 1,050	436
Option 1A	58 of 109	39 of 157	320 of 1,045	436
Option 2A	58 of 109	40 of 161	325 of 1,105	436
Option 3A	58 of 128	40 of 165	325 of 1,050	512

ii. Alternative 5C Impacts to Washington Boulevard

This Alternative proposes the reconstruction of the Washington Blvd. interchange, including the undercrossing and all entrance and exit ramps, and construction of one-way, access controlled streets between the ramp intersections and Sheila St. Reconstruction of Washington Blvd. from west of Ayers Ave. to west of Atlantic Blvd., including access control on Washington Blvd. between ramp intersections would also be included as a part of the proposed project.

The City appreciates Caltrans' efforts to reduce impacts caused by the relocation of vital commercial and industrial properties located adjacent to this interchange. The City still requests that a detailed plan be provided showing how Caltrans will prioritize the relocations of displaced businesses within the City of Commerce and to address the associated property tax revenue loss. The comprehensive analysis efforts being conducted must take into account the potential economic and fiscal impacts, as well as the previously referenced replacement resources needed for partial and full relocations that are anticipated to occur. L-19-23

b. Alternative 7

Alternative 7 includes all the components of Alternative 5C described above, but rather than the addition of mixed-flow through lanes and truck bypass lanes, Alternative 7 includes the addition of two separate truck-only lanes in each direction (a total of four lanes, on a combination of viaduct and/or retaining wall structures and at-grade roadbeds adjacent to, or in the median of, the freeway) between the City of Long Beach and the City of Commerce, adjacent to the freeway, approximately 16 miles in length. This principal feature is referred to as a "Clean-Emission Freight Corridor." This alternative would restrict the use of the freight corridor to zero-emission/near zero-emission (ZE/NZE) trucks rather than conventionally powered diesel trucks. The ZE/NZE truck technologies consist of trucks powered by means other than diesel (e.g., natural gas, hydrogen, and/or electricity), thereby producing zero to near-zero tailpipe emissions while traveling on the freight corridor; however, no specific technology is assumed in the environmental analysis, and the ZE/NZE trucks will not be limited to one particular

technology as long as the emissions criteria are met. Please provide clarification on how the environmental analysis was conducted to determine the impacts and benefits of the proposed technology used in the analysis and if conservative assumptions were used. L-19-24

According to the RDEIR/SDEIR, Alternative 7 would result in up to 121 residential relocations and up to 206 nonresidential relocations. Of all the affected cities within the I-710 Corridor, the City of Commerce would experience the greatest number of residential relocations under Alternative 7 (including each of the design options). The City of Commerce would also experience the greatest number of residential and non-residential relocations under Alternative 7 (Table 3.3-12 and 3.3-14 of the RDEIR/SDEIS). Alternative 7 would result in the greatest impact to retail businesses. The number of employees and residents that would be displaced as a result of this Project would be more than that of any other community in the corridor as well as the associated loss of sales tax and property tax revenue. The City of Commerce alone would bear almost 50% of the total residential relocations (58 of 121) for the entire project and over 20% of the total nonresidential relocations (44 of 206) which should be considered a disproportionate impact to an environmental justice community. L-19-25

	Residential	Non-residential	Emp. Displaced	Total Res. Displaced
Alternative 7	58 of 121	44 of 206	400 of 1,346	484
Option 1B	73 of 136	44 of 206	400 of 1,346	544
Option 3B	58 of 140	44 of 213	400 of 1,366	560

i. **Washington Boulevard Interchange**: Under Alternative 7, construction of northbound and southbound ramps between the truck lanes and I-710 and between the truck lanes and Washington Blvd. would be included as part of the proposed project:

- Reconstruction of the Washington Blvd. interchange, including all entrance and exit ramps
- Construction and extension of the southbound entrance ramp from Washington Blvd. to I-710 and the freight corridor, including a separate railroad overhead
- Construction of one-way, access controlled streets between the ramp intersections and Sheila St.
- Reconstruction of Washington Blvd. from west of Ayers Ave. to west of Atlantic Blvd., including access control on Washington Blvd. between ramp intersections

The City supports and appreciates that elements of Community Alternative 7 were added to Caltrans' development of Alternative 7 for the RDEIR/SDEIS. The City also appreciates Caltrans' acknowledgement that the City would experience adverse effects to community character and cohesion as a result of the impacts to the Ayers Neighborhood, the Sydney Neighborhood, businesses, as well as community facilities. L-19-26

Permanent Population and Housing Impacts (S.6 – Summary of Significant Impacts under CEQA after Mitigation) of the Executive Summary in the RDEIR/SDEIS states: "Some of these displaced L-19-27

residences are in areas (mainly the Cities of Commerce and Compton) where there is insufficient replacement housing available. Therefore, it will not be possible to relocate all displaced residents within their community or an area within reasonable proximity to their community. For this reason, construction of replacement housing in these areas may be necessary." The City would like to see a mitigation measure added to the Environmental Commitments Record that reflects the need to construct replacement housing in the City of Commerce. L-19-27

The City would like to stress the importance of the goals of the Housing Opportunity Overlay in the Housing Element (refer to Attachment A of this letter) of the General Plan. Any residential acquisition and displacement would be inconsistent with the goals and policies outlined in these plans. It is extremely important that the displaced residents and businesses are able to relocate within the City of Commerce and the City requests that the way to address this impact is through the development of the Housing Opportunity Overlay since the availability of housing is already so limited. In addition, the majority of the City's residents are renters and if displaced, they also need to be afforded the same protection and consideration as property owners and be provided affordable replacement housing within the City of Commerce. The City would like to include ongoing coordination regarding this development as a mitigation measure for displaced residents to benefit the City residents and businesses for the impacts to the community from the proposed project.

The City would like to refer to our previous comment letter, specifically comment number L-19-11. The provisions within this comment and outlined again below must be implemented to ensure the impacts to our community would be fully mitigated:

- The provision of funding to construct one-for-one replacement housing for every dwelling unit to be removed as the result of the project, including single-family homes, townhomes, duplexes, condominiums and rental apartments. L-19-28
- Creative solutions to the siting and design of comparable replacement housing within the City of Commerce, in a manner that improves the quality of life for displaced residents.
- The provision by Caltrans, as soon as is feasible, or a clear timeline for proposed property acquisition and resident relocation, to minimize uncertainty for affected residents and allow for advanced planning.
- The provision of funds for moving expenses, and assistance with other moving-related circumstances (e.g. address changes, notification of employers for time off if needed, etc.).
- Reimbursement to residents of documented home improvement expenses incurred within the five years prior to Caltrans acquisition of properties.
- Special assistance for elderly and/or disabled residents, including but not limited to counseling.
- Funding assistance for first-time home buyers.
- Subsidies/waivers for increased property taxes associated with new residences.
- Subsidies for increased living expenses associated with new residences.
- Consideration for other marginalized populations that may be affected by relocation.

ii. **Slauson Boulevard Interchange**: As previously stated by the City, the City supports the construction of a new interchange at Slauson Boulevard. This interchange would provide additional access needed to the I-710 corridor. L-19-29

iii. **Support for Zero Emission Freight Corridor**: As previously stated in the City's comments on the Draft EIR/EIS, the City strongly supports a Zero Emissions Freight Corridor and requests that this be a mandatory project feature. L-19-30

c. Design Options 1A and 1B

These options apply to both Alternative 5C (1A) and Alternative 7 (1B) and aims to reduce impacts to the BNSF operations at the Hobart intermodal rail yard in Commerce, and would shift highway, collector-distributor road, and ramp alignments to achieve this aim without encroaching beyond State right-of-way.

However, local street circulation, highway alignment, and right-of-way requirements would differ between the two alternatives. Design Option 1B would retain the proposed interchange configuration of Alternative 7, but local street circulation, highway alignment, and right-of-way requirements would differ from those of Alternative 7. Alignments would shift generally easterly, the cul-de-sac at Ransom would be removed, the one-way street between the ramp intersection and Sheila St. would be shifted easterly, and portions of Noble St. would be realigned and reconstructed.

i. **Support for Limiting Impact to Existing State Right-of-Way**: The City appreciates Caltrans efforts to limit the impacts to the exiting right-of-way and reducing impacts in the form of property acquisitions. However, there still remains a significant amount of relocations that will be necessary and the City would like to continue to express concern over the disproportionate number of residential displacement that the City of Commerce would experience. L-19-31

d. Design Options 3A and 3B

These options apply to both Alternative 5C (3A) and Alternative 7 (3B) and aim to further improve safety and operation of the freeway by reducing weaving conflicts. In order to achieve the objective, the variation would reconfigure the SR-60, I-5, and Olympic Blvd. interchanges, and alter the freeway and local traffic circulation; however, the design options would vary between Alternative 5C and Alternative 7 in that different right-of-way limits would be required.

e. Design Option 7ZE

This design option is applicable only to Alternative 7 and restricts use of the freight corridor to exclusively ZE trucks, excluding NZE trucks. This option is operational in nature and would not represent a difference in the geometric design of Alternative 7.

i. **Support for Zero Emission Design Options**: The City fully supports all efforts to reduce emissions within the I-710 Corridor. L-19-32

3. NEW COMMENTS ON THE RDEIR/SDEIS

a. Section 3.13, Air Quality/Greenhouse Gases/Health Risk Assessment

i. The near-road air quality impacts from vehicle emissions appear to have been underestimated because the grid receptors used for the air dispersion modeling did not include receptors located within 150 feet from the roadway edge.

Section 3.13 (page 3.13-42) of the RDEIR/SDEIS indicated that the air dispersion modeling's "grid receptors now follow the freeway and begin closer to the freeway (approximately 150 feet (50 meters) away from the edge of the roadway)". According to EPA's Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas (PM Hot Spot Analysis Guidance), "the majority of emissions from a highway or transit project will occur within several meters of the ground, and concentrations are likely to be greatest in proximity of near-ground sources." Many of the residential and commercial receptors along the I-710 corridor including those in the City of Commerce are located within 150 feet from the roadway edge, and some are located as close as 50 feet from the roadway. Highest air quality impacts would likely occur at these receptors that are the closest to the vehicle emission sources. L-19-33

However, these near-road receptors were excluded from the air quality modeling of the RDEIR/SDEIS by setting up the receptor grid starting at 150 feet from the roadway. Because the air quality impacts at receptors located between the roadway edge and 150 feet from the roadway edge were not captured, the air quality results presented in the RDEIR/SDEIS do not represent the worst-case impacts.

The City requests revisions to the air quality analysis to include receptors located within 150 feet from the roadway edge following the EPA's latest PM Hot Spot Analysis Guidance on highway modeling. The Guidance suggests that "Receptors should be sited as near as five meters from a source (e.g., the edge of a traffic lane or a source in a terminal), except possibly with projects involving urban street canyons where receptors may be appropriate within 2-10 meters of a project." If additional impacts are identified, mitigation measures must be considered and included in the ECR.

ii. In addition to adding the near-road receptors, the volume source setup of the air dispersion modeling needs to be revised to ensure that the near-road receptors are not located in the volume source exclusion zone that could lead to aberrant impact results.

The vehicle emission sources were modeled as volume sources in the RDEIR/SDEIS. The project's Air Quality, Greenhouse Gases, and Health Risk Technical Study (June 2017) indicates that the receptor grid started at 150 feet from the roadway edge "to ensure that none of the receptors are within the exclusion zone of modeled volume sources". This interpretation of the "exclusion zone" adjustment is not correct. Near-road receptors should not be excluded from the modeling because these receptors are likely the ones being maximally impacted. If a receptor would be located in the exclusion zone of a volume source, L-19-34

instead of removing the receptor from the analysis, the width of the volume source should be adjusted to reduce the size of its exclusion zone, and to ensure that the near-road receptor is outside of its exclusion zone. According to Appendix J of EPA's PM Hot Spot Analysis Guidance, "when using volume sources to simulate a roadway where receptors are placed five meters from the edge of the roadway, the width of a volume source should be less than eight meters. This will ensure that no receptors fall within the receptor exclusion zone. If the width of the roadway is greater than eight meters, it is recommended that additional volume sources be defined (e.g., separate each lane of traffic), or area sources be used." L-19-34

The City requests that the receptor grid and vehicle emission source setup used in the air quality modeling should be revised to: 1) add the receptors that are located between the roadway edge to 150 feet from the roadway edge, and 2) adjust the volume source width following the EPA guidance to ensure that no receptors are located inside the volume source exclusion zones.

iii. The RDEIR/SDEIS presented the overall emission changes for different study areas (SCAB, AOI, and I-710). Localized impacts to the near-road communities along the I-710 corridor were not identified. Although the project's Air Quality, Greenhouse Gases, and Health Risk Technical Study (June 2017) included figures showing emission changes and incremental criteria pollutant concentrations along I-710, it is impossible to identify the impacted locations on these figures due to the large areas the figure covers. The City requests that areas adversely impacted by the project should be zoomed in and presented separately from the regional maps to clearly show the size of the impacted areas and the level of impacts. L-19-35

In addition, it is not clear what emissions are presented in Figures 4-1a through 4-1c of the Air Quality, Greenhouse Gases, and Health Risk Technical Study. The figures appear to show emission changes for both $PM_{2.5}$ and PM_{10} in each figure. However, the table title indicates that the figure is only for $PM_{2.5}$ emissions. Within each figure, two sub-figures were labeled as PM_{10}, and the rest of the two sub-figures do not have any labels. The City requests that the figure titles and labels should be revised to clearly indicate the corresponding pollutant for each figure. L-19-36

iv. The health risk assessment (HRA) for the RDEIR/SDEIS used the same AERMOD modeling approach as the air quality analysis. Therefore, the City's comments regarding the near-road receptor grid and volume source setup in AERMOD apply to the HRA as well. Studies of near roadway pollutant levels showed that concentrations of pollutants emitted from vehicles were highest right at the roadway and decreased substantially in the first 300-500 feet from the roadway (ARB's Status of Research on Potential Mitigation Concepts to Reduce Exposure to Nearby Traffic Pollution. 2012). Excluding receptors located closer than 150 feet from the roadway from the HRA would have resulted in underestimated health risks. The City suggests that the receptor grid and vehicle emission source setup used in the HRA should be revised to 1) add the receptors that are located between the roadway edge to 150 feet from the roadway edge, and 2) adjust the volume source width following the EPA guidance to ensure that no receptors are located inside the volume source exclusion zones. L-19-37

v. Locations of potential cancer risk increases were not discussed in the RDEIR/SDEIS, other than a general discussion indicating that increased cancer risk would occur "within 110 yards L-19-38

of the I-710 freeway". Although figures showing cancer isopleths are included in the Air Quality, Greenhouse Gases, and Health Risk Technical Study (June 2017), it is impossible to identify the areas with increased cancer risks on these figures due to the large area the figure covers. The City requests that areas identified with increased cancer risks should be zoomed in and presented separately from the regional maps to clearly show the impacted communities and level of cancer risk increases. L-19-38

vi. Table 4.2-1 of the RDEIR/SDEIS showed that all project alternatives would have decreased cancer risks when compared to the 2012 baseline. However, the paragraph following the table on Page 4-55 concluded that the cancer risks would increase by 1 in a million for Alternative 7, and would increase by 3 in a million for Alternative 5C. The City would like to request clarification and internal consistency on the results of the health risk assessment. L-19-39

b. Section 3.5, Traffic and Transportation

i. The RDEIR/SDEIS response to comments state that under NEPA, the "determination of significance is based on context and intensity." The RDEIR/SDEIS response to comments further state that "... once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated, and no judgement of its individual significance is deemed important." If this is the case, the RDEIR/SDEIS should more clearly describe and define the context, level of intensity and corresponding magnitude of the Build alternatives as they relate to changes in transportation. L-19-40

ii. Section 3.5.3 (Environmental Consequences) describes changes in vehicle level of service (LOS) for freeways, arterials, and intersections. It appears that impact criteria were only developed for the intersection analysis. Please clearly identify which criteria were used to evaluate the project-related changes in freeway and arterial LOS. It is also unclear whether the intersection impact criteria are the same for signalized and un-signalized intersections. An explanation should be provided of why they are the same or whether a different criterion was used. L-19-41

iii. Section 3.5.3 (Environmental Consequences) does not include a discussion of changes (beneficial or adverse) to safety. Section 3.5.2.1 (page 3.5-2) describes the existing accident rates on the freeway segments, yet there is no analysis of how the existing accident rates would change with the Build alternatives. This analysis should be provided. L-19-42

iv. Chapter 4 of the RDEIR/SDEIS provides a discussion of potential project impacts based on CEQA Checklist Questions XVIa and XVIb. However, it is unclear why the entire transportation-related CEQA Checklist (XVIa through XVIg) was not included in Chapter 4. The entire CEQA Checklist should be addressed, or at a minimum, an explanation should be provided as to why the RDEIR/SDEIS does not address questions XVIc through XVIg. L-19-43

v. On page 3.5-2, it is noted that the 2012 and recently updated 2016 SCAG model would not yield substantially different traffic forecasts. What is the definition of "substantially different"? Can Caltrans provide some quantitative information so that others can verify this finding? The *Travel Demand Modeling Methodology* technical memorandum is silent on this topic. L-19-44

vi. In Table 3.5-1, many of the freeway segments on I-710 around the Washington and Atlantic interchange improve from LOS F from existing (2012-2013) conditions to LOS D in the No Build condition. Please provide the explanation as this result appears to be counter-intuitive. L-19-45

vii. Table 3.5-2 (page 3.5-18) has a value of 6 for density (but LOS F) for the Atlantic off-ramp/Atlantic southbound on-ramp segment for existing conditions midday. That value appears to be an error – please provide clarification. L-19-46

viii. On Page 3.5-84, it is noted that "projected vehicle throughputs....are still constrained by the bottlenecks upstream and queues extending from downstream of the Study Area along I-5." How was this determined? Neither the travel demand model nor HCM explicitly includes the analysis of queues. Will these queues be better or worse with the Build Alternatives, particularly along I-710 near the I-5 interchange? L-19-47

ix. The discussion of on-street parking effects (pages 3.5-90 and 91) is very broad. The discussion notes that "theoretically" 7,300 parking spaces will be removed. That is a very large number, but over a broad corridor. Are the observations of 30 to 40 percent occupancy over a similarly wide range of locations? Some locations have much higher occupancy – will there be impacts at those locations? Is there a specific set of criteria that were used to identify potential impacts? L-19-48

x. On page 3.5-91, there is a discussion of intersection impacts, based on LOS results. Is there a similar discussion for freeway segment impacts? L-19-49

xi. Table 3.5-23 would be more helpful if the potential benefits (reduction in delay) associated with each of the potential improvements were identified. Please provide additional detail. L-19-50

Based on the RDEIR/SDEIS, many streets and intersections would be effected during construction and operation. The City's FY 17-18 Five-Year Capital Improvement Program (CIP) includes ongoing projects that the City has planned and are underway. The City would like to propose two specific opportunities for early action that are currently in design would address and minimize some of the I-710 project impacts:

- Garfield Ave./Washington Blvd. Multi-Modal Project (ID 7/LAF5108)
- Traffic Interconnect System Upgrades (ID 38/H7-07-004)

L-19-51

Additional opportunities and relevant projects to consider to minimize traffic impacts in the City:

- Mixmaster (Eastern Ave./Telegraph Rd.)
- Intersection improvements at Washington Blvd.

c. Section 3.1, Community Impacts – Parks and Recreation Facilities

i. Bandini Park/Batres Community Center

A permanent easement and temporary occupancy is anticipated as a part of both Alternative 5C and 7. Bandini Park, is one of only four neighborhood parks in the City of Commerce and offers outdoor activities, such as organized youth sports in basketball, flag football, soccer, softball, volleyball, picnic shelters, playgrounds and a children's wading pool.

This is an important resource to the community and any permanent change to access and temporary disruption to the amenities provided to the community will have a negative impact to the community. Mitigation Measure PR-16 addresses permanent access to the easement area at Bandini Park, however, there is no mitigation measure included to address the temporary impacts to this City resource, which includes a batting cage and a walking path around the perimeter of the park. The City would like to request additional coordination to develop additional minimization measures to address the temporary impacts to Bandini Park/Batres Community Center. L-19-52

d. Section 4(f)

The City has reviewed the Draft Section 4(f) Evaluation and is concerned with the proposed *de minimis* determination for the permanent use and temporary occupancy of a portion of Bandini Park/Batres Community Center. The City submitted a formal response letter to Caltrans on September 29, 2017 regarding the proposed *de minimis* determination that the City disagrees with this determination, and would like to restate the importance of this recreational resource to the community.

i. Although Caltrans indicates that impacts would be temporary – it appears that the activities at the baseball field and basketball courts at the west end of the park would be impacted. The park is open for public recreation year round and there are organized youth sports that utilize Bandini Park/Batres Community Center. L-19-53

ii. The City would like to request additional information for the following concerns:
   a. What is the construction schedule for this area?
   b. How long would construction take in this area?
   c. When is construction anticipated (i.e. time of year)?
   d. Could the construction activities be closely coordinated with City Recreation Department staff so it would not conflict with any official City-scheduled activities as well as public use of the facilities? L-19-54
   e. Is this area one of the main access points to the park? How will Caltrans maintain access at all times?

The City believes that the impact to this Section 4(f) resource warrants mitigation in the form of an enclosed gymnasium due to the proximity of the basketball courts to the I-710 which will be underneath the proposed elevated structure. Caltrans states that the area under the proposed elevated structure is concrete and does not contain any recreational resources and is not currently used for recreation activities. Caltrans also states that the area would be further limited to the City for future use of the area. The City disagrees that this area does not contain recreational resources as this area of the park contains picnic tables and is utilized as an extension of the basketball courts. L-19-55

The City maintains that noise, air quality and health impacts to children and other users of the park could be mitigated through the provision of an enclosed gymnasium which would protect children from noise, air quality and health impacts related to both construction and operation of the proposed project. The City would like to be further engaged in ongoing coordination and development of appropriate mitigation measures for this Section 4(f) resource.

The City respectfully submits these comments and entrusts these concerns to Caltrans to consider and address. Please direct any questions and coordination efforts to Maryam Babaki at (323) 722-4805 Ext. 2337.

Sincerely,

Fernando Mendoza
Interim City Administrator

ATTACHMENT A

City of Commerce

Housing Opportunity Overlay Zone

CHAPTER 19.47 - HOUSING OPPORTUNITY OVERLAY ZONE

19.47.010 - Intent and purpose.

A. The housing opportunity overlay zone (HOO) is established to facilitate the development of housing "by-right" on underutilized industrial sites. The HOO zone is intended to be applied to properties that are currently zoned heavy manufacturing (M-2) and permits discontinued manufacturing uses to recycle to residential development. The overlay zone is further intended to serve as an implementation tool of the city's housing element of the general plan by facilitating residential development on identified "housing opportunity sites."

B. The HOO has the following major objectives:

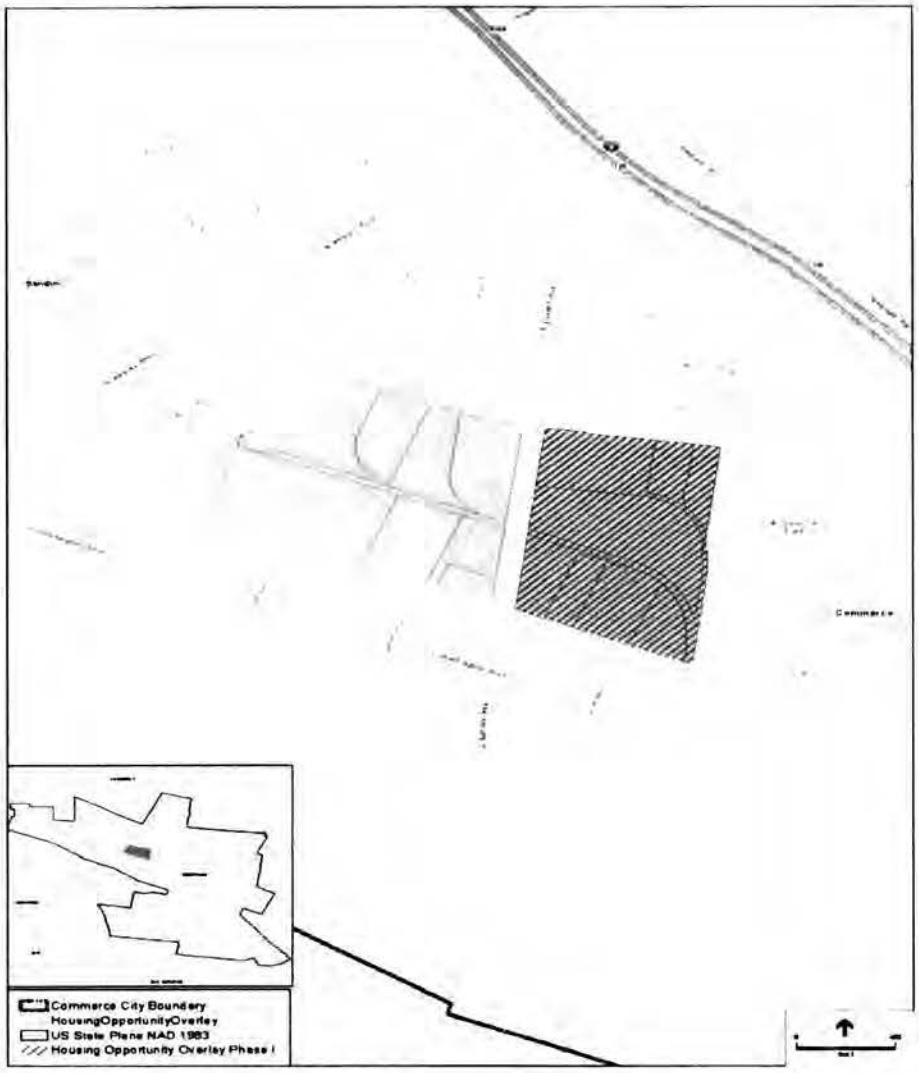
1. Create "by-right" opportunities for residential development on underutilized manufacturing sites.
2. Implement state laws that require cities to demonstrate available land capacity and zoning tools to accommodate the city's projected need for housing.
3. Provide a mix of housing types.
4. Facilitate well-designed new mixed-use development projects that combine residential and nonresidential uses (e.g., office, retail, business services, personal services, public spaces and uses, other community amenities, etc.) to promote a better balance of jobs and housing.
5. Stimulate economic development and reinvestment through regulations based upon recognized urban design principles that allow property owners to respond with flexibility to market forces.
6. Provide additional property rights while preserving existing property rights. This intent is achieved by providing additional development rights in compliance with this chapter, which property owners may exercise under certain conditions, while retaining all development rights conferred by the underlying zone to property owners in the HOO zone. Incentives and advantages include allowing a greater range and mix of uses and specifying more permissive dimensional specifications (e.g., greater floor area ratio, lot coverage ratio, and height, reduced setbacks, etc.).

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.020 - Applicability.

A. Application to Area. The HOO is an overlay zone to be used only in conjunction with an underlying heavy manufacturing (M-2) zone. The HOO area applies to approximately forty-four acres within the Rosewood Planning Area and is generally bounded by Harbor Street on the north, the Jillson Street on the south, Strong Avenue on the west and with no formal boundary on the east (eastern boundary is the Commerce Civic Center, Aquatorium and Rosewood Park), as depicted in Figure 1.

FIGURE 1: HOUSING OPPORTUNITY OVERLAY ZONE



B. Relationship Between Base Zone Standards and Overlay Zone Standards. For property within the HOO zone, the regulations in this chapter allow residential and mixed-use development as an alternative to the stand-alone industrial development allowed under the base (underlying) zone standard.

C. Base Zone Standards.

1. The provisions in this chapter shall apply to all properties within the HOO zone, but the provisions do not supersede the underlying base zone provisions until a property is developed in compliance with the provisions of this chapter. New projects may be developed in compliance with the existing underlying base zone, provided that all standards and requirements of the underlying base zone are met.

2. Regulations, development standards, and requirements in the underlying base zone shall continue to apply to those projects that are currently developed according to the existing standards.

3. For legal nonconforming uses (i.e., uses that do not comply with the provisions of the base zone), the provisions in Chapter 19.37 (Nonconforming Uses and Structures) shall apply.

D. Option to Apply HOO Zone Standards. The owner or developer of any property within the HOO zone may choose to develop in compliance with the standards and procedures in this chapter.

E. Conversion of existing nonresidential structures into a residential use may be permitted subject to a conditional use permit pursuant to Chapter 19.39, Division 7 (Conditional Use Permit).

F. After Completion of Development. Once a property is developed in compliance with the provisions of this chapter, the provisions of this chapter completely supersede the provisions of the underlying base zone. Whenever the requirements of the HOO zone impose a more or less restrictive standard than the provisions of the underlying base zone, the requirements of the HOO zone shall govern.

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.030 - Use regulations.

A. All uses in the applicable underlying zone are allowed. In addition, Table 19.11.030A identifies the uses permitted in the HOO zone.

B. Certain permitted uses and conditionally permitted uses may be subject to special conditions regarding location, operation or the design of the use. Such uses are marked in Table 19.11.030A with an asterisk (*), and the special conditions that apply are contained in Chapter 19.31 (Standards for Specific Land Uses) of this title.

C. The "notes and exceptions" column of Table 19.11.030A indicates more precisely the use regulations for specific operating characteristics. The notes and exceptions must be reviewed in conjunction with the other information for that class of use.

D. For uses or activities not specifically identified in Table 19.11.030A, the community development director shall have the authority to interpret and assign the use. The decision of the community development director can be appealed to the planning commission pursuant to Chapter 19.39, Division 4 (Appeals and Revocations) of this title.

E. Any use or activity not identified in Table 19.11.030A, or any use or activity not interpreted by the community development director, shall be prohibited.

Table 19.47.030A
Uses in Housing Opportunity Overlay Zone

Use	HOO	*Notes and Exceptions
Accessory Buildings	A	
Child Care Center	P/C*	*See Chapter 19.31 Division 8
Care Facilities (<6 persons)	P	
Child Facilities (>6 persons)	C	
Clubs, Private and Fraternities/Sororities	X	
Community Gardens	C	

Dwelling, Multi-family Attached	P	Attached multifamily dwellings could be apartments, condominium or other attached multiple family dwellings
Dwelling, Single-Family Attached	X	Attached single family dwellings could include attached townhomes, rowhouses, courtyard and/or cluster housing
Dwelling, Single-Family	X	
Dwelling, Single-Family; new construction and additions where the total floor area of all structures is greater than 2,300 square feet	X	
Emergency Shelters	X	
Greenhouses	A	
Home Occupations	P/C*	See Chapter 19.31 Division 13
Live/Work	P	See Section 19.11.080 for additional standards
Manufactured Housing	X	
Mobile Home Parks	X	
Mixed-Use Development, where residential and nonresidential uses are integrated vertically, including live/work opportunities. Nonresidential uses in vertical mixed-use projects shall be limited to: • Health and Fitness Centers; • Schools, Specialized Education and Training; • Studios, Professional; • Printing and Publishing;	P	Nonresidential uses are permitted in vertical mixed-use projects and shall be restricted to the ground floor only

• Studios—Art, Dance, Music, Photography, etc.; • Retail Trade uses that can only include: • Appliance Sales • Arts, Antiques, Collectibles, and Gifts • Convenience Stores • Furniture and Furnishings • Grocery Stores • Pet Shops • Restaurants • Retail, General Merchandise • Bank and Financial Services; • Day Care Centers; • Laundry and Dry Cleaning; • Laundromats, Self Service; • Offices; and		
Nursing/Rest Homes	C	
Parking Lots, Surface	P	
Parking Structure, Above Ground	P	Permitted if screened from views from public right-of-way and adjacent single-family residential districts

Public or Quasi-public uses of educational/recreational nature	X	
Public or Quasi-public use of religious, cultural pubic services nature	X	
Second Dwelling Unit	X	
Senior Housing	P	
Supportive Housing	P	
Swimming Pools, Private	A	
Transitional Housing	P	

NOTE: All uses are subject to performance standards as defined in Chapter 19.19.

* = See "Notes and Exceptions" column.

P = Permitted by right.

X = Not permitted.

P/C = Either permitted by right or subject to conditional use permit review, depending upon criteria contained in Chapter 19.31

C = Conditional use permit required.

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.040 - Development standards.

A. All development in the HOO zone shall conform to the development standards set forth in Table 19.11.040A.

Table 19.11.040A
Development Standards—Housing Opportunity Overlay Zone (HOO)

Development Standards	HOO	Notes
1. Maximum Density (residential uses)	40 du/ac	Maximum density for residential uses expressed as dwelling units per acre

2. Maximum Intensity (nonresidential uses)	1.0 FAR	Maximum floor area ratio (FAR) for nonresidential uses. Podium and underground parking is not counted toward floor area ratio (FAR)
3. Minimum Lot Area	None Required	
4. Minimum Dwelling Unit Size	Studio: 500 sf 1-bdrm: 600 sf 2-bdrm: 800 sf 3-bdrm: 1,000 sf	
5. Maximum Building Height	5 stories/60 ft.	Height calculated from grade
6. Distance Between Buildings (Minimum)	10 ft.	Increase of 5 ft. for every 10 ft. of height, or fraction thereof, above 25 ft.
7. Front Yard Setback	0 ft. (min); 15 ft. (max)	
8. Street Side Setback	0 ft. (min); 15 ft. (max)	
9. Interior Side Setback	5 ft. (min); No max	Minimum 10 ft. if abutting residential zone district
10. Rear Yard Setback	10 ft. (min) for residential portion, no requirement for commercial portion	Minimum 10 ft. if abutting residential zone district
11. Permitted Setback Encroachments	6 ft. into setbacks	Balconies, awning, porches, stairways and similar elements may extend up to 6 ft. into the setback. Cornices, eaves, fireplaces, similar architectural features may extend 4 ft. into the front and rear setbacks and 3 ft. in interior setbacks
12. Maximum Lot Coverage	None	
Landscape/Open Space Standards		

13. Publicly Accessible Open Space (nonresidential)	15% of net lot area	See Section 19.11.070 for additional standards
14. Private Open Space (multi-family residential)	1st floor—150 sf per unit Upper floor—100 sf per unit	See Section 19.11.060 for additional standards
15. Common Open Space (multi-family residential)	200 sf per unit	See Section 19.11.060 for additional standards
Parking Standards		
16. Surface Parking	20 ft. min. setback from front lot; 15 ft. min. setback from side lot line	
17. Garage/Tuck-Under Parking	Prohibited along front lot lines	
18. Underground/Podium Parking	Allowed beneath building footprint	
19. Above-Ground Parking Structure	Permitted if screened from views from public right-of-way and adjacent single-family residential districts	

Abbreviations: sf = square feet; ft. = feet or foot

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.050 - Frontage type standards.

A. This section provides frontage type standards for buildings in the HOO zone. Types of frontages include:

1. Live-Work/Office Fronts. A frontage that reinforces both residential and work activities that can occur in the building. The elevation of the ground floor is located at or near the grade of sidewalk to provide direct public access to the building. Entrances and windows are provided on the front of the facade to provide eyes on the street and direct sidewalk access to commercial and office uses. The front setback (if provided) may be improved with landscaping or as an extension of the public sidewalk to create a more pedestrian-friendly environment.

a. Elevation of Ground Floor. The ground floor elevation shall be located near the elevation of the sidewalk to minimize the need for external steps and external ADA ramps at public entrances.

b. Minimum Ground Floor Interior Height. Twelve feet minimum (floor-to-floor height—Commercial Ready).

c. Ground Floor Unit Entrances. All ground floor tenant spaces that have street frontage shall have entrances on a facade fronting a street. All other ground floor uses may have a common lobby entrance along the front facade or private entrances along other facades.

d. Upper Floor Unit Entrances. Entrances to upper floor units may be provided through a common lobby entrance and/or by a common entrance along a facade fronting a street.

e. Recessed Entrances. Entrances may be recessed into the facade.

f. Awnings and Marquees. Awnings or marquees may be provided over storefront windows and entrances. Awning and marquees may project up to six feet from the facade and extend over the sidewalk provided that at least eight feet of vertical clearance is provided.

g. Projecting Elements (Balconies, Roof Overhangs, Shade Structures, and Bay Windows). Projecting elements on upper floors may project four feet from the facade and project into the setback.

h. Sidewalk and Setback Treatment. The public sidewalk shall be improved with street trees with an average spacing of thirty feet on-center and pedestrian-scaled street lights (no taller than fourteen feet). If the front facade is setback from the public sidewalk, the setback shall be landscaped and/or improved as an extension of the public sidewalk.

2. Residential Fronts. A frontage that reinforces the residential character and use of the building. The elevation of the ground floor is elevated above the grade of the lot to provide privacy for residences by preventing direct views into the home from the sidewalk. Entrances and windows are provided on the front of the facade to provide eyes on the street and direct sidewalk access to the building. Stoops are allowed to project into the front setback to enhance entrances. The front setback is primarily improved with landscaping.

   a. Elevation of Ground Floor. The ground floor elevation shall be located within six feet of the ground surface of the adjacent sidewalk or walkway.

   b. Minimum Ground Floor Ceiling Height. Ten feet minimum (floor-to-floor height).

   c. Ground Floor Unit Entrances. Entrances to ground floor units that have street frontage may be provided through a common lobby entrance and/or by private entrances from the adjacent sidewalk.

   d. Upper Floor Unit Entrances. Entrances to upper floor units may be provided through a common lobby entrance and/or by a common entrance along a facade fronting a street.

   e. Recessed Entrances. Entrances may be recessed into the facade.

   f. Stoops and Front Porches. Stoops and front porches may be provided in front of building and unit entrances. Stoops and front porches may project up to six feet from the facade and project into the setback.

   g. Projecting Elements (Balconies, Roof Overhangs, Shade Structures, and Bay Windows). Projecting elements on upper floors may project four feet from the facade and project into the setback.

   h. Sidewalk and Setback Treatment. The public sidewalk shall be improved with street trees with an average spacing of thirty feet on-center and pedestrian-scaled street lights (no taller than fourteen feet). If the front facade is setback from the public sidewalk, the setback shall be landscaped (excluding stoops/front porches and paved paths to building entrances).

3. Storefronts. A frontage that reinforces the commercial character and use of the ground floor of the building. The elevation of the ground floor is located at or near the grade of sidewalk to provide direct public access into the building. Large storefronts display windows are provided on the front of the facade to encourage visual access to merchandise displays and to encourage window shopping. Awnings or marquees are provided over storefront windows and entrances. The front setback (if provided) is primarily improved as an extension of the public sidewalk to create a more pedestrian-friendly environment.

    a. Elevation of Ground Floor. The ground floor elevation shall be located near the elevation of the sidewalk to minimize the need for external steps and external ADA ramps at public entrances.

    b. Minimum Ground Floor Ceiling Height. Fifteen feet minimum (floor-to-floor height).

    c. Storefront Entrances. All ground floor tenant spaces that have street frontage shall have storefront entrances on the facade fronting a street.

    d. Lobby Entrances. Lobby entrances to upper floor uses shall be located on a facade fronting a street.

    e. Recessed Entrances. Storefront and lobby entrances may be recessed into the facade.

    f. Awnings and Marquees. Awnings or marquees are required over storefront windows and entrances. Awning and marquees may project up to six feet from the facade and extend over the sidewalk provided that at least eight feet of vertical clearance is provided.

    g. Projecting Elements (Balconies, Shade Structures, and Bay Windows). Projecting elements on upper floors may project four feet from the facade and project into the setback.

    h. Sidewalk and Setback Treatment. The public sidewalk shall be improved with street trees with an average spacing of thirty feet on-center and pedestrian-scaled street lights (no taller than fourteen feet). If the front facade is setback from the public sidewalk, the setback shall be improved as an extension of the public sidewalk.

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.060 - Open space standards.

This section provides open space standards for development within the HOO zone.

A. Usable Open Space Defined. Usable open space areas are an open area or an indoor or outdoor recreational facility which is designed and intended to be used for outdoor living and/or recreation. Usable open space shall not include any portion of parking areas, streets, driveways, sidewalks, or turnaround areas.

B. The following standards shall apply to the requirements for open space:

    1. Private Residential Open Space.

        a. For stand-alone multi-family residential projects or as part of a mixed-use development, each residential unit shall be provided with at least one area of private open space accessible directly from the living area of the unit, in the form of a fenced yard or patio, a deck or balcony at a minimum area of one hundred fifty square feet per unit for first floor units and one hundred square feet per unit for upper floors.

        b. The minimum dimension, width or depth, of a balcony shall be five feet.

    2. Common Residential Open Space.

        a. For stand-alone multi-family residential developments, each residential unit shall be provided with at least two hundred square feet of common residential open space.

b. All common open space shall be conveniently located and accessible to all dwelling units on the site.

c. Common open space areas may include landscaping, pedestrian paths, and recreational facilities.

d. In projects containing fewer than ten units, the common open space shall have a minimum width and depth of ten feet. In projects containing ten or more units, the minimum width and depth shall be twenty feet.

3. Recreational Amenities/Facilities.

a. For projects containing twenty-five or more residential units in stand-alone multi-family residential developments and as part of a mixed-use development, one common recreational amenity shall be provided for each thirty units or fraction thereof. The following listed amenities satisfy the above recreational facilities requirements. Recognizing that certain facilities serve more people than others, have a wider interest or appeal, and/or occupy more area, specified items may be counted as two amenities, as noted. In all cases, each square foot of land area devoted to a recreational amenity shall be credited as common open space on a 1:1 basis.

i. Clubhouse (two);

ii. Swimming pool (two);

iii. Tennis court (one per court);

iv. Basketball court (one per court);

v. Racquetball court (one per court);

vi. Weightlifting facility;

vii. Children's playground equipment;

viii. Sauna;

ix. Jacuzzi;

x. Day care facility (two);

xi. Other recreational amenities deemed adequate by the community development director.

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.070 - Public space amenities requirements.

A. Each project proposed within the HOO zone must include a public open space amenity, or some form of physical interface for the pedestrian. Such features may include, but not be limited to:

1. Formal Plazas. A formal plaza would be a publicly accessible open space which has a design that is influenced by classical urban planning design. A formal plaza would typically include some sort of central water fountain and/or symmetrical landscaping.

2. Urban Gardens. An urban garden can be located on the ground level, or on upper levels of a structure. Urban gardens include ornamental landscaping arranged in raised or at-grade planters or planting areas, potted plants and trees. Many times there are sculptures or other forms of public art that are included within the urban garden.

3. Covered Colonnades. Colonnades are linear in design and generous in depth. The intent is to provide a comfortably wide, covered pathway that is adjacent to the openings of a building. Sometimes the second floor of a building is utilized to create the "covered" element of the colonnade.

4. Sidewalk Dining. Sidewalk dining may occur wherever a sidewalk space is ample enough to accommodate dining furniture without impeding pedestrian access of the sidewalk. Sidewalk dining may be defined with a railing or planters, or be open and accessible.

5. Pedestrian Alleys and Walkways. A pedestrian alley or walkway is typically a "lane" that does not follow the alignment of a vehicular street, but provides a pedestrian access to either a public space or some other feature within the interior of a development. Pedestrian alleys or walkways must be designed in such a manner so as to be inviting to pedestrians. Therefore, issues such as lighting, security, line of sight, cleanliness and visual appeal are important considerations to a well designed pedestrian alley or walkway. Sometimes public art, street furniture and access to shops and public spaces are features of pedestrian alleys and walkways.

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.080 - Live-work development.

This section provides operational and compatibility standards for the development of live/work units within the HOO.

A. Allowed Uses.

1. The nonresidential component of a live/work unit shall only be a nonresidential use allowed within the HOO zone, except that certain uses are determined to be not appropriate within a residential environment and are therefore prohibited as provided in subsection (B) below.

2. The residential component of a live/work unit shall only be a residential use allowed within the HOO zone.

B. Prohibited Uses.

1. A live/work unit shall not be used for any of the following activities or similar activities as determined by the director:

a. Adult-oriented businesses;

b. Animal care or boarding;

c. Classroom instruction (e.g., art/music lessons, tutoring, and similar uses) involving five or more students at any one time;

d. Commercial food preparation activities;

e. Industrial uses;

f. Vehicle maintenance or repair (i.e., body or mechanical work, including boats and recreational vehicles), vehicle detailing and painting, upholstery, etc.;

g. Storage of flammable liquids or hazardous materials beyond that normally associated with a residential use;

h. Medical and dental offices, clinics, and laboratories (not including chiropractors or counselors/psychotherapists).

2. Activities or uses that are not compatible with residential activities or that would clearly conflict with other live/work activities or the character of the surrounding neighborhood as determined by the director; and

3. Activities or uses that would adversely affect the health or safety of live/work unit residents, because of dust, glare, heat, noise, noxious gases, odor, smoke, traffic, vibration, or other impacts, or that would be hazardous because of materials, processes, products, or wastes.

C. Site Planning and Design Standards.

1. Each live/work unit fronting a public right-of-way shall have a pedestrian-oriented frontage that allows views into the interior of the nonresidential areas of the unit.
2. Each live/work unit shall have a clearly identified, separate access from other live/work units within the structure or development. Access to individual units shall be from common access areas, parking lots, or walkways. Access to each unit shall be clearly identified to provide for emergency services.
3. The living space within the live/work unit shall be contiguous with the working space, with direct access between the two areas.

D. Operational Standards.

1. No portion of a live/work unit shall be separately sold or rented.
2. The owner or developer of a structure containing live/work units shall provide written notice to all occupants, tenants, and users that the surrounding area may be subject to higher impacts associated with nonresidential uses (e.g., noise) than exist in more predominantly residential areas. Performance standards for live/work units shall be those applicable to nonresidential uses allowed in the zone in which the live/work units are located.
3. All activities related to the "work" component of a live/work unit shall be conducted within a completely enclosed building.
4. Up to two additional persons who do not reside in the live/work unit may work in the unit.
5. Client and customer visits to live/work units are allowed.
6. Parking for each live/work unit shall be provided in compliance with Chapter 19.21 (Off-Street Parking Requirements).
7. A live/work unit shall not be converted to either entirely residential use or entirely nonresidential use.
8. A live/work use may display a window or building-mounted sign up to a maximum of five percent of the building frontage area used for commercial purposes. Signs shall not be illuminated, including neon signs.

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.090 - Mixed-use development.

This section provides operational and compatibility standards for mixed-use development within the HOO zone. Nonresidential uses are restricted to the ground floor only.

A. Operational Standards.

1. Joint Tenants and Owners Association.
    a. A joint tenants and owners association shall be formed to ensure the well-being of each tenant and owner in a mixed-use project.
    b. The association bylaws, including voting rights, shall be subject to review by the city attorney and approval by the director. The association's bylaws shall include the following:
        i. Assignment of parking spaces per each use.
        ii. Identification of maintenance responsibilities for landscaping, parking facilities, and recycling and refuse storage facilities. Noise notification procedures.
        iii. Relationship between uses regarding association representation.
        iv. Voting procedures.

v. Procedures for solving problems that may arise between the different types of uses or residents.

2. Loading and Unloading Activities. Where applicable, the covenants, conditions, and restrictions of a mixed-use project shall indicate the times when the loading and unloading of goods may occur on the street, provided that in no event shall loading or unloading take place after ten o'clock p.m. or before seven o'clock a.m. on any day of the week.

3. Noise Notification.

   a. Residents, whether owners or tenants, of a mixed-use development project shall be notified in writing before taking up residence that they will be living in an urban type of environment and that the noise levels may be higher than a typical residential area.

   b. The covenants, conditions, and restrictions of a mixed-use project shall require that the residents acknowledge their receipt of the written noise notification. Their signatures shall confirm receipt and understanding of this information

B. Fences and Walls. In addition to the regulations in Section 19.09.060 (Fences, hedges, and walls, commercial zone), fences and walls shall be subject to the following regulations:

1. Separation Wall Required. A masonry separation wall shall be constructed on all property lines adjacent to any single-family residential district. Pedestrian access points are encouraged and may be allowed subject to approval of the director. The separation wall shall be six feet in height, as measured from the highest elevation of land contiguous to the wall, except in a required front setback area and in a required exterior side setback area for a corner, reverse corner or key lot, where the wall shall be limited to thirty-six inches in height.

2. Other Fences and Walls. Fences and walls are allowed in any yard area subject to the following height regulations:

   a. Front Yard Area. In the front yard area, the height shall be limited to thirty-six inches.

   b. Street Side Yard. In street side yard areas, the height shall be limited to thirty-six inches.

   c. All Other Areas. In all other areas, the height shall be limited to six feet, as measured from the side of the fence or wall with the highest grade.

3. Location. All perimeter fences and walls shall be constructed on the property line unless a different location is permitted by the community development director. No parallel wall or fence shall be constructed less than five feet from an existing wall or fence, unless approved by the community development director.

4. Materials.

   a. Chain link fencing shall not be erected between a primary or accessory structure and a public or private street, except that chain link fencing may be used for security purposes for public utility structures and for temporary fencing needs (construction sites, special events, vacant lots, etc.).

   b. Barbed wire and concertina wire are prohibited, except at public utility structures.

C. Landscaping. Landscaping shall comply with Chapter 19.23 (Landscaping).

D. Screening and Buffering—Mechanical Equipment and Trash Facilities. Mechanical and air-conditioning equipment shall be screened and buffered in compliance with Section 19.19.100 (Mechanical equipment screening) and trash facilities shall be screened and buffered in compliance with Section 19.19.140 (Solid waste receptacles and enclosures).

E. Signs. Signs shall comply with Chapter 19.25 (Signs). In addition, in the HOO zone where both residential and nonresidential uses are allowed, the signage rights and responsibilities applicable to a particular use shall be determined as follows: residential uses shall be treated as

if they were located in the residential area where that type of use would be allowed as a matter of right, and nonresidential uses shall be treated as if they were located in a zone where that particular use would be allowed, either as a matter of right or subject to a discretionary process.

F. Sound Mitigation. Residential dwelling units shall be designed to be sound attenuated against present and future project noise. New projects or new nonresidential uses in existing projects shall provide an acoustical analysis report, by an acoustical engineer, describing the acoustical design features of the structure required to satisfy the exterior and interior noise standards.

G. Design Criteria.

1. A mixed-use development project shall be designed and constructed to:

   a. Be pedestrian in its focus by:

      i. Providing direct pedestrian linkages to adjacent public sidewalks.

      ii. Creating enhanced pedestrian connections throughout the project between residential and nonresidential uses and parking areas.

      iii. Providing enhanced pedestrian amenities throughout the project, including seating, pedestrian area lighting, special paving, public art, water features, common open space, directories, and similar items to create a pleasant pedestrian experience.

   b. Incorporating architectural design elements and materials that relate to a pedestrian scale.

   c. Locate uses in proximity to one another without large intervening parking lots so that it is convenient for people to walk between the various uses and park their vehicles only once.

   d. Create a pedestrian scale and character of development along the street by providing significant wall articulation and varying roof heights, incorporating pedestrian scale elements (e.g., doors, windows, lighting, landscaping), and locating storefronts and common open space areas (e.g., plaza, courtyard, outdoor dining) near the public sidewalk to contribute to an active street environment.

2. Consistent Use of Architectural Details and Materials. Architectural style and use of quality materials shall be compatible and consistent throughout an entire mixed-use project. However, differences in architectural details and materials may occur to differentiate between the residential and nonresidential portions of the project. The overall project design and site layout shall be one that promotes a strong pedestrian environment and active street frontage. This can be accomplished by incorporating features into the project as outlined in subsection (3) below.

3. Features.

   a. Street Level Features. Variations in the front building plane shall be incorporated through the use of varying building setbacks, variations in wall planes, and the inclusion of pedestrian amenities (e.g., plaza, courtyard, outdoor dining, landscaping). Long expanses of blank walls shall be prohibited.

   b. Pedestrian-Oriented Features. At least seventy-five percent of the building frontage facing a public street, primary pedestrian way, or parking lot shall be devoted to pedestrian-oriented features (e.g., storefronts, pedestrian entrances to nonresidential uses; transparent display windows; landscaping).

   c. Upper Level Features. Upper floor balconies, bays, and windows shall be provided whenever opportunities exist for these types of features.

   d. Entrances. When nonresidential and residential uses are located in a vertical mixed use structure, separate pedestrian entrances shall be provided for each use. The entrances for nonresidential uses shall be designed to be visually distinct from the

entrances for residential uses. Entrances to individual residential units in a vertical mixed use project shall not be allowed along a street frontage. Instead shared entrances to residential units located above the ground floor shall be from lobbies that serve multiple units.

e. Neighborhood Interface. The design of new infill development shall be sensitive to the scale and design characteristics of established structures in abutting residential neighborhoods, with the objective of achieving a harmonious transition between the new development and existing neighborhood. Consideration shall be given to factors including, but not limited to, orientation of architectural features, building articulation, and exterior building treatments.

f. Lighting. Lighting shall be incorporated along sidewalks or other pedestrian walkways, plazas, paseos, courtyards, and other common open areas to enhance the pedestrian environment and increase public safety. Lighting for nonresidential uses shall be designed, located, and shielded to ensure that they do not adversely impact the residential uses, but shall provide sufficient illumination for access and security purposes consistent with the provisions of Section 19.19.130 (Lighting).

g. Security. Projects shall be designed to minimize security risks to residents and to minimize the opportunities for vandalism and theft. This may be accomplished by:

i. Maximizing visibility to common open space areas, internal walkways, and public sidewalks. Use opportunities for natural surveillance to increase visibility.

ii. Using walkways, low fences, lighting, signage, and landscaping to clearly guide people and vehicles to and from the proper entrances.

iii. Eliminating areas of concealment, hiding places, and dead spaces.

iv. Using lighting to improve the visibility of common areas while enhancing the pedestrian environment. Lighting should not be overly bright and should provide a uniform level of light over the subject area to eliminate dark spaces.

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.100 - Outdoor dining.

This section provides standards for outdoor dining areas within the HOO zone. Outdoor dining restricted is restricted to the ground floor only.

A. Public Property. Outdoor dining on public property shall require approval of an encroachment permit by the public works director and compliance with the standards of the public works department.

B. Private Property. Outdoor dining on private property shall comply with the following standards:

1. Coordinated Design Scheme. The design and appearance of proposed improvements or furniture (e.g., tables, chairs, benches, umbrellas, planters, menu boards, etc.) to be placed in an outdoor dining area shall present a coordinated theme and shall be compatible with the appearance and design of the primary structure, as determined by the director.

2. Hours of Operation. Hours of operation for outdoor dining areas shall coincide with those of the associated indoor restaurant.

3. Property Maintenance. The operator shall maintain the outdoor dining area(s) in a neat, clean, and orderly condition at all times. This shall include all tables, benches, chairs, displays, or other related furniture. An adequate number of trash receptacles shall be provided to serve the outdoor dining area.

4. Outdoor Bar Prohibited. A bar designed and/or operated to sell or dispense any alcoholic beverages shall not be allowed in the outside dining area.

5. Location. Outdoor dining areas may be allowed to locate in required setback areas but shall not encroach into required parking areas. They may be allowed to encroach into a public right-of-way with an approved encroachment permit issued by the city engineer.

6. Noise. Amplified sound (e.g., music, television, etc.) shall not be audible beyond the lot line.

C. Review Criteria. When reviewing an application to allow outdoor dining, the review authority shall consider the relation of outdoor dining areas to sensitive noise receptors (e.g., hospitals, schools, and residential uses). Mitigation measures shall be applied to eliminate potential impacts related to glare, light, loitering, and noise.

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.110 - Driveway standards.

This section will include standards for the design (width, pavement, fire access requirements, etc.) and placement (distance from intersections, line of sight standards, etc.) of driveways within the HOO zone.

A. Access. Driveway access to a lot may be provided from a street or an adjacent property (if a shared access easement is provided). Driveways are encouraged to connect to other driveways to increase accessibility.

B. Location. Driveway access points are prohibited within fifty feet of street intersections. A minimum of three hundred feet between driveways shall be maintained.

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.120 - Signs.

A. Signage. All development within the HOO zone shall have a "sign program" as part of the project design. The sign program shall identify the location for all signage that may be located on the building, the allowable sign materials, lighting methods and sign design. In addition, temporary signs and banners will be included in the sign program, as to whether or not they are allowed, and if they are allowed, then where these signs may be located within the development project. At no time, shall the sign program allow for signage in excess of those standards within Chapter 19.25 (Signs). "Box" signs, "canister" or "can" signs are prohibited.

B. Pedestrian-oriented, non-illuminated hanging "blade" signs that either hang under a colonnade or canopy, or project from the facade of a building, shall not be counted within the sign area formula that is used to calculate the maximum amount of sign area for each building. In other words, the hanging or projecting blade sign is a "free" sign in regards to being included in calculating the maximum amount of sign area that a development or store may have. In no case shall a pedestrian-oriented, non-illuminated hanging or projecting blade sign exceed two square feet maximum per sign face, or two square feet for a double-faced blade sign.

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

19.47.130 - Other applicable regulations.

In addition to the requirements contained in Chapter 19.11, regulations contained in the following chapters of this title shall apply to development in the manufacturing zones:

Chapter 19.01: General Provisions

Chapter 19.19: Site Planning and General Development Standards

Chapter 19.21: Off-Street Parking and Loading

Chapter 19.23: Landscaping Standards

Chapter 19.25: Signs

Chapter 19.31: Standards for Specific Land Uses

Chapter 19.37: Nonconforming Uses and Structures

(Ord. No. 656, § 4 (Exh. A), 11-19-2013)

L-19

CITY OF COMMERCE

Lilia R. Leon
Mayor

Tina Baca Del Rio
Mayor Pro Tem

Joe Aguilar
Councilmember

Ivan Altamirano
Councilmember

Denise M. Robles
Councilmember

September 27, 2012

Mr. Ronald Kosinski
CALTRANS DISTRICT 7
Division of Environmental Planning
100 South Main Street, MS 164
Los Angeles, CA 90012

Re: CITY OF COMMERCE COMMENTS ON THE I-710 CORRIDOR PROJECT DRAFT EIR/EIS

Dear Mr. Kosinski:

On behalf of the City Council, the City of Commerce (City) appreciates this opportunity to review the I-710 Corridor Project Environmental Impact Report and Environmental Impact Statement (EIR/EIS), and would like to thank Caltrans for the extension of the comment period through September to allow thorough review of this important document. This letter represents the official comments of the City of Commerce on the Draft EIR/EIS, and as such, it is focused on the potential project impacts that most directly affect the resources of the City.

The City of Commerce applauds Caltrans and its partner agencies in their attempt to find a solution to the gridlock and negative impacts on traffic safety, air quality, noise, and human health that currently exist in the vicinity of the I-710 corridor – impacts which are expected to intensify with the projected increases in truck traffic over the next few decades. Goods movement through the Ports of Los Angeles and Long Beach, via the interstate highway system and rail lines, is a critical economic engine for Southern California. It is clear from the Draft EIR/EIS that the proposed I-710 Corridor Project will result in real and permanent benefits to the region, such as increased safety and level of service on the I-710 and decreased regional diesel emissions. L-19-1

However, the City continues to be concerned about the substantial costs that will be borne by our local citizenry: the displacement of families, neighborhoods, and businesses; decrease in tax revenue; disruption of local traffic patterns; and increase in exposure to unhealthful levels of air pollutants and noise, to name just a few. These impacts will clearly not be in proportion to the potential project benefits for the City of Commerce. L-19-2

The City of Commerce is unique among the 17 cities and unincorporated communities along the I-710 corridor, because it represents the terminus of the freight corridor proposed under Alternatives 6A, 6B, and 6C; is home to the Union Pacific and Burlington Northern Santa Fe rail yards, which collectively constitute the fourth largest rail yard in the nation, and therefore serve as a major "inland port"; and is the location of major freeway and arterial interchange improvements that will affect our City in a number of significant ways. For example, because the I-710 Corridor Project proposes major reconfiguration of a number of arterial interchanges, the citizens of

Commerce would experience some of the most intensive construction activity to be undertaken for this project, and for the longest period of time, including the need for construction activities to routinely occur during the nighttime hours. Following project buildout, according to the Draft EIR/EIS, the City of Commerce will be obligated to bear up to 36 percent of total corridor-wide relocations (166 properties); up to 38 percent of corridor-wide job displacement (510 jobs); up to 26 percent of corridor-wide property tax losses ($736,000); and up to 42 percent of corridor-wide sales tax losses. There are several hundred existing residential properties in Commerce that lie within 300 feet of the proposed freeway alignment and ramp improvements, and these residents will experience short-term (construction-related) and long-term (operations-related) negative health impacts as the result of project-related increases in air emissions in excess of acceptable thresholds. L-19-3

Members of our Local Advisory Committee, in conjunction with the local non-profit East Yards Communities for Environmental Justice (East Yards), have developed "Community Alternative 7" for consideration by Caltrans. East Yards plans to submit a separate comment letter containing a detailed discussion of this alternative. It is the City's understanding that Community Alternative 7 attempts to balance the predominantly regional project benefits with benefits for the largely poor and minority residential neighborhoods that will be adversely affected, and give voice to those constituents who might not otherwise be heard in the environmental review process. L-19-4

The City wholeheartedly supports our community's participation in ongoing dialogue with Caltrans, and encourages Caltrans to accept this alternative and other comment letters from Commerce's residents and business community in good faith and accord them full consideration. We believe those most affected by this project should play an integral role in the project process, and we are committed to the ultimate selection by Caltrans of a design alternative that balances the project's broad objectives with an acceptable, and even improved, quality of life for the communities that line the freeway corridor.

Our comment letter therefore incorporates the most critical concerns and questions about the proposed I-710 Corridor Project that have been communicated to the City Council by the residents, businesses, and industries for whom Commerce is home, and reiterates some of the concerns the City has expressed in previous letters to Caltrans and Metro at project milestones during Draft EIR/EIS preparation.

The City has also undertaken a comprehensive technical review of the Draft EIR/EIS, with the assistance of environmental consulting firm PCR Services, professional traffic engineers, socioeconomic consultants HR&A Advisors, and geotechnical consultants Ninyo & Moore, to identify localized impacts on City resources, since the Draft EIR/EIS necessarily evaluates impacts on a large number of affected jurisdictions and across a wide range of environmental topics, and the broad scope of the project and environmental documentation does not always permit the detailed degree of analysis necessary to identify impacts on specific neighborhoods or other resources at the local level. Our letter includes comments based on this review, categorized as follows:

1. **Proposed Alternatives and Design Options.** This section briefly summarizes proposed Alternatives 5A and 6A/B/C, and Design Options 1, 2, and 3, and provides our comments on each.

2. **Additional Technical Studies or Opportunities for Technical Study Review.** This section identifies technical studies, plans, or programs that the Draft EIR/EIS states

are planned or under preparation and that Commerce requests the opportunity to review and comment on. This section also identifies additional technical studies the City considers necessary to evaluate localized impacts in detail.

3. **Draft EIR/EIS Review Comments.** This section provides a detailed summary of the City's review comments on the Draft EIR/EIS, organized by environmental topic and focused on potential impacts to the City. This section identifies numerous instances where requests for enhancements of mitigation measures proposed in the Draft EIR/EIS or new mitigation measures not yet identified are appropriate, given the significant localized impacts predicted to occur.

4. **Community Benefits Agreement.** Based on the extent of potential impacts from the proposed I-710 Corridor Project on the quality of life and livelihoods of residents, workers, and business owners within Commerce, the City requests that Caltrans enter into a Community Benefits Agreement with the City as a means to avoid, minimize, monitor, and offset the substantial negative local financial and physical impacts.

1. Comments on Proposed Alternatives and Design Options

Having reviewed the I-710 Corridor Project Draft EIR/EIS in its entirety, Commerce has not identified a single Alternative or Design Option as superior. Below are the City's specific comments concerning the Alternatives and Design Options.

Alternatives Summary

Alternative 5A. This alternative proposes 10 general-purpose freeway lanes. The present left-side N/B I-710 connector to N/B I-5, north of Commerce, would be replaced with a new right-side connector that begins just north of (but is not accessible from) Washington Boulevard in the City of Commerce.

Alternative 6A. This Alternative proposes 10 general-purpose freeway lanes plus a four-lane dedicated freight corridor between the port complex and the rail yards in Commerce, for the exclusive use of heavy-duty trucks (assumed to be conventional diesel- or fossil-fueled trucks). The freight corridor would be both at-grade and elevated within the City of Commerce. The present left-side N/B I-710 connector to N/B I-5, north of Commerce, would be replaced with a new right-side connector that begins just north of (but is not accessible from) Washington Boulevard in the City of Commerce.

Alternative 6B. This Alternative proposes 10 general-purpose freeway lanes plus a four-lane dedicated freight corridor for the exclusive use of zero-emission trucks betwe en the port complex and the rail yards in Commerce. The freight corridor would be both at-grade and elevated within the City of Commerce. As under Alternative 6A, the present left-side N/B I-710 connector to N/B I-5, north of Commerce, would be replaced with a new right-side connector that begins just north of (but is not accessible from) Washington Boulevard in the City of Commerce.

Alternative 6C. This Alternative proposes 10 general-purpose freeway lanes plus a four-lane dedicated toll-only freight corridor for the exclusive use of zero-emission trucks between the port complex and the rail yards in Commerce, for the exclusive use of heavy-duty trucks. The

freight corridor would be both at-grade and elevated within the City of Commerce. As under Alternative 6A/B, the present left-side N/B I-710 connector to N/B I-5, north of Commerce, would be replaced with a new right-side connector that begins just north of (but is not accessible from) Washington Boulevard in the City of Commerce.

City Comments on Alternatives

Prioritizing the Relocation of Displaced Businesses within the City of Commerce. The Community Impact Assessment Technical Study provided in the Draft EIR/EIS states that Caltrans will "prioritize efforts" to relocate businesses within the same City, but no description is provided describing how Caltrans intends to ensure this. Without a detailed plan, this measure is not sufficient to mitigate the displacement-related employment impacts. The City requests that Caltrans provide a detailed plan to show specifically how it will prioritize efforts to relocate business within the City of Commerce. L-19-5

Dedicated Zero Emissions Freight Corridor and Zero Emissions Extension Option. The City strongly supports the proposed dedicated Zero Emissions Freight Corridor, and requests that this be made a mandatory feature of the project. We also support the Zero Emissions Extension (ZEE) design option, which would extend this technology and the associated infrastructure beyond the freeway mainline onto the truck ramps within the City of Commerce, as close as possible to the railyards. The Health Risk Assessment Technical Study prepared for the project demonstrates that the ZEE design option would result in substantially reduced impacts in the City of Commerce. Compared to Alternative 1 (2035 No Build), the ZEE design option would reduce emissions of criteria pollutants, including diesel particulate matter (DPM). The ZEE option would only occur under Alternatives 6B and 6C. Without the ZEE option, Alternatives 6B and 6C would expose residents and businesses in the City of Commerce to the highest cancer risk increases of any of the proposed Alternatives, compared to Alternative 1. Sensitive receptor areas such as the ABC/Ayers, Northwest, Bristow, and Bandini neighborhoods would experience significant cancer risk increases of between 10 and 100 in one million (see Figures 23 and 24 in Appendix R of the Draft EIR/EIS). Under Alternative 6B with the ZEE design option, impacts on sensitive residential areas would be eliminated, with the exception of the ABC/Ayers neighborhood, which would still experience a significant increase in cancer risk of about 10+ in one million under Alternative 6B (with the ZEE option). Under Alternative 6C with the ZEE design option, significant cancer risk increases would be eliminated at sensitive residential areas in the City of Commerce. L-19-6

Slauson Boulevard Interchange. Under all of the Alternatives, a new interchange is proposed at Slauson Boulevard, just south of the Commerce city boundary in the cities of Maywood and Bell, that would provide access to/from I-710 where none currently exists. This would improve access between these cities and the I-710 corridor. Based on the preliminary data in the Draft EIR/EIS, Commerce supports the construction of this interchange, but only in addition to retention or improvement of the critical Washington Boulevard interchange within the City of Commerce, which is essential for Commerce businesses, industry, and residents. In addition, the City is concerned about the property takes that would result from the extensive improvements proposed for this interchange. We request that Caltrans reduce or minimize the proposed take of commercial, industrial, and public property associated with this improvement. L-19-7

Community Alternative 7 (Authored by the Commerce Local Advisory Committee and East Yards Co mmunities for Environmental Justice). As noted in the introduction to this L-19-8

comment letter, the City of Commerce's Local Advisory Committee in conjunction with East Yards plans to submit a comment letter recommending an additional project alternative, Community Alternative 7, for consideration by Caltrans. While the City has not reviewed this alternative in detail, it is our preliminary understanding that it recommends minimizing impacts on public transit, improvements to the Los Angeles River, the use of zero- or low-emission construction equipment, a local hire preference, outreach to local businesses that will be affected by construction, and other strategies to avoid, minimize, or reduce impacts. The City supports these features of the Community Alternative 7 and encourages Caltrans to consider them during development of the final design alternative. L-19-8

Summary of Design Options and City Comments

Design Option 1.

This option would introduce a new mixed flow (i.e., truck and general traffic) on-ramp to the S/B I-710 at Washington Boulevard, in order to provide direct access to the I-710 possible from the UP and BNSF railyards. This ramp would loop through, and therefore require the acquisition and relocation of, the entire ABC/Ayers residential neighborhood. Two other new mixed flow ramps would be constructed at Washington Boulevard: a S/B off-ramp and a N/B on-ramp.

The new N/B on-ramp would not allow a transition to the N/B I-5 freeway; cars and trucks would instead be redirected south to the reconfigured Atlantic/Bandini Boulevard on-ramps to do so. The Atlantic/Bandini interchange with the freeway, just south of the Commerce city boundary with Vernon, would be completely reconfigured to accommodate relocation of the mainline freeway ramps east of their present location, and to allow for the terminus of one of the N/B freight corridor lanes and the beginning of one of the S/B freight corridor lanes at Bandini Boulevard.

The existing N/B off-ramp at Washington Boulevard would be removed under this Design Option, and general traffic wishing to access Washington Boulevard would be required to exit the I-710 at the reconfigured Atlantic/Bandini interchange, or at the Slauson interchange.

Elimination of the N/B Washington Boulevard off-ramp. The City is concerned that elimination of this existing off-ramp, and requiring mixed traffic to exit the I-710 freeway south of the City, at the Atlantic/Bandini off-ramp within the City of Vernon, will add to congestion on Commerce city streets and cost Commerce employees, businesses and industries, and residents valuable time. We request that Caltrans evaluate the possibility of constructing a new N/B off-ramp at Washington Boulevard. L-19-9

Impacts on the ABC/Ayers residential neighborhood. Under this Design Option, construction of the S/B Washington Boulevard on-ramp would require the acquisition and relocation of all of the residential parcels (approximately) in the ABC/Ayers neighborhood. This residential neighborhood encompasses Ayers Avenue, Bedessen Avenue, Connor Avenue, and Leonis Street.

Impacts on the Northwest residential neighborhood. Under all of the build alternatives, widening and realignment of the mainline freeway corridor would require the acquisition and relocation of residential parcels in the City's Northwest neighborhood, along Sydney Drive, Triggs Street, Dunham Street, and Eastern Avenue, southwest of the I-710/I-5 interchange.

The Draft EIR/EIS states, on page 3.3-19 of Section 3.3, Community Impacts:

> *"Impacts to community cohesion generally depend on whether a project is likely to create a barrier or disrupt connectivity of a community."*

The Draft EIR/EIS subsequently defines social cohesion on page 3.3-24:

> *"Social cohesion, including increases in social support or strengthening of social networks, is associated with decreased stress; increased assistance in emergencies; increased access to jobs, income, and job benefits; and increased access to other essential resources. Communities that become isolated or segregated lose political power, which is associated with increased exposure to crime and violence, causing both injury and stress and additional impacts to mental health (P. Simon et al. 2009).*
>
> *"...If displaced residents are required to relocate outside of their neighborhood, supportive family and community relationships can be lost both for those leaving, as well as for those remaining behind. Neighbors, friends, and family provide material as well as emotional support. Support, either perceived or provided, can buffer stressful situations, prevent damaging feelings of isolation, and contribute to a sense of self-esteem and value. (Guzman and Bhatia, 2005).*
>
> *"Residents have disclosed symptoms of stress, loss, grief, and poorer mental health following housing displacement and relocation. Certain groups, including children, the elderly, the intellectually disabled, and marginalized groups, can be particularly vulnerable to the health effects of housing displacement. (Regional Public Health, 2011). Within the I-710 Corridor, long-term residents who are elderly may require specialized relocation assistance."*

The Draft EIR/EIR goes on to state, on page 3.3-25:

> *"As discussed in more detail in Section 3.3.2.3,* ***within the cities of Commerce,*** *Bell Gardens, and Compton,* ***current market conditions indicate a lack of comparable replacement housing. While adequate comparable replacement housing appears to exist presently in neighboring cities, new replacement dwellings under Last Resort Housing may be considered for these cities as a method of providing comparable replacement housing to displaced persons who reside in areas where the replacement housing is low.*** *Last Resort Housing is being considered in response to the affected cities' request to keep housing within their cities rather than having the replacement housing be in neighboring cities."*

However, on page 3.3-26, the Draft EIR/EIS states that the proposed build alternatives would not result in adverse impacts on community cohesion in the City of Commerce, including, specifically, on the Ayers/ABC neighborhood and the Northwest neighborhood:

> *"Based on the limited extent of access changes in the Study Area, the proximity of these changes to residential and nonresidential properties, the availability of comparable properties for relocation and consideration of Last Resort Housing, and the comprehensive Relocation Assistance Program provided by Caltrans for those*

> *being relocated, the build alternatives would not result in isolation and/or segregation of residents without resources to relocate within their existing communities.* ***Therefore, the build alternatives would not result in adverse effects to public health related to social cohesion.***"

Page 5.6-9 of the Community Impacts Assessment Technical Study also notes the following:

> *"In addition, the City of Commerce, in conjunction with a private developer, plans to develop a vacant parcel located on the northeast corner of Eastern Ave. and Triggs St., and improve it with 19 detached single-family residences (DRIR 2011). The proposed project is presently in conceptual stages, but it is anticipated that the project will be completed within five years. If approved, this project could assist in providing replacement housing for residential displacements in the City of Commerce under the I-710 Corridor Project build alternatives."*

The City of Commerce understands that residential relocations in the Ayers/ABC neighborhood and the Northwest neighborhood may be necessary (and it should be noted that the Northwest neighborhood is not even addressed in the discussion of community cohesion within Section 3.3, Community Impacts, of the Draft EIR/EIS). The Draft EIR/EIS, in Section 3.3. Community Impacts, and in the Community Impact Assessment Technical Report, states that up to 110 residential displacements (i.e., units) could be necessary. This would equate to approximately 415 residents, assuming the average Commerce household size of 3.77 occupants as stated in the Draft EIR/EIS. However, this may be an understatement of the true number of potential displacements, as average household size may not be an adequate metric for accurately gauging the number of residents affected. Based on recent surveys it has conducted, the City believes that approximately 165 residential units would be displaced in the ABC/Ayers and Northwest neighborhoods, which would equate to as many as 622 residents.

Therefore, the City profoundly disagrees with the Draft EIR/EIS finding that the build alternatives would not have significant impacts with respect to social cohesion in these residential neighborhoods, as the result of relocation. The Design Options that would require relocation of the residents of these two neighborhoods would remove people, families, and extended families from homes they have occupied for decades, in some cases their entire lives; would affect a large number of elderly residents, most of whom are dependent to some degree on their neighbors for social interaction, security, and assistance with daily needs; would disproportionately affect low-income families; and would affect families with young children. The City is acutely aware, and the Draft EIR/EIS acknowledges, that adequate replacement housing does not currently exist within Commerce City limits. Relocation and dispersal to other communities of the residents of the stable and highly cohesive ABC/Ayers and Northwest neighborhoods would indisputably separate and isolate residents from one another; move them away from the essential services they are dependent on; deprive them of representation by their elected officials in the City of Commerce; could remove them from access to employment or employment opportunities; could move them away from parishes and other religious networks they are part of; and deprive them of access to a range of community services and assistance, from school to afterschool and summer enrichment programs to civic programs to transportation opportunities (including medical transportation) to opportunities for public service to their community and City. **The fact that the Draft EIR/EIS does not acknowledge this as a significant impact starkly conflicts with the very threshold criteria against which these impacts are evaluated, minimizes the human toll of relocation, and**

L-19-10

prevents the appropriate mitigation of these impacts on the affected residents. The possibility of redevelopment of the vacant parcel at the corner of Eastern Avenue and Triggs Street is speculative and should not be relied on, even in part, for a determination of a less than significant impact on community cohesion. Moreover, the possible presence of comparable housing in neighboring communities is in no way an acceptable substitute for the lives, social and civic networks, and community cohesion that residents of these two neighborhoods have built, and moreover does not reduce the magnitude of the impacts of relocation on these residents.

L-19-10

The City therefore insists that Caltrans re-evaluate Community Impacts on the ABC/Ayers and Northwest neighborhood residents in the Final EIR/EIS. We request that the Final EIR provide and document a more detailed and accurate accounting of the precise number of potential residential displacements, given the wide discrepancy between the maximum number of affected units stated in the Draft EIR (110) and the number of units surveyed by the City (165). We also respectfully request, in the strongest terms possible, that Caltrans work closely with the City of Commerce to develop Last Resort Housing for these residents within the City of Commerce and commit to the relocation of all displaced residents within the City of Commerce.

In view of the lack of comparable existing housing within the City of Commerce, the likely inadequacy of Caltrans's standard relocation stipends for potentially displaced residents, and the likely lack of sufficient financial resources on the part of those residents to afford replacement housing at current market prices, we further request that Caltrans address the following, at a minimum, for any resident relocation:

- The provision of, or the provision of funding to construct, one-for-one replacement housing for every dwelling unit to be removed as the result of the project, including single-family homes, townhomes, duplexes, condominium, and rental apartments.
- Creative solutions to the siting and design of comparable replacement housing within the City of Commerce, in a manner that improves the quality of life for displaced residents
- The provision by Caltrans, as soon as is feasible, of a clear timeline for proposed property acquisition and resident relocation, to minimize uncertainty for affected residents and allow for advance planning

L-19-11

- The provision of funds for moving expenses, and assistance with other moving-related circumstances (e.g., address changes, notification of employers for time off if needed, etc.)
- Reimbursement to residents of documented home improvement expenses incurred within the five years prior to Caltrans acquisition of properties
- Special assistance for elderly and/or disabled residents, including but not limited to counseling
- Funding assistance for first-time home buyers
- Subsidies/waivers for increased property taxes associated with new residences

- Subsidies for increased living expenses associated with new residences
- Consideration for other marginalized populations that may be affected by relocation

L-19-11

Removal of access from Washington Boulevard to I-5 N/B. The City would like to express support for the retention of the mixed-flow (truck and passenger vehicle) on-ramps to the N/B and S/B I-710 freeway at Washington Boulevard. However, the new Washington Boulevard on-ramp to the N/B I-710 proposed under this option would no longer allow a direct connection to I-5 N/B, since vehicles entering the N/B I-710 via the new Washington Boulevard on-ramp would merge with the mainline I-710 freeway at a point north of the I-710 N/B transition to I-5 N/B. This means local truck traffic and private vehicular traffic (originating in the City of Commerce as well as surrounding cities and communities) would no longer have direct access from Washington Boulevard to I-5 N/B, as they currently do. The City is aware that this is meant to address existing safety issues inherent in the present connector (i.e., the need for vehicles entering the N/B I-710 via Washington Boulevard on-ramps to cross multiple lanes of traffic in order to merge onto the N/B I-5). However, this removes a critical connection to I-5 for Commerce.

Washington Boulevard is a major east-west commercial and industrial corridor within the City, and the concentration of businesses along this corridor and in the northeast part of the City (as well as adjacent Montebello) relies on direct access to area freeways and ease of regional mobility for their existence. Commerce is also home to numerous employees and residents who require access to N/B I-5 to commute to/from other employment centers and residential communities, and Washington Boulevard is the closest major roadway to the City's civic center and its residential neighborhoods, all but two of which are concentrated in the northern part of the City. Lacking a direct connection between Washington Boulevard and I-5 N/B, local truck traffic (from industries in Commerce, Montebello, and Bell) and Commerce employee/residential traffic needing to access I-5 N/B would be required to first travel south along already congested surface streets through Commerce and Bell to access the proposed Slauson I-710 N/B on-ramp, or east across the City to the Garfield Avenue I-5 N/B on-ramp (which has a very tight on-ramp geometry that does not easily accommodate trucks). These "work-arounds" would considerably inconvenience business and industries, residents, and employees in the City, increase delay and expense, and add to surface street congestion. We request that Caltrans address this conflict in the final design option.

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Design Option 2.

This option would continue to provide access to the N/B I-710 from Washington Boulevard, as well as access to Washington Boulevard from the S/B I-710, via two reconfigured ramps. Access to the S/B I-710 would require general traffic and freight trucks to share a new on-ramp, to be constructed west of the existing S/B onramp, and general traffic would merge with S/B off-ramp traffic accessing the Atlantic/Bandini interchange before joining the mainline I-710 freeway lanes.

Also as under Option 1, the existing N/B off-ramp at Washington Boulevard would be removed under this Design Option, and general traffic wishing to access Washington Boulevard would be required to exit the I-710 at the reconfigured Atlantic/Bandini interchange, or at the Slauson interchange.

Also as under Design Option 1, the new N/B on-ramp would not allow a transition to the N/B I-5 freeway; cars and trucks would instead be redirected south to the reconfigured Atlantic/Bandini

Boulevard on-ramps to do so. The Atlantic/Bandini interchange with the freeway, just south of the Commerce City boundary with Vernon, would be completely reconfigured.

Elevation of Washington Boulevard to accommodate proposed on-ramp. The City is concerned about the elevation of Washington Boulevard, beginning at Bewley Avenue, as it approaches the I-710. The City requests that the Final EIR contain more detailed drawings and elevations to more clearly illustrate the proposed design of this project component, as it will adversely affect, and result in some property take from, commercial businesses and industrial uses. L-19-13

Removal of access from Washington Boulevard to I-5 N/B. The City of Commerce is in favor of the retention of the mixed-flow (truck and passenger vehicle) on-ramps to the N/B and S/B I-710 freeway at Washington Boulevard. However, the new Washington Boulevard on-ramp to the N/B I-710 proposed under this option would no longer allow a direct connection to I-5 N/B, since vehicles entering the N/B I-710 via the new Washington Boulevard on-ramp would merge with the mainline I-710 freeway at a point north of the I-710 N/B transition to I-5 N/B. This means local truck traffic and private vehicular traffic (originating in the City of Commerce as well as surrounding cities and communities) would no longer have direct access from Washington Boulevard to I-5 N/B, as they currently do. The City is aware that this is meant to address existing safety issues inherent in the present connector (i.e., the need for vehicles entering the N/B I-710 via Washington Boulevard on-ramps to cross multiple lanes of traffic in order to merge onto the N/B I-5). However, this removes a critical connection to I-5 for Commerce.

Washington Boulevard is a major east-west commercial and industrial corridor within the City, and the concentration of businesses along this corridor and in the northeast part of the City (as well as adjacent Montebello) relies on direct access to area freeways and ease of regional mobility for their existence. Commerce is also home to numerous employees and residents who require access to N/B I-5 to commute to/from other employment centers and residential communities, and Washington Boulevard is the closest major roadway to the City's civic center and its residential neighborhoods, all but two of which are concentrated in the northern part of the City. Lacking a direct connection between Washington Boulevard and I-5 N/B, local truck traffic (from industries in Commerce, Montebello, and Bell) and Commerce employee/residential traffic needing to access I-5 N/B would be required to first travel south along already congested surface streets through Commerce and Bell to access the proposed Slauson I-710 N/B on-ramp, or east across the City to the Garfield Avenue I-5 N/B on-ramp (which has a very tight on-ramp geometry that does not easily accommodate trucks). These "work-arounds" would considerably inconvenience business and industries, residents, and employees in the City, increase delay and expense, and add to surface street congestion. We request that Caltrans address this conflict in the final design option. L-19-14

Design Option 3.

Also known as the base option, this Design Option 3 would construct a mixed flow S/B off-ramp and a mixed flow N/B onramp that would access/be accessed from Sheila Street (at Oak Street and Indiana Street). S/B on-ramp traffic and N/B off-ramp traffic that previously used Washington Boulevard would be redirected to the south and required to use the reconfigured Atlantic/Bandini interchange to access Washington Boulevard.

Upgrades to and use of Sheila Street. The City supports the use and/or improvement of Sheila Street for truck access to and from the UP and BNSF rail yards, since it reduces truck traffic L-19-15

and associated congestion and conflicts with general traffic on Washington Boulevard, and provides more direct access to the rail yards. Accordingly the City requests that Caltrans incorporate upgrades and/or or use of Sheila Street for truck traffic access to/from the rail yards into the alternative selected into the Final EIR. L-19-15

Zero-emission Washington Boulevard ramps. Whereas Options 1 and 2 would confine the potentially zero-emission (i.e., electrified) portion of the freight corridor to the freeway mainline and would require trucks to switch to diesel/fossil fuel power upon exiting the freeway to Washington Boulevard and while accelerating up the on-ramps, Option 3 would continue the infrastructure to support zero emissions for the length of the on- and off-ramps to Washington Boulevard. Commerce supports the zero-emission ramps and requests that Caltrans incorporate this into the final design option. L-19-16

2. ADDITIONAL TECHNICAL STUDIES/OPPORTUNITIES FOR TECHNICAL STUDY REVIEW

Based on the City's specific comments and questions concerning each of the Alternatives and Design Options listed above, the City believes that the following additional technical studies should be completed and provided to the City of Commerce for comment prior to finalizing the EIR/EIS. In addition, opportunities for review of planned or in-preparation technical studies should be provided to the City. We request that Caltrans provide review of each of the following reports, and further request that Caltrans provide a response to this comment that indicates when City input or review may be sought for each report:

Traffic Management Plans. Mitigation Measure CON-3 requires preparation of Traffic Management Plans (TMPs) to reduce impacts on fire, law enforcement, and emergency service response times. The City requests that it be identified in the Mitigation Monitoring and Reporting Program (MMRP) as a reviewing agency for the TMP(s) for project construction that will take place in or affect the City of Commerce. L-19-17

Specific Utility Relocation Plans. Mitigation Measures CON-4 and U&ES-2 require preparation of Specific Utility Relocation Plans to minimize impacts on traffic, emergency services, and disruptions to utility service. The City requests that it be identified in the MMRP as a reviewing agency for Specific Utility Relocation Plans that will take place in or affect the City of Commerce, when they become available.

Southern California Edison Bandini Substation Relocation. Under Alternative 6 A/B/C, Option 2, the Southern California Edison Bandini Substation would require relocation due to the configuration of the freeway and freight corridor ramp connections to Washington Boulevard. Although the Substation is located on the City of Vernon side of the Commerce/Vernon boundary, its relocation could result in traffic impacts or utility disruptions within the City of Commerce. The Draft EIR/EIS recommends that additional engineering and environmental studies be completed should Option 2 be selected. Although the preparation of these documents is not called out as a mitigation measure, applicable regulations such as CEQA would require their preparation. The City should be provided an opportunity to review these documents as they are prepared, and requests that it be identified in the MMRP as a reviewing agency for any mitigation measures addressing the substation's relocation when it becomes available

Comprehensive Utility Relocation Study. The Draft EIR/EIS indicates that the Comprehensive Utility Relocation Study is currently being prepared by Metro. The City of Commerce requests that it be identified in the MMRP as a reviewing agency for the Comprehensive Utility Relocation Study for the North Segments of the I-710 Corridor when it becomes available.

Final Los Angeles River Impact Report. The hydrology and floodplain analysis in the Draft EIR/EIS includes Mitigation Measure FP-1, which requires the preparation of a Final Los Angeles River Impact Report, to demonstrate that the design of the proposed project provides acceptable flood protection. While this type of mitigation is common on large-scale projects where designs are not yet finalized, the City requests that it be identified in the MMRP as a reviewing agency for the Final Los Angeles River Impact Report when it becomes available.

Water Quality and Stormwater Best Management Practices. The Project would increase impervious surface area, runoff volume, and pollutant loads, and require the replacement or extension of existing drainage systems along the I-710 corridor. Given the fact that surface water runoff from I-710 currently discharges to City of Commerce surface streets and storm drains, and will continue to do so under post-project conditions that will increase the number of trucks and passenger vehicles using the freeway and ramps accessing the rail yards, the City requests that it be consulted during the development of design development, treatment, and operational best management practices (BMPs) that address the capture and treatment of runoff, once the preferred Alternative is selected, and that it be identified as a reviewing agency in the MMRP for the BMPs. L-19-17

Air Quality Localized Construction Analysis. Construction of the Project would result in worst case daily emissions of nitrogen oxides (NOx) that are estimated to be approximately three times the CEQA threshold and particulate matter (PM) emissions approximately one half of the CEQA thresholds for a single segment. Given that a vast amount of improvements are planned at the northern terminus of the corridor, including major reconfiguration of on- and off-ramps, it is likely that the City of Commerce would experience some of the most intensive construction activity for the longest period of time. Therefore, prior to the final selection of an Alternative and design options, Caltrans should provide a focused assessment on localized construction impacts in Commerce. This focused analysis should include a discussion of potential near roadway impacts from construction based on the SCAQMD Localized Significance Threshold (LST) methodology and should identify potential sensitive receptor areas that could experience localized construction air quality impacts in excess of the standards. This assessment should include emissions from proposed rock crushing and cement plants, if plans include potentially locating these in Commerce. If significant impacts are identified, the mitigation measures should be provided. The City requests that Caltrans perform this study before the final design option is selected, and requests that it be identified in the MMRP as a reviewing agency for the localized construction analysis when it becomes available.

3. DRAFT EIR/EIS REVIEW COMMENTS

Based on a thorough review of the Draft EIR/EIS, the appendices and various technical reports, the City has identified numerous instances where the Draft EIR/EIS needs clarification to more fully disclose potential impacts to the City. With respect to a number of potentially significant impacts, the City is recommending that Caltrans perform additional analyses and/or adopt new or more stringent mitigation measures in the Final EIR/EIS. The comments are organized below by environmental topic.

Section 3.1, Land Use

General Plan Policy Compliance Not Evaluated. The only City of Commerce 2020 General Plan Element discussed in detail in the Draft EIR/EIA is the Transportation Element, in contrast to the level of detail afforded the General Plans of other jurisdictions along the I-710 corridor. The City requests that a more complete review of the various applicable General Plan Elements be provided in the Land Use section, given the physical impacts within the City of Commerce associated with the proposed Alternatives and three proposed Design Options, the affected land uses, their zoning and land use designations, adverse impacts to community cohesion from the relocation of residents of the ABC/Ayers neighborhood and Northwest neighborhood, and impacts to noise-sensitive uses. This City requests that that this review include the 2020 General Plan Community Development Element, Housing Element, Health and Safety Element, and Air Quality Element. In particular, the City requests that project compliance with the Environmental Justice policies and goals within each Element be evaluated. L-19-18

Significant Community Impacts Not Disclosed. The Community Impact Assessment prepared in support of impact analysis in Sections 3.1 (Land Use) and 3.3 (Community Impacts) concludes that the I-710 build alternatives would not result in isolation and/or segregation of residents without resources to relocate within their existing communities, even though there is a lack of replacement housing within the City of Commerce, because adequate comparable replacement housing appears to exist in neighboring cities. The City disagrees and believes the proposed alternatives would result in isolation and/or segregation of residents, because adequate housing does not exist in the City of Commerce. The dispersal of Commerce residents to other cities and communities would therefore have a significant impact on community cohesion. The City requests that the Final EIR/EIS Land Use and Community Impact sections disclose the number of housing units that would be acquired under Alternatives 6A/6B/6C and each of the Design Options, as well as a provide description of adverse impacts to community cohesion, in light of the limited amount of replacement housing available within the City of Commerce. L-19-19

Community Impacts: Consultation Needed Regarding Last Resort Housing. The residents of the ABC/Ayers neighborhood and those residents to be displaced from the Northwest neighborhood face potential relocation outside their current community, as there is insufficient replacement housing available within the City, but the Draft EIR/EIS does not acknowledge this as a significant impact that requires mitigation. Relocation of residents outside the City of Commerce is unacceptable, and the City requests that it be consulted concerning Last Resort Housing for displaced residents, prior to completion and release of the Final EIR. L-19-20

Project Compatibility with Surrounding Noise-Sensitive Land Uses Not Evaluated. Project compatibility with, and noise impacts on, parks and recreational facilities is discussed in Section 3.2 of the Draft EIR/EIS, but other incompatible or noise-sensitive uses in the study area (i.e., within ½-mile of the mainline or ramp improvements) are either not identified or construction and permanent impacts are not characterized. Land uses within the potential study area that are noise-sensitive include Bandini Park, Commerce Teen Center on Astor Avenue, Atlantic and Bristow Park Branch Libraries, Bandini Elementary School, the Dorothy Kirby Center confinement facility and several places of worship. Overhead easements and permanent access to those easements will be sought by Caltrans for the use of Bandini Park in the City of Commerce from the overhead elevated freeway structure. Other easements to be sought are not listed; the Final EIR/EIS should disclose whether others are contemplated. The City requests that project impacts on noise- L-19-21

sensitive uses in the surrounding community be fully evaluated, that mitigation for related significant impacts be considered and that disclosure of easements be fully addressed in the Final EIR/EIS. L-19-21

Section 3.2, Growth

Potential Growth Impacts Not Evaluated. The project would require the relocation of existing residents, since existing residences would be demolished to accommodate the widened right-of-way. The discussion in Section 3.2 provides little information on the potential growth impacts associated with the relocation of existing residents. If residents are relocated within the City of Commerce, the project is likely to create the need for new housing units in the City because of the limited number of existing residential units. The City requests that Caltrans evaluate potential growth impacts in detail in the Final EIR/EIS. L-19-22

Section 3.3, Community Impacts

HR&A Advisors undertook analysis of the Community Impacts analysis provided in the Draft EIR/EIS on behalf of the City of Commerce. Comments are provided below.

Draft EIR/EIS consideration of Local Advisory Committee Comments. The Community Impact Assessment provided as a Technical Study in the Draft EIR/EISS reports that, on the basis of comments from the City's I-710 Local Advisory Committee (LAC), the primary issues and concerns about the I-710 Project to the City are as follows:

- Coordination between the I-5 and I-710 improvement projects
- Minimization of impacts to areas that bring in sales tax revenue
- Minimization of impacts to the ABC/Ayers neighborhood and the Northwest neighborhood
- Minimize impacts to road access within the City

L-19-23

However, it is not clear from the record how all of the City's comments on the Notice of Preparation were addressed in the Draft EIR/EIS. The City requests that Caltrans clarify how and where in the Draft EIR/EIS these comments were addressed, and in particular, indicate what, if any, mitigation measures are provided to address these comments.

Missing fiscal and economic impacts calculation methodology. Very limited information is provided in the Draft EIR/EIS about the calculation methods used to derive the fiscal and economic impacts described in the various Economics sections of the Draft EIR/EIS. What little information is provided raises questions about its sufficiency. For example: L-19-24

- To derive an estimate of the City's potential loss of sales tax revenue from the elimination of sales tax-producing businesses, the Draft EIR/EIS calculates the average local sales tax share per business in the City and applies that figure ($8,005) to each lost business. This probably is not an accurate analysis for specific businesses

whose taxable sales and sales tax revenue deviate from this average to some unknown degree.

- To derive an estimate of the City's potential loss of property tax revenue from the acquisition and relocation of specific properties associated with each Draft EIR/EIS alternative and related design option, the Draft EIR/EIS appears to have utilized the one percent of the total assessed value of each applicable land parcel, rather than the City's share of the taxable value. This may have resulted in an overstatement of impact to the City. L-19-24

The City requests that Caltrans clarify the calculation methods used to determine the fiscal and economic impacts in Section 3.3, Community Impacts, of the Draft EIR/EIS, and in the Community Impact Assessment Technical Study prepared as part of this analysis.

Comparative fiscal and economic calculation results. Taking the fiscal and economic figures as they are presented in each of Alternative 6's design options, it is clear from the Draft EIR/EIS that the City is disproportionately adversely affected by the I-710 Project as compared with other cities along the corridor, due to the loss of sales tax revenue, property tax revenue, condemnation of residential and non-residential properties and employee displacement. For example, according to the Community Impact Assessment Technical Study provided in the Draft EIR/EIS, the City of Commerce will bear the following losses:

Sales Tax Loss

- Design Option 1 = $424,240 (42% of total corridor-wide loss or 4.0% of City's sales tax revenue)
- Design Option 2 = $384,217 (40% of total corridor-wide loss or 3.6% of City's sales tax revenue)
- Design Option 3 = $264,149 (32% of total corridor-wide loss or 2.5% of City's sales tax revenue) L-19-25

Property Tax Loss

- Design Option 1= $736,440 (26% of total corridor-wide loss)
- Design Option 2 = $613,846 (22% of total corridor-wide loss)
- Design Option 3 = $514,714 (20% of total corridor-wide loss)

Residential and Non-Residential Relocations

- Design Option 1= 166 (36% of total corridor-wide relocations)
- Design Option 2 = 89 (23% of total corridor-wide relocations)
- Design Option 3 = 66 (18% of total corridor-wide relocations)

Employee Displacement

- Design Option 1= 510 (38% of total corridor-wide relocations or 8.9% of employees currently in the City)
- Design Option 2 = 492 (37% of total corridor-wide relocations or 8.6% of employees currently in the City)
- Design Option 3 = 446 (35% of total corridor-wide relocations or 7.8% of employees currently in the City)

L-19-25

However, none of the proposed Draft EIR/EIS mitigation measures for Community Impacts indicates sensitivity to the disproportionate scale of these impacts on the City. The City requests that Caltrans consult with the City to develop measures to be incorporated into the Community Benefits Agreement discussed in Section 4 of this comment letter to comprehensively address the disproportionate impacts on the City of Commerce with respect to the loss of sales and property tax, residential and nonresidential relocation, and employee displacement

Environmental Justice. The Environmental Justice chapter of the CIS, which is a technical appendix of sorts to the Draft EIR/EIS states that there will be sales and property tax losses in addition to job displacement within the cities along the corridor. To mitigate these losses, the Community Impact Assessment suggests two actions/benefits: (1) construction jobs will be added to cities along the corridor (9,650 for the City of Commerce) which will compensate for their job losses; and (2) to mitigate the losses it will be important for Caltrans to "prioritize efforts to successfully relocate businesses within the same city." Problems with these mitigation measures are as follows:

- The Draft EIR/EIS did not provide backup calculations for how the 9,650 construction jobs in Commerce were derived, so there is no way of independently verifying its accuracy. The City requests that calculations be provided in the Final EIR showing how the number construction jobs in the City of Commerce were calculated.

L-19-26

- Even if the estimate is accurate, construction jobs are temporary, as compared with the permanent jobs lost from displaced businesses, and therefore the addition of temporary Project-related construction jobs is not an appropriate mitigation measure. The City of Commerce has the highest rate of unemployment (22 percent) of any city or community in the project study area, as stated in the Draft EIR/EIS's Community Impact Assessment Technical Study (Table 3.3-7). Accordingly, the City requests that the Final EIR acknowledge the potential loss of permanent jobs in the City as a significant impact, and appropriate mitigation to reduce this impact be developed.
- No description is provided in the Draft EIR/EIS of how Caltrans intends to "prioritize efforts" to relocate businesses within the same City. Without a detailed plan, this measure is not a sufficient measure to mitigate the displacement-related employment impacts. The City requests that Caltrans provide a detailed plan to show how it plans to prioritize efforts to relocate business within the City of Commerce.

- Lack of Attention to Indirect Economic and Fiscal Impacts. Although the Draft EIR/EIS provides very general estimates of economic and fiscal impacts to the City, it does not address, as CEQA requires, an assessment of indirect impacts resulting from certain Alternatives or design options. For example, to the extent that Design Option 3 would eliminate freeway ramps at Washington Boulevard, this may have significant adverse indirect impacts on businesses located elsewhere in the City, including the Commerce Casino, which is a major source of revenue to the City. L-19-26

Purchasing power loss. Due to the loss of households within the City, the Project will likely have a negative effect on City-wide purchasing power. This issue is not discussed in the Draft EIR/EIS or associated Appendices or Technical Studies. Purchasing power is the economic output derived from household spending in local communities at such places as grocery stores, apparel shops, drug stores, etc. Without a robust relocation program that allows for those who lose their homes to successfully relocate within the same City, the City is likely to permanently lose households. This will, in turn, reduce local purchasing power. Attachment 1 to this comment letter, a table titled Purchasing Power Loss from I-710 Relocations, shows the annual purchasing power loss under each of Alternative 6's design options. It shows that in the worst case scenario under Design Option 1, the City of Commerce will lose upwards of $897,000 in local purchasing power. With Design Options 2 and 3, local purchasing power will also be reduced, albeit by less than in Design Option 1, by $307,000 and $259,000, respectively. The City requests that Caltrans address this issue in the Final EIR/EIS and coordinate closely with the City to ensure that displaced residents are relocated within Commerce, as requested in the Community Benefits Agreement discussed in Section 4 of this comment letter. L-19-27

Population-based revenue losses. Based on an average household size of 3.77 persons per household, the City will also likely lose certain forms of federal and state funding that are based on population. For example, under Design Option 1, there is a potential loss of 110 residential units per the Draft EIR/EIS or up to 165 units based on City surveys of the number units, and at 3.77 persons per household, this translates to a population loss of between 415 and 622 persons (or between 3.3% and 4.8% of the City-wide population), assuming this does not understate the true number of displacements. Should this occur, the City will likely lose state and/or federal funds that are provided on a per capita basis. Under Design Options 2 and 3, the population loss is reduced, but still substantial at 143 persons and 121 persons, respectively, and as noted above and previously, the EIR/EIS may substantially underestimate the number of persons subject to relocation. The City requests that the number of residential units and persons subject to relocation be accurately counted and documented in the Final EIR. L-19-28

General comments. In general, other than documenting the facts regarding the fiscal and economic impacts to the cities along the corridor, the Draft EIR/EIS and its associated documents recommend only nominal mitigation measures or ways in which the various cities may be compensated for their losses. There is nothing in the Draft EIR/EIS that is specific to the City of Commerce. The City requests that Caltrans address the foregoing comments on the Draft EIR/EIS Community Impacts analysis, which request specific mitigation measures for impacts on the City of Commerce, in light of the specific and disproportionate impacts on our community. L-19-29

Section 3.4, Utility/Emergency Services

Consultation with Police and Emergency Service Providers Should Be Provided. Mitigation Measure CON-3 requires the future preparation of Traffic Management Plans (TMP) to reduce impacts on fire, law enforcement, and emergency service response times (specific TMP requirements are outlined in Mitigation Measure CON-6). In addition, Mitigation Measure CON-4 requires the future preparation of Specific Utility Relocation Plans to minimize impacts to emergency services. These mitigation measures require future coordination with fire, emergency medical, and law enforcement providers to ensure adequate emergency service response times during construction. Nevertheless, the City requests the opportunity to review and comment on the TMPs and Specific Utility Relocation Plans, if deemed necessary by the City, as they are prepared. L-19-30

Construction Staging Areas Not Identified. Mitigation Measure CON-3 does not require the TMPs to identify construction staging areas. The City requests that this be addressed in the Final EIR/EIS, especially in light of the three design options that are proposed within City limits. L-19-31

Permanent Impacts to Emergency Access Not Evaluated. Section 3.25 (Cumulative Impacts) of the Draft EIR/EIS adequately discloses and minimizes the potential cumulative impacts to utility/emergency access in accordance with the requirements of NEPA and CEQA. Under Alternative 6 A/B/C, Option 3 would reduce access to/from I-710 and Washington Boulevard, to/from I-710/Pacific Place, and to/from I-710 and Wardlow Road. The City requests that the Final EIR/EIS evaluate the permanent traffic impacts that could result from this reduction in access, particularly as they pertain to emergency vehicle access. Additional upgrades to adjacent surface streets may be required to maintain emergency response times under Option 3, and the City requests that Caltrans identify the potential need for such upgrades. L-19-32

Unsupported Conclusions for Emergency Access and Response Times. The three Design Options under Alternative 6 A/B/C have the potential to impact emergency access around Washington Boulevard. Option 1 would prevent emergency vehicle access from Washington Boulevard to northbound I-5 as well as travel on northbound I-710 between Bandini Avenue and Washington Boulevard. Similar impacts would occur under Option 2, and emergency vehicles would not be able to access northbound I-5 from Washington Boulevard. Under Option 3, the Washington Boulevard northbound and southbound ramps would be removed, and emergency vehicles would be required to use the Atlantic Boulevard/Bandini Boulevard exit to ultimately reach Washington Boulevard. While it is likely that emergency vehicles would be able to use surface streets to maintain response times, and coordination with the Los Angeles County Fire Department and Los Angeles County Sheriff's Office is required under mitigation measure CON-3, the Draft EIR/EIS does not provide evidence to support the finding that potential impacts to emergency vehicles under these access restrictions would have no effect or how they would be minimized. The City requests a more detailed analysis with regard to emergency access and emergency response times in this area. L-19-33

Minor Utility Relocations Not Evaluated. With respect to Utilities, the Draft EIR/EIS section does not specifically address minor utility impacts within the City of Commerce. While major utility relocations, such as the relocation of Los Angeles Department of Water and Power (LADWP) and Southern California Edison (SCE) transmission lines, are adequately evaluated in the Draft EIR/EIS, minor utility relocations within the City could also result in traffic impacts or disruptions to utility service. In accordance with Mitigation Measure U&ES-2, Specific Utility L-19-34

Relocation Plans would be prepared to identify and minimize these impacts. The City should requests the opportunity to review these Specific Utility Relocation Plans and associated impacts, particularly with respect to utilities that may be relocated along Slauson Avenue, Atlantic Boulevard, Bandini Boulevard, and Sheila Street. L-19-34

Recommended Engineering and Environmental Studies Not Identified As Required Mitigation Measure. As stated in the Draft EIR/EIS, the Southern California Edison Bandini Substation would require relocation under Alternative 6 A/B/C, Option 2, due to the configuration of the freeway and freight corridor ramp connections to Washington Boulevard. Although the Substation is located on the City of Vernon side of the Commerce/Vernon boundary, its relocation could result in traffic impacts or utility disruptions within Commerce. The Draft EIR/EIS recommends that additional engineering and environmental studies be completed, should Option 2 be selected. However, the preparation of these documents is not called out as a mitigation measure, and therefore implementation of this recommendation is not guaranteed or enforceable. The City requests that a mitigation measure requiring the preparation of additional engineering and environmental studies if Option 2 is selected be incorporated into the Final EIR/EIS. L-19-35

Need for Mitigation Measure Requiring Comprehensive Utility Relocation Study for the North Segments of I-710. The Comprehensive Utility Relocation Study for the North Segments of I-710, which the Draft EIR/EIS indicates is currently being prepared by Metro, is not called out as a required mitigation measure, and is therefore its preparation is not guaranteed, nor is its implementation enforceable. The City requests that a mitigation measure requiring preparation of the Comprehensive Utility Relocation Study for the North Segments of I-710 be incorporated into the Final EIR/EIS. L-19-36

Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities

Traffic Impact Thresholds Not Provided. Section 3.5.1 (Regulatory Setting) describes the regulatory setting and makes no reference to transit. This section also does not contain any impact significance thresholds, which should be disclosed so reviewers understand the basis for significance determinations. The City requests that thresholds should be established at a minimum for the following impact areas: vehicle traffic operations (specific to each type of facility); goods movement; transit facilities and operations; bicycle facilities and operations; pedestrian facilities and operations; safety; and construction. L-19-37

Comparison to Baseline Conditions Not Evaluated. Section 3.5.2.2 (Page 3.5-7) states that Alternative 1 (No Build) conditions are the basis against which the build alternatives proposed for the I-710 Corridor Project were assessed. This is a useful comparison to understand how the project influences future traffic operations, but may not satisfy the requirement to assess impacts based on baseline conditions as established in recent case law. The baseline conditions for this study were established as 2008. Page 3.5-81 also states that the criteria for determining which intersections are adversely impacted are based on comparing the build alternatives to the no build alternative. The City requests that Caltrans provide an assessment of the project impacts as compared to the baseline conditions in the Final EIR/EIS. L-19-38

Impacts to Bicycles and Pedestrians Not Addressed. Section 3.5.3.1 (Page 3.5-86) contains one paragraph describing bicycle and pedestrian impacts. According to the discussion, no impacts are identified because any disruption to bicycle and pedestrian facilities will be repaired and L-19-39

old facilities will be upgraded. This discussion does not address how increases in traffic volumes on arterials will affect bicycles and pedestrians. Further, many of the proposed improvements at 42 intersections that are described in Section 2.4.1.4 and mitigation measures described in Section 3.5.4 include roadway widening to improve vehicle LOS. This widening will increase bicycle and pedestrian crossing times. This impact was not disclosed and no significance criteria were included to determine whether the impact would be significant. Impacts of mitigation measures are required to be disclosed under CEQA Section 15126.4 (D), which states, "If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed." The City requests that impacts upon bicycles and pedestrians, due to increased traffic volumes on arterials, be addressed and evaluated against the appropriate significance criteria, in the Final EIR/EIS. L-19-39

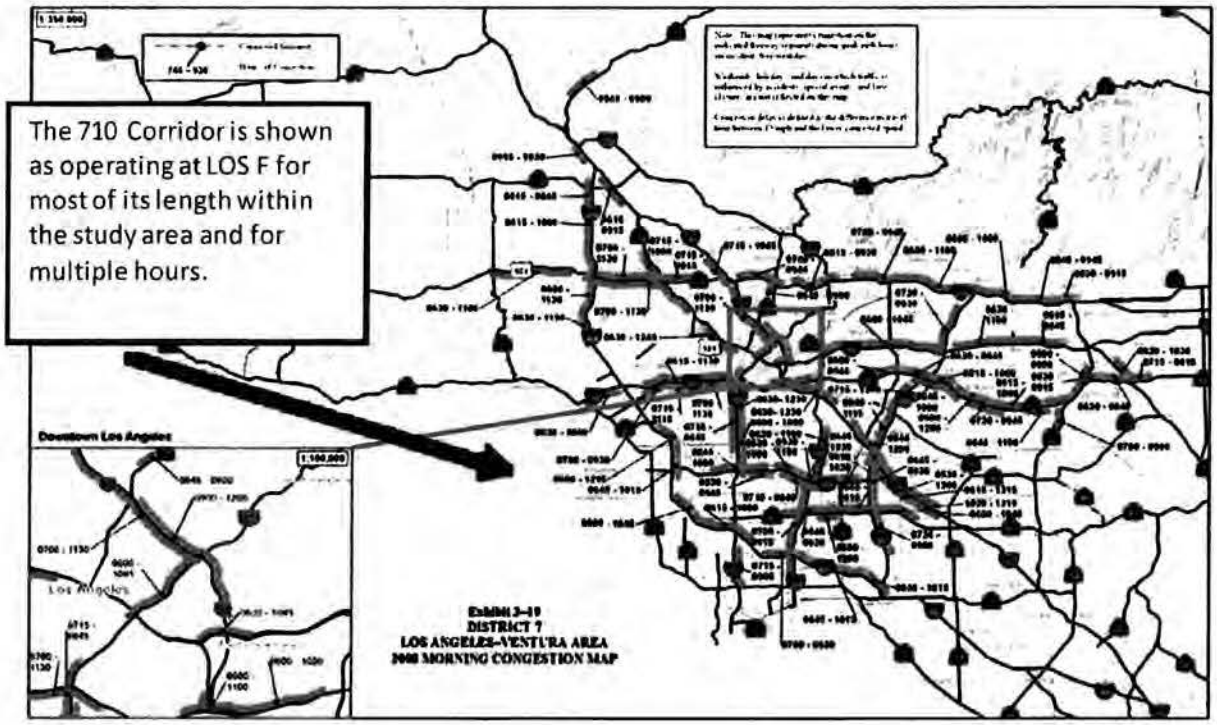
Section 3.5.3.3 Missing From Report. Section 3.5.3.3 appears to be missing from Chapter 3.5 of the Draft EIR/EIS. The sentence referring to it is on page 3.5-86: "Additionally, because no improvements would be made to the I-710 Corridor under Alternative 1, the public health benefits of reduced congestion, improved conditions for pedestrian or bicycle travel, and reduction in the number of total and fatal accidents described in Section 3.5.3.3 would not be realized." The City requests that this be resolved in the Final EIR/EIS. L-19-40

City of Commerce Thresholds Not Considered. As described on page 3.5-81, an adverse impact occurs when LOS degrades to E or F with a build alternative or when a build alternative increases intersection delay compared to the no build alternative. These significance thresholds should be included in the regulatory setting, as noted above, but should also be replaced with the LOS thresholds of each affected community. The City of Commerce General Plan (adopted January 2008, page 64) "established LOS "D" as a target LOS standard, and LOS "E" as a threshold standard." In a letter dated September 17, 2008 from the City of Commerce to Caltrans following release of the Notice of Preparation, the City requested that "In addition to applicable federal, state, and county-wide standards, project impacts must be analyzed taking into account any and all applicable standards/thresholds, including noise standards." The City requests that its stricter thresholds of significance be used to evaluate impacts in the City. L-19-41

Local Community Traffic Thresholds Not Used to Determine Impacts. As described on page 3.5-81, an adverse impact occurs when LOS degrades to E or F with a build alternative or when a build alternative increases intersection delay compared to the no build alternative. We request that these significance thresholds be included in the regulatory setting, and also request that the thresholds be replaced with the LOS thresholds of the City of Commerce, and those of other jurisdictions along the freeway corridor. The City of Commerce General Plan (adopted January 2008, page 64) "established LOS "D" as a target LOS standard, and LOS "E" as a threshold standard." In a letter dated September 17, 2008 from the City of Commerce to Caltrans following release of the Notice of Preparation, the City requested that "In addition to applicable federal, state, and county-wide standards, project impacts must be analyzed taking into account any and all applicable standards/thresholds, including noise standards." Use of the City's preferred methodology and stricter thresholds of significance may lead to the identification of additional project-related impacts and the need for additional traffic mitigation in Commerce. The City requests that Caltrans undertake additional traffic impact analysis using City of Commerce significance thresholds and include the findings in the Final EIR. L-19-42

Conflicting and Inconsistent Traffic Data Presented. The traffic operations analysis results do not match the existing conditions as reported elsewhere. Much of the study corridor is congested during peak periods according to the 2008 State Highway Congestion Monitoring Program (HICOMP), Annual Data Compilation, Caltrans 2008 (see graphic below). The Interstate 710 study corridor extends from Ocean Boulevard in Long Beach to State Route 60 (SR 60). The corridor is described in the EIR/EIS as experiencing severe congestion (see page 3.5-17), but the baseline (2008) conditions analysis (Table 3.5-1) reveals multiple freeway mainline or ramp locations operating at LOS C or D. These analysis results appear to be inconsistent with the HICOMP, which shows AM and PM peak period congestion (i.e., LOS F) for almost the entire study length of Interstate 710. The congestion extends to areas reported as operating at LOS C and D in the EIR/EIS (see AM peak period example below). The City requests that Caltrans resolve this conflict in the Final EIR/EIS.

Caltrans 2008 HiComp Report – District 7



L-19-43

One potential explanation for Draft EIR/EIS results not fully capturing the extent of congestion is due to the methodology. The traffic counts and analysis methodology followed a conventional approach for uncongested facilities. According to Section 4.1 of the I-710 Corridor Project Traffic Operations Analysis Report (TOAR), Los Angeles County Metropolitan Transportation Authority, January 2012, traffic counts were conducted for isolated peak periods (7-9 AM, 11-1 Midday, and 4-6 PM). Section 4.5.1 (page 4-34) and Section 4.5.2 (page 4-40) of the TOAR, January 2012 state that the analysis methodologies for freeways and intersections were based on the 2000 Highway Capacity Manual (2000 HCM). The 2000 HCM methods contain numerous limitations when analyzing congested conditions such as those that exist in the I-710 Corridor.

For much of the I-710 study corridor, the 7-9 AM and 4-6 PM time periods are congested, as shown in the HICOMP report. The conventional or traditional traffic counts only capture departed or served vehicles. Therefore, the counts measure throughput and do not account for unserved demand stuck in queue. Further, the 2000 HCM methods do not recognize that congestion severely reduces operational capacity. One example of this is to compare HCM 2000 capacity thresholds in Table 4-16 of the TOAR (page 4-35) with PEMS data showing actual volumes served during congested conditions. Table 4-16 shows freeway capacity ranging from 2,250 to 2,400 passenger cars per hour per lane depending on free-flow speed. The chart below shows the actual maximum throughput achieved on northbound (NB) I-710 near I-405 during the AM peak period (6-9 AM). The breakdown in freeway operations causes speeds to drop and the maximum volume served to decline below 50 percent of HCM 2000 uncongested capacity.

The HCM 2000 calculations treat capacity as an input, while in reality capacity is an output that varies depending on traffic conditions. When congestion occurs, the freeway breaks down and fewer vehicles can be served. The proposed project alternatives that add lanes to a congested freeway may not significantly relieve congestion depending on the ability of downstream portions of the freeway to accommodate increased peak period flow rates and the effect of induced travel (this topic is covered in more detail in Comment No. 5). L-19-43

One option to capture the capacity limitations from existing congestion is to use microsimulation models. This was acknowledged in one of the technical studies for the I-710 Corridor Project EIR/EIS. Appendix J of the EIR/EIS contains the Draft White Paper, Technical Memorandum – Traffic Operations Simulation Comparison, Los Angeles County Metropolitan Transportation Authority, March 31, 2010, which states the following:

> "The traffic operational analysis of the I-710 PA-ED project for various measures of effectiveness has been conducted using the HCM methodologies for freeway operations. Software packages such as HCS+ and Synchro7 have been exclusively used for this purpose. However, these software packages have their own limitations and have limited or no capability to simulate present or future freeway operations that are complex and include significant heavy duty truck (HDT) operations." L-19-43

The City requests that, at a minimum, the Final EIR/EIS should disclose the limitations of the 2000 HCM and discuss how these limitations influenced the analysis conclusions and recommendations.

Full Extent of Project-Related Traffic Congestion Not Presented. The traffic forecasts model had limited validation and the post-processing method may have resulted in an underestimate of future demand. Model validation should ideally include both static and dynamic tests. Both types of tests are recommended in the Model Validation and Reasonableness Checking Manual (FHWA, February, 1997) that was cited in the Technical Memorandum - I-710 Corridor Project EIR/EIS Travel Demand Modeling Methodology, Los Angeles County Metropolitan Transportation Authority, February 26, 2010. L-19-44

Another important issue is that the static validation for peak periods was conducted using the entire set of traffic counts without differentiating locations that are influenced by congestion. The forecasting model is a 'demand' model. As such, it is expected to produce volume estimates that closely match traffic counts on uncongested roadways. For congested locations, the demand volume

should overestimate peak period traffic counts because these counts only measure throughput and do not capture the full demand, which is stuck in queue. Figure 6 (page 27) in the Modeling Methodology Memo is one of example of the model refinements resulting in a close match to the AM peak period traffic counts. Given the severe congestion described in the EIR/EIS and noted above in the HICOMP and PEMS data, this chart should show the model volume estimates being higher than peak period traffic counts.

Without detailed dynamic validation tests, it is difficult to determine whether the forecasts for each alternative represent reasonable changes in direction and magnitude. For example, despite significant differences between No Build and Alternative 5A, total VMT increased by 0.33 percent and VHD decreased by 0.38 percent. The small VHD change may also be a concern when viewed from a cost-benefit perspective. Reducing one hour of delay costs approximately $446,550 under Alternative 5A.

The forecasts may underestimate future demand volumes because of the post-processor method and not fully accounting for induced travel effects. The post-processor added incremental traffic volume growth onto the base year traffic counts. As noted above, the peak period counts only captured vehicle throughput and not demand that was stuck in queue. As a result, the traffic volume growth was added to a 'constrained' base year traffic count and the post-processing does not account for unmet demand that exists in the base year. L-19-44

The sub-area model also has limitations related to capturing all of the induced travel effects that would be associated with a major freeway expansion in a congested corridor. The SCAG model does not contain a complete feedback system to influence trip generation or long-term land use allocation. The absence of full feedback systems to trip generation and long-term land use allocation suggests that the model's forecasts could underestimate corridor demand volumes, which could lead to the overestimation of congestion relief benefits.

While it is understood that any analytical technique will have limitations, the City requests that Caltrans provide an explanation of why the methodologies and analytical techniques used to analyze traffic operations were selected, and of their limitations.

Improved Operating Conditions Are Counterintuitive. A review of freeway mainline segment level of service in Tables 3.5-1, 3.5-2, 3.5-3 and 3.5-5 show improved operating conditions for Alternative 1 (No Build) in 2035 than for Base Year 2008. The City requests an explanation for this counterintuitive conclusion. L-19-45

Unsupported Decrease in Freeway Volumes May Cause Inconsistencies. Existing (2008) freeway volumes on I-710 shown in Table 1.2-1 show a drop of over 70,000 ADT (66,000 ADT autos plus 5,000 ADT trucks) between Rosecrans and Alondra, just south of I-105. This dip is carried forward into projected 2035 volumes at this location. No explanation is provided in Chapter 1. It appears that this data is also used in the Air Quality analysis in Section 3.18 (Tables 3.13-7 and 3.13-8). The City requests an explanation for this decrease of ADT and also requests that any potential inconsistencies caused by this data that is carried into other sections, such as Air Quality, be reconciled and noted in the Final EIR/EIS. L-19-46

Unapproved Future Projects Used as Basis for Sufficient Future Rail Capacity. Page 3.5-7 of the Draft EIR/EIS states "This alternative also assumes that goods movement to and from L-19-47

the ports make maximum utilization of existing and planned railroad capacity within the I-710 Corridor." Pages 1-36 through 1-37 state that neither the expanded Intermodal Container Transfer Facility (ICTF) nor the Southern California Intermodal Gateway (SCIG) at the Port of Los Angeles were assumed to be operational in the travel demand forecasting for the I-710 project because those projects were not yet approved when the Draft EIR/EIS analysis was conducted. This is also stated in the technical studies (page 16 of the Modeling Report, page 1-6 of the TIAR). These two major near-dock rail projects are, however, listed among the past, present and foreseeable projects listed in Table 3.25-1 and Table 3.25-2. The exclusion of these two rail projects likely results in a higher estimate of container movement along I-710 north of those two rail facilities. The City requests that this inconsistency be clarified in the Final EIR/EIS. L-19-47

Inadequate Discussion of Construction Traffic Management Plan. Only a cursory discussion of the construction-period traffic management plan is provided on pages 2-57 and 2-58. Page 2-57 states that the Transportation Management Plan (TMP) "proposes to keep all lanes open during construction, with the exception of overnight lane closures. Ramp closures will be limited to potential weekend closures and would not exceed a period of one week." Page 2-72 states that the minimum construction duration will be 8 years. Given the magnitude of the improvements proposed under each of the build alternatives, the City requests that Caltrans provide additional information about how it will be possible to keep all lanes open during construction, or disclose if this will not be possible, identify this as a significant impact, and provide appropriate mitigation. L-19-48

Available LOS Data Was Not Provided. In Tables 3.5-2 and 2.5-26, among others, no density or LOS data is presented ("N/A") for the NB I-710 to NB I-5 connector, and other locations. These locations are footnoted as "Single-lane addition/drop; HCM methodology applied for analysis." The City requests an explanation for the lack of data at these locations, especially considering the availability of the HCM methodology which allows for analysis of such locations. L-19-49

Inconsistent LOS Data. In Table 3.5-8, LOS C/D is shown for NB I-5 approaching I-710 in the AM/PM peak hours and LOS C/D/E in the midday peak hour. This data is not consistent with the accompanying text on page 3.5-31 which states that "The majority of the congestion occurs along the I-5 corridor in the vicinity of I-710 during the midday peak hour. However, field observations show severe congestion levels during both a.m. and p.m. peak hours in the 2008 existing condition." The City requests that this discrepancy be addressed. L-19-50

Unclear How Conclusions Regarding Truck Lane Capacity Was Estimated. The truck lanes are forecast to operate at or near capacity under Alternatives 6A/6B (page 3.5-57) but below capacity with tolls under Alternative 6C. It is not clear how the change in use of the truck lanes with tolls in place was estimated. The City requests that the rationale for these estimates be disclosed. L-19-51

No Differentiation Between Unmetered/Metered HOV Lanes. A description of the methodology for the ramp metering analysis is provided on page 4-44 of the TOAR. However, the analysis did not distinguish between the unmetered HOV lanes and metered SOV lanes in the ramp metering analysis. The City requests that this discrepancy be addressed. L-19-52

Insufficient Analysis of Impacts Due To Loss of On-Street Parking. Page 3.5-79 describes the proposed implementation of peak period parking restrictions along four major north-south corridors, three of which lie partly within the City of Commerce. The Draft EIR/EIS provides no analysis of the level of utilization of curb parking in these areas, nor whether the displaced L-19-53

parking demand can be accommodated elsewhere; please provide an analysis of this issue. While the loss of on-street parking is not necessarily a CEQA issue, the potential socio-economic impacts of the loss of on-street parking can be considered as impacts. In a recent traffic study for the planned "Washington Boulevard Improvement Project" in Commerce, which would widen and reconfigure Washington Boulevard to provide six through lanes (cited as Project T-24 in Table 3.25-1), a detailed utilization study of on-street parking was conducted and a full assessment of the loss of that parking was made. (The construction schedule for that project is shown in Tables 3.25-1 and 3.25-2 as "2012" but the City's current schedule puts construction of that project in 2015.) The City requests the preparation of a detailed utilization study and a full assessment of the loss of on-street parking be conducted. L-19-53

Incorrect Assumptions Used for Signal Cycle Lengths at Study Intersections. Page 4-40 of the TOAR describes the use of Synchro to implement the HCM 2000 methodology for the intersection analysis. Rather than collect signal timing plans for each study intersection from the local jurisdictions, universal assumptions were made for signal cycle lengths, such as 100 seconds for arterial intersections and 60 seconds for freeway ramp T-intersections. A review of the level of service worksheets for selected locations in Commerce shows that a cycle length of 130 to 150 seconds was assumed for the intersections with wider cross sections. The analysis also assumed that each intersection has a capacity of 1,600 vehicles per lane per hour, the ideal traffic capacity per the HCM 2000, but did not conduct saturation flow studies to support this assumption. Given the size of some intersections, these signal timing assumptions may not in every case allow for the green time that would be needed to include adequate pedestrian crossing times. This may result in the analysis underestimating vehicle delay for some locations. The City requests that this impact be fully addressed in the Final EIR/EIS. L-19-54

Discrepancies between LOS Assumptions and Existing Field Conditions. In Figure 3-3.f and Appendix B of the TIAR, several discrepancies between the intersection level of service inputs/assumptions and existing (2012) field conditions were observed that may affect the results of the analysis, as follows. The City requests that the following discrepancies be addressed in the EIR/EIS:

- Eastern Avenue & Bandini Boulevard (#75): The analysis of this intersection includes two eastbound through lanes, which is inconsistent with the existing (2012) conditions which include three eastbound through lanes. The southbound right turn lane must yield to both pedestrians and to westbound through traffic. As analyzed in the Draft EIR/EIS, this movement was coded as a permissive plus an overlap phase. The assumed signal cycle length at this location did not include enough green time to allow for minimum pedestrian crossing times. Taken together these factors could result in more delay at this intersection than is reported in the Draft EIR/EIS. L-19-55

- Washington Boulevard & Atlantic Avenue (#78): The analysis of the northbound approach to this intersection includes one left turn lane, two through lanes and one right turn lane, which is inconsistent with the existing (2012) field conditions which include one left turn lane, two through lanes and one shared through/right turn lane. The analysis also included overlapping right turn phases on all four approaches to the intersection, which is inconsistent with existing (2012) field conditions which show that no overlapping phases are present. Taken together these factors could result in more delay at this intersection than is reported in the Draft EIR/EIS.

- Washington Boulevard & Eastern Avenue (#79): The analysis included overlapping right turn phases on all four approaches to the intersection, which is inconsistent with existing (2012) field conditions which show that no overlapping phases are present. This factor could result in more delay at this intersection than is reported in the Draft EIR/EIS.

- Eastern Avenue & Slauson Avenue (#71): The analysis included overlapping right turn phases on the northbound and southbound approaches to the intersection, which is inconsistent with existing (2012) field conditions which show that these overlapping phases are not present. This factor could result in more delay at this intersection than is reported in the Draft EIR/EIS. L-19-55

- Washington Boulevard & Southbound I-710 On/Off Ramp (#126): The analysis included a protected westbound left turn phase, which is inconsistent with existing (2012) field conditions which show that this movement is permissive. This factor could result in a different delay calculation at this intersection than is reported in the Draft EIR/EIS.

- Atlantic Avenue & Bandini Boulevard/I-710 Northbound On ramp (#74): The analysis does not account for the existing (2012) westbound prohibition on right turns on red. This factor could result in a worse delay calculation at this intersection than is reported in the Draft EIR/EIS.

Impacts to Major Intersections Not Analyzed. The traffic impact analysis does not include major intersections within the City of Commerce that may be affected by the proposed project, given their proximity to the I-710/I-5 interchange: Bandini Boulevard & Garfield Avenue, Telegraph Road & Garfield Avenue and Atlantic Avenue & Eastern Avenue. The City requests that an explanation for why these locations were not analyzed, as well as providing the appropriate analysis. L-19-56

Potential Transit System Impacts Not Analyzed. There is no assessment of potential transit system impacts in Commerce, including increased transit service time or any changes to existing bus routes that would be required due to project-related roadway changes. The City requests an evaluation of these impacts in the Final EIR/EIS. L-19-57

Proposed Mitigation Measures for Intersection Impacts May Be Inadequate. The City requests that following comments pertaining to proposed mitigation measures for impacts at intersections in the City of Commerce be considered:

- Slauson Avenue & Eastern Avenue (#71): The proposed mitigation measure at this intersection is to add a second eastbound left-turn lane and a separate eastbound right-turn lane. These improvements appear reasonable, given the high volumes on these movements, even under existing (2008) conditions. These improvements would require right-of-way acquisition on both sides of Slauson Avenue. Potential secondary impacts associated with the wider cross-section on the affected approach to the intersection were not identified. It is noted that the level of service analysis of this location under Alternative 1 shows a discrepancy between the existing and future without mitigation in that it includes a separate eastbound right-turn lane and a L-19-58

separate westbound right-turn lane. This could affect the determination of project impacts, as they are assessed against Alternative 1 conditions.

- Slauson Avenue & Garfield Avenue (#73): The proposed mitigation measure at this intersection is to add a second westbound left-turn lane. This improvement appears reasonable, given the high volumes on this movement, even under existing (2008) conditions. The improvement would require right-of-way acquisition on the southeast quadrant of the intersection. Potential secondary impacts associated with the wider cross-section on the northbound approach to the intersection were not identified. L-19-58

- Garfield Avenue & Gage Avenue (#157): The proposed mitigation measure at this intersection is to add a second left-turn lane on all four approaches plus separate eastbound and westbound right-turn lanes. The improvement would require major right-of-way acquisition at the intersection and potentially building demolition. Potential secondary impacts associated with the wider cross-section on all approaches to the intersection were not identified.

Section 3.6, Visual Quality/Aesthetics

Enhanced Condition Treatment of Sound Walls Requested. Visual simulations of proposed sound wall and berm treatments in the DEIR/DEIS show a Base Condition (i.e., standard Caltrans landscaping, including groundcover and some young trees) and an Enhanced Condition ("possible aesthetic treatments" with decorative masonry wall surface treatments and more vegetation, including vines and/or more mature trees). The Draft EIR/EIS notes that Caltrans will develop final treatments in consultation with community stakeholder groups. Given the prominence of these features in the City and their proximity to residential neighborhoods and at least one recreational facility (Bandini Park), the City requests implementation of the Enhanced Condition treatment of sound walls and freeway edges/berms, within Commerce. L-19-59

Existing Low Visual Quality Should Not Rule Out Enhanced Condition Treatment. The City requests that the existing low visual quality in visually sensitive areas (e.g., due to an existing freeway sound wall or electrical lines), as identified in the Draft EIR/EIS, would not be used by Caltrans as a rationale to rule out Enhanced Condition sound wall/berm treatment, especially since existing sound walls and utilities may be relocated as part of the project. L-19-60

Input Needed for Utility Relocation Plans. The City requests the opportunity to provide input into the draft Specific Utility Relocation Plans before those are finalized and presented in the Final EIR/EIS, since those may also have aesthetic impacts on residential or other visually sensitive locations within Commerce. L-19-61

Section 3.7, Cultural Resources

Historic Bridge Inventory Survey Required. HPSR Attachment B to the Draft EIR/EIS, the Historic Property Survey Report submitted by Caltrans to the State Office of Office Historic Preservation (SHPO), lists only State Agency-designated Bridges. The City requests that Local Agency Bridges from the California Historic Bridge Inventory that are located in the City of Commerce be added, in the event that there are historic bridges within Commerce that aren't addressed. L-19-62

Potentially Eligible Local Resources Not Evaluated. The Draft EIR/EIS notes that the City of Commerce has criteria for local landmark designation, and the City was contacted during Draft EIR/EIS preparation for information on identified locally eligible and designated resources. However, inventoried properties in the Area of Potential Effect (APE) were not evaluated against local eligibility criteria; surveyed properties were evaluated only for National and California Register eligibility (see HRER Appendix B property Nos. 108-160, APE Map Reference nos. 97-149). Some of the potentially affected City of Commerce properties may be eligible individually or as part of a potential district at the local level. The City requests that Caltrans address this issue in the Final EIR/EIS. L-19-63

Section 3.8, Hydrology and Floodplain

Additional Information Regarding Traffic Impacts at Floodway Structures Needed. Floodway structures to be altered and/or replaced in Commerce under Alternative 5A include the Union Pacific crossing at Randolph Street and the Slauson Avenue crossing. No additional improvements within identified within floodways are proposed under Alternatives 6A/B/C. The improvements to the Union Pacific crossing would require construction staging in the vicinity of the crossing. The improvements at Slauson Ave may result in traffic and congestion impacts at the roadway crossing. The City requests additional information on the potential construction staging and traffic impacts at these two crossings. L-19-64

Flood Protection Evaluation Required. The analysis in the Draft EIR/EIS relies on mitigation measure FP-1, which requires the preparation of a Final Los Angeles River Impact Report, to demonstrate that the design of the proposed project provides acceptable flood protection. While this type of mitigation is common on large-scale projects where designs are not yet finalized, the City requests an opportunity to review the Final Los Angeles River Impact Report. L-19-65

No Flood Hazard Evaluation Provided. The Draft EIR/EIS does not identify any flooding concerns in the City of Commerce. Given the City's proximity to the Los Angeles River and the reliance on pumps to drain portions of the I-710 freeway, the City should raise any specific flooding concerns for areas within City boundaries in the vicinity of the freeway. Since the proposed Alternatives would increase the number of freeway lanes and, therefore, the associated impervious area, the City requests that the Draft EIR/EIS provide additional detail concerning post-project surface runoff volumes, rates, and discharge locations onto surface streets within the City, or where the City is aware of undersized, aging, or otherwise inadequate storm drain infrastructure on its arterial streets. L-19-66

Section 3.9, Water Quality and Stormwater Runoff

Consultation with City Staff Regarding BMPs Needed. Since surface water runoff from I-710 currently discharges to City of Commerce surface streets and storm drains, and will continue to do so under post-project conditions that will increase the number of trucks and passenger vehicles using the freeway and ramps accessing the rail yards, the City of Commerce requests that Caltrans consult with City staff during preparation of the final treatment BMPs that address the capture and treatment of runoff. L-19-67

Section 3.10, Geology/Soils/Seismic/Topography

Ninyo & Moore Geotechnical and Environmental Sciences Consultants undertook analysis of the geotechnical analysis provided in the Draft EIR/EIS on behalf of the City of Commerce. Comments are provided below. The complete letter report detailing Ninyo & Moore's findings is provided as Attachment 2 to this comment letter.

Geotechnical considerations. The geotechnical study for the project by URS discusses potential foundation options for bridges and retaining walls for the project. The study recommends that the selection of bridge foundation alternatives will be based on foundation loading and site-specific conditions, and the design will be based on site-specific geotechnical evaluation. Various options for retaining walls and associated foundation alternatives are presented in the geotechnical study. However, the potential impacts of the various design alternatives are not addressed in the URS report, nor are they addressed in Section 3.10 of the Draft EIR/DEIS. Construction activities for the Project corridor could pose additional impacts to properties in the City of Commerce and are addressed in the following sections.

- **Soil Erosion.** Soil erosion refers to the process by which soil or earth material is loosened or dissolved and removed from its original location. Erosion can occur by varying processes and can occur in the project area where bare soil is exposed to wind or moving water (both rainfall and surface runoff). The processes of erosion are generally a function of material type, terrain steepness, rainfall or irrigation levels, surface drainage conditions, and general land uses. Construction of the Project would result in ground surface disruption during demolition, excavation, grading, and trenching that would create the potential for erosion to occur. However, with incorporation of appropriate mitigation methods, potential soil erosion can have a less than significant impact. L-19-68

  To mitigate potential erosion at the Project site, a Storm Water Pollution Prevention Program (SWPPP) incorporating Best Management Practices (BMPs) for erosion management should be implemented prior to the start of construction. In addition, the topographic gradients at the project site are relatively gentle. The site would be covered with hardscape and landscape improvements following construction, and the impact of long-term erosion would be less than significant.

  With the implementation of BMPs incorporated in the project SWPPP during construction, water- and wind-related soil erosion can be limited and managed within construction site boundaries. Examples of these procedures could include surface drainage measures for erosion due to water, such as the use of erosion prevention mats or geofabrics, sandbags and plastic sheeting, and temporary drainage devices. Positive surface drainage should be accommodated at project construction sites to allow surface runoff to flow away from site improvements or areas susceptible to erosion. To reduce wind-related erosion, wetting of soil surfaces and/or covering exposed ground areas and soil stockpiles could be considered during construction operations, as appropriate. The use of soil tackifiers may be considered to reduce the potential for water- and wind-related soil erosion. <u>The City requests that these measures be incorporated in the project SWPPP prepared for construction that will occur in the City of Commerce.</u>

- **Groundwater and Construction Dewatering.** The Draft EIR/DEIS and the URS report provided in the Appendix indicate that the depth to groundwater along the Project corridor in the City of Commerce is more than 45 feet deep. Foundation excavations near this depth will encounter groundwater. Additionally, shallow perched groundwater may be encountered in excavations for the Project, and construction dewatering would be involved to maintain the excavations in a relatively dry condition. Lowering the groundwater results in an increase in the effective stress of soil above the groundwater and, in some cases, can result in soil settlement. Estimates of the magnitude of potential settlement related to dewatering should be made prior to site excavation, and mitigation recommendations should be implemented, as needed. The potential impacts of settlement related to construction dewatering can be made less than significant with incorporation of appropriate mitigation methods. Mitigation methods include limiting the depth of construction dewatering, installation of sheet piles and pumping from within the excavation to reduce the impacts outside the excavation, installation of monitoring wells to evaluate groundwater, monitoring adjacent areas for indications of settlement, and/or protection to settlement-sensitive structures through ground improvement or foundation underpinning (if appropriate). L-19-69

- **Liquefaction mitigation and construction activities; associated ground settlement and vibration impacts.** Typical mitigation alternatives for liquefaction include supporting structures on cast-in-place pile foundations or driven pre-cast piles that extend through the liquefiable zones into competent material. Alternatively, densification of the liquefiable soils using vibro-displacement stone columns or compaction grouting would mitigate the liquefaction hazard, and the new structures could then be supported on shallow foundation systems. From a geotechnical engineering perspective, each of these alternative methods are considered feasible, and would reduce the liquefaction hazard impact to less than significant levels.

  However, construction activities to mitigate the potential liquefaction hazard for the Project and installation of pile foundations could pose additional site impacts. Depending on the type of liquefaction hazard mitigation and pile foundations selected, construction-related vibrations could impact surrounding properties. In addition, excavations may include shoring systems, which could involve the use of driven sheet piles. The installation of driven piles or vibro-displacement stone columns for liquefaction mitigation, and installation shoring systems (such as sheet piles) involves construction vibrations, which can result in disturbance to people and/or ground settlement. L-19-70

  Sensitive receptors (people and structures) located near the Project could be impacted by vibrations and ground settlement. However, the impacts of vibrations and ground settlement to surrounding improvements due to construction activities at the project site will be reduced to less than significant levels with incorporation of mitigation techniques.

  In order to mitigate the potential impacts due to vibrations during the construction phase of the Project, sensitive receptors (people and structures) near the Project should be evaluated with regard to potential vibration-related impacts. If vibrations

would impact the receptors, mitigation techniques should be developed as part of the Final EIR and implemented at the appropriate time. Mitigation techniques to reduce the impacts of vibrations to less than significant levels include avoiding vibratory types of construction, limiting vibratory types of construction to specified distances from sensitive offsite receptors, monitoring vibration and settlement during construction, and/or protecting sensitive improvements from excessive settlement by ground stabilization or foundation underpinning.

Monitoring methods include installation of ground survey points around the outside of excavations to monitor settlement and/or placing monitoring points on nearby structures or surfaces to monitor performance of the structures. In general, acceptable levels of settlement would be ½ inch or less in non-building areas, and ¼ inch or less for building areas. If monitored movement is unacceptable to surrounding improvements during the course of construction, the work should stop and the contractor's methods should be reviewed and changes made, as appropriate; and alternative methods of settlement reduction should be implemented by the contractor. L-19-70

The City requests that the Final EIR address this issue and include these mitigation measures to reduce potential impacts in the Final EIR.

Section 3.11, Paleontology

Section 3.11 of the Draft EIR/EIS should elaborate on the various excavation activities and associated maximum depths below surface, for the different expected types of project construction. Only one excavation activity is mentioned in any detail: highway bridge excavations for pile caps up to 15 feet in depth. Without more detail about the extent and depth of excavation associated with a wider range of structures, the assessment of impacts on paleontological resources in areas of high sensitivity is inconclusive.

In the *Paleontological Resources Identification and Evaluation Report* provided in Volume I of the Technical Studies, Table B on page 26 identifies the Capistrano Formation as possessing high paleontological sensitivity, but the locales along the freeway alignment within the Area of Potential disturbance (APD) where this formation or rock unit crops out at the surface, or is subject to interception during grading and excavation, are not discussed. Without this information, impacts on paleontological resources, including within the City of Commerce, cannot be conclusively determined. L-19-71

In the *Paleontological Resources Identification and Evaluation Report* provided in Volume I of the Technical Studies, one sentence is provided to describe the pedestrian surveys conducted along the freeway alignment within the Area of Potential Disturbance (APD). Some additional detail should be provided, including some indication of whether and where any fossils were recovered, and the associated rock units.

Section 3.13, Air Quality/Greenhouse Gases

Significant Impact Not Fully Mitigated. The air quality analysis in the Draft EIR/EIS analyzed construction impacts on a regional basis for the project as a whole, and for construction of the maximum single segment. The DEIR/DEIS estimates that the entire corridor would take 8 to 15 L-19-72

years to complete, with activity in any one segment lasting up to four years. Daily emissions would, on a worst-case overlapping day, exceed thresholds for all criteria air pollutants. For the maximum single segment only NOx emissions would exceed the threshold, and are estimated to be approximately three times the applicable CEQA threshold. The Draft EIR/EIS does not contain specific mitigation measures to address the significant and unavoidable NOx impact. The City feels it is appropriate for Caltrans to adopt Metro's Green Construction Policy for this project and to modify the mitigation measures to mandate that construction contractors use the cleanest off- and on-road equipment and trucks available. The City requests that additional measures be included in the Final EIR to control or reduce NOx emissions. L-19-72

Significant Impact Not Fully Mitigated. The air quality analysis in the Draft EIR/EIS, page 3.13-55, determined that fine particulate matter (PM2.5) concentrations from operation of the proposed Project would exceed the SCAQMD Localized Significance Threshold (LST) at various areas within 50 meters of the corridor compared to the existing 2008 baseline and within 100 meters compared to Alternative 1 (2035 No Build). It is stated that the impact is primarily the result of the entrained dust modeling using the USEPA method. Nonetheless, when compared to Alternative 1, Figures 4.36, 4.37, and 4.38 in Appendix R of the Draft EIR/EIS indicate that the potential for sensitive receptors to experience high levels of PM2.5 extends into residential areas, in particular the ABC/Ayers and Northwest neighborhoods in the City of Commerce. The City requests that a mitigation measure be provided requiring Caltrans to provide a refined quantitative localized impact assessment focused on long-term operational air quality impacts to neighborhoods in the vicinity of the main roadway and relocated on- and off-ramps. Based on the localized impact assessment or real-world monitoring data (made possible through mitigation measure AQ-1), if unacceptable impacts occur, the City requests that Caltrans be responsible for long-term enhanced street sweeping, providing upgrades to residential heating, ventilation, and air conditioning (HVAC) units and air filtration systems for impacted residential receptors, and other appropriate mitigation or avoidance strategies. The City further requests that mitigation or avoidance strategies be included as part of an "Air Quality Community Protection Plan,", which is a component of the recommended Community Benefits Agreement between Commerce and Caltrans, discussed in Section 4 of this comment letter. L-19-73

Significant Impact Not Fully Mitigated. The air quality analysis in the Draft EIR/EIS analyzed construction impacts adequately on a regional basis for the project as a whole, and for the maximum single segment. The DEIR/DEIS estimates that the entire corridor would take 8 to 15 years to complete, with activity in any one segment lasting up to four years. Worst case daily emissions of NOx are estimated to be approximately three times the applicable CEQA threshold and particulate matter (PM) emissions approximately one half of the CEQA thresholds for the single segment. Given that a vast amount of improvements are planned at the northern terminus of the corridor, including major reconfiguration of on- and off-ramps, it is likely that the City of Commerce would experience some of the most intensive construction activity for the longest period of time. Therefore, a mitigation measure should be added that specifies that, prior to the final selection of an Alternative and design options, Caltrans shall be required to provide a focused assessment on localized construction impacts. This focused analysis should include a discussion of potential near roadway impacts from construction based on the SCAQMD LST methodology and should identify potential sensitive receptor areas that could experience localized construction air quality impacts in excess of the standards. This assessment should include emissions from proposed rock crushing and cement plants, if plans include potentially locating these in Commerce. In addition, Caltrans should include a requirement for an "Air Quality Community Protection Plan" L-19-74

(discussed in detail as part of a CBA below) that includes provisions to temporarily relocate impacted residents, provide upgrades to residential air filtration systems, and provide a community liaison that is available to investigate and address air quality issues in the affected community. L-19-74

Clarification Needed. In the Air Quality and Health Risk Assessments Technical Study (February 2012), on page ES-1, the second to the last bullet point states that "PM2.5-related morbidity and mortality health risks would generally decrease relative to the 2008 baseline; the exceptions would be some locations within 100 m to 300 m of the I-710 freeway and/or freight corridor, which generally would not have people present." This appears to be inconsistent with page 3.13-55 in Section 3.13, Air Quality, of the Draft EIR/EIS, which states that impacts would be limited to 50 and 100 meters compared to the existing 2008 baseline and Alternative 1, respectively. The City is therefore unsure which set of numbers are correct. Figures 4.36, 4.37, and 4.38 in the Technical Study indicate that several of the modeled receptor points are expected to experience exceedances of the SCAQMD LST for PM2.5, extending into residential areas, in particular the ABC/Ayers and Northwest neighborhoods in the City of Commerce. The final EIR/EIS should state that impacts to these neighborhoods would exceed the threshold and would be significant. The City requests that mitigation measures, such as but not limited to enhanced filtration, be required for those residences in the most severely impacted neighborhoods. L-19-75

Potential Impact Not Studied. Under Alternatives 5A, 6A, 6B, and 6C, vehicle miles traveled (and truck trips) on the I-710 would increase over Alternative 1 (No Build). However, the analysis upon which the Draft EIR/EIS relies does not discuss the potential for increased truck queuing on local roadways in the vicinity of the rail yards in the City of Commerce, which already experiences issues related to trucks queuing on the roadways in the vicinity of Washington Boulevard and Atlantic Boulevard. Increased truck queuing could result in greater diesel particulate matter emissions, which is a human carcinogen. Furthermore, because the potential increase in idling could occur on local roadways, Alternatives 6B, 6C and the Zero Emissions Extension (ZEE) option would not reduce these impacts because the catenary system would not extend to the affected roadways. The City requests that this impact be analyzed and, if warranted, appropriate mitigation measures included in the Final EIR/EIS, including but not limited to the development of an off-street dedicated truck staging yard and enhanced enforcement of current anti-idling regulations. L-19-76

Minor Error. The numbering of tables skips from 3.13-15 to 3.13-20. The City requests that this error be corrected. L-19-77

Clarification Needed. It is noted that on August 10, 2012, Caltrans issued an erratum stating that the portion of the sub-section 3.13.3.2 on "Public Health Considerations" starting with the first paragraph and continuing to the subheading "PM Mortality and Morbidity" and including Table 3.13-29 is moved to Chapter 4.0, California Environmental Quality Act Evaluation at the end of Section 4.2.4.1 "Air Quality" on page 4-41. The City requests that the CEQA analysis should also refer to and include all discussion related to impacts compared to the 2008 CEQA baseline and delete any analysis of the 2035 NEPA baseline (Alternative 1). L-19-78

Clarification Needed. On page 4-88 in Section 4.0, California Environmental Quality Act Evaluation, the following mitigation measure is proposed: "The project would incorporate the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals." The mitigation measures suggests that the project would include new and/or replacement lighting and traffic signals. It is unclear if GHG emissions from lighting and traffic signals were taken into account; please L-19-79

indicate whether this is the case. The City requests that a brief statement in the analysis should be included regarding energy consumption related to lighting and traffic signals. This information will help to inform decision makers and stakeholders of the relative benefit of the mitigation measure mentioned above. L-19-79

Clarification Needed. On page 67 in the Air Quality and Health Risk Assessments Technical Study (February 2012), Subsection 5.6, there appears to be a numerical discrepancy with the GHG emissions reported in the text and in Table 5.6 compared to the GHG emissions reported in Section 4.0, California Environmental Quality Act Evaluation (Subsection 4.3, Climate Change), Table 4.3-3a and Table 4.3-3b. The City requests that the following discrepancies be corrected:

- Page 67 of the Technical Study states that "GHG emissions for the 2035 alternatives compared to 2008 are all approximately 22,000,000 tonnes CO_2e/year higher than the existing baseline..." However, in Section 4.0, California Environmental Quality Act Evaluation (Subsection 4.3, Climate Change), the total incremental CO_2e emissions for all alternatives compared to the existing baseline, as shown in Table 4.3-3a, appear to be closer to 20,000,000 tonnes CO_2e/ycar. It is unclear which values are correct; please correct this discrepancy. L-19-80

- Table 5.6 of the Technical Study shows the total incremental CO_2e emissions for Alternatives 6A, 6B, and 6C compared to Alternative 1 (No Build) as -120,000, 600,000, and -490,000, respectively. However, Table 4.3-3b shows the total incremental CO2e emissions for Alternatives 6A, 6B, and 6C compared to Alternative 1 (No Build) as -130,000, -487,000, and -393,000, respectively. It is unclear which values are correct. These discrepancies should be corrected. This discrepancy also applies to Table ES-7 of the Technical Study; please address this as well.

Section 3.14, Noise

Potential Nighttime Noise Impacts not Evaluated or Mitigated. The Draft EIR/EIS failed to analyze construction noise impacts during the nighttime hours. Nighttime noise is especially problematic for three reasons: 1) an introduced source of noise, such as heavy duty construction equipment, is more noticeable when ambient levels are low; 2) more residents are at home in the evening and are more likely than industrial receptors to have their windows open or enjoying the outdoors, and 3) nighttime noise can cause sleep disturbances. For example, the City of Commerce Noise Standards state that exterior noise should not exceed the following limits: 55 dBA during daytime (7 am to 7pm), 50 dBA during evening (7 pm to 10 pm), and 45 dBA during nighttime (10 pm to 7 am). Nighttime construction is a normal occurrence with large infrastructure projects such as this. However, the draft EIR/EIS does not establish a threshold(s) specific to nighttime hours and fails to qualitatively or quantitatively assess potential impacts. A court case in Berkeley, California (*Berkeley Keep Jets Over the Bay Com. v. Board of Port Comrs. of Oakland, 2001*), raised concerns from interior sound exposure levels (SELs) in excess of 65 dBA, which according to the Federal Interagency Committee on Aviation noise (FICAN), would result in 5 percent of a population to be awakened. Thus, the City requests that a mitigation measure be added in the Final EIR that establishes a "Noise Community Protection Plan," that includes provisions for a community liaison that is available to investigate and address noise issues in the affected community, mandatory sound walls/blankets, and construction-period monitoring, and may include strategies such as temporary relocation of severely impacted residents, and/or providing permanent upgrades to residences (i.e., L-19-81

new window systems and other noise dampening strategies). Furthermore, we request that the Plan be incorporated into the City's requested Community Benefits Agreement between Commerce and Caltrans, which is discussed in Section 4.0 of this Comment Letter. L-19-81

Section 3.15, Energy

Section 3.15, Energy, does not include a discussion of energy consumption related to lighting traffic signals. On page 3.15-3, mitigation measure E-3 states that "[p]rior to completion of final design, Caltrans shall prepare an area lighting plan to identify lighting fixtures that are energy efficient and to identify placement of individual lighting fixtures used for roadway lighting that will provide safety lights for pedestrians and motorists." In addition, on page 4-88 in Section 4.0, California Environmental Quality Act Evaluation, the following mitigation measure is proposed: "The project would incorporate the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals." These mitigation measures suggest that the project would include new and/or replacement lighting and traffic signals, to be provided by Caltrans. A brief statement should be included in the analysis regarding energy consumption related to lighting and traffic signals. This information will help to inform decision makers and stakeholders of the relative benefit of the mitigation measures L-19-82

Sections 3.16 to 3.21, Biological Resources

CEQA Section 3.18.2 – Affected Environment. Focused surveys were conducted in 2009 for special-status plant species. Generally surveys are only valid for one year. The project surveys are three years old. It is recommended that the surveys should be repeated. L-19-83

CEQA Section 3.19.2.1 – Special-Status Animal Species Requiring Surveys. Focused surveys were conducted in 2009 for burrowing owl and special-status bat species. Generally surveys are only valid for one year. The project surveys are three years old. It is recommended that the surveys should be repeated. L-19-84

CEQA Section 3.24.1.1 – Highway Improvement Process: Pre-Construction Activities. A bullet should be added to this section as follows: "Conduct nesting bird surveys and/or any other pre-construction surveys specified in the mitigation measures, as necessary." L-19-85

Section 3.24, Construction

Mitigation Measure CON-3 – Traffic Management Plans. This mitigation measure does not require the Traffic Management Plans (TMPs) to identify construction staging areas. The City of Commerce requests that construction staging be included in Mitigation Measure CON-3 in the Final EIR/EIS, especially in light of the three Design Options that are proposed within Commerce City limits. L-19-86

4. COMMUNITY BENEFITS AGREEMENT (CBA)

In light of the disproportionate localized impacts of the project on the City of Commerce, the City of requests that Caltrans and its partner agencies in the proposed I-710 Corridor Project jointly, with the City of Commerce, execute and enter into a Community Benefits Agreement (CBA) intended to minimize to the maximum extent possible the adverse impacts of the project in City residents, commercial businesses, and industry. L-19-87

This section provides the basic framework of specific requests the City believes are warranted to be included in a CBA and intends to seek. The CBA should contain commitments to strategies, practices, goals, and targets which are expected to result in real and quantifiable reductions or avoidance of the negative impacts to Community, Traffic, Air Quality, and Noise predicted. The detailed requirements of the CBA, to be negotiated, are intended to directly benefit the most severely impacted sensitive receptors in the City of Commerce.

Community Impacts. The City requests that Caltrans work closely with the City to develop Last Resort Housing within the City of Commerce and commit to the relocation of all displaced residents within the City of Commerce.

In view of the lack of comparable existing housing within the City of Commerce, the likely inadequacy of Caltrans's standard relocation stipends for potentially displaced residents, and the likely lack of sufficient financial resources on the part of those residents to afford replacement housing at current market prices, we further request that Caltrans address the following, at a minimum, for any resident relocation:

- The provision of, or the provision of funding to, study and identify opportunities to replace in kind all residential, commercial, industrial, or other properties permanently displaced as a result of the proposed Project.

- The provision of, or the provision of funding to construct, one-for-one replacement housing for every dwelling unit to be removed as the result of the project, including single-family homes, townhomes, duplexes, condominium, and rental apartments. L-19-87

- Creative solutions to the siting and design of comparable replacement housing within the City of Commerce, in a manner that improves the quality of life for displaced residents

- The provision by Caltrans, as soon as is feasible, of a clear timeline for proposed property acquisition and resident relocation, to minimize uncertainty for affected residents and allow for advance planning

- The provision of a relocation liaison to coordinate issues with and for the citizens and business owners of Commerce.

- The provision of funds for moving expenses, and assistance with other moving-related circumstances (e.g., address changes, notification of employers for time off if needed, etc.)

- Reimbursement to residents of documented home improvement expenses incurred within the five years prior to Caltrans acquisition of properties

- Special assistance for elderly and/or disabled residents, including but not limited to counseling

- Funding assistance for first-time home buyers

- Subsidies/waivers for increased property taxes associated with new residences
- Subsidies for increased living expenses associated with new residences
- Consideration for other marginalized populations that may be affected by relocation

No description is provided in the Draft EIR/EIS of how Caltrans intends to "prioritize efforts" to relocate businesses within the same City. Without a detailed plan, this measure is not a sufficient measure to mitigate the displacement-related employment impacts. The City requests that Caltrans provide a detailed plan to show how it will prioritize efforts to relocate business within the City of Commerce and that this plan be incorporated into the Community Benefits Agreement. L-19-87

The Community Benefits Agreement should include policies to promote the impacted community and local economy by identifying purchasing, hiring and contracting opportunities; encouraging local enterprises to make bids and proposals for project contracts; prioritizing opportunities for local suppliers and vendors; and promoting the hiring of City of Commerce residents. Caltrans should develop a targeted local hiring plan to facilitate outreach to local businesses seeking contracting and procurement opportunities, as well as local residents seeking construction jobs, particularly in light of the fact that Commerce has the highest unemployment rate (22 percent) of any city or community in the project study area, as stated in the Draft EIR/EIS's Community Impact Assessment Technical Study (Table 3.3-7). The City requests that these outreach efforts are coordinated with the City to ensure that adequate opportunities for local involvement are made available for the duration of the Project's construction period.

Traffic. The City of Commerce currently experiences traffic-related impacts from truck queuing on local roadways, particularly on Washington Boulevard and Atlantic Boulevard. The freeway improvement project presents an opportunity for the City and Caltrans to work cooperatively to address the City's desire to create storage or staging yard for short-term truck parking before or after those vehicles access the UPRR or BNSF railyards. Currently this activity occurs on some City streets and leads to localized congestion, particularly on Washington Boulevard, on Atlantic Boulevard and on Sheila Street. With the projected increase in throughput at the railyards, this phenomenon is expected to increase. A staging yard should be located relatively near to the railyards and because they operate 24 hours per day, 365 days per year, it should not be located near any residences or noise-sensitive uses. One option the City has considered in the past is to widen Sheila Street. The City requests that Caltrans assist the City in identifying other potential solutions and, ultimately, contribute to the cost of what the City chooses to implement. This request is not made in connection with a specific impact identified in the draft EIR/EIS but rather is suggested as a candidate for inclusion in a Community Benefits Agreement between the City and Caltrans. L-19-88

Arterial Roadway Maintenance in Proximity to Rail Yards. In view of considerable increase in truck traffic anticipated as the result of the project on Washington Boulevard, Atlantic Boulevard, Bandini Boulevard, and possibly other City roadways such as Sheila Street, the City requests that Caltrans establish funds to assist the City with the maintenance of these roadways in perpetuity. This will benefit the rail yards, truck operators traveling between the port complex and the rail yards, City businesses and industry, and City residents and visitors. L-19-89

Air Quality. The City of Commerce would experience localized air quality-related impacts from PM2.5 to sensitive receptors within 50 meters of the corridor compared to the existing 2008 baseline and within 100 meters compared to Alternative 1 (2035 No Build). The impact is related to fugitive dust as well as exhaust emissions. Impact areas include the ABC/Ayers and Northwest neighborhoods in the City of Commerce. The City of Commerce may also be subjected to adverse localized impacts during construction, pursuant to the findings of a construction localized significance threshold analysis using the SCAQMD's LST methodology. The CBA shall provide for an Air Quality Community Protection Plan that requires Caltrans to implement short term and long-term air quality protection measures that will reduce or avoid these impacts. The air quality protection measures should include the following:

- Adopt and adhere to Metro's Green Construction Policy for this project
- Provide enhanced street sweeping for impacted streets and neighborhoods using low-emission alternative-fueled or zero-emission street sweepers;
- Provide upgrades to residential air filtration systems and thc installation of new or upgraded HVAC systems for impacted residential receptors;
- Provide funds or subsidies for increased water usage by impacted residential receptors during construction in Commerce, to allow for regular washing of outdoor surfaces, vegetation, and furnishings as a means of dust reduction
- Provide for the temporary relocation of severely impacted residents during the most intense construction activities;
- Provide a community liaison that is available to investigate and address construction-related air quality issues in the affected community;
- Other appropriate mitigation or avoidance strategies.

L-19-90

Noise. Given that construction is expected to occur during the nighttime hours and that the City of Commerce is anticipated to experience the most intense construction activity, residents within the City of Commerce would be subjected to adverse construction noise levels during the nighttime hours that would potentially cause sleep disturbances. The CBA shall provide for a Noise Community Protection Plan that requires Caltrans to implement short-term noise protection measures that will reduce or avoid these impacts. The noise protection measures shall include the following:

- Provide mandatory sound walls/blankets;
- Provide construction-period noise monitoring;
- Provide for the temporary relocation of severely impacted residents during the most intense construction activities;
- Provide permanent upgradcs to residences (i.e., new window systems and other noise dampening strategies);

L-19-91

- Provide funds or subsidies for increased water usage by impacted residential receptors during construction in Commerce, to allow for regular washing of outdoor surfaces, vegetation, and furnishings as a means of dust reduction

L-19-91

- Provide a community liaison that is available to investigate and address construction-related noise issues in the affected community;

- Other appropriate mitigation or avoidance strategies.

Recreational Improvements for Displaced Park Patrons. Project construction will take place for an extended period of time in close proximity to, and for a period of time within, Bandini Park in the northwest part of the City. The City anticipates that construction will reduce the usability of the park by sports leagues and recreational users during this time. The City therefore requests that Caltrans conduct a study of the localized impacts on parks and recreational amenities within the City, and provide funds for improvements at other parks that may be required to host more teams and events. This may include the installation of nighttime lighting if a larger number of teams are required to use the same field, the construction of new recreational amenities (playing fields, bleachers, parking, etc.) at other parks to allow for more intensive use, and other measures.

L-19-92

Graffiti/Tagging Deterrents Incorporated into Freeway Soundwall Design. In light of the potential for proposed new freeway sound walls and retaining walls to be targets for graffiti and tagging, and the associated visual impact as well as the substantial costs that are borne by cities to eliminate graffiti/tagging after the fact, the City requests that preventative features be implemented and/or measures be taken to reduce such opportunities, and that Caltrans consult with the City concerning such features or measures during the project's design stage. Preventative features and measures may include, but may not be not limited to, the planting of ivy or other vines on sound walls, the landscaping of freeway rights of way with mature trees and shrubs to prevent access to freeway sound or retaining walls, and the use of decorative masonry surface treatments on these walls, and the establishment of funds for ongoing maintenance by the City of graffiti or tagging on these walls.

L-19-93

The City sincerely appreciates this opportunity to provide comments on the Draft EIR/EIR, and looks forward to continued cooperation from Caltrans as this project progresses and the Final EIR is prepared. Please contact Alex Hamilton, Assistant Director, Community Development Department, at alexh@ci.commerce.ca.us or (323) 722-4805 ext 2330, or Jorge Rifa, City Administrator, at jrifa@ci.commerce.ca.us or (323) 722-4805, with any questions.

Sincerely,

COMMERCE CITY COUNCIL

Honorable Lilia R. Leon, Mayor of the City of Commerce

Attachment 1:

Purchasing Power Loss from I-710 Relocations

Exhibit 1

Purchasing Power Loss from I-710 Relocations

Purchasing Power Calculation	Alternatives 6A/B/C			Sources
	Design Option 1	Design Option 2	Design Option 3	
Total Residential Unit Loss	111	38	32	Draft EIR
Average Household Income	$51,208	$51,208	$51,208	ESRI, 2011 Income and Demographic Profile
Total Project Gross Hhld. Income	$5,684,088	$1,945,904	$1,638,656	
Total From Occupied Units	$5,399,884	$1,848,608.80	$1,556,723.20	95%
Annual Hhld. Spending/Total Hhld. Income	86.52%	86.52%	86.52%	ESRI, 2011 Retail Goods and Services Expenditures
Annual Hhld. Spending	$4,671,981	$1,599,417	$1,346,877	
Total Taxable Spending/Total Spending	33.41%	33.41%	33.41%	ESRI, 2011 Retail Goods and Services Expenditures
Total Annual Taxable Spending	$1,560,909	$534,365	$449,992	
Total Annual Taxable Spending in Commerce	57.47%	57.47%	57.47%	HR&A (see below)
Purchasing Power Loss	**-$897,033**	**-$307,092**	**-$258,604**	

Derivation of Taxable Spending as Percentage of Household Income

Hhld. Spending Category	Amount	Percent	% of Household Purchases in City of Commerce	Taxable Purchases in City of Commerce
Hhld. Income Before Taxes	$51,208			
Annual Consumer Expenditures	$44,305			
Hhld. Expenditures/Income Before Taxes	86.52%			
Food Away from Home	$2,440	5.51%	50%	$1,220
Alcoholic Beverages	$418	0.94%	95%	$397
Household Furnishings & Equipment	$928	2.10%	50%	$464
Housekeeping Supplies	$501	1.13%	50%	$250
Apparel & Services	$1,278	2.88%	50%	$639
Transportation	$6,090	13.75%	50%	$3,045
Entertainment (less Fees & Admissions)	$1,890	4.27%	75%	$1,418
Personal Care Products & Services	$312	0.70%	95%	$296
Tobacco Products	$236	0.53%	95%	$224
Reading	$105	0.24%	95%	$100
Miscellaneous	$604	1.36%	75%	$453
Subtotal Taxable	$14,802	33.41%		$8,507
				57.5%

Source: ESRI; HR&A, Advisors Inc.

Attachment 2:

Geotechnical Review
I-710 Corridor Project

September 24, 2012
Project No. 208695001

Ms. Anne Doehne
PCR
80 South Lake Avenue, Suite 570
Pasadena, California 91101

Subject: Geotechnical Review
I-710 Corridor Project
City of Commerce, California

Dear Ms. Doehne:

In accordance with your request and authorization, we have performed a geotechnical peer review for the Interstate 710 (I-710) Corridor Project (Project) Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS) for the City of Commerce. The project generally involves proposed improvements to the I-710 freeway from its southerly terminus in the City of Long Beach to Interstate 60 in East Los Angeles, and includes proposed improvements within the City of Commerce. The Project corridor traverses two parts of the City of Commerce generally from Randolph Street to Slauson Avenue, and from the rail yard to Interstate 5 (I-5).

The purpose of our evaluation was to assess whether the potential geotechnical impacts of the project in the City of Commerce and proposed mitigation alternatives presented in the DEIR/DEIS have been appropriately addressed relative to California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) guidelines and industry standards of practice. Our evaluation has included review of geotechnical background materials, review of the referenced geotechnical study by URS, and review of the referenced sections of the DEIR/DEIS relevant to the City of Commerce.

PROJECT DESCRIPTION

The I-710 corridor project DEIR/DEIS presents several alternatives for the proposed project, Alternatives 5A, 6A, 6B and 6C. Each alternative builds on the one before it while including the

components of the previous alternatives. The general aspects of the alternatives presented in the Executive Summary and Alternatives section of the DEIR/DEIS are summarized below:

- Alternative 5A includes widening of the freeway to five general-purpose lanes in each direction, modernization of freeway and arterial interchanges, and modifications of freeway access.
- Alternative 6A adds two dedicated truck lanes in each direction, on new elevated structures and at grade depending on location.
- Alternative 6B assumes use of dedicated lanes by zero-emission trucks with automated control systems. This alternative would be built to accommodate eventual conversion to maglev.
- Alternative 6C assumes dedicated truck lanes would be toll use.

There are also three design options (Design Options 1, 2 and 3) proposed which apply to Alternatives 6A, 6B, and 6C and pertain to the portion of the I-710 between Slauson Boulevard in the City of Commerce and the I-710/I-5 interchange. The general aspects of the design options presented in the Executive Summary and Appendix O of the DEIR/DEIS are summarized below:

- Design Option 1 applies to Alternatives 6A/B/C and provides freeway access to/from Washington Boulevard via three ramp intersections.
- Design Option 2 applies to Alternatives 6A/B/C and provides freeway access to/from Washington Boulevard via two ramp intersections.
- Design Option 3 applies to Alternative 6B and relocates access to/from the freeway at Washington Boulevard. The existing ramps would be replaced with extended "freight corridor ramps" that would be built at Oak Street and Indiana Street, near the rail yards in the City of Commerce.

Based on our general understanding of the design options in the City of Commerce, structures for the Project will include at-grade roadway construction, bridges, and elevated lanes supported on pile foundations and retaining walls.

GEOTECHNICAL CONDITIONS

The following sections present a summary of the geotechnical conditions, potential impacts, significance findings and mitigation recommendations pertaining to the Project within the City of

Commerce based on our review of the referenced geotechnical study and referenced sections of the DEIR/DEIS. The documents reviewed do not specifically address potential impacts within the City of Commerce. However, generalizations are made regarding the northern end of the project corridor where the City of Commerce is located. These generalizations are included in the following sections. Where appropriate, supplemental comments are presented based on our review of referenced geotechnical background documents.

Site Geology

The geotechnical study by URS and Section 3.10 of the DEIR/DEIS indicate that the Project corridor is underlain by sandy alluvial soils containing silts, clays and gravel. The geologic map presented in Figure 2 of the URS report indicates that the Project corridor in the City of Commerce is underlain by unconsolidated alluvial floodplain deposits of silt, sand and gravel. The URS report states that the alluvial sediments underlying the Project are generally denser/harder in the northern part of the corridor (where the City of Commerce is located).

Groundwater

The URS report indicates that groundwater levels from Slauson Avenue to the north end of the Project corridor within the City of Commerce are generally more than 45 feet below the ground surface. Section 3.10 of the DEIR/DEIS generally indicates that groundwater deepens in the north part of the Project study area. The DEIR/DEIS states that groundwater levels in the Project vicinity are influenced by seasonal fluctuations, and that fluctuations in groundwater levels due to water district practices and long-term climatic conditions may lead to future changes in the water levels.

Surface Fault Rupture

Based on the information presented in the DEIR/DEIS and URS report, there are no active faults known to cross the Project corridor within the City of Commerce, and the Project corridor within the City of Commerce is not located in a State of California Earthquake Fault Zone.

Seismic Ground Shaking

The DEIR/DEIS and URS report indicate that the Project corridor will be subject to seismic shaking that could be damaging to bridges and other structures and, therefore, would influence the seismic design of the Project. The documents indicate that the Puente Hills and Upper Elysian Park blind thrust faults are located to the south and north of the City of Commerce, respectively; and are capable of generating maximum credible earthquake moment magnitudes of 7.3 and 6.4, respectively, using the Caltrans ARS online tool. The URS report indicates that the generalized peak ground acceleration from Slauson Avenue to Noakes Street in the City of Commerce ranges from 0.65 to 0.70g.

The DEIR/DEIS recommends that Projcct facilities can be designed to accommodate the expected ground accelerations through compliance with applicable building and seismic codes and, as a result, the potential for structural damage can be substantially reduced through seismic engineering design.

Liquefaction

According to Seismic Hazards Zones Maps published by the State of California (California Department of Conservation, Division of Mines and Geology [CDMG], 1999a and 1999b), the Project corridor within the City of Commerce roughly from Randolph Street to Slauson Avenue is located within an area considered susceptible to liquefaction. The maps indicate that the portion of the Project corridor from the rail yards to I-5 in the City of Commerce is not located in a State liquefaction hazard zone.

The DEIR/DEIS and URS report indicate that an approximately 0.8 mile portion of the Project corridor (roughly from the rail yards to I-5 within the City of Commerce) is not located in a State liquefaction hazard zone, and has a low potential for liquefaction. The DEIR/DEIS and URS report indicate that the portion of the Project corridor in the City of Commerce roughly from Randolph Street to Slauson Avenue is in an area considered to have a moderate potential for liquefaction.

The DEIR/DEIS states that when liquefaction occurs, the strength of soil decreases and the ability of soil to support bridge foundations are reduced; and liquefied soils can exert pressure on retaining walls, which can cause them to tilt or slide. The URS report states that the potential effects of liquefaction include reduction of vertical and lateral capacity, seismic settlement of soils and resulting downdrag loads on buried structures, additional lateral loads due to lateral spreading, instability and movement due to lateral spreading.

The DEIR/DEIS recommends that impacts to the facilities and structure due to liquefaction and seismically induced settlement can be substantially reduced based on design and construction, consistent with the recommendations of the detailed geotechnical investigations prepared during final design.

Collapsible Soils

The DEIR/DEIS and URS report indicate that it is not known whether collapsible soils are present in the Project corridor, since laboratory data were not available for the Project. However, the documents state that the Project area in not known to have collapsible soils. The URS report states that issues of bearing capacity, stability and settlement will be less in the north part of the project than in the south. The URS report recommends that site-specific laboratory testing should be performed for collapse potential during the subsurface investigation phase of the project.

Expansive Soils

The DEIR/DEIS and URS report indicate that laboratory data were not available for the Project regarding the expansion potential of site soils; however, based on data from existing bridges for sites along the Project corridor, the soils generally consist of coarse-grained materials that are not highly expansive, but some fine-grained soils susceptible to high degrees of expansion do exist. The URS report recommends that site-specific laboratory testing be performed for collapse potential during the subsurface investigation phase of the projcct.

Subsidence

Section 3.10 of the DEIR/DEIS does not address the issue of subsidence. The URS report indicates that historic subsidence was documented in areas of Long Beach at the southern end of the Project corridor, and that the subsidence was successfully arrested in the late 1960s. The URS report and our review of background information do not indicate that historic subsidence occurred in the north part of the Project corridor in the City of Commerce.

Landslides and Earthquake-Induced Slope Instability

The DEIR/DEIS indicates that with the exception of the freeway embankments and embankments and levees of the Los Angeles river, the topography of the Project corridor is relatively flat with no natural slopes. The DEIR/DEIS states that earthquake-induced slope instability in not a major factor in the design and construction of the Project, except in areas where there is a potential for liquefaction. The URS report indicates that earthquake-induced slope instability associated with liquefaction and lateral spreading is an issue in areas of moderate or high liquefaction potential and near slopes such as the Los Angeles river embankments. Based on our background review, the Project corridor is adjacent to the Los Angeles river roughly between Randolph Street and Slauson Avenue in the south part of the City of Commerce. Further, this portion of the City of Commerce is located in an area indicated in the URS report to have a moderate liquefaction potential. The URS report recommends that detailed site-specific data and analyses are needed to address this issue and should be performed during project design.

CONCLUSIONS

Our evaluation included review of published geologic and seismic data, review of the referenced URS report, and review of the referenced sections of the DEIR/DEIS document. In general, it is our opinion that these documents have appropriately addressed the primary geotechnical impacts per CEQA/NEPA guidelines. However, the potential impacts and possible mitigation recommendations of some geotechnical issues not on the CEQA checklist are not addressed in the DEIR/DEIS and URS report. Therefore, we have addressed other issues that, in our opinion, may

impact the City of Commerce and present a discussion of these issues in the following section of this report.

The primary mitigation measure included in the DEIR/DEIS (GEO-1) indicates that *"Prior to completion of final design, Caltrans will prepare a design-level geotechnical report. This report will document soil-related constraints and hazards such as slope instability, settlement, liquefaction or related secondary seismic impacts that may be present. The report shall also include: Evaluation of expansive soils and recommendations regarding construction procedures and/or design criteria to minimize the effect of these soils on development of the project; Identification of potential liquefiable areas within the project limits and recommendations for mitigation; Demonstration that the design of all proposed retaining walls is geotechnically suitable for project area soils."* Typically, site-specific geotechnical impacts and recommendations are generalized at the DEIR/DEIS stage of a project, and are addressed in detail at the design stage. Therefore, it is our opinion that this mitigation measure is an appropriate recommendation to address the potential geotechnical impacts related to construction of the project.

Based on our background review, the three design options that are proposed in the City of Commerce in the vicinity of Washington Boulevard and the I-710 (Design Options 1, 2 and 3) will be constructed within a similar geologic environment with generally similar subsurface conditions. Therefore, in our opinion, the geotechnical impacts of the proposed design options would be dependent on the type and amount of construction performed for each option, and will generally not be dependent on the location of the constructed improvements.

ADDITIONAL GEOTECHNICAL CONSIDERATIONS

Based on our review of geotechnical background information, the URS report, and the DEIR/DEIS, we have prepared the following assessment of potential impacts and mitigation methods for the Project corridor within the City of Commerce.

The geotechnical study for the project by URS discusses potential foundation options for bridges and retaining walls for the project. The study recommends that the selection of bridge foundation alternatives will be based on foundation loading and site-specific conditions, and the design will

be based on site-specific geotechnical evaluation. Various options for retaining walls and associated foundation alternatives are presented in the geotechnical study. However, the potential impacts of the various design alternatives are not addressed in the URS report, nor are they addressed in Section 3.10 of the DEIR/DEIS. Construction activities for the Project corridor could pose additional impacts to properties in the City of Commerce and are addressed in the following sections.

Soil Erosion

Soil erosion refers to the process by which soil or earth material is loosened or dissolved and removed from its original location. Erosion can occur by varying processes and can occur in the project area where bare soil is exposed to wind or moving water (both rainfall and surface runoff). The processes of erosion are generally a function of material type, terrain steepness, rainfall or irrigation levels, surface drainage conditions, and general land uses. Construction of the Project would result in ground surface disruption during demolition, excavation, grading, and trenching that would create the potential for erosion to occur. However, with incorporation of appropriate mitigation methods, potential soil erosion can have a less than significant impact.

To mitigate potential erosion at the Project site, a Storm Water Pollution Prevention Program (SWPPP) incorporating Best Management Practices (BMPs) for erosion management should be implemented prior to the start of construction. In addition, the topographic gradients at the project site are relatively gentle. The site would be covered with hardscape and landscape improvements following construction, and the impact of long-term erosion would be less than significant.

With the implementation of BMPs incorporated in the project SWPPP during construction, water- and wind-related soil erosion can be limited and managed within construction site boundaries. Examples of these procedures could include surface drainage measures for erosion due to water, such as the use of erosion prevention mats or geofabrics, sandbags and plastic sheeting, and temporary drainage devices. Positive surface drainage should be accommodated at project construction sites to allow surface runoff to flow away from site

improvements or areas susceptible to erosion. To reduce wind-related erosion, wetting of soil surfaces and/or covering exposed ground areas and soil stockpiles could be considered during construction operations, as appropriate. The use of soil tackifiers may be considered to reduce the potential for water- and wind-related soil erosion.

Groundwater and Construction Dewatering

The DEIR/DEIS and URS report indicate that the depth to groundwater along the Project corridor in the City of Commerce is more than 45 feet deep. Foundation excavations near this depth will encounter groundwater. Additionally, shallow perched groundwater may be encountered in excavations for the Project, and construction dewatering would be involved to maintain the excavations in a relatively dry condition. Lowering the groundwater results in an increase in the effective stress of soil above the groundwater and, in some cases, can result in soil settlement. Estimates of the magnitude of potential settlement related to dewatering should be made prior to site excavation, and mitigation recommendations should be implemented, as needed. The potential impacts of settlement related to construction dewatering can be made less than significant with incorporation of appropriate mitigation methods.

Mitigation methods include limiting the depth of construction dewatering, installation of sheet piles and pumping from within the excavation to reduce the impacts outside the excavation, installation of monitoring wells to evaluate groundwater, monitoring adjacent areas for indications of settlement, and/or protection to settlement-sensitive structures through ground improvement or foundation underpinning (if appropriate).

Liquefaction Mitigation and Construction Activities

Typical mitigation alternatives for liquefaction include supporting structures on cast-in-place pile foundations or driven pre-cast piles that extend through the liquefiable zones into competent material. Alternatively, densification of the liquefiable soils using vibro-displacement stone columns or compaction grouting would mitigate the liquefaction hazard, and the new structures could then be supported on shallow foundation systems. From a geotechnical en-

gineering perspective, each of these alternative methods are considered feasible, and would reduce the liquefaction hazard impact to less than significant levels.

However, construction activities to mitigate the potential liquefaction hazard for the Project and installation of pile foundations could pose additional site impacts. Depending on the type of liquefaction hazard mitigation and pile foundations selected, construction-related vibrations could impact surrounding properties. In addition, excavations may include shoring systems, which could involve the use of driven sheet piles. The installation of driven piles or vibro-displacement stone columns for liquefaction mitigation, and installation shoring systems (such as sheet piles) involves construction vibrations, which can result in disturbance to people and/or ground settlement.

Sensitive receptors (people and structures) located near the Project could be impacted by vibrations and ground settlement. However, the impacts of vibrations and ground settlement to surrounding improvements due to construction activities at the project site will be reduced to less than significant levels with incorporation of mitigation techniques.

In order to mitigate the potential impacts due to vibrations during the construction phase of the Project, sensitive receptors (people and structures) near the Project would be evaluated with regard to potential vibration-related impacts. If vibrations would impact the receptors, mitigation techniques shall be implemented at that time. Mitigation techniques to reduce the impacts of vibrations to less than significant levels include avoiding vibratory types of construction, limiting vibratory types of construction to specified distances from sensitive off-site receptors, monitoring vibration and settlement during construction, and/or protecting sensitive improvements from excessive settlement by ground stabilization or foundation underpinning.

Monitoring methods include installation of ground survey points around the outside of excavations to monitor settlement and/or placing monitoring points on nearby structures or surfaces to monitor performance of the structures. In general, acceptable levels of settlement would be ½ inch or less in non-building areas, and ¼ inch or less for building areas. If moni-

tored movement is unacceptable to surrounding improvements during the course of construction, the work shall stop and the contractor's methods shall be reviewed and changes made, as appropriate; and alternative methods of settlement reduction shall be implemented by the contractor.

Excavations

Based on our background review, we anticipate that the materials encountered in excavations for the Project in the City of Commerce will be comprised predominantly of unconsolidated alluvial soils with various amounts of silt, sand and gravel. We anticipate that excavations within the alluvial materials at the project site will be feasible with conventional grading equipment.

Unsupported steep excavations in the alluvial sediments for the Project may be susceptible to caving, which would be a safety hazard and could damage nearby improvements. Excavations for proposed Project improvements should be performed with care to reduce the potential for undermining or differential movement of pavements, adjacent utilities, hardscape, buildings and other improvements located near the excavations. Shoring will be utilized in excavations for the Project to provide adequate stability. With appropriate shoring systems incorporated during construction, excavations along the Project alignment would not result in a significant impact to surrounding improvements.

We anticipate that the Project excavations will be cordoned, fenced or covered during construction operations, such that the public will not be exposed to the impacts of excavations. Construction personnel may be exposed to the impacts of excavations, and appropriate safety measures would reduce potential impacts to site personnel. Since excavations will be filled following construction, the proposed Project would not result or expose people to impacts related to excavations after construction of the Project.

Limitations

The geotechnical analyses presented in this report have been conducted in accordance with current engineering practice and the standard of care exercised by reputable geotechnical

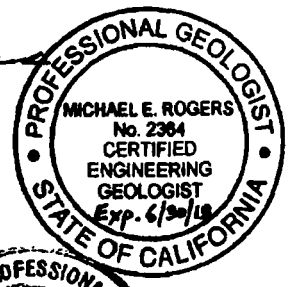
consultants performing similar tasks in this area. No warranty, implied or expressed, is made regarding the conclusions, recommendations, and professional opinions expressed in this report. Variations may exist and conditions not observed or described in this report may be encountered. Our preliminary conclusions are based on an analysis of the referenced background information.

The purpose of this study was to evaluate geologic and geotechnical conditions within the City of Commerce to assist in evaluating the environmental impact documents for the project. A comprehensive geotechnical evaluation, including subsurface exploration and laboratory testing, should be performed prior to design and construction of the project.

We appreciate the opportunity to be of service on this project.

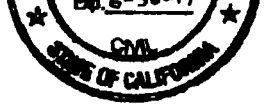
Respectfully submitted,
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MER/CAP/JV/sc

Attachment: References

Distribution: (1) Addressee (via-email)

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L-19-1

The California Department of Transportation (Caltrans) acknowledges the City of Commerce's comments regarding the benefits of the Interstate 710 (I-710) Corridor Project.

L-19-2

Caltrans acknowledges the City's concerns regarding the project effects on the City in proportion to the benefits of the project accrued to the City. The project effects related to property acquisition and displacements, tax revenue losses, disruptions to local traffic, and increased air emissions and noise levels are discussed in the relevant sections of the Recirculated Draft EIR/Supplemental Draft EIS (RDEIR/SDEIS). Responses to individual City comments related to the project effects are provided in Responses to Comments L-19-3 through L-19-93, below.

L-19-3

Caltrans acknowledges the City's concern regarding short- and long-term effects of air quality on near-roadway sources. Construction-related air quality emissions are discussed in Section 3.24.3.13, Air Quality, in the RDEIR/SDEIS. The emissions described in Section 3.24.3.13 and in Table 3.24-4 are based on the types of construction activities and construction periods that are representative of the effects that would occur in the City of Commerce in areas adjacent to construction activities for the I-710 Corridor Project. Single-segment construction NO_x emissions have already been identified as exceeding the SCAQMD's construction emission significance threshold. Measures to address those air quality effects are described in Section 3.24.4.13. The project construction contractors would be required to comply with those measures during project construction activities. Additionally, construction of the proposed project would follow the Caltrans and SCAQMD standard conditions for reducing fugitive dust emissions.

For long-term (operational) air quality effects, a revised set of build alternatives (Alternative 5C and Alternative 7) have been evaluated in the revised AQ/GHG/HRA. Project-funded zero-emissions/near zero-emissions (ZE/NZE) trucks along the I-710 are included in both Alternative 5C and 7, and a dedicated ZE-only freight corridor is a design option for Alternative 7. Based on the revised AQ/GHG/HRA, both build alternatives show the air quality and health benefits compared to the 2012 Baseline and 2035 No Build Alternative, particularly for NO_x and diesel particulate matter (DPM).

L-19-4

Caltrans, Metro, and the other I-710 Corridor Project funding partner agencies are extremely appreciative of the time and effort that the Coalition for Environmental Health and Justice

(CEHAJ) invested in developing the proposed Community Alternative 7 and acknowledge the City of Commerce's support of this alternative. The I-710 Corridor Project funding partner agencies share the goals described within their comments to: (1) protect community health in an already overburdened part of Los Angeles County, and, (2) identify an alternative that performs better environmentally while achieving traffic safety, enhancing goods movement, and reducing congestion. As discussed in the Responses to Comments IP-22-1 through IP-22-23 and as described in Chapter 2.0 of the RDEIR/SDEIS, many of the components of Community Alternative 7 have been integrated into Alternative 7. As further discussed in the responses to subsequent comments below, those components of Community Alternative 7 that have not been integrated into Alternative 7 are addressed in other programs and projects being undertaken by Metro and/or the Gateway Cities COG.

L-19-5

This comment requests a more detailed plan to show specifically how Caltrans will prioritize efforts to relocate businesses within the City of Commerce. The RDEIR/SDEIS includes mitigation for Caltrans to follow the Uniform Act, which includes relocating businesses (refer to Mitigation Measure C-1) within the same city as to keep jobs and tax revenues within affected cities.

L-19-6

Caltrans acknowledges the City's support of the zero emissions freight corridor and its request that it be made a mandatory feature of the project. This comment also requests that the ZEE design option (and its associated infrastructure) be extended beyond the freeway mainline onto the truck ramps within the City, as close to the rail yards as possible. A revised set of build alternatives (Alternative 5C and 7) are being carried forward in the RDEIR/SDEIS. Project-funded ZE/NZE trucks along the I-710 Corridor are a component of both Alternatives 5C and 7, and Alternative 7 includes a ZE/NZE freight corridor. Based on the revised AQ/GHG/HRA, both build alternatives show air quality and health benefits compared to the 2012 Baseline and 2035 No Build Alternative, particularly for NO_x and diesel particulate matter (DPM), compared to the No Build Alternative. $PM_{2.5}$ emissions along the I-710 are lower in all 2035 alternatives compared to the 2012 Baseline. Compared to the No Build Alternative, Alternative 7 has the greatest increase in $PM_{2.5}$ emissions (over three times greater increase than Alternative 5C). This is due to the VMT-related increases of entrained road dust and, to a lesser extent, brake/tire wear. (In 2035, exhaust emissions are a very small fraction of overall $PM_{2.5}$ traffic emissions.) Section 2.3.2.1 in the RDEIR/SDEIS describes the commercial feasibility of zero emission truck technology and includes reference to the I-710 Project Zero-Emission Truck Commercialization Study.

L-19-7

Caltrans acknowledges the City's support of the new interchange proposed at Slauson Ave. in combination with retention or improvement of the I-710/Washington Blvd. interchange. The revised build alternatives included in the RDEIR/SDEIS has revised the design at the Slauson Ave. interchange. This redesign includes reconstruction of Slauson Ave., including the freeway overcrossing from the Los Angeles River to approximately 700 feet east of the existing LAJ at-grade crossing. Alternative 7 includes a partial freight corridor-only interchange. Additionally, under Alternatives 5C and 7, the removal of the I-710/Washington Blvd. interchange has been withdrawn from further consideration. Caltrans will make every effort to avoid and/or minimize acquisition of commercial, industrial, and public property associated with improvements at the I-710/Washington Blvd. interchange.

L-19-8

Caltrans acknowledges the City's support of Community Alternative 7. Please see Response to Comment L-19-4.

L-19-9

Under the revised set of build alternatives included in the RDEIR/SDEIS, the removal of the I-710/Washington Blvd. interchange has been withdrawn from further consideration. Based on updates to the project design, improvements at the I-710/Washington Blvd. interchange include:

- Reconstruction of the interchange, including undercrossing and all entrance and exit ramps, and construction of one-way, access controlled streets between the ramp intersections and Sheila St.

- Reconstruction of the interchange from west of Ayers Ave. to west of Atlantic Blvd., including access control on Washington Blvd. between ramp intersections.

This revised design information is provided in Tables 2.3-3 and 2.3-4 of the RDEIR/SDEIS. Impacts related to this revised design are discussed in Section 3.1 (Land Use) and Section 3.3 (Community Impacts) of the RDEIR/SDEIS.

L-19-10

This information has been incorporated into Section 3.3 of the RDEIR/SDEIS and has been updated to address potential community character and cohesion impacts to the northwest neighborhood in the City of Commerce.

As stated in Section 3.3.1, the Draft EIR/EIS did in fact acknowledge the additional impacts to Commerce that would result from implementation of Alternatives 6A/B/C due to the increased right-of-way required for the four-lane freight corridor and concludes that the Alternatives 6A/B/C would result in an adverse impact to the City of Commerce community cohesion as a result of relocations. Also, Section 3.3.2.3 of the Draft EIR/EIS currently identifies a lack of comparable replacement housing within the city of Commerce and states that Last Resort Housing may be considered as a method of providing comparable replacement housing to displaced persons who reside in areas where the replacement housing is low. Refer to Section 3.3.2.3 for updated information regarding impacts, as well as Section 3.3.2.4, which describes the mitigation for relocations.

The comment also requests that Caltrans commit to the relocation of all Commerce residents within the City of Commerce. Caltrans will follow the provisions of the Uniform Act and every effort will be made to relocate residents within the affected city.

L-19-11

The comment requests Caltrans consider a list of provisions for relocations within the City of Commerce. As stated in the Section 3.3.2.3 of the RDEIR/SDEIS, Caltrans has already identified a lack of comparable replacement housing within the City of Commerce and that Last Resort Housing may be considered as a method of providing comparable replacement housing to displaced persons who reside in areas where the replacement housing is low. Refer to Section 3.3.2.3 for additional detail, as well as Section 3.3.2.4, which describes the mitigation for relocations. Please refer to Appendix D, Summary of Relocation Benefits, for a description of the assistance provided per the Uniform Relocation Act to any and all displaced persons as a result of the project.

L-19-12

Refer to Response to Comment L-19-9, above, for detailed discussion regarding the I-710/Washington Blvd. interchange and specific issues associated with that interchange.

L-19-13

Refer to Response to Comment L-19-9, above, for detailed discussion regarding the I-710/Washington Blvd. interchange and specific issues associated with that interchange.

L-19-14

Refer to Response to Comment L-19-9, above, for detailed discussion regarding the I-710/Washington Blvd. interchange and specific issues associated with that interchange.

L-19-15

Under Alternative 7, construction of one-way, access controlled streets between the Washington Blvd. ramp intersections and Sheila St. is proposed.

L-19-16

Under the proposed zero emission technology described in Section 2.3.2.1 of the RDEIR/SDEIS, trucks may continue to operate in zero emission mode even after they exit the proposed ZE/NZE freight corridor featured in Alternatives 7. The revised build alternatives and ZE/NZE truck program are both characterized as "technology neutral".

L-19-17

This comment requests additional technical studies and opportunities for the City to review those studies. Each of those requested studies is addressed below.

Transportation Management Plans. Although the Transportation Management Plan is not a technical study, the RDEIR/SDEIS has revised Measure CON-U&ES-1 (Appendix F and Section 3.24.4.4) to add coordination of all temporary ramp closures and detour plans with individual City and County Departments of Public Works, as well as emergency services providers prior to any construction in jurisdictions where there will be temporary detours or other indirect effects on local streets in those jurisdictions.

Specific Utility Relocation Plans. Although Specific Utility Relocation Plans are not technical studies, the RDEIR/SDEIS has revised Measures CON-U&ES-1 and U&ES-2 to add consultation with individual City and County Departments of Public Works regarding the Specific Utility Relocation Plans prior to any utility relocation work in those jurisdictions.

Southern California Edison Bandini Substation Relocation. Please refer to the revised Section 3.4 of the RDEIR/SDEIS for an updated discussion of utility impacts under the revised build alternatives.

Comprehensive Utility Relocation Study. As noted in Section 3.4 of the RDEIR/SDEIS, Metro has conducted three comprehensive utility relocation studies for the South, Central,

and North segments of I-710 that were used to prepare Section 3.4 of the RDEIR/SDEIS. The technical studies are available at the following link: http://www.dot.ca.gov/d7/env-docs/.

Final Los Angeles River Impact Study. Because the revised build alternatives minimized impacts to the Los Angeles River, a revised "Los Angeles River Impact Report" was not prepared; however, the referenced analysis can be found in the *Flood Control Facilities Report* (January 2017), available at the above link.

Water Quality and Stormwater Best Management Practices. Measure WQ-1 (Section 3.9.4 and Appendix F of the RDEIR/SDEIS has been updated to state that during final design, Caltrans will consult with the jurisdictions where discharges of runoff from I-710 to local jurisdictions' streets and/or storm water drainage systems will occur regarding the project design development, treatment, and operational BMPs in those local jurisdictions.

Air Quality Localized Construction Analysis. The construction phasing, daily equipment, daily haul trucks, and duration (8 to 15 years) needed to conduct the construction-related analysis of criteria pollutants and MSATs are currently unknown. Therefore, as stated in the AQ/HRA technical report and Section 4.13 of the RDEIR/SDEIS, the worst-case construction emissions were estimated using the Sacramento Metropolitan Air Quality Management District (SMAQMD) Construction Emission Model (Version 6.3.2). Any estimate of the health risk, PM mortality/morbidity, or daily construction impacts would be speculative, inaccurate, and misleading.

L-19-18

The comment requests additional review of the City of Commerce 2020 General Plan Elements and additional detail provided in Section 3.1.1 of the Draft EIR/EIS. The RDEIR/SDEIS has been updated to provide additional goals and policies of applicable General Plan Elements for the City of Commerce 2020 General Plan.

L-19-19

Sections 3.3.1 and 3.3.2 provide a discussion of community character and cohesion and relocations required within each city under the build alternatives and design options. The RDEIR/SDEIS concludes that community cohesion impacts occur at a localized level within Commerce, Bell, and Long Beach due to relocations of existing cohesive communities. In addition, Section 3.3.2.3 discusses the lack of comparable replacement housing within the cities of Commerce, Vernon, and for mobile homes specifically in Compton, and that Last Resort Housing may be considered for these cities as a method of providing comparable replacement housing to displaced persons who reside in areas where the replacement housing is low. Refer

to Section 3.3.2.3 for additional detail, as well as Section 3.3.2.4, which describes the mitigation for relocations.

L-19-20

Based on the updated CIA, the City of Commerce may require the need for Last Resort Housing. Please refer to Section 3.3.7 of the RDEIR/SDEIS for more updated information regarding relocations in the City of Commerce.

L-19-21

Sections 3.1.3 and 3.3.1 provide the evaluation of potential impacts at Bandini Park, Atlantic and Bristow Park branch libraries, Bandini Elementary School, the Dorothy Kirby Confinement Center, and places of worship located within 0.5 mile of the Study Area. However, the Commerce Teen Center, which is located outside of the Focused Study Area (i.e., more than 0.5 mile away from project improvements, which is beyond the limits of project noise impacts), was not evaluated. The evaluation provided in the Draft EIR/EIS includes discussions regarding whether the build alternatives would result in a potential direct and/or indirect impact (e.g., visual impact). Please refer to these sections for additional detail.

L-19-22

Table 3.3-10 (Section 3.3.2.3) in the RDEIR/SDEIS provides the potential number of relocations by build alternative. However, according to the revised CIA, the build alternatives will result in relocations in the City of Commerce:

It has been determined that there may be a need for Last Resort Housing within the City of Commerce. Please see Section 3.3.2 of the RDEIR/SDEIS and the revised *Relocation Impact Report* for more detailed information.

L-19-23

This comment requests an explanation of how the City's comments on the NOP were addressed in the Draft EIR/EIS. These specific requests and Caltrans' responses are as follows:

- **Coordination between I-5 and I-710 Improvement Projects:** Monthly meetings were, and will continue to be, held, involving Caltrans, Metro, the Gateway Cities COG, the I-5 Joint Powers Authority (JPA), the City of Commerce, and the County of Los Angeles on behalf of East Los Angeles to discuss the I-710 and I-5 projects and to ensure coordination of project design, consistent treatment of issues of concern to the

community, and the consistency of assumptions and technical analyses. This coordination is reflected in the project design.

- **Minimization of Impacts to Areas That Bring in Sales Tax Revenue:** To the extent possible, impacts to sales tax revenue generating uses were avoided. In cases where an impact was unavoidable, Caltrans worked to minimize the impact by acquiring small portions of property in lieu of full acquisitions. Various coordination meetings were held throughout the life of the project, including meetings with the City of Commerce, to receive City input on project design and its associated impacts. This coordination is reflected in the project design.
- **Minimization of Impacts to the ABC/Ayers Neighborhood and the Northwest Neighborhood:** Although impacts to the Ayers neighborhood have been reduced, Alternative 7 still results in impacts to this neighborhood. Please refer to Section 5.6 of the revised CIA for more detail.
- **Minimize Impacts to Road Access within the City:** Under Alternative 5C, the reconstruction of the Slauson Ave. overcrossing is proposed and would improve access for residents in the western part of the City of Commerce. In addition, the Leonis St. pedestrian undercrossing is proposed to be replaced connecting the residential areas in the Bandini-Rosini and West Planning Areas to preserve the connectivity and access to Bandini Park for residents east of the I-710 mainline. Also, the Interstate 5 (I-5) pedestrian overcrossing connecting Bristow Park in the City of Commerce to unincorporated East Los Angeles would also be maintained. Please refer to Section 5.6 of the revised CIA for more detail.

Comments received on the NOP have been incorporated in the RDEIR/SDEIS. Mitigation measures to address impacts to the City are discussed throughout Chapter 3.0, as well as in Appendix F.

L-19-24

This comment requested clarification on the methodologies used to estimate potential sales tax and property tax impacts. The economic analysis was developed through a combination of sources, which include the Taxable Sales Report from the State Board of Equalization, information provided by the Los Angeles County Auditor-Controller's and Tax Collector's Offices, labor force data from the State Employment Development Department, the 2000 Census, and the U.S. Census Bureau, 2002 Economic Census.

Property tax revenue loss was evaluated, using paid property tax data paid for the fiscal year 2008–2009, for each parcel that may be potentially acquired and relocated in the City of

Commerce. This data was provided by the Office of the Los Angeles County Tax Collector. For this analysis, the property tax revenue is the total property tax amount collected by the Los Angeles County Tax Collector for each City before it is distributed to the City and other agencies.

Sales tax revenue loss was evaluated using the average sales tax revenue that was determined by dividing the total taxable sales by the total number of businesses that operate in the City. Then percentage breakdowns were provided applying the sales tax rate for 2014 within the City of Commerce at 9.5 percent, of which 6.5 percent was distributed to the State, 1.5 percent was distributed to the local jurisdictions, and 1.5 percent was distributed to Metro.

Please refer to the revised CIA for a description of the potential sales tax revenue impacts to the City of Commerce.

L-19-25

This comment requests that Caltrans coordinate with the City to develop measures to be incorporated into a Community Benefits Agreement that includes mitigation for disproportionate impacts of potential sales tax and property tax loss to the City (also see Comment L-19-87). Please refer to Response to Comment L-19-24 for a discussion on the loss of sales tax revenue in the City of Commerce. There is no legal requirement for Caltrans to enter in to a Community Benefits Agreement with the City of Commerce or any other affected agency. Mitigation for displacements will be provided in accordance with the Uniform Act, and Caltrans and Metro will continue to work collaboratively with all affected agencies through the I-710 Corridor Project committees and the Gateway Cities COG to implement the project, if a build alternative is selected.

L-19-26

This comment requests specific information on several aspects of the Environmental Justice analysis. Responses to these issues are as follows:

- Calculations for the number of construction jobs generated in the City were derived from the American Road and Transportation Builders Association (ARTBA). ARTBA estimates every $1 billion invested in highways supports 27,823 jobs, including 9,537 on-site construction jobs, 4,324 jobs in supplier industries, and 13,962 jobs throughout the rest of the economy.
- The potential loss of permanent jobs within the City can be found in table 3.3-14 of Section 3.3.2.3 of the RDEIR/SDEIS. Caltrans strives to ensure that displaced businesses will be relocated, pursuant to the Uniform Relocation Assistance and Real

Property Acquisition Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894).

- The RDEIR/SDEIS includes mitigation for Caltrans to follow the Uniform Act, which includes every effort to relocate businesses (refer to Mitigation Measure C-1) within the same city as to keep jobs and tax revenues within affected cities. Indirect impacts to communities as a result of the build alternatives are discussed in Section 3.3, Community Impacts, of the RDEIR/SDEIS. It should be noted that the removal of the I-710/Washington Blvd. interchange has been withdrawn from further consideration (as discussed in Section 2.4 of the RDEIR/SDEIS).

L-19-27

The RDEIR/SDEIS includes mitigation for Caltrans to follow the Uniform Act, which includes relocating businesses (refer to Mitigation Measure C-1) within the same city as to keep jobs and tax revenues within affected cities. There is no legal requirement for Caltrans to enter in to a Community Benefits Agreement with the City of Commerce or any other affected agency. Mitigation for displacements will be provided in accordance with the Uniform Act, and Caltrans and Metro will continue to work collaboratively with all affected agencies through the I-710 Corridor Project committees and the Gateway Cities COG to implement the project, if a build alternative is selected.

L-19-28

Section 3.3.2 of the RDEIR/SDEIS has been updated to summarize the revised *Relocation Impact Report*, which accounts for all potential relocations within the Study Area, including the City of Commerce. In addition, the number of residential units and persons that could also be displaced has also been included in Section 3.3.2.3 at the comments request. The average household size is based on the U.S. Census for each city.

L-19-29

The comment requests specific mitigation for impacts related to relocations to the City of Commerce. Please refer to Response to Comment L-19-27 regarding mitigation through the Uniform Act.

L-19-30

Measure CON-TR-1 (Section 3.24.4.5) in the RDEIR/SDEIS requires the preparation and implementation of a TMP. Measure CON-TR-1 identifies key components of the TMP. The complete TMP will be developed during final design and part of that process will be the

coordination of the TMP components, such as ramp and street closures and detours with the applicable local jurisdictions to help reduce traffic impacts in areas near the construction activities. As a result, each local jurisdiction will be provided an opportunity to work with Caltrans and the construction contractor to identify local street and lane closures and detours to minimize the effects of those activities in each community. Also, refer to Response to Comment L-19-17, above.

L-19-31

As noted in Measure CON-TR-1 (Section 3.24.4.5), the purpose of the TMP is to address short-term traffic impacts during construction. As a result, the TMP will address transportation issues (traffic, pedestrian, bicycle, emergency vehicles, rail) at all locations where project-related traffic and the construction areas would impact some or all of those transportation modes. This will include temporary street closures, temporary detours, lane reductions, etc., at locations adjacent to or in the vicinity of the construction limits. The construction staging areas are considered to be within the construction limits and, as a result, construction traffic into/out of staging areas and measures to minimize the effects of that traffic on local traffic will be considered in the TMP. As a result, no changes were made to any measures in response to this comment.

At this point in project development, it would be speculative to identify possible phasing for each of the build alternatives. Upon identification of a preferred alternative, phasing and staging concepts may be advanced to estimate construction duration, identify staging areas, identify required closures, and assess traffic access during construction.

L-19-32

This comment expresses concern about the loss of emergency access under Design Option 3 at the I-710/Washington Blvd. interchange. As discussed above in Response to Comment L-19-9, Design Option 3 has been withdrawn from further consideration.

L-19-33

This comment requests a more detailed analysis of impacts to emergency access in the City of Commerce. Please see Section 3.4.2.1 in the RDEIR/SDEIS for the updated analysis of impacts to emergency access in the City of Commerce based upon the revised design of the build alternatives.

L-19-34

Refer to Response to Comment L-19-17, above, regarding City review of the specific utility relocation areas.

L-19-35

Refer to Response to Comment L-19-17, above, which describes changes made to the RDEIR/SDEIS regarding the relocation of the SCE substation, including the addition of Measure U&ES-2.

L-19-36

The Comprehensive Utility Relocation Study is being prepared as part of the Project Report for the I-710 Corridor Project. The Project Report will be used to direct the final design of a selected project. The final design will reflect the findings and recommendations from the various studies prepared in support of and attached to the Project Report including geotechnical reports, a *Storm Water Data Report*, Initial Site Assessments, a Modified Access Report-Acceptability, Railroad Conceptual Approval, and/or Structure Advanced Planning Studies, as appropriate for a given project. The RDEIR/SDEIS is an attachment to the updated Project Report which is available upon request from Caltrans District 7. The Specific Utility Relocation Studies required in Measure U&ES-2 will address specific issues associated with the relocation of each major utility as a result of the build alternatives. As a result, a separate measure requiring the preparation of the Comprehensive Utility Relocation Study in the RDEIR/SDEIS is not needed.

L-19-37

The regulatory discussion in each subsection in Chapter 3.0, including Section 3.5, is intended to describe existing regulations that specifically address the identified parameters. There are no regulations regarding transit and, therefore, there is no discussion of transit in the regulatory setting sections in Chapter 3.0.

As described at the beginning of Chapter 4.0, California Environmental Quality Act, the proposed project is a joint project by Caltrans and the Federal Highway Administration (FHWA) and is subject to State and Federal environmental review requirements. The project environmental documentation has been prepared in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the Lead Agency for the I-710 Corridor Project under CEQA and NEPA. A primary difference between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS or some lower level of documentation will be required. NEPA requires that an EIS be prepared when the proposed Federal action (project) as a whole has the

potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important. NEPA does not require that a determination of significant impacts be stated in the environmental documents. For comparison under NEPA, Alternative 1 provides the basis for comparison of 2035 No Build conditions with the 2035 build alternatives.

CEQA requires Caltrans to identify each "significant effect on the environment" resulting from a project and ways to mitigate each significant impact. If the project may have a significant effect on any environmental resource, an EIR must be prepared. Every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In making determinations of significance under CEQA, the impacts of the build alternatives are analyzed relative to Baseline conditions which, for the I-710 Corridor Project, were the existing conditions in the I-710 Corridor Study Area when the NOP was issued in 2008. However, the revised AQ/GHG/HRA and revised traffic analyses have been updated to include 2012 as their Baseline for analysis. Information in the RDEIR/SDEIS has been updated to reflect these changes.

The analysis of project impacts under CEQA in Chapter 4.0 is based on the CEQA checklist provided in Appendix A. Caltrans has not adopted specific thresholds of significance for determining whether an impact is significant. Instead, the determination of significance is based on the context of the checklist questions.

As a result, no specific thresholds of significance under NEPA are identified in Chapter 3.0 in the RDEIR/SDEIS for the impact categories cited in this comment. However, standards such as level of service (LOS) are included as a guideline for analysis and measurement of impacts in Section 3.5. Assessment of the significance of the project effects under CEQA is provided in Chapter 4.0, based on answers to the questions in the CEQA checklist in Appendix A.

L-19-38

Please refer to Response to Comment L-19-37, above, for discussion regarding comparison of the with-project conditions under CEQA (to the 2008 existing conditions) and NEPA (to the 2035 No Build Alternative).

L-19-39

This comment requests that impacts to bicycle and pedestrians due to increased traffic volumes on arterials be addressed and evaluated against appropriate significance criteria. Please see

Section 3.5.3.1 of the RDEIR/SDEIS for an expanded discussion of impacts to existing pedestrian and bicycle facilities.

L-19-40

The discussion in Section 3.5 of the RDEIR/SDEIS has been revised in response to this comment. The reference to Section 3.5.3.3 (Traffic Accident Data) was in error. The correct reference is Section 3.5.2.1.

L-19-41

This comment requests that the City of Commerce's thresholds of significance be used for intersections in the City of Commerce. The I-710 Corridor Project analysis used the HCM 2000 methodology for impact analysis because this is the preferred methodology for Caltrans environmental impacts. Because Caltrans is the Lead Agency for this project, it was determined that the HCM methodology was the appropriate analysis technique, and the traffic analysis has since been updated to use HCM 2010. While this is inconsistent with the ICU method employed for most of the Gateway City agencies, it is a more detailed method of performing operational analysis.

L-19-42

Please refer to Response to Comment L-19-41, above, regarding the use of City of Commerce significance thresholds for intersection analysis.

L-19-43

This comment on the traffic operations analysis raises a concern regarding its consistency with the 2008 State Highway Congestion Monitoring Program (HICOMP). The I-710 Corridor Project analysis used the HCM 2000 methodology for impact analysis as it is the preferred methodology for Caltrans environmental impacts. Because Caltrans is the Lead Agency for this project, it was determined that the HCM methodology was appropriate analysis technique. While this is inconsistent with the ICU method employed for most of the Gateway City agencies, it is a more detailed method of performing operational analysis. For the updated TOAR, HCM 2010 was used. The RDEIR/SDEIS uses updated 2012-2013 traffic data to inform the analysis of existing year traffic conditions.

L-19-44

Caltrans acknowledges the City of Commerce's comment regarding the traffic forecast model. Updated model data for the alternatives have been prepared for the revised traffic reports and

the 2012 RTP model was used as the basis for projections. An explanation as to why the methodologies and analysis techniques used to analyze traffic operations were selected, as well as their limitations, have been added to the traffic reports.

L-19-45

Based on the updated traffic analysis, a comparison of LOS results between existing conditions and 2035 No Build conditions demonstrates that operations on I-710 are projected to deteriorate if improvements are not implemented to address capacity deficiencies or to amend geometric deficiencies. Tables 3.5-1, 3.5-2, 3.5-3, and 3.5-5 in the RDEIR/SDEIS have been revised based on the updated traffic reports.

L-19-46

Traffic volumes throughout the RDEIR/SDEIS have been revised based on the updated traffic reports. Please refer to Section 3.5 for updates based on the traffic analysis. Any inconsistencies between the traffic volumes have been reconciled in the RDEIR/SDEIS.

L-19-47

The Southern California International Gateway (SCIG) and Intermodal Container Transfer Facility (ICTF) facilities have been added to the revised traffic forecasting and the estimated 2035 traffic volumes on I-710 reflect the influence of these two facilities.

L-19-48

This comment requests more detail on the proposed Transportation Management Plan (TMP). Please refer to Response to Comment L-19-30 above which provides additional detail regarding the TMP.

L-19-49

All tables throughout the RDEIR/SDEIS that contain traffic information have been updated based on the revised traffic reports. In cases where "N/A" is noted, an explanation is provided as to why this information is not available.

L-19-50

Information in Section 3.5 of the RDEIR/SDEIS has been updated based on the revised traffic reports. The information in the tables and text throughout the RDEIR/SDEIS have been cross-checked for consistency.

L-19-51

This comment expresses concerns regarding truck lane capacity. The updated TOAR assumes that in the existing year as well as the future year (2035), about 80 percent of the primary truck trips (i.e., those truck trips with at least one trip end within the Ports) have destinations within 20 miles of the Ports. Approximately 14 percent of these trips are destined to the Inland Empire / Orange County and six percent to elsewhere in the SCAG region (i.e., San Gabriel Valley, north Los Angeles County, Ventura County, and Imperial County). This includes trucks carrying both loaded and unloaded (i.e., empty) containers and non-container cargo, as well as bobtail and chassis trucks. Currently port trucks operate mostly during the day shift (8:00 am to 6:00 pm) and night shift (6:00 pm to 3:00 am). Due to the increase in containerized cargo volume in 2035, approximately 20% of Port container truck movements are expected to occur during the hoot shift (3:00 am to 8:00 am), a substantial increase compared to today's operations. Once transloaded, cargo within domestic containers are carried by truck to other destinations within the SCAG region (warehouses, distribution centers, retail outlets, etc.) or it is carried by truck to intermodal (off-dock) railyards within the region for transport by freight rail. In this case, both truck trip origins and destinations are located outside the Port complex. This is called the transload-secondary market. Transload secondary truck trips are more dispersed compared to the primary container truck trips in that 64 percent of these transload secondary truck trips are destined to an area within 20-miles of the Ports, over 17 percent are headed to the Inland Empire/Orange County; and the remaining 19 percent of the transload-secondary truck trips travel to North Los Angeles County /San Gabriel Valley, Ventura County, and Imperial County.

L-19-52

In the updated TOAR, for on-ramps with an HOV preferential lane, the additional capacity provided by the HOV lane was excluded from the analysis and no discount to accounting for the HOV presence was taken from the projected peak hour volumes, thereby analyzing the worst case scenario.

L-19-53

As requested in this comment, the EIR/EIS has been updated to include more detail regarding the analysis of proposed peak-period parking restrictions (see Section 3.5.3.1 of the RDEIR/SDEIS).

L-19-54

This comment expresses concern about the assumptions made on traffic signal cycle lengths. Universal assumptions were made for signal cycle lengths, such as 100 seconds for arterial intersections and 60 seconds for freeway ramp T-intersections. Additionally, saturation flow studies were not conducted because these assumptions are sufficient for a corridor environmental document which includes 19 miles of freeway and over 180 arterial intersections.

L-19-55

This comment expresses concern about discrepancies between LOS assumptions and existing site conditions. Both the TIAR and TOAR have been revised to reflect updated design and traffic assumptions. Any discrepancies have been resolved between the intersection LOS inputs/assumptions and existing field conditions that were observed and are reflected in the revised traffic reports as well as the RDEIR/SDEIS.

L-19-56

The intersections of Bandini Blvd./Garfield Ave., Telegraph Rd./Garfield Ave., and Atlantic Ave./ Eastern Ave. were not included in the TIAR. Every effort was made to include intersections representative of the existing conditions within the corridor, but not every intersection could be feasibly included. Within the City of Commerce, the arterial intersections of Slauson Ave./Eastern Ave., Garfield Ave./Slauson Ave., Washington Blvd./Atlantic Blvd., Washington Blvd./Eastern Ave., and Garfield Ave./Washington Blvd. were included.

L-19-57

This comment expresses concern about the lack of analysis of impacts to transit service within the City of Commerce due to the proposed local street modifications. Impacts to the transit systems within the Study Area, including impacts to transit service times or changes to existing bus routes, have been added to Section 3.5,Table 3.5-21 of the RDEIR/SDEIS.

L-19-58

This comment on the intersection traffic impact analysis requests additional mitigation at the following intersections:

- Slauson Ave./Eastern Ave.

- Slauson Ave./Garfield Ave.
- Garfield Ave./Gage Ave.

The TIAR has been updated and the proposed mitigation to the referenced intersections is included in Section 3.5.4 of the RDEIR/SDEIS.

L-19-59

The City's request for the Enhanced Condition treatment for soundwalls and freeway edges/berms in the City of Commerce is noted. At this time, Caltrans cannot commit to specific aesthetic features at specific locations along the alignment. However, the following measure was added in Section 3.6.4.1 and Appendix F to ensure that each local jurisdiction is provided an opportunity to review and comment on the proposed aesthetic features on the freeway structures and facilities adjacent to that jurisdiction:

> **VIS-9** **Local Jurisdiction Review.** During final design, Caltrans will review with each local jurisdiction the aesthetic features and treatments proposed to be incorporated in the final facility design for freeway components adjacent to each local jurisdiction, in accordance with the I-710 Corridor Aesthetics Master Plan described in Measure VIS-1.

L-19-60

Although some visually sensitive areas have existing low visual quality, soundwall/berm treatment has been considered in these locations. Please see Response to Comment L-19-59 for more detail on this coordination process.

L-19-61

Refer to Response to Comment L-19-34, above, for discussion of how the utility relocations will be planned and the local jurisdictions included in the coordination meetings for the utility relocations. The relocation of utilities has been taken into consideration in the revised *Visual Impact Assessment* and is summarized in Section 3.6, Visual/Aesthetics.

L-19-62

Caltrans reviewed both the State agency and local agency bridges on the Historic Bridge Inventory as part of the resource identification process. *The Supplemental Historic Property Survey Report* for the RDEIR/SDEIS has been updated to include the local agency bridges from

the California Historic Bridge Inventory that are located in the City of Commerce in Attachment B to the *Historic Property Survey Report*.

L-19-63

The Lead Agency (Caltrans) is responsible for identifying and evaluating properties for historic significance as defined by Section 106 of the National Historic Preservation Act (36 CFR 800 et seq.), the NEPA, and CEQA. Section 106 and NEPA define a "historic property" as a property that is listed on or eligible for listing on the National Register, for which there are four criteria that are applied. CEQA defines a "historical resource" as a resource that is listed in, or determined eligible for the California Register (PRC 5024.1(c)(1-4).

Resources that are included in a local register of historical resources may be presumed to be historically significant per CEQA; however, they must be listed on a "Local Register of Historical Resources" that has been officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution, as defined in Section 5020.1(k) of the PRC. Resources may also be presumed to be historically significant per CEQA if they have been included in a historical resource survey; however, the survey must meet the requirements of Section 5024.1(g) of the PRC. This means that the local survey must be included in the State Historic Resources Inventory, the survey and documentation must have been prepared in accordance with State Office of Historic Preservation procedures and requirements, the resources included in the survey must be given significance ratings of Categories 1 through 5 on Department of Parks and Recreation (DPR) 523 Forms, and the survey must have been conducted within the past five years.

Therefore, during the identification phase for this project, Caltrans searched all the cities located adjacent to the project corridor, including the City of Commerce, to determine if any locally significant properties meeting the criteria outlined above were present. Additionally, Caltrans sent letters to the local planning departments to inquire as to whether or not any properties have been identified as the local level, pursuant to CEQA. A letter was sent to Robert Zarrilli, Director on September 30, 2009. Alex Hamilton, Assistant Director of Community Development for the City of Commerce, responded via telephone on October 29, 2009. Mr. Hamilton indicated the City does have criteria for local landmark designation; however, there are no properties listed or designated as historic resources at this time. He indicated that the Citadel and the train station may be on State or Federal lists of significance; however, both properties are at least 0.25 mile from the I-710 Corridor. He also noted that the Hobart Yard rail tower is a known resource outside of Commerce in the vicinity of either Vernon or East Los Angeles; however, that resource is located outside of the I-710 Corridor Project APE.

Therefore, based on the information provided, no additional evaluation of locally significant properties was conducted. Further, it is up to the Lead Agency (Caltrans) to identify properties presumed to be historically significant, pursuant to the PRC; however, it does not require that lead agencies apply local criteria that are inconsistent with the California PRC for identifying properties for the purpose of CEQA. Rather, it requires that properties are evaluated against the criteria for inclusion in the California Register as outlined in PRC 5024.1(c)(1-4). No changes have been made to the RDEIR/SDEIS text in Section 3.7 as a result of this comment.

L-19-64

This comment requests more detail on project phasing. At this point in project development, it would be speculative to identify possible phasing for each of the build alternatives. Upon identification of a preferred alternative, phasing and staging concepts may be advanced to estimate construction duration, identify staging areas, identify required closures, and assess traffic access during construction.

L-19-65

As requested in this comment, the City will have an opportunity to review the *Flood Control Facilities Report* (formerly the Los Angeles River Impact Report).

L-19-66

The revised *Preliminary Hydrology Report* (AECOM, December 2016) addresses the potential effects of the build alternatives related to increased impervious surfaces and storm water runoff to local storm water drainage facilities. The technical studies in support of the RDEIR/SDEIS, including the build alternatives, are listed in Appendix H, List of Technical Studies. Copies of those technical studies will be provided to agencies and other interested parties on request to Caltrans.

L-19-67

During final design, Caltrans will coordinate the selection of final treatment BMPs with the local jurisdictions, including the City of Commerce. This commitment has been added to Mitigation Measure WQ-1 in Section 3.9.4 of the RDEIR/SDEIS.

L-19-68

As required in Measure CON-WQ-1 (Section 3.24.4.9 of the RDEIR/SDEIS), if a build alternative is selected for implementation, Caltrans will require the construction contractor to prepare and implement a Storm Water Pollution Prevention Program (SWPPP) specific to that

alternative. The SWPPP will identify specific BMPs to reduce or eliminate pollutants associated with the construction activities. Those types of construction BMPs are anticipated to include, but not be limited to, Good Housekeeping, Erosion Control, and Sediment Control BMPs. The types of BMPs cited in this comment (erosion prevention and temporary drainage devices, wetting/covering exposed soils, use of soil tackifiers) are the types of construction BMPs typically required by Caltrans. Although at this time, it is not possible to commit to including the specific BMPs cited in this comment in the project SWPPP, Caltrans will require the construction contractor to include those types of BMPs or other BMPs addressing the same impacts in the SWPPP.

L-19-69

As required in Measure GEO-1 (Section 3.10.3), if a build alternative is selected for implementation, Caltrans will prepare a design-level geotechnical report during final design. That report will address the specific design issues cited in this comment related to dewatering, if those conditions are determined to be occur and potentially affect or be affected by the selected alternative. The report will include specific required design features to address the project-related geotechnical issues associated with dewatering, if any.

L-19-70

The potential for short-term vibration impacts during construction, particularly associated with pile driving and the operation of construction equipment, is discussed in 3.24.3.14, Noise, of the RDEIR/SDEIS. Measure CON-N-10 (Section 3.24.4.14) requires alternatives to pile driving such as pre-drilling and cast-in-place to limit vibration generation. Caltrans will conduct pre- and post-construction surveys for all structures within 100 feet of locations where pile driving will occur, and compensation for damage to personal property will be provided where such damage is documented through the abovementioned surveys.

L-19-71

Because the project design is only at a 30-35 percent level of completion, specific depths of excavation for elements of the proposed project are not available at this time. More detailed analysis will be conducted during preparation of the Paleontological Mitigation Plan as outlined in Measure PAL-1, which will be prepared during final design. However, Alternative 7 involves more bridge construction work, mainly due to the separate freight corridor, than Alternative 5C and therefore requires more excavation. Therefore, Alternative 7 has a greater likelihood of impacting paleontological resources than Alternative 5C. Inclusion of the Capistrano Formation was an error and has been removed from the *Paleontological Identification Report/Paleontological Evaluation Report* and the RDEIR/SDEIS.

Text has been added to the *Paleontological Identification Report/Paleontological Evaluation Report* to state that no paleontological resources were identified during the course of the field surveys.

L-19-72

Emission control measures during construction are detailed in Mitigation Measures CON-AQ-1 through CON-AQ-17 in Section 3.24.4.13 of the RDEIR/SDEIS. A wide range of potential NO_x mitigation measures for construction (including those listed on the SCAQMD's website) were reviewed. Caltrans will consider and assess the use of Metro's Green Construction Policy as a potential mitigation measure, as well as any new potential NO_x control measures for construction that may arise before the Final EIR is certified.

L-19-73

Revisions to the AQ/GHG/HRA found that, for PM_{10} Annual Average Concentration, under both Alternatives 5C and 7, census tracts within Commerce are projected to exceed the SCAQMD criteria of 1 µg/m3. With regard to mitigation or enhancements related to air quality and health risk, Mitigation Measure AQ-2, included in the RDEIR/SDEIS (Section 3.13.4), provides for air filtration systems for any schools with 0.50 mile of I-710. In addition, both build alternatives provide for a program o for cities and community groups to apply for and obtain grant funding for health-related measures. The "Air Quality Community Protection Program" suggested in this comment would be a potential candidate for this program.

L-19-74

See Response to Comment L-19-17 regarding an assessment of localized air quality impacts during construction. With regard to mitigation or enhancements related to air quality and health risk, please refer to Response to Comment L-19-73.

L-19-75

In response to the clarification requested in this comment, the correct figures are 50 to 100 meters (AQ/HRA page 49-50) and this has been reconciled and/or updated in the RDEIR/SDEIS. Caltrans is responsible for the significance determinations and consideration of potential mitigation measures, such as those suggested by the City and will coordinate with the City of Commerce regarding these mitigation measures. With regard to mitigation or enhancements related to air quality and health risk, please refer to Response to Comment L-19-73.

L-19-76

This comment requests and analysis of the potential for increased truck queuing on local roadways in the vicinity of the rail yards in the City of Commerce. This comment also requests that if warranted, appropriate mitigation measures, including but not limited to the development of an off-street dedicated truck staging yard and enhanced enforcement of current anti-idling regulations be included in the Final EIR/EIS. Please refer to Response to Comment L-19-73.

L-19-77

To correct the error noted in this comment, the tables and their references have been renumbered in the RDEIR/SDEIS.

L-19-78

The comment requests that the discussion of air quality/global climate change in Chapter 4.0, Section 4.2.4.1, of the RDEIR/SDEIS, include a CEQA 2008 Baseline comparison analysis in addition to the 2035 NEPA Baseline comparison. This comparison to the CEQA Baseline (now 2012) has been added in Section 4.2.4.1 of the RDEIR/SDEIS.

As stated in Section 4.1 of the Draft EIR/EIS, the determinations of significance under CEQA were analyzed relative to Baseline conditions, which were the existing conditions in the I-710 Corridor at the time the NOP was issued in 2008. The comparisons to the NEPA Baseline are included in Chapter 4.0 to demonstrate that the large increase in GHG emissions is due to area growth and not the proposed project alternatives.

L-19-79

The purpose of the GHG measure listed in the comment is to ensure that the new and replacement lighting is energy-efficient. As the project would be reconstructing an existing facility, the majority of the lighting would be replacing existing inefficient lighting. Therefore, the overall energy consumption would be reduced below or remain similar to the existing conditions.

L-19-80

The discrepancies in the AQ/HRA technical report and Chapter 4.0 of the Draft EIR/EIS, as specified in the comment, have been corrected and updated in the RDEIR/SDEIS.

L-19-81

The Caltrans NSR qualitatively addresses temporary noise impacts during the construction phase of the project. This section in the NSR also addresses the potential abatement measures during the construction period. At this stage of the project, however, details are not known about the equipment that will be used for construction. However, the contractor must abide by all State, federal, and local construction noise and vibration regulations per contract. Caltrans requires contractors to prepare a noise control plan prior to beginning construction on large projects such as this one. This plan would identify not only the potential construction noise impacts, but the potential abatement measures as well. Additionally, Caltrans does have construction noise regulation which states that construction noise emanating from construction equipment/operation cannot exceed 86 dBA – L_{max} at 50 feet.

With regard to mitigation or enhancements related to noise, the proposed project also includes a Community Health Benefits Grant Program, which can be used to fund different types of improvements. The "Noise Community Protection Plan" suggested in this comment would be a potential candidate for this mitigation program.

L-19-82

The following statement has been added to Section 3.15.3.1 in the RDEIR/SDEIS regarding energy consumption related to lighting and traffic signals: "While the energy used by roadway lighting and traffic signals is very small compared to the energy used by the vehicles operating on the project roadway, it is expected that the project will place energy efficient lighting fixtures for roadway lighting. These lighting fixtures improvements will reduce the energy used by the project."

L-19-83

Focused surveys were conducted in 2015 for areas not previously surveyed as part of the revised *Natural Environment Study* and are included in the RDEIR/SDEIS.

L-19-84

Focused surveys were conducted in 2015 for areas not previously surveyed as part of the revised *Natural Environment Study* and are included in the RDEIR/SDEIS. Additionally, it is anticipated that surveys will be repeated prior to initiation of construction. Therefore, mitigation measures included in Section 3.24.4.18 of the RDEIR/SDEIS are included to conduct assessments for burrowing owl and bat surveys prior to construction. In addition, measures are included to avoid and/or minimize project effects to burrowing owls or bats if found during those surveys. The RDEIR/SDEIS includes these measures in Section 3.24.4.18 and Appendix F.

L-19-85

This measure is already included in Section 3.24.4.19 of the RDEIR/SDEIS. All other necessary pre-construction surveys have already been included as indicated in Response to Comment L-19-84.

L-19-86

Measure CON-TR-1 (Section 3.24.4.5 in the RDEIR/SDEIS) requires the preparation and implementation of a TMP during project construction. Measure CON-U&ES-1 cross-references the TMP in Measure CON-TR-1 but does not itself require the preparation of the TMP. Refer to Response to Comment L-19-31, above, which explains that the TMP will address transportation issues (traffic, pedestrian, bicycle, emergency vehicles, rail) at all locations where project-related traffic and the construction areas would impact some or all of those transportation modes, including construction staging areas.

L-19-87

This comment requests Caltrans to enter into a Community Benefits Agreement with the City of Commerce. With regard to the various mitigation measures or enhancements described in this comment, a Community Health and Benefit Program is included in Section 2.3.2.1 of the RDEIR/SDEIS and provides for a program for cities and community groups to apply for and obtain grant funding for health-related measures. The various mitigation measures or enhancements suggested in this comment would be potential candidates for this programmatic element.

L-19-88

As requested in this comment, Caltrans will coordinate with the City of Commerce regarding implementation of a storage or staging yard for short-term truck parking for those trucks accessing the BNSF or UP rail yards.

L-19-89

Caltrans will coordinate with the City of Commerce regarding the establishment of funds to assist the City with the maintenance of roadways adjacent to I-710.

L-19-90

The trucks that are travelling on the local streets in the City of Commerce are not there because of I-710, but because of the various land uses in the City; therefore, there is not a direct project

impact resulting from the I-710 Corridor Project. However, the various mitigation measures or enhancements described in this comment would be potential candidates for the community mitigation program included in the RDEIR/SDEIS (Section 3.13.4).

L-19-91

Caltrans will coordinate with the City of Commerce regarding the establishment of a Noise Community Protection Plan to avoid, minimize, and/or mitigate construction-related noise impacts. Please see Response to Comment L-19-81.

L-19-92

Temporary impacts to park patrons are discussed in Section 3.24.3.1 and avoidance, minimization, and mitigation measures for impacts to parks and recreation facilities have been added to Section 3.24.4.1. Caltrans will coordinate with the City of Commerce regarding the provision of funds for improvements to other area parks and recreational amenities. With regard to the various mitigation measures or enhancements described in this comment, a Community Health and Benefit Program is included in Section 2.3.2.1 of the RDEIR/SDEIS and provides for a program for cities and community groups to apply for and obtain grant funding for health-related measures. The various mitigation measures or enhancements suggested in this comment would be potential candidates for this programmatic element.

L-19-93

The following measure was added in Section 3.6.4.1 and Appendix F in the RDEIR/SDEIS to address potential issues associated with graffiti on facility structures and features:

> **"VIS-12** **Graffiti Reduction, Removal, and Control.** During final design, Caltrans will include planting plans for vine planting on sound barriers and other vertical structures, planting plans for trees and shrubs in State right of way adjacent to south barriers and other vertical structures, and the use of decorative/surface treatments on sound barriers and other vertical structures in the I-710 Corridor Master Plan, to reduce the potential for graffiti and to soften the appearance of those walls, consistent with the *Highway Design Manual*, Index 902.3(5).
>
> After the construction of each sound barrier or vertical structure where vine planting is shown in the project specifications, Caltrans will require the construction contractor to install the vine planting

consistent with the project specifications and the planting requirements in the I-710 Corridor Master Plan.

Caltrans has an existing ongoing maintenance program for the control and removal of graffiti from structures and facilities within the State right of way for State highways. That program would apply to all new and modified structures in the I-710 Corridor Project build alternatives. The Caltrans program for the control and removal of graffiti is described in Chapter D1, Litter, Debris, and Graffiti (July 2006), in the Caltrans *Maintenance Manual*, Volume I (January 2011). Key program components applicable to the project features in the I-710 Corridor Project build alternatives include:

- Use of recycled paint for various structures and matching paint used to cover graffiti with the original paint color on the structure.
- Use of physical devices such as rat guards, sign hoods, razor wire, and glare screen patches to limit access to facilities targeted by taggers.
- Replacement of ground-mounted signs with signs that have protective coatings or application of protective coatings to signs.

Many local jurisdictions along the alignment of I-710 also have graffiti abatement and control programs in their Municipal Codes or other City or County requirements. Those programs apply throughout those jurisdictions and may apply to structures on public and private property. Methods used by local agencies for the removal of graffiti include power washing, gel removers, and painting."

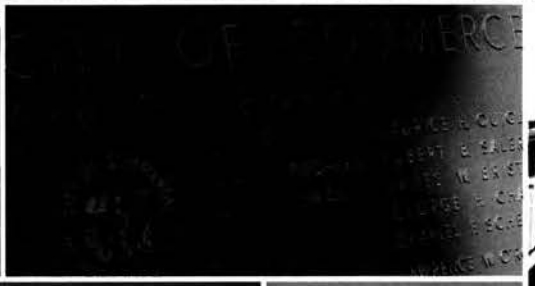
Similar to existing conditions, Caltrans will be responsible for graffiti abatement and control on freeway facilities and structures within the State right-of-way and the local jurisdictions will be responsible for graffiti abatement and control in other public rights-of-way and on private property, consistent with each local jurisdiction's Municipal Code or other local requirements. At this time, Caltrans is not proposing the establishment of a funding program for the abatement and control of graffiti outside the State right-of-way.

THE MODEL CITY

CITY OF COMMERCE













2014-2021 Housing Element

Prepared for
City of Commerce
by ESA

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July 22, 2013

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Dear Mr. Hamilton:

RE: City of Commerce's 5th Cycle (2013-2021) Draft Housing Element Update

Thank you for submitting the City of Commerce's draft housing element update received for review on May 23, 2013, along with additional revisions received on July 11, 2013. Pursuant to Government Code (GC) Section 65585(b), the Department is reporting the results of the review. A telephone conversation with Sarah Walker and Alexa Washburn, the City consultants, facilitated the review.

While the draft element was found to meet the statutory requirements of State housing element law based on, among other things, Program 3.1 to complete zoning for the "Housing Opportunity Overlay Zone" to facilitate multifamily and mixed-use by-right development at minimum densities of 20 units per acre within an area totaling 24.5 acres, the Department cannot yet find the element in full compliance. This is because Commerce still needs to amend its zoning ordinance to permit year-round emergency shelter(s) without discretionary action pursuant to GC Section 65583(a)(4)(A), amended by Senate Bill 2 (Chapter 633, Statutes of 2007). Program 5.2, identified in the previous element, committed to amend the zoning ordinance to permit emergency shelters without discretionary action within one year of the adoption of the 4th cycle housing element. As noted in the current element on page 90, Program 5.2 has not been implemented.

The element will fully comply with State housing element law once the City has completed the required zoning amendment and submits the adopted element to the Department pursuant to GC Section 65585(g). To remain on an eight year planning cycle, pursuant to Senate Bill 375 (Chapter 728, Statutes of 2008), Commerce must adopt its housing element within 120 calendar days from the statutory due date of October 15, 2013 for SCAG localities. If adopted after this date, Commerce will be required to revise the housing element every four years until adopting at least two consecutive revisions by the statutory deadline (GC Section 65588(e)(4)). For additional information on housing element adoption requirements, please visit the Department's website at: http://www.hcd.ca.gov/hpd/hrc/plan/he/he_review_adoptionsteps110812.pdf.

Public Participation in the development, adoption and implementation of the housing element is essential to effective housing planning. Throughout the housing element process, the City should continue to engage the community, including organizations that represent lower-income and special needs households, by making information regularly available and considering and incorporating comments where appropriate.

The Department appreciates the hard work and dedication of Sarah Walker and Alexa Washburn in preparation of the housing element and looks forward to receiving Commerce's adopted housing element. If you have any questions or need additional technical assistance, please contact James Johnson, of our staff, at (916) 263-7426.

Sincerely,

Glen A. Campora

Glen A. Campora
Assistant Deputy Director



City of Commerce

2014-2021 Housing Element

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October 2013


CITY OF COMMERCE
INCORPORATED JANUARY 28, 1960
CALIFORNIA

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1. INTRODUCTION

1.1 - OVERVIEW OF HOUSING IN COMMERCE

The City of Commerce is a unique jurisdiction that presents both opportunities and barriers to affordable housing. Incorporated in 1960, the City is located six miles east of downtown Los Angeles and bordered by Bell, Bell Gardens, Downey, East Los Angeles, Montebello and Vernon. Commerce is home to 3,377 families and 1,800 businesses. The City's mix of residential areas, retail stores, business parks, manufacturing, and entertainment venues allows the city to provide high quality services for City residents while maintaining a pro-business climate. The City is primarily made up of industrial uses (more than 60% of Commerce's total land area is industrial), which presents challenges to both the identification of new sites for development and the maintenance of existing residential neighborhoods. A major challenge for the City since its incorporation has been the coexistence of industry near and among the area's existing residential neighborhoods.

Many of the original housing units constructed in the City were developed in the 1960's as work force housing for employees working at the various companies located in the City. Developed as separate communities, identified with specific names, residential areas in Commerce are islands surrounded on at least two sides by commercial and industrial uses creating a unique set of issues and opportunities. Following the City's incorporation the Commerce Community Development Commission was very active in its efforts to implement a residential relocation program to move households from older industrial districts to newer residential neighborhoods. Through these efforts, the Commission was able to relocate residents living in older households in the midst of industrial areas to homes in newly established residential neighborhoods. The older, often substandard units were then demolished and the land was then used for industrial expansion. Over time, these and similar programs have eliminated many of the land use conflicts in the City.

In addition to relocating housing units, Commerce has also aggressively established programs focused on upgrading substandard housing and replacing dilapidated units. These programs will continue to ensure that existing and future residents of the city are provided safe, sound, and decent housing. The city has also been active in promoting the redevelopment of its aging and obsolete industrial plants. Increased competition from industries abroad has had a significant impact on domestic industry, in general, and on the industrial base in the city of Commerce and neighboring cities, in particular. The City has attempted to meet this challenge through the construction of new modern business parks. New challenges that may be encountered by Commerce in the opening years of the 21st Century will be perceived as opportunities rather than as obstacles.

The unique aspects of the City that require consideration in the formulation of land use and housing policy include the following:

- The general nature and location of land uses has changed very little since the City incorporated. As such, Commerce was, and remains, predominantly industrial, providing employment for tens of thousands of persons living throughout the Los Angeles region.
- The potential for adverse land use conflicts has been lessened through past planning efforts that recognized the need to provide adequate buffers between dissimilar uses; however the introduction of new residential projects will always require an adequate assessment of on-site and surrounding land uses. In some instances there may be a need to conduct a soil analysis or other additional studies to ensure that the site is appropriate and safe for mixed use and residential development, particularly if the previous use was industrial.
- Similarly, very little vacant land remains in the City meaning that in most instances future development will involve the recycling of land that was previously occupied by older businesses or homes. While the transition from lower density residential to higher density residential may be appropriate, the transition from commercial or industrial uses to new residential may require additional abatement and mitigation to ensure the site is appropriate for housing.
- Additionally, many of the city's industries produce and store hazardous materials. The policies contained in the General Plan Community Development Element, and those included in other elements, call for residential properties to be protected from the hazards and health risks associated with industrial development.
- To accommodate the volume of commuters traveling throughout Commerce and the region, two heavily utilized freeways, Interstate 5 and Interstate 710 dissect the City. While freeways provide key access to Commerce and the greater area, they also are known to create air quality and noise impacts. Historically, the City has also had to address proposed freeway expansions that resulted in the removal of housing units and that located freeways in closer proximity to residential homes. Generally, it is not recommended for housing to be within 500 feet of a freeway to avoid health impacts for long term residents.
- The industrial land uses that surround the City's residential neighborhoods also generate significant amounts of truck traffic. During a typical weekday, the City's arterial roadways located near the residential areas (Eastern Avenue, Washington Boulevard, and Atlantic Boulevard) all experience significant truck traffic volumes almost four times the national average resulting in attendant noise and air quality impacts. As a means to protect the City's neighborhoods from the intrusion of truck traffic, regulations defining truck routes and prohibitions of on-street truck parking have been implemented. Railroads are also a critical component of the industrial districts of Commerce. Major rail yards are found in close proximity to several residential neighborhoods which also present unique challenges to the community. Several years ago, a derailment destroyed and damaged a number of homes in the Ferguson neighborhood. The City has been very proactive in petitioning the Federal Government to ensure that rail operations are conducted in a safe manner.
- In many of the City's neighborhoods, older industrial uses were located in close proximity to homes. Over the past several decades, the City has undertaken programs to acquire older lots in order to eliminate land use conflicts. Much of the infill housing constructed in the past several decades was developed in this fashion. Notable examples of these efforts include the Village development in the Rosewood Neighborhood, the Vista del Rio development in the Southeast neighborhood, and the more recent infill developments in the Northwest neighborhood.

To address these potential concerns, the City of Commerce has carefully studied the existing land uses and identified the Housing Opportunity Overlay area within the General Plan as an appropriate area to

accommodate future housing. The Housing Opportunity overlay area is the ideal location for the development of new housing including market rate and affordable units as stand-alone projects or incorporated into mixed use development. The overlay is intended to locate employment opportunities, dining, shopping, neighborhood services, and residential uses in close proximity of one another thereby reducing vehicle trips and encouraging walkability. The overlay area is ideal for the development of affordable units for residents that may need access to services, as it is close to existing residential development, City Hall, the City's transit center, the library, Rosewood Park, the City of Commerce Employment Center, the City of Commerce Aquatorium, and numerous commercial businesses. The potential constraints of housing development within the Overlay area and the City in general are further discussed in the Housing Constraints analysis.

1.2 - A History of Affordable Housing

Despite the industrial nature of the City, Commerce has historically been successful in providing affordable housing for very low-, low- and moderate-income households that is compliant with the existing zoning and General Plan land use designations. The City of Commerce, like many cities in Los Angeles County, faces the challenge of limited vacant land, which requires creative development on infill lots that may be smaller than the State's ideal site size of 5 to 10 acres. Commerce, however, through its partnerships with affordable housing developers, like TELACU and Mayans Development has produced projects on small infill lots, that through density bonuses and development incentives, meet the State's default density in order to provide a variety of affordable housing options throughout the City.

Since 1980, the City of Commerce has shown a strong commitment towards providing housing assistance to its low-income population. Over 300 units of affordable housing have been developed in Commerce in the last three decades. In the City there is a mix of both single family and multi-family housing as well as both rental and homeownership properties. There are currently three federally assisted multifamily rental complexes in Commerce with affordability covenants including: 94 units at the Rosewood Park Senior Apartments, 24 units at TELACU Gardens and 76 units at TELACU Manor. The City's most recent senior project, TELACU Manor, is a Section 202 project consisting of 76 units of rental housing for lower income seniors, developed in 1992.

In addition to the three multifamily rental projects identified, the City has worked with Mayans Development to construct affordable single-family residential developments on infill properties. Three developments known as Lanto/Pacific, Los Jardines and Jardines de Bristow have been constructed or acquired through joint developer-City efforts. The three developments contain a total of 18 single-family homes that were sold to low-income families with first time home buyer or developer price reduction assistance. Currently, all of the units are occupied by the original owners who purchased the homes. The City intends to monitor the units to ensure that if a resident vacates their home, that the City can make every effort possible to resell the unit to a new low-income qualified family.

The City of Commerce also has a number of ownership units with deed restrictions, many of which have utilized City rehabilitation programs or were rehabilitated through partnerships with local non-profits (i.e. Habitat for Humanity) in exchange for long term affordability covenants. There are at least 13 properties with affordability covenants that extend to 2023 and beyond. The majority of the housing units were assisted through the City's First Time Homebuyer Program, with two properties recently assisted through the Substantial Rehabilitation Program. The City of Commerce recognizes that their existing

affordable housing stock is a valuable resource that should be conserved, and if necessary, improved to meet habitability standards. To achieve this, the City has established a housing conservation program to monitor the continued participation of these projects that participate in the HUD Section 221 and Section 8 programs.

1.3 - PURPOSE & AUTHORITY OF ELEMENT

The City of Commerce first initiated a comprehensive general plan update, including an update of the Housing Element, in the mid-1980s. This earlier Element was subsequently updated and adopted in January 2008 pursuant to the required updates by the California Department of Housing and Community Development (HCD). Subsequently, the City updated their Housing Element again for the 2008-2014 planning period, achieving certification in April 2010.

The current Housing Element builds upon the previous elements by updating technical information and assessing the City's progress in implementing its earlier housing goals, objectives, and programs. In addition, the current Element outlines those strategies and programs that will enable the City to meet its current Regional Housing Needs Assessment (RHNA). Finally, the document serves as a critical link between housing policy and the long-range land use plan that calls for continued infill housing development as well as new opportunities for housing in areas that were previously developed as commercial or industrial uses.

Within the past several decades, the State Legislature has focused increased attention on housing-related issues in California. The State's growing population, particularly in the heavily-urbanized areas of Los Angeles County, has placed increased demands on both the existing and new housing stock. In recognition of the need for all persons to have sound, safe, and affordable housing, the State has established definitive guidelines for housing elements. The City of Commerce Housing Element fulfills the State's housing element requirements. The Element includes a technical background component identifying housing and population demographics, a housing plan with identified quantified objectives outlining the City's goals for the future and a progress report evaluating the City's past housing accomplishments.

The State Legislature understands the importance of local housing elements in implementing statewide goals for providing decent and suitable housing for all persons. The legislature also recognizes the importance of providing affordable housing to households with low- or moderate- incomes. State law makes it clear that the provision of affordable housing is the responsibility of all local governments, and using vested powers, local governments should make a conscious effort to see that there are housing opportunities for all income groups. The intent of the state housing element requirements is based on the following concerns (Section 65581):

- Local governments should recognize their responsibilities in contributing to the attainment of the State's housing goals.
- Cities and counties should prepare and implement housing elements that are coordinated with state and federal efforts in achieving the state's housing goal.
- Each local jurisdiction should participate in determining the necessary efforts required to attain the State's housing goals.

- Each local government must cooperate with other local governments to address regional housing needs.

It is evident from review of the City's historic efforts in promoting new housing, especially infill housing, that Commerce is committed to accommodating its housing need. In addition, the City has been an active participant in the regional planning efforts undertaken as a member of the Gateway Cities Council of Government and the Southern California Association of Governments (SCAG).

1.4 - SCOPE & CONTENT OF ELEMENT

State law contains very specific information concerning the content and effect of programs identified to implement the housing element. The state's housing element requirements are summarized in **Table 1-1**.

Table 1-1:
State Housing Element Requirements

Issues Requiring Analysis	Gov. Code Section	Reference in Housing Element
Analysis of employment trends.	Section 65583.a	Chapter 4, Community Profile
Projection and quantification of existing and projected housing needs for all income groups.	Section 65583.a	Chapter 4, Community Profile
Analysis and documentation of the City's housing characteristics, including cost for housing compared to ability to pay, overcrowding, and housing condition.	Section 65583.a	Chapter 4, Community Profile
An inventory of land suitable for residential development, including vacant sites and sites having redevelopment potential.	Section 65583.a	Chapter 5, Housing Resources
Analysis of existing and potential governmental constraints upon the maintenance, improvement or development of housing for all income levels.	Section 65583.a	Chapter 4, Community Profile
Analysis of existing and potential non-governmental (private sector) constraints upon maintenance, improvement or development of housing for all income levels.	Section 65583.a	Chapter 4, Community Profile
Analysis concerning the needs of the homeless.	Section 65583.a	Chapter 4, Community Profile
Analysis of special housing needs: handicapped, elderly, large families, farm workers, and female-headed households.	Section 65583.a	Chapter 4, Community Profile
Analysis of opportunities for energy conservation with respect to residential development.	Section 65583.a	Chapter 4, Community Profile

Issues Requiring Analysis	Gov. Code Section	Reference in Housing Element
Identification of Publicly-Assisted Housing Developments.	Section 65583.a	Chapter 4, Community Profile
Identification of Units at Risk of Conversion to Market Rate Housing.	Section 65583.a	Chapter 4, Community Profile
Identification of the City's goal relative to the maintenance, improvement, and development of housing.	Section 65583.a	Chapter 2, Housing Plan
Analysis of quantified objectives and policies relative to the maintenance, improvement, and development of housing.	Section 65583.b	Chapter 3, Quantified Objectives
Identification of adequate sites that will be made available through appropriate action with required public services and facilities for a variety of housing types for all income levels.	Section 65583.c(1)	Chapter 5, Housing Resources
Identification of strategies to assist in the development of adequate housing to meet the needs of low and moderate-income households.	Section 65583.c(2)	Chapter 2, Housing Plan
Identification of governmental constraints to the maintenance, improvement, and development of housing in Commerce.	Section 65583.c(3)	Chapter 4, Community Profile
Strategies to conserve and improve the condition of the existing affordable housing stock.	Section 65583.c(4)	Chapter 2, Housing Plan
Strategies to promote equal access to housing for all groups.	Section 65583.c(5)	Chapter 2, Housing Plan
Strategies to preserve the existing low-income housing stock.	Section 65583.c(6)	Chapter 2, Housing Plan
Description of the Public Participation Program in the formulation of Housing Element Goals, Policies, and Programs.	Section 65583.d	Chapter 1, Introduction
Description of the Regional Housing Needs Assessment (RHNA) prepared by the Southern California Association of Governments.	Section 65583.e	Chapter 4, Community Profile
Review of the effectiveness of the past Element, including the City's accomplishments during the previous planning period.	Section 65583.f	Chapter 6, Progress Report

Source: State of California, Department of Housing and Community Development.

1.5 - PUBLIC PARTICIPATION

California Government Code requires that local governments make a diligent effort to achieve public participation from all economic segments of the community in the development of the housing element. In the preparation of the Housing Element Update, a number of organizations and agencies that provide housing, or housing related services, were contacted. Stakeholder groups that have been identified as influential to the development of housing and the provision of services in the community are:

- Commerce Industrial Council
- Salvation Army Bell Homeless Shelter
- Fair Housing Foundation
- L.A. County Public Social Services
- Eastern Los Angeles Regional Center
- Esperanza Community Housing Corporation
- Legal Aid Foundation of LA
- WLCAC Homeless Access Center
- Shelter Partnership
- Housing Authority of LA County
- Su Casa Family Support Center
- Habitat for Humanity
- Abode Communities
- National CORE
- TELACU Development Corporation
- LINC Housing

The City held one workshop meetings prior to the submittal of this Housing Element draft to HCD for an initial review. This initial meeting with the Planning Commission took place on April 24, 2013 and was intended to provide Commissioners and the public with general information regarding the Housing Element (i.e. contents, process and information on the RHNA). A second workshop with the City Council occurred on June 4, 2013 and was streamlined to focus on Housing Element content and next steps for the update process. For both meetings the Housing Element workshop was noticed on the City's website, at City Hall, and in other public places such as the Bristow Library. Stakeholder groups were also identified and a flyer and letter invitation to the meetings was distributed several weeks before the first workshop. Informational materials for the public workshops are presented in Appendix A.

Present at the meeting were stakeholder groups specifically a representative from Southern California Rehabilitation Services, Inc. who represents the developmentally disabled in the community. Despite the City's efforts to engage the public, no public comments were made at Planning Commission meeting regarding the Housing Element. The Planning Commissioners did have questions regarding the changes in planning period length from 4 years to 8 years consistent with SB 375, clarification on SB2, and requested additional information on the RHNA allocation process.

On July 22, 2013, the State Department of Housing and Community Development issued confirmation that the Housing Element was found to be in compliance with State law. The City held another workshop with the Planning Commission on October 23, 2013 to review the final draft.

On **Month, day, year**, the Planning Commission recommended adoption of the Housing Element to City Council and on **Month, day, year**, the Housing Element was presented to the City for adoption. These meetings were noticed and open for public comment on the final Housing Element draft. After adoption, the final Housing Element was sent to the State Department of Housing and Community Development (HCD) for final State certification.

1.6 – INCORPORATION IN THE GENERAL PLAN

The Elements that comprise the Commerce General Plan are required by State law to be internally consistent. Together these Elements provide the framework for the development of facilities, services, and land uses necessary to address the needs and desires of the City's residents. To ensure that these needs are clearly addressed throughout the General Plan, the Elements must be interrelated and interdependent.

This Housing Element is most directly related to the Community Development Element, since it is the Community Development Element that designates the location and extent of residential development throughout the City. With regard to the other General Plan Elements, the following findings of conformity may be made:

- This Housing Element promotes the development of new housing in certain areas where housing does not presently exist. New housing is encouraged in the Housing Opportunity Overlay area as is consistent with the General Plan Land Use Element. This Element does not involve any land use recommendations that are inconsistent with the Community Development Element or with the other General Plan Elements.
- This Housing Element will not change the land use and/or development standards included in the Community Development Element, however a program has been recommended in the Housing Plan that allows for lot consolidation and flexibility in development standards in order to encourage infill development.
- This Housing Element does not promote or propose any land use changes requiring the instillation of any new streets or infrastructure not already anticipated in the General Plan.
- The focus of this Housing Element is to identify strategies that will be effective in conserving existing housing, while at the same time, to investigate opportunities to accommodate new infill residential development.
- Finally, this Housing Element updates important background information used in the evaluation and/or formulation of housing policy.

1.7 - FORMAT OF THE HOUSING ELEMENT

The City of Commerce Housing Element consists of six sections that together fulfill the State's housing element requirements. These sections are organized in a manner that will facilitate future updating in accordance with State law and to ensure conformity among the various elements. The Housing Element consists of the following components:

1. An **Introduction**, providing information on the Housing Element document and the City of Commerce.
2. A **Housing Plan** that addresses Commerce's identified housing needs, including housing goals, policies and programs.
3. A **Quantified Objectives** analysis to estimate the City's realistic accomplishments that will be achieved from 2014-2021.
4. A **Community Profile** providing an analysis of the City's population, an evaluation of housing need and an examination of governmental and non-governmental constraints.
5. Identification of **Housing Resources** available to encourage and facilitate housing development including the preparation of an inventory of potential housing sites in the community.
6. A **Progress Report**, proving an assessment of past housing element accomplishments.


CITY OF COMMERCE
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2. HOUSING PLAN

2.1 - ISSUES & OPPORTUNITIES

Virtually all of the land area within Commerce's corporate boundaries was developed prior to the City's incorporation in 1960. Over the years, the lack of available land has presented unique challenges to the City's efforts to provide housing for its growing population. Innovative redevelopment projects and housing rehabilitation programs have led to significant improvements in both the quantity and quality of available housing. However, the average household size has held steady, placing increased pressure on the existing housing stock. Key issues related to housing that are the focus of this Housing Element are described below.

- Nearly 99% of the City of Commerce's residents live in the eleven well-defined neighborhoods that are scattered throughout the City. Most housing units in these neighborhoods were constructed before 1960, although in general the housing stock is in good condition.
- The City's distinct neighborhoods are surrounded by industrial and commercial uses leaving them impacted by the related truck traffic, freeway noise, air quality issues, and environmental justice concerns. New residential development must be strategically located and the proper environmental analyzes completed before construction occurs.
- The average household size has increased due to trends toward larger families. In 1990, the U.S. Census reported that the City's average household size was 3.7 persons. By 2000, the average household size had increased to 3.8 persons. In 2010, the average household size remained the same, at approximately 3.77 persons per household, as reported in population estimates based on the American Community Survey.
- There has been an increase in the number and percentage of elderly residents (over 65) in the City. The City's population as a whole has aged, although the median age (32.7 years) remains lower than the county median (34.8 years). Over time, the City's population (as defined by median age) will continue to increase, reflecting national trends.
- A significant number of households in Commerce are overcrowded, and the garages of some homes have been illegally converted into living quarters. The City estimates that approximately 10% of the City's housing stock may be considered for participation in rehabilitation programs.
- While housing costs in Commerce are relatively low in comparison to the region, there are a significant number of households overpaying for housing due to the lower incomes of Commerce households.
- In 2010, the City's housing inventory included 3,388 housing units. Of this total, 2,595 units (77%) are classified as single-family, 246 units (7%) are in structures containing between 2 to 4 units, and 547 units (16.0%) are located in multiple-family developments containing five or more units.

2.2 – HOUSING GOALS

For the City of Commerce the enduring objective is to facilitate and encourage housing that fulfills the diverse needs of the community. To achieve this goal the Housing Plan identifies long-term housing goals and shorter-term policies to address the identified housing needs. The goals and policies are then implemented through a series of housing programs. Programs identify specific actions the City plans to undertake toward achieving each goal and policy.

The goals, policies, and programs within the Housing Plan build upon the identified housing needs in the community, constraints confronting the City, and resources available to address the housing needs. This Plan will guide City housing policy through the 2014-2021 planning period. Commerce's housing goals, policies, and programs address the following five major areas:

1. Conservation of the City's existing housing stock;
2. Increased opportunities for affordable housing;
3. Removal of constraints to the construction of affordable housing;
4. Equal housing opportunity; and
5. Identification of adequate sites to achieve a variety and diversity of housing.

Goal 1: Conserve and enhance the quality of existing housing and residential neighborhoods in Commerce.

Continued maintenance and preservation of the existing housing stock in Commerce is crucial to ensure quality neighborhoods. Housing programs focused on the achievement of this goal include rehabilitation of single- and multi-family housing units, code enforcement, and efforts to preserve assisted housing units at risk of converting to market-rate housing. Through code enforcement, neighborhood, and home improvement programs, the City is able to maintain the condition of existing housing units.

Policy 1.1: Continue to promote, maintain, and enhance the character and identity of the City's residential neighborhoods through adequate code enforcement.

Policy 1.2: Provide financial assistance, when available, to rehabilitate dwelling units owned or occupied by seniors and low-income individuals.

Policy 1.3: Encourage property owners to rehabilitate substandard residential units and maintain their properties to the greatest extent possible.

Policy 1.4: Promote increased awareness among property owners and residents of the importance of property maintenance to long-term affordable housing.

Policy 1.5: Design new higher-density residential projects at a scale (number of units, height, etc.) that is compatible in design with adjacent residential areas.

Policy 1.6: Cooperate with non-profit housing providers in the acquisition, rehabilitation, and maintenance of older apartment complexes, single-family houses and hotel/motels to be preserved as long-term affordable housing.

Policy 1.7: Continue to monitor affordable housing developments, second units, and vacant units within the City, and work to preserve existing affordable housing in the City that is considered at risk of converting to market-level rents.

Programs

Program 1.1 - Code Enforcement

The objective of the City's Code Enforcement Program is to bring substandard units into compliance with City codes. Potential code violations are identified based on exterior windshield surveys and complaints reported to the City. The City's code enforcement officers work closely with Housing Division and Planning Division staff, as well as property owners, to identify units in need of housing assistance. To address the continuing problem of illegal units and garage conversions, code enforcement officers survey the City to identify such units. They then notify the property owner that they are in violation of City law, and enforce the necessary actions required to bring properties into compliance with City Codes. These

efforts are intended to improve the condition of housing units and maintain neighborhood character throughout the City.

When appropriate, code enforcement officers provide property owners notice of any rehabilitation loans or grants for which they may be eligible to assist in correcting code violations. Eligible residents are typically referred to the Substantial Housing Rehabilitation Program (Program 1.2), the Environmental Rehabilitation Program (Program 1.3), the Neighborhood Fix-Up Grant (Program 1.4), and the CDBG Home Preservation Grant Program (Program 1.5).

- ***Timing of Implementation:*** *Ongoing, 2014-2021*
- ***Implementation Responsibility:*** *Community Development Department*
- ***Funding Source:*** *General Fund*
- ***Objectives:*** *To maintain and improve the condition of the City's existing housing stock and promote the use of established City programs for rehabilitation and revitalization of housing units in the City. Corrections will be addressed on a case by case basis.*

Program 1.2 – Substantial Housing Rehabilitation Loan Program

The Substantial Housing Rehabilitation Program was established by the former Commerce Community Development Commission[1] in 2004. This program provides deferred loans of up to $100,000 for the rehabilitation of owner-occupied single-family homes. Generally, the Substantial Housing Rehabilitation Loan Program offers residents the opportunity to work with a general contractor to complete substantial improvements to their home. Repairs that may be financed under this program include improvements designed to remedy health and safety code violations, building code violations, and general repairs. This program facilitates funding for the substantial rehabilitation of qualifying units that will then be purchased or rented at affordable prices under long term affordability covenants. This program is often applied in conjunction with the First Time Homebuyer Program, when funds are available.

During the 2008-2014 planning period, the elimination of the Commerce Community Development Commission resulted in the loss of a permanent funding source for this program. For the 2014-2021 planning period the City will investigate new funding opportunities and administer funds as they become available. If and when a permanent funding source is identified, the City will provide information about the program at City Hall, on the City's website and in other public places to increase awareness and solicit applications.

- ***Timing of Implementation:*** *Ongoing, 2014-2021*
- ***Implementation Responsibility:*** *Housing Division*
- ***Funding Source:*** *General Fund; Additional funding sources needed.*

[1] The Commerce Community Development Commission previously functioned as the City of Commerce's redevelopment agency. Pursuant to AB 1x26 and AB 1484, all redevelopment agencies in the state have been terminated.

- ***Objectives***: *Investigate new funding opportunities and administer funds as they become available. If and when a permanent funding source is identified, the City will provide information at City Hall, on the City's website and in other public places to encourage residents to utilize the program.*

Program 1.3 - Environmental Rehabilitation Program

As the land uses in Commerce are predominantly industrial and due to the proximity of residential uses to freeways and rail lines, the former Commerce Community Development Commission established the Environmental Housing Rehabilitation Grant Program to address and mitigate when possible the negative air quality and noise impacts created by the operation of rail road yards, freeways, and heavy industrial uses within the City. The grant is available to all low- and moderate-income residents in owner-occupied dwellings within the "Ayers Residential Neighborhood" which is significantly affected by these uses. This program is structured to provide assistance up to $30,000 for improvements or repairs to homeowners throughout the City.

This program was historically funded by the Redevelopment Agency Low and Moderate Income Housing Fund ("Housing Set-Aside Funds"), however the elimination of the Commerce Community Development Commission in the previous planning period, resulted in the loss of a permanent funding source for this program. For the 2014-2021 planning period, the City will investigate new funding opportunities and administer funds as they become available. If and when a permanent funding source is identified, the City will provide information about the program at City Hall, on the City's website and in other public places to increase awareness and encourage resident applications.

- ***Timing of Implementation:*** *Ongoing, 2014-2021*
- ***Implementation Responsibility:*** *Housing Division*
- ***Funding Source:*** *General Fund; Additional funding sources needed.*
- ***Objectives:*** *Investigate new funding opportunities and administer funds as they become available. If and when a permanent funding source is identified, the City will provide information at City Hall, on the City's website and in other public places to encourage residents to utilize the program.*

Program 1.4 - Neighborhood Fix Up Grant Program

The Commerce Community Development Commission established the Neighborhood Fix-Up Grant Program to provide financial assistance to City of Commerce residents for the improvement of their homes. The Neighborhood Fix-Up Grant Program reimburses residents with grant funds up to $1,000 for the materials purchased to complete upgrades to the exterior portion of their home that is visible from the street. Over the years, the Neighborhood Fix-Up Grant Program has proven to be successful in revitalizing residential areas in the City. The program made a significant visual impact in the City's neighborhoods and has promoted unity by bringing residents together with a common goal to improve their communities. This program was historically funded by the Low and Moderate Income Housing Fund ("Housing Set-Aside Funds"), however the elimination of the Commerce Community Development Commission in the previous planning period, resulted in the loss of a permanent funding source for this

program. For the 2014-2021 planning period the City will investigate new funding opportunities, administer funds as they become available, and will also refer residents to the CDBG Home Preservation Program, when appropriate. If and when a permanent funding source is identified, the City will provide information about the program at City Hall, on the City's website and in other public places to increase awareness and encourage resident participation.

- ***Timing of Implementation:*** *Ongoing, 2014-2021*
- ***Implementation Responsibility:*** *Housing Division*
- ***Funding Source:*** *General Fund; Additional funding sources needed.*
- ***Objectives:*** *Investigate new funding opportunities and administer funds as they become available. If and when a permanent funding source is identified, the City will provide information at City Hall, on the City's website and in other public places to encourage residents to utilize the program.*

Program 1.5 - CDBG Home Preservation Grant Program

The City of Commerce as a sub grantee of the Los Angeles Community Development Commission's Federal Community Development Block Grant (CDBG) funds, has implemented the Home Preservation Grant Program. This program was established to address substandard housing conditions and to promote property maintenance by providing residential rehabilitation grants to qualified low- and moderate-income residents living in single-family owner-occupied dwellings. The Housing Division administers the program and provides funds, up to $20,000, to qualified applicants to complete improvements to their residence. The City expects to budget approximately $60,000 annually for the program.

- ***Timing of Implementation:*** *Ongoing, 2014-2021*
- ***Implementation Responsibility:*** *Housing Division*
- ***Funding Source:*** *CDBG funds*
- ***Objectives:*** *Provide $60,000 in available funding to assist approximately 3 households annually.*

Program 1.6 - Monitor and Preserve Affordable Housing

The City will inventory and gather information to establish an early warning system for publicly assisted housing units that have the potential to convert to market rate. This early warning system will include a regular and periodic review of the conversion status of all subsidized housing in the City. The City will maintain their AB 987 database to include detailed information on all subsidized units, including those that have affordability covenants. The database will indicate the expiration date of any covenant and any requirements governing reimbursement. The City will also continue to monitor at-risk developments throughout the planning period. Once the City receives notice of a potential conversion of the federally

assisted units, the Housing Division will contact the owners to ascertain what will be required to extend the participation of these projects in the HUD 221 program.

All dwelling units that receive public assistance in the City (including rehabilitation assistance and land write-down projects) shall continue to have affordable housing agreements filed with the land to ensure the long-term affordability of the units. At such time that a housing unit's affordability covenant nears expiration and the owner wishes to sell the unit at (market rate), the City will work with the seller to ensure that the affordability status is maintained.

- ***Timing of Implementation:*** *Ongoing, 2014-2021.*
- ***Implementation Responsibility:*** *Housing Division*
- ***Funding Source:*** *General Fund*
- ***Objectives:*** *The City will strive to maintain all existing affordable rental units by monitoring their affordability and contacting property owners to discuss options for long term affordability.*

Program 1.7 - Energy Efficient Design

The City will review ordinances and recommend changes, where necessary, to encourage energy efficient housing design and practices that are consistent with State regulations. The City will periodically distribute literature and post information on their website regarding energy conservation, including solar power, energy efficient insulation, and subsidies available from utility companies, and encourage homeowners and landlords to incorporate these features into construction and remodeling projects. When possible the City will encourage energy conservation devices including, but not limited to lighting, water heater treatments, and solar energy systems for all residential projects. As part of the Housing Rehabilitation Program, Environmental Rehabilitation Program, and the Neighborhood Fix-up Grant Program residents can apply for loans, if a replacement source of permanent funding is identified, to increase the energy efficiency of their home. Additionally, the Planning, Housing and Building and Safety divisions will encourage maximum utilization of Federal, State, and local government programs, such as the County of Los Angeles Home Weatherization Program, that assist homeowners in providing energy conservation measures.

- ***Timing of Implementation:*** *Ongoing, 2014-2021*
- ***Implementation Responsibility:*** *Planning, Housing and Building and Safety Divisions*
- ***Funding Source:*** *General Fund*
- ***Objectives:*** *The Housing Division will advertise the appropriate information related to this program on the City's website. In addition, the Planning Division and code enforcement personnel will refer potential applicants to the Housing Rehabilitation Program or the Neighborhood Fix-up Grant Program as potential funding sources.*

Goal 2: Provide a variety of housing types to accommodate all economic segments of the community.

Commerce strives to achieve a balanced community, with housing units available for all income segments of the population. The existing housing stock offers many affordable options throughout the City. The intent of this goal is to assist in the provision of adequate housing to meet the needs of the community, including the needs of both renter and owner households.

Policy 2.1: Provide homeownership assistance to low- and moderate-income households.

Policy 2.2: Continue to participate in State and federally sponsored programs designed to maintain housing affordability, including the Section 8 rental assistance program.

Policy 2.3: Explore opportunities for new residential development within those areas of the City occupied by vacant, obsolete commercial and industrial uses.

Policy 2.4: Continue to provide development incentives, when possible to support non-profit and for-profit organizations in their efforts to construct, acquire, and improve affordable housing.

Policy 2.5: Facilitate development of senior and low- income housing through use of financial and/or regulatory incentives.

Policy 2.6: Maintain lower densities in the Bandini-Rosini and Rosewood residential neighborhoods, while encouraging higher density residential development in the City's Southeast Planning Area.

Policy 2.7: Ensure that potential sites for residential development, located in those areas that were previously occupied by nonresidential land uses, are investigated to determine whether or not previous on-site uses present potential health risks.

Programs

Program 2.1 - First Time Homebuyer Program

In 2009, the former Commerce Community Development Commission successfully established the First Time Homebuyer Program. This Program was intended to operate in conjunction with the Substantial Housing Rehabilitation Loan, by providing residents the opportunity to apply for assistance to purchase homes acquired and rehabilitated by the City. Residents were also allowed to identify a non-City owned residence and apply for rehabilitation and financial assistance. To further homeownership opportunities the City of Commerce also partners with the Los Angeles County Housing Authority to assist Commerce residents currently on the County's Section 8 waitlist. During the 2008-2014 planning period, the elimination of the Commerce Community Development Commission resulted in the loss of a permanent funding source for this program. For the 2014-2021 planning period the City will investigate new funding opportunities and administer funds as they become available. If, and when, a permanent funding source

is identified, the City will provide information about the program at City Hall, on the City's website and in other public places to increase awareness and to encourage resident participation.

- ***Timing of Implementation:*** *Ongoing, 2014-2021 until funding is unavailable or the last participant is no longer active.*
- ***Implementation Responsibility:*** *Housing Division*
- ***Funding Source:*** *General Fund; Additional funding sources needed.*
- ***Objectives:*** *Investigate new funding opportunities and administer funds as they become available. If and when a permanent funding source is identified, the City will provide information at City Hall, on the City's website and in other public places to encourage residents to utilize the program.*

Program 2.2 - (Senior and Handicapped) Rent Subsidy Program

To augment limited Federal resources for rental assistance, the City previously utilized redevelopment set-aside monies to provide rent vouchers to seniors and handicapped residents. With the dissolution of the Commerce Community Development Commission, the City has allocated money from their General Fund to continue the program, but has reduced and limited the number of recipients. The program provides subsidies to eligible households with residents that are at least 57 years of age or are physically handicapped. The prospective applicant must also qualify as low- or very low-income. The maximum monthly subsidy for a qualified household is $200. Applicants are expected to pay a minimum of 25% of their income towards rent and the Commission will make the appropriate supplemental payments to the landlord. Landlords must agree to participate in the program and consent to a yearly inspection of the unit to insure it is up to Building and Safety standards. For the 2014-2021 planning period the City will investigate new funding opportunities and administer funds as they become available. If, and when, an additional funding source is identified, the City will provide information about the program at City Hall, on the City's website and in other public places to increase awareness and solicit additional applications.

- ***Timing of Implementation:*** *This program is ongoing and will be continued.*
- ***Implementation Responsibility:*** *Community Services Division*
- ***Funding Source:*** *General Fund*
- ***Objectives:*** *Investigate new funding opportunities and administer funds as they become available. If and when a permanent funding source is identified, the City will provide information at City Hall, on the City's website and in other public places to increase awareness and solicit additional applications.*

Program 2.3 - Los Angeles County Partnership

As a means of further leveraging housing assistance, the City will cooperate with the Los Angeles County Community Development Commission (CDC) and Los Angeles County Housing Authority to promote resident awareness and application for County run housing assistance programs. These programs include the:

- Mortgage Credit Certificate Program (MCC)
- Housing Economic Recovery Ownership (HERO) Program,
- Home Ownership Program (HOP),
- Mortgage Credit Certificate Program (MCC),
- Home Investment Partnerships Program (HOME),
- Single-family Grant Program (SFGP), and
- Single-family Rehabilitation Loan Program.

The County offers a variety of housing assistance programs that can supplement the City's current housing programs. The City has also begun to coordinate with the County to assist Commerce households currently on the County's Section 8 waitlist by referring them to the City. As the City has little control over how the County's programs are administered, the City will be responsible for providing program information on the City's website, in the City's newsletter and at City Hall.

- ***Timing of Implementation:*** *Ongoing, 2014-2021*
- ***Implementation Responsibility:*** *Housing Division*
- ***Funding Source:*** *General Fund*
- ***Objectives:*** *Increase resident awareness about housing programs offered by the County by providing information at City Hall, on the City's website and in other public places to increase awareness*

Goal 3: Minimize the impact of governmental constraints on housing production and affordability.

Market, environmental, and governmental factors pose constraints to the provision of adequate and affordable housing. These factors tend to disproportionately impact lower and moderate-income households due to their limited resources for absorbing the costs. The City is committed to removing governmental constraints that hinder the production of housing and offers a streamlined permitting process to facilitate efficient entitlement and building permit processing.

Policy 3.1: Support innovative public, private and non-profit efforts toward the development of affordable housing.

Policy 3.2: Periodically review and revise the City's development standards, if necessary, to facilitate quality housing that is affordable to all income levels.

Policy 3.3: When feasible, consider reducing, subsidizing, or deferring development fees to facilitate the provision of affordable housing.

Policy 3.4: Continue the provision of incentives, including the density bonus incentive program, which encourages developers to include affordable units in their projects.

Policy 3.5: Allow second residential units on single-family parcels as a means of providing additional infill housing opportunities.

Policy 3.6: Identify funding to be used to lower land costs of proposed projects, to ensure that affordable units are incorporated within the development.

Programs

Program 3.1 - Housing Opportunity Overlay Program

During the 2008-2014 planning period, the City established a new Housing Opportunity Overlay in the 2020 General Plan to facilitate the transition of existing non-residential uses to new residential development. The overlay designation includes a cluster of industrial properties within the Rosewood Planning Area totaling 44.3 acres. Within the identified planning area, the overlay encourages manufacturing uses to redevelop into residential uses. For the 2014-2021 planning period, the City has identified 11 parcels located east of Eastern Avenue, totaling 19.9 acres as the key opportunity area to accommodate their RHNA allocation and AB 1233 carryover. If the Phase I area is redeveloped at a minimum 20 units per acre, the City conservatively estimates that approximately298new units could be provided.

To finalize the creation of the overlay, the City has established the development process required to implement the overlay area, including the creation of development standards and design guidelines. In developing the guidelines and standards the City plans to ensure that the development of high density, multifamily, affordable housing is allowed and encouraged. The City has specifically identified the

overlay area in the Housing Resources section as appropriate to meet the City's remaining RHNA. Throughout the planning period, the City will monitor the development of parcels within the overlay area and meet with land owners to discuss potential redevelopment opportunities.

- ***Timing of Implementation:*** *The City will ensure that the program is implemented concurrent with Housing Element adoption, (by October 2013), will continuously monitor development activity in the overlay area and will contact property owners in the overlay area periodically to discuss the future of the area.*
- ***Implementation Responsibility:*** *Planning Division*
- ***Funding Source:*** *General Fund monies will be used for planning administration.*
- ***Objectives:*** *Facilitate the redevelopment of underutilized sites by identifying housing opportunity sites. Approach land owners and business operators in the overlay area to discuss the future transition of uses. Provide information to interested developers about potential residential opportunity sites.*

Program 3.2 - Atlantic Blvd. Housing Program

In the 2020 General Plan, a Mixed-Use designation along the Atlantic Boulevard corridor between the Mixmaster (on the north) and Washington Boulevard (on the south) was created. This land use designation provides for both residential development and commercial development. The permitted residential development densities range from 0 to 27 units per acre. The land use designation permits stand-alone residential and/or residential units located on the upper levels of a multi-story building containing commercial uses on the ground floor. During the 2014-2021 planning period the City will develop standards and design guidelines for the Mixed Use Overlay in the City's Zoning Ordinance. The City will maintain an inventory of opportunity sites along Atlantic Boulevard and provide information about development opportunities and the development standards established for the overlay.

- ***Timing of Implementation:*** *Ongoing 2014-2021*
- ***Implementation Responsibility:*** *Planning Division and Housing Division*
- ***Funding Source:*** *General Fund monies will be used for planning and administration.*
- ***Objectives:*** *The City will contact developers in the area to inform them of opportunity sites, the established development standards, and other pertinent information. The City may also publish information online and at City Hall about the Atlantic Boulevard Housing Program.*

Program 3.3 - Lot Consolidation Program

Parcels located in specific areas of the City within the Housing Opportunity overlay and along Atlantic Boulevard tend to be narrow and shallow in size, which can act as a constraint to the development of larger housing projects. To encourage the development of higher density residential and mixed-use projects on vacant and underutilized sites, the City offers incentives to encourage lot consolidation, including but not limited to: development standard modifications (i.e. lot size, parking, and open space requirements) streamlined processing, and assistance with development fees, when funding is available.

- ***Timing of Implementation:*** *Ongoing, 2014-2021*
- ***Implementation Responsibility:*** *Planning Division and Housing Division*
- ***Funding Source:*** *General Fund monies will be used for planning administration.*
- ***Objectives:*** *The City will notify housing developers of development incentives and opportunities for lot consolidation.*

Program 3.4 - Density Bonus Program

In 2005, the State statute was modified, requiring density bonus law to give greater density bonuses for lower income housing. In compliance with State law, housing developments proposed within the City of Commerce are eligible for a 20% density bonus if 5% percent of the units are affordable to very low-income households or if 10% of the units are affordable to lower income households. Similarly, housing developments may qualify for a 5% density bonus if 10% of the units are affordable to moderate-income families.

To further facilitate the development of additional affordable units additional bonuses are granted according to a sliding scale. For example, an additional 2.5% density bonus is granted for each additional increase of 1% very low-income units, an additional 1.5% density bonus for each additional increase in lower income units, and an additional 1% density bonus for each 1% increase in moderate-income units. No total density bonus can be greater than 35% percent. A project qualifying as a senior citizen housing development is entitled to a 20% density bonus and cannot be combined with the bonuses granted for affordable housing. In addition to offering a density bonus, the City will offer fast track processing, fee modifications, reductions in development and parking standards, and funding for off-site improvements to encourage and facilitate the development of affordable housing.

Developers granted a density bonus enter into an Affordable Housing Agreement with the City to ensure the continued affordability of these units for a minimum of 45 or 55 years. Affordable units are rented at levels that do not to exceed 30% of gross monthly income, subject to annual rent adjustments based on changes in the tenant's income. This is an existing program that will be continued. The City will evaluate its density bonus provisions as part of the Zoning Ordinance revisions that will be required to implement the General Plan. In the event it is not in conformance with current State requirements, the Density Bonus section of the City's Zoning Ordinance will be revised.

- ***Timing of Implementation:*** *Implementation will occur concurrent with Housing Element adoption. The City will administer the program throughout the planning period.*
- ***Implementation Responsibility:*** *Planning Division*
- ***Funding Source:*** *General Fund monies will be used for planning administration.*
- ***Objectives:*** *To increase the number of affordable units throughout the City in new housing developments. The Density Bonus will be emphasized in future development within the Housing Opportunity Overlay Areas.*

Program 3.5 - Streamlined Processing

The City continues to monitor permit processing times to ensure the fastest possible turnaround for applications and identify any impediments to affordable housing. Additionally, the processing time of applications for new construction or rehabilitation of housing for lower and moderate-income households and seniors will be prioritized.

- ***Timing of Implementation:*** *Ongoing, 2014-2021.*
- ***Implementation Responsibility:*** *Planning Division*
- ***Funding Source:*** *General Fund monies will be used for planning administration.*
- ***Objectives:*** *Continue to monitor permit processing times and investigate ways to streamline the process. Prioritize the review of projects that include affordable housing units.*

Program 3.6 – Incentives for Large Multi-Family Units

The City recognizes that housing priorities shift over time as housing needs change. The characteristics of the City's current housing need have been identified through the Community Profile, specifically the analysis of the special needs groups. Based on the needs analysis completed for this Housing Element, there is a need to provide affordable rental units for large families. Consequently, the City will prioritize its program activities to meet the needs of large families, as well as, other special needs groups, including extremely-low income households, and people with disabilities, including developmental disabilities. During the planning period City staff will periodically review the Zoning Ordinance to determine what incentives and/or regulations can be implemented as a means to promote the development of rental housing with three or more bedrooms. As part of the Housing Opportunity Overlay the City has also included development standards to encourage and facilitate an increased number of larger units. The requirements for mixed-use housing are applicable to both rental and owner occupied housing.

- ***Timing of Implementation:*** *Ongoing, 2014-2021*
- ***Implementation Responsibility:*** *Planning Division*
- ***Funding Source:*** *General Fund monies will be used for planning administration.*

- ***Objectives:*** *To increase the number of affordable multi-bedroom units to accommodate larger low-income families*

Program 3.7 - Residential Development Standards

On a regular basis, City staff will review the development standards for the R-1, R-2, and R-3 zones to identify standards that may constrain the development of affordable housing and housing for disabled individuals. Specifically, Staff will review requirements such as the minimum unit size, property line setbacks, parking requirements, height restrictions, etc. to ensure that they are necessary and pertinent. The City is committed to address any constraints identified in **Section 5**, *Housing Constraints,* during the update process. In the interim, Staff will on a case by case basis identify ways that standards can be relaxed if it is determined that such requirements are in any way impeding the development of affordable housing or housing for disabled residents. The City will also continue to provide fast track processing for applications related to the creation of affordable housing and will offer fee modifications for projects including affordable units that are required to apply for variations to the existing development standards.

- ***Timing of Implementation:*** *Ongoing, 2014-2021*
- ***Implementation Responsibility:*** *Planning Division*
- ***Funding Source:*** *General Fund monies will be used for planning administration.*
- ***Objectives:*** *Review development standards to identify constraints and remove or offset constraints where possible.*

Program 3.8 - Second Unit Ordinance

The City of Commerce recognizes that second units are a unique opportunity to provide affordable units in residential areas, particularly for elderly and low income residents. Consequently, the City will ensure that the second unit ordinance complies with State law and will promote the ordinance to homeowners and property managers. In many of the City's neighborhoods there are a number of second units that have been constructed, however many do not comply with planning and building requirements. The City will encourage residents that have illegally constructed a second unit on their property to bring existing illegal units into compliance with City zoning and building codes. The City may recommend that homeowners apply for assistance through existing rehabilitation programs such as the Neighborhood Fix-Up Grant Program or the CDBG Home Preservation Grant Program to modify units.

- ***Timing of Implementation:*** *The City will ensure that the ordinance is updated as required by State law concurrent with Housing Element adoption and will advertise the program throughout the planning period.*
- ***Implementation Responsibility:*** *Planning Division*
- ***Funding Source:*** *General Fund*

- ***Objectives:*** *Encourage the construction of 5 units over the planning period. To facilitate use of the ordinance the City will provide informational materials about the second unit ordinance at City Hall, on the City's website and in other public places to increase awareness.*

Program 3.9- Off Site Improvements

On a case by case basis, the City will provide opportunities for public, private and non-profit groups to develop affordable housing by constructing off-site improvements and physical infrastructure as Capital Improvement Projects. Assistance provided by the City may include traffic, street and sewer upgrades as well as other pedestrian and mobility improvements. The City will work directly with developers, on a case by case basis, to determine the feasibility of providing assistance.

- ***Timing of Implementation:*** *Ongoing, on an annual basis*
- ***Implementation Responsibility:*** *Planning Division and Housing Division*
- ***Funding Source:*** *General Fund when funds are available.*
- ***Objectives:*** *Facilitate easier development of affordable housing by allowing improvements to be negotiated.*

Program 3.10 - Water and Sewer Service Providers

In accordance with Government Code Section 65589.7 as revised in 2005, immediately following City Council adoption, the City must deliver a copy of the 2014-2021 Housing Element to all public agencies or private entities that provide water or sewer services to properties within the City of Commerce.

- ***Timing of Implementation:*** *By December 2013*
- ***Implementation Responsibility:*** *Planning Division*
- ***Funding Source:*** *General Fund*
- ***Objectives:*** *Ensure that water and sewer providers are aware of the City's intentions for residential development throughout the City.*

Program 3.11 - Flood Management

In accordance with Government Code Section 65302, as part of the current General Plan update process the City reviewed and revised the Conservation and Safety Elements to consider flood risks as they relate to future land use decisions. The Conservation Element has been updated to identify rivers, creeks, streams, flood corridors, riparian habitats, and land that may accommodate floodwater for purposes of groundwater recharge and storm water management. Additionally, the Safety Element identifies information regarding flood hazards, including, but not limited to flood hazard zones, National Flood Insurance Program maps published by FEMA, information about flood hazards, designated floodway maps, dam failure inundation maps, areas subject to inundation in the event of the failure of levees or

floodwalls, etc. as listed in Section 65302(g)(2) and establish a set of comprehensive goals, policies, and objectives for the protection of the community from the unreasonable risks of flooding. The City will continue to utilize information from the General Plan and consider flood risks in all future land use decisions.

- ***Timing of Implementation:*** *Ongoing, 2014-2021.*
- ***Implementation Responsibility:*** *Planning Division*
- ***Funding Source:*** *General Fund*
- ***Objectives:*** *Ensure that flood risks are considered when making land use decisions.*

Goal 4: Promote equal housing opportunity for all residents.

To fully meet the community's housing needs, the City must assure that housing is accessible to all residents, regardless of age, race, religion, family status, or physical disability. The City, attempts to achieve this through their reasonable accommodation ordinance and through a partnership with Los Angeles County Community Development Commission.

Policy 4.1: Continue to enforce fair housing laws prohibiting discrimination in the building, financing, selling, or renting of housing on the basis of race, ethnicity, ancestry, national origin, religion, sex, disability, age, marital status, familial status, source of income, sexual orientation, or any other arbitrary factor.

Policy 4.2: Cooperate with the Los Angeles County Fair Housing Council in the enforcement of fair housing laws and in the review of violations of applicable Federal and State fair housing laws.

Policy 4.3: Assess the social service needs of the community and provide a wide variety of social service programs to City residents.

Policy 4.4: Provide that displacement of low-income households is avoided and, where necessary, is carried out in an equitable manner.

Policy 4.5: Encourage housing construction or alteration to meet the needs of residents with special needs such as the elderly and disabled.

Programs

Program 4.1 - Reasonable Accommodation Program for Disabled

The purpose of this program is to ensure that sufficient provisions are provided by the City to facilitate a resident's request for "reasonable accommodation." This means that City Staff will ensure that the established development requirements do not place an undue burden on disabled persons living or moving into the City. For example, a household with a handicapped resident may require modifications to the housing unit to accommodate that individual. Typical modification requests include the installation of wheel chair ramps (both interior and exterior), wider doorways, and installation of wheelchair elevators in units containing multiple-levels, and the installation of handrails and modified plumbing fixtures in bathrooms. Funds from the Housing Rehabilitation Program or the CDBG Home Preservation Grant Program are available and may be used to complete the necessary improvements.

During the previous planning period, the City developed procedures for reasonable accommodation in accordance with fair housing and disability laws and amended the City's Municipal Code to provide for clear rules, policies, procedures, and fees for reasonable accommodation in order to promote equal access to housing. Policies and procedures indicate the qualifying individuals who may request a reasonable accommodation (i.e., persons with disabilities, family-members, landlords, etc.) along with any specific procedures that must be followed. The City staff also provides referrals to rehabilitation and home modification programs for qualifying residents.

- ***Timing of Implementation:*** *The City will ensure that a reasonable accommodation ordinance will be implemented concurrent with Housing Element adoption and will promote the program throughout the planning period, 2014-2021.*

- ***Implementation Responsibility:*** *Housing Division and Planning Division*

- ***Funding Source:*** *General Fund*

- ***Objectives:*** *Administer City operated programs to assist disabled households with architectural modifications to their homes and continue to implement the provisions of the Americans with Disabilities Act (ADA). Provide information in public places regarding the City's reasonable accommodation ordinance and make information on this program more widely available to residents. Referrals will be made whenever possible.*

Program 4.2 – Fair Housing Program

The City will continue to contract with the Housing Rights Center to provide residents with fair housing services using Community Development Block Grant (CDBG) funds. Fair housing services provided by the Housing Rights Center include counseling and mediation between tenants and landlords. The Housing Rights Center also conducts seminars and information activities throughout the region. The City will refer fair housing complaints to the Housing Rights Center SGVFHC as appropriate. The City will assist in program outreach through placement of fair housing program brochures in both English and Spanish at the public counter, City library, post office, and other community locations such as the City's senior center.

- ***Timing of Implementation:*** *Ongoing, 2014-2021.*

- ***Implementation Responsibility:*** *The Housing Division will cooperate with the Housing Rights Center in order to ensure that adequate information is provided to the City's residents.*

- ***Funding Source:*** *General Fund and CDBG funds.*

- ***Objectives:*** *Comply with all State and federal fair housing requirements when implementing housing programs or delivering housing-related services.*

Action 4.3 – Housing for Developmentally Disabled Persons Program

The housing needs of persons with disabilities, including persons with developmental disabilities are typically not addressed by Title 24 Regulations. The housing needs of persons with disabilities, in addition to basic affordability, range from slightly modifying existing units to requiring a varying range of supportive housing facilities. To accommodate residents with developmental disabilities the City will seek State and Federal monies, as funding becomes available, in support of housing construction and rehabilitation targeted for persons with disabilities, including developmental disabilities. Commerce will also provide regulatory incentives, such as expedited permit processing and fee waivers and deferrals, to projects targeted for persons with disabilities, including persons with developmental disabilities. To further facilitate the development of units to accommodate persons with developmental

disabilities, the City shall reach out annually to developers of supportive housing to encourage development of projects targeted for special needs groups. Finally, as housing is developed or identified, Commerce will work with the Eastern Los Angeles Regional Center to implement an outreach program informing families within the City of housing and services available for persons with developmental disabilities. Information will be made available on the City's website.

- ***Timing of Implementation**: Ongoing, 2014-2021.*
- ***Implementation Responsibility:** The Planning Division*
- ***Funding Source**: General Fund*
- ***Objective:** The City will continue to offer specific regulatory incentives throughout the planning period, when funding is available, apply for funding at least twice during the planning period to encourage development of unit specifically for persons with disabilities, will reach out annually to developers, and will initiate a cooperative outreach program with the Regional Center by 2014.*

Goal 5: Identify Adequate Sites to Achieve Housing Variety.

Meeting the housing needs of all residents of the community requires the identification of adequate sites to accommodate a variety of housing types. By capitalizing on the allowances in the Development Code and continuing to maintain an inventory of potential sites, the City will assure that adequate residentially-zoned and mixed-use sites are available to accommodate the 2014-2021 RHNA allocation.

Policy 5.1: Provide a range of residential development types in Commerce, including low density single-family homes, moderate density townhomes, higher density multi-family units, and residential/commercial mixed use in order to address the City's share of regional housing needs.

Policy 5.2: Maintain zoning regulations that permit by right, in designated zones, housing that meets temporary and short-term housing needs for individuals and families.

Policy 5.3: Provide incentives to facilitate the development of senior housing options.

Policy 5.4: Require that housing constructed expressly for low- and moderate-income households not be concentrated in any single portion of the City.

Programs

Program 5.1 - Ensure Adequate Sites to Accommodate the RHNA

For the 2014-2021 planning period, the City of Commerce has an assigned RHNA allocation of 46 units and is also responsible for accommodating 13 lower income units from the 2008-2014 planning period, in accordance with AB 1233. Consequently, the City must show resources to accommodate a total of 57 units, including 32 lower income units, 7 moderate income units, and 20 above moderate income units. As the City of Commerce has little vacant land, future housing development is likely to occur as infill development. Under this program, the City will promote the development of multifamily housing, by right at a minimum of 20 dwelling units per acre, on specific sites as identified in the Housing Resources section. For the purposes of housing element law and in accordance with Chapter 724, by-right shall mean the local government's review shall not require: a conditional use permit; planned unit development permit; or other discretionary local government review or approval that would constitute a "project" for the purposes of Division 13 (commencing with Section 21100) of the Public Resources Code. To further encourage and facilitate the development of affordable housing, the City will offer streamlined processing, fee modifications, density bonus incentives, reductions in development and parking standards, and funding, when available, for off-site improvements and any required environmental cleanup.

To ensure sufficient residential capacity to accommodate the identified regional need for lower-income households is maintained within the Housing Opportunity Overlay, the City will develop and implement a formal monitoring program. The program will track development approvals on identified sites and for those that result in a reduction of potential affordable units below the residential capacity assumed in **Table 6-6**, the City will identify and designate additional sites to rezone to ensure that no net loss occurs. This means that if any one of the identified sites is not developed in accordance with the development

requirements outlined for the overlay, an alternative site or sites must be identified and rezoned to maintain the overall affordable unit capacity.

- ***Timing of Implementation:*** *The City will ensure that the Housing Opportunity Overlay is implemented concurrent with Housing Element adoption and will provide information on development opportunities throughout the planning period, 2014-2021.*
- ***Implementation Responsibility:*** *Housing Division and Planning Division*
- ***Funding Source:*** *General Fund*
- ***Objectives:*** *Continue to provide appropriate land use designations and maintain an inventory of suitable sites for residential development. Make the vacant and underutilized residential sites inventory available to non-profit and for-profit housing developers on the City's website.*

Program 5.2 - Extremely Low-Income and Special Needs Housing

Extremely low-income households and households with special needs have limited housing options in Commerce. Housing types appropriate for these groups include: emergency shelters, transitional housing, supportive housing, and single-room occupancy (SRO) units. To accommodate this population group the City has amended the Zoning Code to allow emergency housing by right in the Heavy Industrial (M-2) zone. The M-2 zone was selected as it is the City's most prevalent land use and allows for a significant number of opportunities to facilitate the provision of emergency housing. Additionally, the City has amended the language of the residential zones to permit transitional and supportive housing, including SRO units as a residential use, subject only to those regulations that apply to other residential uses within that zone.

To assist in the development of housing to meet the needs of extremely low-, very low- and low-income households, the City offers fast track processing, development fee modifications, density bonus incentives, reductions in development and parking standards, and funding for off-site improvements. The City prioritizes funding opportunities to ensure that extremely low- and very low-income housing are given precedence and are able to easily access the financial and regulatory incentives offered by the City.

- ***Timing of Implementation:*** *The City will ensure that the Zoning Code is updated to be consistent with SB2 provisions and implemented concurrent with Housing Element adoption.*
- ***Implementation Responsibility:*** *Housing Division and Planning Division*
- ***Funding Source:*** *General Fund*
- ***Objectives:*** *Monitor available sites for the development of emergency, transitional and supportive housing.*

Program 5.3 – Alternative Housing Models

The City recognizes the changing housing needs of its population, including aging seniors in need of supportive services. To meet such needs, the City can encourage, through development incentives, the provision of more innovative housing types that may be suitable for the community, including community care facilities, supportive housing, and assisted living for seniors. Assisted living facilities are designed for elderly individuals needing assistance with activities of daily living but desiring to live as independently as possible for as long as possible. Such facilities bridge the gap between independent living and nursing homes, and offer residents help with daily activities such as eating bathing, dressing, laundry, housekeeping, and assistance with medications. Assisted living can help to meet the housing and supportive services needs of Commerce's relatively large and growing senior population.

- ***Timing of Implementation**: Ongoing, 2014-2021.*
- ***Implementation Responsibility**: Housing Division and Planning Division*
- ***Funding Source**: General Fund*
- ***Objectives**: Facilitate the development of alternative housing models suited to the community housing needs through the provision of flexible zoning regulations. Continue to provide appropriate standards to encourage development of senior housing to meet the needs of the City's growing senior population.*


CITY OF COMMERCE
CALIFORNIA
INCORPORATED JANUARY 28, 1960

Table 2-1:
Housing Plan Summary

Housing Program	Responsible Agency	Funding Source	Time Frame	Total Objective
Goal 1: Conservation of the City's existing housing stock.				
1.1 – Code Enforcement	Community Development	General Fund	Ongoing	Address violations
1.2 – Housing Rehabilitation Program	Housing	New source needed	Ongoing	Identify new funding sources
1.3 – Environmental Rehabilitation Program	Housing	New source needed	Ongoing	Identify new funding sources
1.4 – Neighborhood Fix Up Grant Program	Housing	New source needed	Ongoing	Identify new funding sources
1.5 – CDBG Home Preservation Grant Program	Housing	CDBG Funds	Ongoing	Assist 3 HH/year
1.6 – Monitor & Preserve Affordable Housing	Housing	General Fund	Ongoing	Maintain affordable units
1.7 – Energy Efficient Design	Housing/Planning	General Fund	Ongoing	Assist with energy efficiency
Goal 2: Increase affordable housing opportunities.				
2.1 – First Time Homebuyers Program	Housing	New source needed	Ongoing	Identify new funding sources
2.2– Senior Rent Subsidy Program	Housing	General Fund	Ongoing	Assist 30 HH/year
2.3 – Los Angeles County Partnership Program	Housing	General Fund	Ongoing	Advertise housing programs
Goal 3: Removal of constraints to new housing construction.				
3.1 – Housing Opportunity Overlay Program	Planning	General Fund	Ongoing	Publicize opportunities
3.2 – Atlantic Boulevard Housing Program	Housing/Planning	General Fund	Ongoing	Publicize opportunities
3.3 – Atlantic Blvd. Lot Consolidation Program	Housing/Planning	General Fund	Ongoing	Publicize opportunities
3.4 – Density Bonus Program	Planning	General Fund	Ongoing	Inform developers & residents
3.5 – Incentives for Large Multi-Family Units	Planning	General Fund	Ongoing	Inform developers & residents
3.6 – Residential Development Standards	Planning	General Fund	Ongoing	Review for constraints
3.7 – Second Unit Ordinance	Planning	General Fund	Ongoing	Provide 5 units/PP
3.8 – Off Site Improvements	Housing/Planning	General Fund	Ongoing	Easier affordable development
3.9 – Water and Sewer Providers	Planning	General Fund	Dec 2013	Provide Housing Element
Goal 4: Equal housing opportunity.				
4.1 – Reasonable Accommodation	Housing/Planning	General Fund	Ongoing	As needed basis
4.2 – Fair Housing Program	Housing	GF/RDA	Ongoing	Comply with the law

Table 2-1:
Housing Plan Summary

Housing Program	Responsible Agency	Funding Source	Time Frame	Total Objective
Goal 5: Identify adequate sites to achieve housing variety.				
5.1 – Ensure Adequate Sites to Accommodate the RHNA	Housing/Planning	General Fund	Ongoing	Accommodate RHNA
5.2 – Extremely Low-Income & Special Needs Housing	Housing/Planning	General Fund	Ongoing	Accommodate ELI HH
5.3 – Alternative Housing Models	Housing/Planning	General Fund	Ongoing	Easier affordable development

Notes:
1. HH = households, PP = planning period, ELI = Extremely Low-Income

3. QUANTIFIED OBJECTIVES

California Housing Element Law requires jurisdictions to estimate the number of affordable housing opportunities that will be created over the planning period. The quantified objectives for the 2014-2021 Housing Element presents the anticipated and potential affordable housing development for the planning period starting on January 1, 2014 and ending June 30, 2021.

It is important to note that while the goal of the quantified objective section is to show how the City will meet its remaining RHNA allocation, and based on the premise that the City intends to make every effort to achieve these goals, Commerce cannot guarantee that these needs will be met given limited financial and staff resources, and the increasing gap in affordability of housing resources and incomes. Satisfaction of the City's regional housing needs will partially depend on the cooperation of private funding sources and resources of the State, Federal and County programs that are used to support the needs of the extremely low-, very low-, low-, and moderate-income households. Additionally, outside economic forces heavily influence the housing market. State law recognizes that a locality may not be able to accommodate its regional fair share housing need.

Table 3-1 presents the City's quantified objectives in three categories: construction of new affordable units, substantial rehabilitation of substandard units and the conservation of affordable housing. New construction of affordable units focuses on the City's ability to accommodate its combined RHNA allocation (57 units) on land identified in the sites inventory. It is important to note that this subcategory assumes optimum conditions for the production of housing and does not take into account how environmental, physical, and market conditions influence the timing, type and cost of housing production in a community.

During the planning period, the City anticipates that 57 units will produced in the upcoming planning period, 24 units (3 units assisted annually) will be assisted through the CDBG Housing Preservation Program, and the affordability of 30 units will be preserved through rent subsidies offered by the City. These programs are dependent on funding availability and the City will assist households to the extent possible given the existing economic climate. In total the City anticipates that 111 units will be constructed, preserved or rehabilitated during the planning period, which is sufficient to accommodate the City's remaining RHNA allocation.

Table 3-1:
Quantified Objectives

	Extremely Low	Very Low	Low	Moderate	Above Moderate	Total
New Construction[1]	6	13	13	7	20	57
Rehabilitation[2]	--	--	12	12	--	24
Conservation/Preservation[3]	--	--	30	--	--	30
Total	**6**	**13**	**55**	**19**	**20**	**111**

Notes:
1. Construction objectives represent the City's combined RHNA need including the 2014-2021 allocation and AB 1233 carryover.
2. Rehabilitation includes units assisted through the CDBG Home Preservation Program.
3. Conservation/Preservation includes households assisted though the Senior Rental Subsidy Program

4. COMMUNITY PROFILE

4.1 – HOUSING CHARACTERISTICS IN COMMERCE

This section of the Housing Element provides an overview of the demographic, housing, and socio-economic characteristics of the City of Commerce. This section provides information on the following:

- Residential Planning Areas, providing an introduction to the residential planning areas identified in the City of Commerce;
- Population Characteristics, including population growth trends in the City, age characteristics, and ethnicity;
- Housing Unit Characteristics focuses on trends in residential development, housing unit types, and housing tenure;
- Household Characteristics provides an overview of the key socio-economic characteristics germane to housing needs;
- Employment and Economic Characteristics describes those economic and market factors relevant to the maintenance of existing housing and the need for the production of new housing in the City; and,
- Special Housing Needs Groups includes a discussion of City residents that have special housing requirements.

The primary source of information used in the compilation of demographic, housing, and socio-economic information for the City includes data collected by the U. S. Bureau of the Census. A number of other sources were also consulted during the preparation of this analysis, including the Federal Department of Housing and Urban Development (HUD) and the Southern California Association of Governments (SCAG). SCAG is mandated under State law to prepare population, housing, and employment projections that are to be used in the development of the region's Growth Management Plan. These projections were used in the determination of the City's Regional Housing Needs Assessment (RHNA). Finally, the City's General Plan and the Five Year Implementation Plan were also reviewed and pertinent statistical data have been included.

Periodically, HUD provides data summarizing the state of housing for jurisdictions. This report is based on US Census data and is part of the Comprehensive Housing Assessment Strategy (CHAS) Databook. **Table 4-1** summarizes the assistance needs of all households in Commerce based on the most recent CHAS data. This data is broken down by household tenure (renter/owner), household type, and "housing problems." Households with "housing problems" includes units that: 1) have physical defects (lacking complete kitchen or bathroom); 2) are overcrowded (housing units with more than one person per room); 3) have a housing cost burden exceeding 30 percent of gross income; or 4) have a severe housing cost burden exceeding 50 percent of gross income.

Table 4-1:
Housing Assistance Needs of Income Groups by Tenure 2000

Household by Type, Income & Housing Problem	Total Renters	Total Owners	Total Households[1]
Extremely Low-Income (0-30% MFI)	**525**	**185**	**710**
% with housing problems	74%	78%	75%
% with cost burden > 30%	74%	76%	75%
% with cost burden > 50%	63%	57%	61%
Very Low-Income (31-50% MFI)	**315**	**205**	**520**
% with housing problems	79%	41%	64%
% with cost burden > 30%	73%	41%	61%
% with cost burden > 50%	30%	37%	33%
Low-Income (51-80% MFI)	**330**	**440**	**770**
% with housing problems	61%	73%	68%
% with cost burden > 30%	30%	68%	52%
% with cost burden > 50%	0%	32%	18%
Moderate-Income (81-120% MFI)	**465**	**835**	**1,300**
% with housing problems	41%	39%	40%
% with cost burden > 30%	2%	26%	17%
% with cost burden > 50%	0%	2%	1%
Total Households	**1,635**	**1,665**	**3,300**
% with any housing problems	63%	53%	58%
% with cost burden > 30%	45%	44%	45%
% with cost burden > 50%	26%	20%	23%

Source: HUD CHAS Data Book, "Housing Problems Outputs for all Households", 2000.

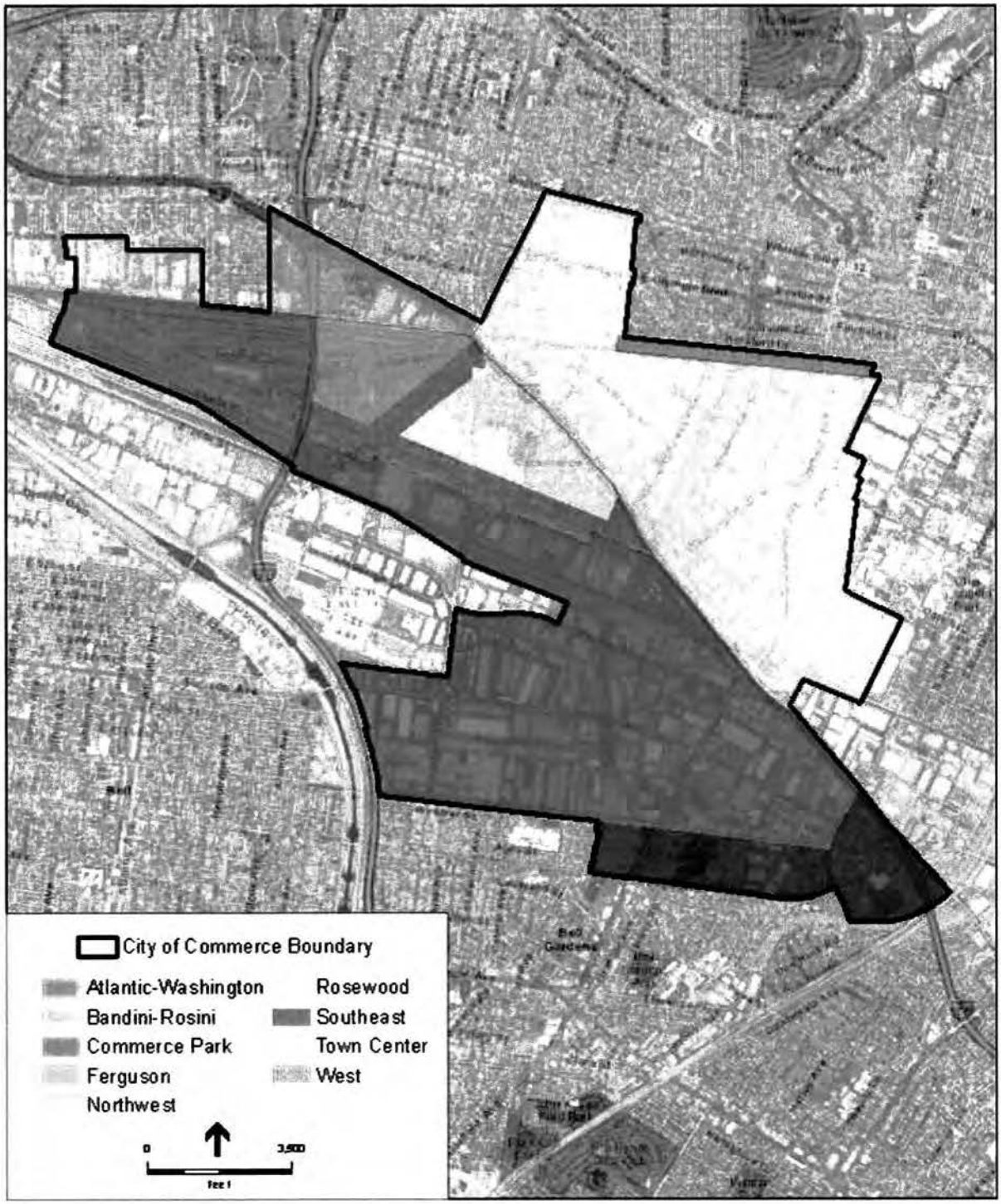
[1] Note: The total number of households reported may not match the total shown in other tables as different data sources were utilized.

According to the CHAS Databook, nearly 58 percent of all households in the City of Commerce experienced some form of housing problem. The percentage of total households that experienced some type of housing problem was greater among renters than owners. This may reflect the fact that there are more single-family homes than multi-family units in the City. The statistics identified in **Table 4-1** indicate that housing cost is a contributing factor to housing problems, particularly for extremely low- and very low-income households. The CHAS data also indicates that throughout the City approximately 45 percent of households experience a cost burden of more than 30% while 23 percent experience a cost burden of greater than 50%. The issues and information provided in this table will be further examined in the following pages and are addressed in the City's Housing Plan in **Section 2**.

4.2 – COMMERCE PLANNING AREAS

For planning purposes, Commerce has been divided into nine planning areas, consistent with those identified in the previous general plan. The boundaries of the Planning Areas (as shown in **Figure 4-1**) were delineated using man-made features and land use characteristics. The nine identified Planning areas include:

- The Bandini-Rosini planning area is a residential neighborhood.
- The Rosewood planning area is a residential neighborhood.
- The Northwest planning area is largely residential with some industrial uses.
- The Ferguson planning area is a mixed residential neighborhood and industrial area.
- The Southeast planning area includes residential, commercial, and industrial land uses.
- The West Commerce Planning Area supports industrial and transportation uses.
- The Atlantic/Washington planning area consists of commercial uses.
- Commerce Park planning area supports commercial and industrial uses.
- The Town Center planning area is predominantly developed in industrial uses.



SOURCE: City of Commerce, ESRI Basemaps

City of Commerce - Housing Element, 120811

Figure 4-1

City Map and Planning Areas

4.3 – RESIDENTIAL PLANNING AREAS

Of the nine Planning Areas identified in the City, six are expected to include residential development. Planning areas with residential development include: the Bandini-Rosini Planning Area; the Rosewood Planning Area; the Northwest Planning Area; the Ferguson Planning Area; the Southeast Planning Area; and the Atlantic/Washington Planning Area. As the City of Commerce has a limited amount of residentially zoned land it is important to identify these areas and the opportunities for affordable housing they provide. A brief description of each residential planning area is provided below.

4.3.1 - BANDINI-ROSINI PLANNING AREA

The Bandini-Rosini Planning Area consists almost entirely of residential development, and includes three non-contiguous neighborhoods separated by the Long Beach Freeway and the Atlantic Boulevard commercial district. Land use policy for this Planning Area calls for residential densities that correspond with the intensity and density of existing residential development. The key land use policies related to housing applicable to this Planning Area include the following:

- High-density residential development will be located in that portion of the Planning Area along Eastern Avenue and along Jillson Street east of Strong Avenue.
- Medium-density residential uses will continue to be located in those portions of the Planning Area north of Astor Avenue, east of Cowlin Avenue, and south of Nobel Street. In addition, the medium-density residential land use designation will apply to those areas located west of the Long Beach Freeway. Medium-density residential development in this neighborhood will be permitted along Ayers Avenue and Leonis Street.
- New residential development is also permitted in the central portion of the Planning Area that is currently occupied by various industrial uses. Should these industrial uses be discontinued, residential uses will be implemented.
- The remainder of the Planning Area not designated as Medium-Density Residential or High-Density Residential is designated Low-Density Residential.

4.3.2 - ROSEWOOD PLANNING AREA

The land use policy for the Rosewood Planning Area emphasizes the community's desire to retain the lower-density character of this neighborhood, while encouraging higher density residential development in the Housing Opportunity Overlay area. The land use designations that have been applied to this Planning Area reflect a desire to preserve the existing intensity of residential development. The land use policies applicable to this Planning Area include the following:

- That portion of the Planning Area adjacent to Commerce Way, Jillson Street, and the west side of Senta Avenue is designated Medium-Density Residential, which is consistent with the existing type and density of residential development.
- The balance of the Planning Area, consisting of single-family residential development, is designated Low-Density Residential, reflecting the City's policy to preserve the neighborhood's existing single-family character.

- High-Density Residential development will continue to be applicable at the corner of Eastern Avenue and Harbor Street. The general plan permits the development of housing within those properties that are presently developed and zoned for industrial uses. At such time the property owner determines industrial uses are no longer economically viable, the property will transition to residential uses).

4.3.3 - NORTHWEST PLANNING AREA

The land use plan for the Northwest Planning Area presents a considerable challenge in that there are a significant number of dilapidated, substandard, and overcrowded units located within the planning area. The City has long recognized the need for specific measures to alleviate problems related to substandard housing and conflicts between residential and non-residential land uses.

- The former Commerce Community Development Department targeted the Northwest Planning Area for housing revitalization efforts.
- For the most part, the residential portions of the Planning Area are designated Medium-Density, which corresponds with the existing development type and density.
- General Plan land use policy calls for the segregation of residential and non-residential land uses. Primary goals include the elimination of scattered residential parcels located in industrial areas and elimination of the intrusion of industrial activities in residential neighborhoods.

4.3.4 - SOUTHEAST NEIGHBORHOOD PLANNING AREA

The Southeast Neighborhood Planning Area is predominantly residential, with a mix of other land uses, including commercial, public/quasi-public, parkland, and industrial. Land use policy recognizes the potential for land use conflicts among the diverse activities located within the area. The Land Use Map reflects measures to reduce potential land use conflicts while preserving the existing residential neighborhoods. Within the Planning Area there are six smaller residential neighborhood units that are separated by transportation corridors or expanses of non-residential uses. Land use policy for the Southeast Planning Area includes the following:

- The North Slauson residential district located north of Slauson Avenue is designated as Low-Density Residential, thus encouraging retention of the existing character and density of residential development in this area.
- The South Slauson neighborhood located south of Slauson Avenue and north of the Union Pacific railroad is designated as Medium-Density Residential. This land use designation permits slightly higher densities over the life of the plan. In addition, the land use policy encourages the discontinuation of conflicting commercial uses in this neighborhood.
- The Greenwood neighborhood includes those residences south of the Union Pacific railroad line and east of Nye Avenue. The entire district is designated High-Density Residential, which will allow older dilapidated single-family units to be replaced with newer, higher-density units.
- The Greenwood neighborhood also includes the residential area south of Gage and along Kuhl Drive near Veteran's Memorial Park. The residential area also is designated for High-Density Residential, reflecting the existing and proposed higher-density development.

- The Emil neighborhood is located along Emil Avenue and Pacific Drive and the interconnecting local streets. The majority of the Emil neighborhood is designated High-Density Residential, which is consistent with the multiple-family development in the neighborhood. Exceptions include the area east of Pacific Drive, properties adjacent to Agra, and the properties located adjacent to Danielson Court, all of which are designated Low-Density Residential or Medium-Density Residential. The latter areas will continue to support the attractive single-family residential development.
- A single linear block of units, located along Darwell Avenue west of Garfield, is the last distinct residential unit located in the Southeast Neighborhood Planning Area. The Darwell Avenue district consists of single-family homes interspersed with lower-density multiple-family units, primarily duplexes. The Medium-Density Residential land use designation applicable to this area will allow for some recycling to slightly higher-density development.

4.3.5 - Atlantic Washington Planning Area

The Atlantic Washington Planning Area consists of predominantly commercial uses, however a segment of Atlantic Boulevard located in this Planning Area has been designated as Mixed Use to promote the development of new residential uses in the area. This land use designation would permit residential development within those parcels that are currently developed as commercial. The purpose of this mixed-use designation is to promote residential and/or commercial uses as infill development.

4.3.6 - West Planning Area

Located directly west of the Atlantic Washington Planning Area, the West Planning Area is made up of predominately industrial and manufacturing uses; however a small portion of the eastern part of the Planning Area contains residential development. While the Ayers neighborhood already exists in the Planning Area, the City currently has no plans to develop any additional residential uses in the area.

4.3.7 - Ferguson Planning Area

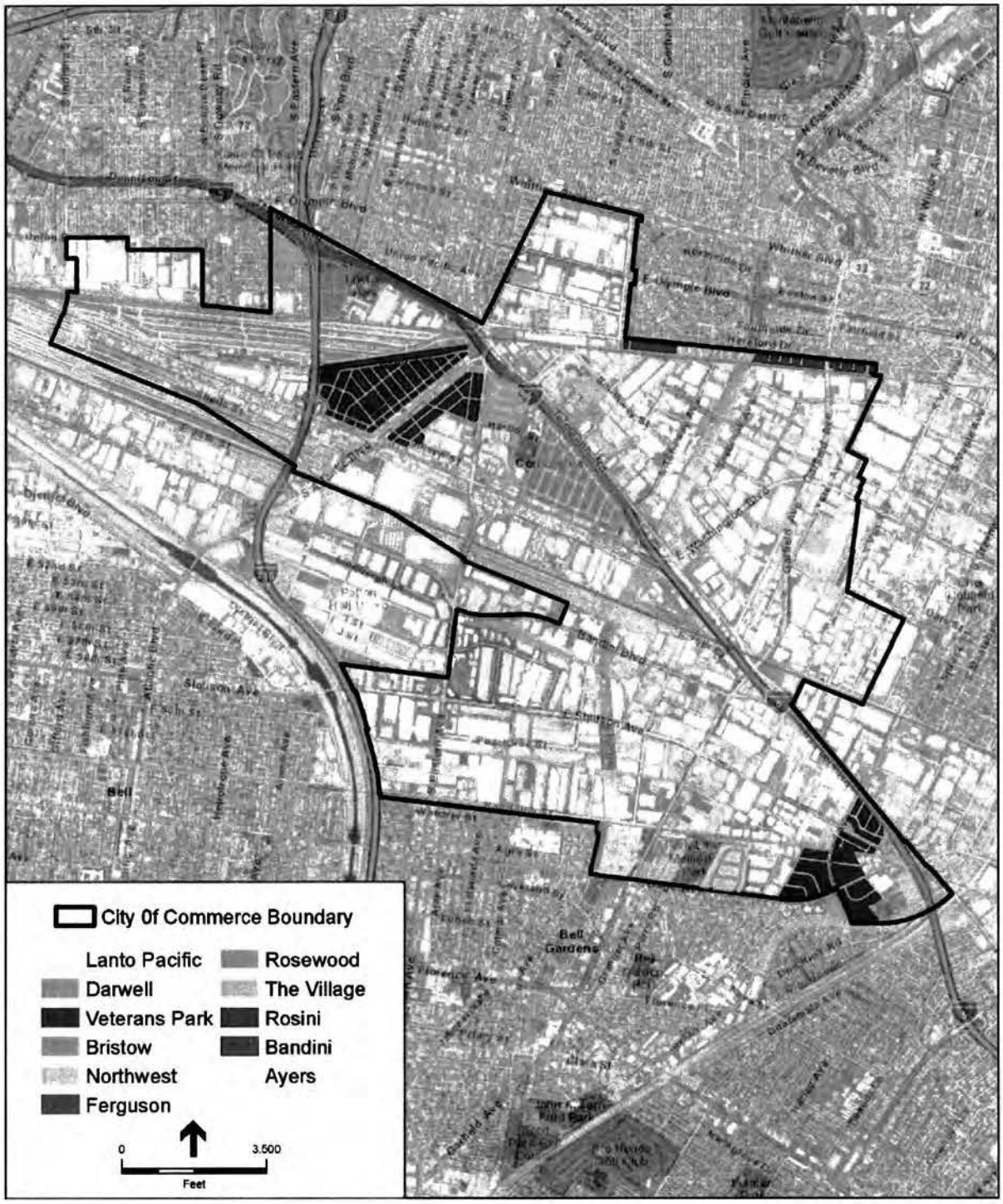
The Ferguson Planning Area includes that portion of the City located south and adjacent to Ferguson Drive and west of Gerhart Avenue. Surrounding land uses include the Union Pacific Railroad right-of-way located immediately south of the Planning Area, and residential development opposite Ferguson Drive, located in an unincorporated portion of Los Angeles County. The land use policy for this Planning Area designates existing residentially developed properties as Low-Density Residential, and the balance of the industrial areas as Industrial. Implementation of such land use policy may result in the recycling of older residential units to new developments with lower densities.

4.4 – RESIDENTIAL NEIGHBORHOODS

In addition to dividing the City into planning areas Commerce has established identifiable residential neighborhoods. There are currently eleven residential neighborhoods:

- The Ayers neighborhood, in the northwestern portion of the City.
- The Bandini neighborhood, also in the northwestern portion of the City.
- The Bristow neighborhood, in the northern tip of the City where the I-710 meets the I-5.
- The Northwest neighborhood, in the northern tip of the City, west of the Bristow neighborhood.
- The Darwell neighborhood, located at the southwestern border of the City.
- The Ferguson neighborhood, in the northern half of the City along the railroad tracks.
- The Lanto Pacific neighborhood along the City's southern boundary.
- The Rosewood neighborhood in the center of the City adjacent to the I-5.
- The Rosini neighborhood also in the center of the City east of Atlantic Boulevard.
- The Village neighborhood in the center of the City south of Atlantic and Eastern Avenues.
- The Veterans Park neighborhood in the southern tip of the City.

The name of each neighborhood typically reflects the housing development that is included in the area. The location of each neighborhood is shown in more detail in **Figure 4-2**.



SOURCE: City of Commerce, ESRI Basemaps

City of Commerce - Housing Element . 120811

Figure 4-2
Residential Neighborhoods

4.5 – Population Characteristics

Incorporated in 1960, the City of Commerce is a small jurisdiction encompassing 6.5 square miles in south central Los Angeles County. According to the U.S. Census, the City of Commerce had a population of 12,135 residents in 1990, and 12,568 residents by the year 2000. In the last decade, the City has generally maintained its size, with the 2010 Census reporting a population of approximately 12,823. Over the last decade, the City's population has increased by 255 residents, or 2.0 percent. Since 1970, the City's population has increased by approximately 2,188 persons, or 20.6 percent. **Table 4-2** presents population growth trends for the City of Commerce for the previous fifty years.

Table 4-2:
Population Growth Trends 1970-2011

Year	Population	Change (Number)	Change (Percent)
1970	10,635	--	--
1980	10,509	359	3.5%
1990	12,135	1,335	12.4%
2000	12,568	468	3.9%
2011	12,823	255	2.0%

Source: U. S. Bureau of the Census 1970- 2000. 2007-2011 American Community Survey 5-Year Estimates.

The City's average household size has increased over the last three decades indicating a trend towards larger families. In 1980, the U.S. Census reported the City's average household size to be 3.59 persons. By 1990, the average household size had increased to 3.7 persons, while the 2000 U.S. Census, reported the City's average household size as 3.80 persons per unit. More recently, the 2007-2011 American Community Survey estimates that the City's average household size has continued to increase above the 2000 level to 3.88 persons per household. In comparison, the average household size for the City of Commerce was higher than the average reported for Los Angeles County, which in 2011 estimated to be 2.99 persons per household.

4.5.1 – Age Composition

According to the 2007-2011 American Community Survey, 908 persons (7.1 percent) living in the City were under 5 years of age. A total of 3,525 persons (27.6 percent) were between 5 years and 19 years of age. Roughly 46 percent or 5,936 persons were between the ages of 19 and 54 and, 1,000 persons (7.8 percent were between the ages of 55 and 64 years of age. Finally, there were approximately 1,422 residents in the City over the age of 65, or roughly 11 percent. The median age for the City of Commerce is 30.3 years, which is significantly less than the national average of 37 years. Corresponding statistics for Los Angeles County indicated a median age of 34.6 years. These statistics indicate that the City's population growth was attributed to both natural increases (increased birth rates) and to in-migration. The City's population is also significantly younger overall, compared to the age of the larger regional population. **Table 4-3** shows the age distribution of the population of the City of Commerce according to the 2007-2011 American Community Survey.

Table 4-3: Age Distribution

Race/Ethnicity	Number	Percent
Preschool (0-4 years)	908	7.1%
School (5-19 years)	3,525	27.6%
Prime Working (30-54 years)	5,936	46.4%
Retirement (55-64 years)	1,000	7.8%
Senior Citizen (65+ years)	1,422	11.1%
Total	12,791	93.6

Source: 2007-2011 American Community Survey 5-Year Estimates.

4.5.2 – RACE AND ETHNICITY

The racial and ethnic composition of a community affects housing needs due to the particular household characteristics of different groups. **Table 4-4** shows the changes in the racial/ethnic composition of Commerce residents in 2010.

Table 4-4:
Race and Ethnicity: 2010

Race/Ethnicity	Number	Percent
White[1]	7,712	60.3%
African-American	272	2.1%
Asian/Pac. Islander	232	1.8%
American Indian	111	0.9%
Other	3,995	31.2%
Two or More Races	469	3.7%
Total	12,791	100.0
Hispanics [2]	12,087	94.5%

Source: 2007-2011 American Community Survey 5-Year Estimates.
1. Hispanic persons are not included.
2. Hispanics are considered an ethnicity rather than a race. Source: U. S. Census, 2010.

Between 2000 and 2010, there was a continuing shift in the racial/ethnic composition in the City of Commerce, most significantly a further increase in the number of Hispanic residents. The 2010 Census indicates that approximately 95 percent of residents living in the City identify themselves as Hispanic, an increase of 1.0 percent from 2000. Looking to **Table 4-4**, it is likely that people, classified as "White" and "Other", represent the Hispanic population in the City. The second most predominant group in the City were people of Two or More races, making up 3.7 percent of the total, followed by Black residents who comprise approximately 2 percent of the population. Generally, most racial groups experienced a slight increase as the City's population continued to grow.

4.5.3 - EMPLOYMENT CHARACTERISTICS

According to the State of California Employment Development Department (EDD), there are approximately 55,000 jobs in the City. According to SCAG projections developed for the Regional Transportation Plan, the number of jobs in Commerce is projected to increase by 2,170 jobs by the year 2020.

Of the 9,557 residents age 16 or older living in the City, there are approximately 5,379 actively working in the civilian labor force. Of this total, approximately 4,798, or 89.3 percent are employed, and 572, or 10.7 percent, are unemployed. Residents living in the City of Commerce are employed in a diverse number of industries, with the largest percentage (21 percent) of the population employed in the Educational services, and health care and social assistance sector. The 2007-2011 ACS indicates that changes have occurred in the last ten years, as the Manufacturing sector was the predominant industry in 2000. **Table 4-5** presents the number of employees by sector in 2010. Despite the changes reported over the previous decade, the Manufacturing sector is still the second highest with 15.2 percent of residents employed in related jobs.

Table 4-5: Employment by Sector

Industry Sector	Jobs	Percent
Agriculture, forestry, fishing and hunting, and mining	63	1.3%
Construction	413	8.6%
Manufacturing	730	15.2%
Educational services, and health care and social assistance	1,011	21.2%
Wholesale trade	479	10.0%
Retail trade	408	8.5%
Transportation and warehousing, and utilities	266	5.5%
Information	55	1.1%
Finance and insurance, real estate and rental leasing	199	4.1%
Professional, scientific, management, and administrative services	339	7.1%
Arts, entertainment and recreation	343	7.1%
Public administration	178	3.8%
Other professions	314	6.5%
Total (civilian employed population)	**4,798**	**100%**

Source: 2007-2011 American Community Survey 5-Year Estimates.

4.6 - HOUSEHOLD CHARACTERISTICS

To better understand and plan for future housing needs of residents living in Commerce, housing occupancy characteristics need to be identified in the City. The following is an analysis of household types and sizes, income levels, and other household characteristics that may affect access and demand for housing and housing programs.

A household is defined by the Census as all persons occupying a housing unit. Families are defined by the Census as a subset of households and include all persons living together who are related by blood, marriage, or adoption. Single households include persons living alone in housing units, but do not include persons in group quarters such as convalescent homes or dormitories. Other households include unrelated people living together, such as roommates.

4.6.1 – HOUSEHOLD SIZE

The 2007-2011 American Community Survey reports an estimated, 3,246 households living in Commerce, a slight decrease from 3,284 households identified in 2000. The distribution of households as indicated by 2007-2011 American Community Survey indicates that approximately 80 percent of all households in Commerce are families. Families headed by single parents made up 31 percent of all households, an increase from 25 percent in 2000. This special needs group will be addressed in later sections. **Table 4-6** shows the change in the number of households from 1990 to 2009.

Table 4-6:
Household Growth Trends (1990 - 2010)

Year	Households	Numerical Change	Annual Percent Change
1990	3,249	--	--
2000	3,284	35	0.11%
2010	3,246	-38	-1.1%

Source: U.S. Census 1990 Summary Tape File 1 (STF1); U.S. Census 2000 Summary File 3 (SF3); 2007-2011 American Community Survey 5-Year Estimates

Table 4-7 indicates that in 2010 the highest percentage of households in the City of Commerce (19.8%) were three-person households, a shift from four-person households which were predominant in 2000. It is important to note that almost half the households in the City in 2010 had four or more occupants and there was a significant jump in the number of six person households from 9.5 to 14.6 percent. Generally, the average household size in the City is estimated to be 4.32 occupants for owner occupied units and 3.46 occupants for renter occupied units. In comparison, Los Angeles County is reported to have an average household size of 3.18 occupants for owner occupied units and 2.81 occupants for renter occupied units. As the City experiences a high number of large households and a high average household size, it is important to ensure that larger units with an adequate number of rooms are available to accommodate the identified need.

Table 4-7: Number of Persons in Household

Number of Persons per Household	2000		2010	
	Number	Percent	Number	Percent
1 Person	508	15.5%	478	14.7%
2 Persons	580	17.7%	635	19.6%
3 Persons	519	15.7%	643	19.8%
4 Persons	600	18.3%	509	15.7%
5 Persons	431	13.1%	309	9.5%
6 Persons	313	9.5%	473	14.6%
7+ Persons	336	10.2%	199	6.1%
TOTAL	**3,284**	**100%**	**3,246**	**100%**

Source: U.S. Census 2000 Summary File 1 (SF1), 2007-2011 American Community Survey 5-Year Estimates.

4.6.2 – HOUSEHOLD COMPOSITION

Household composition and size are often two interrelated factors as communities with a large proportion of families with children tend to have a large average household size. Such communities have a greater need for larger units with adequate open space and recreational opportunities for children. Household size in Commerce remains higher than that of Los Angeles County. The City of Commerce average household size in 2010 was 3.88 according to the 2007-2011 American Community Survey 5-Year Estimates, as compared to the County average household size of 2.99.

To better understand types of households in Commerce, **Table 4-8** describes household size by renter and owner. Based on 2011 ACS data, it appears that among both renters and owners, there is a strong need for two and three bedroom units to accommodate the larger number of two to four person households. The Census also indicates that roughly one-third of the City's households have five or more persons. For these households, units with three or more bedrooms are best able to meet their needs.

Table 4-8: Household Size by Tenure

	Renter		Owner	
	Number	Percent	Number	Percent
1 Person	285	17.3%	193	12.1%
2 Persons	393	23.9%	242	15.1%
3 Persons	375	22.8%	268	16.7%
4 Persons	222	13.5%	287	17.9%
5+ Persons	369	22.5%	612	38.2%
Total	**1,644**	**100.0%**	**1,602**	**100.0%**
Average Household Size	**3.46**		**4.32**	

Source: 2007-2011 American Community Survey 5-Year Estimates

4.6.3. OVERCROWDING

The federal government defines an overcrowded household as one with more than one occupant per room, excluding bathrooms, kitchens, hallways, and porches. An overcrowded household results from either a lack of affordable housing (which forces more than one household to live together) and/or a lack of available housing units of adequate size. A household is considered to be overcrowded if there are more than 1.01 occupants per room. A household is considered to be severely overcrowded if there are more than 1.51 occupants per room.

Table 4-9: Overcrowding by Tenure

Tenure	Total Occupied Housing Units	Overcrowded Households	Percentage	Severely Overcrowded Households	Percentage
Renters	1,602	352	21.9%	76	4.7%
Owners	1,644	243	14.8%	222	13.5%
Total	3,246	595	18.3%	298	9.2%

Source: U.S. Census Bureau, 2007-2011 American Community Survey.

According to the 2007-2011 American Community Survey, 595 households, or 18 percent of all households in Commerce were overcrowded. Of this total approximately 352 were renter households, representing 59 percent of all overcrowded households and 22 percent of all renter households. In comparison, the number of owner occupied units that are classified as overcrowded was 243 households, representing 31 percent of all overcrowded households and 15 percent of all owner occupied units.

As shown in **Table 4-9**, the 2007-2011 American Community Survey also reports that approximately 298 households, or roughly 9 percent of all households in Commerce, that are considered to be severely overcrowded. Generally, the number of renter occupied units that were severely overcrowded (4.7 percent) was lower than the number of owner occupied units considered to be severely overcrowded (13.5 percent).

The incident of severe overcrowding is high in the City. In comparison in the County of Los Angeles approximately 7.1 percent of households were overcrowded and 4.8 percent of households were severely overcrowded. Overcrowding is an important housing issue for the City to monitor as overcrowded households can lead to neighborhood deterioration due to the intensive use of individual housing units leading to excessive wear and tear, and the potential cumulative overburdening of community infrastructure and service capacity. Furthermore, overcrowding in neighborhoods can lead to an overall decline in social cohesion and environmental quality. Such decline can often spread geographically and impact the quality of life and the economic value of property and the vitality of commerce within a City. The City is aware and has been told by businesses that increasing the housing stock should be a priority.

4.6.4 – HOUSEHOLD INCOME

According to the 2011 American Community Survey the median household income for Los Angeles County was $52,280. A more recent calculation completed by the Department of Housing and Urban Development (HUD) indicates that for Los Angeles County the area median income for 2012-13 was $70,100. In comparison to the County, the Census indicates that the City of Commerce experiences a lower household median income of $48,878. While Commerce still lagged the County in median household income, the City has experienced a 44 percent increase from 2000 to 2010. The income estimates for Commerce total households for the year 2000 and 2010, are found in **Table 4-10**.

Table 4-10: Household Income

Income	2000		2010	
	Households	Percent	Households	Percent
$0-$14,999	706	21.5%	459	14.1%
$15,000-$34,999	669	20.4%	750	23.1%
$35,000-$49,999	612	18.6%	458	14.1%
$50,000-$74,999	592	18.0%	596	18.4%
$75,000-$99,999	218	6.6%	485	14.9%
$100,000-$149,999	170	5.2%	338	10.4%
$150,000+	23	0.7%	160	5.0%
Total	**3,293**	**100%**	**3,246**	**100%**
Median Household Income	$34,040		$48,878	

Source: 2007-2011 American Community Survey 5-Year Estimates

The 2011 ACS indicates the median household income in the City is $48,878. This is a significant increase from the 2000 median of $34,040. In 2000, it was estimated that: over 20 percent of households earned less than $14,999 annually; this number decreased to 14 percent of households in 2010. The 2010 Census also reported that approximately 23 percent of households earned between $15,000 and $34,999 annually; 14 percent earned between $35,000 and $49,999 annually; 18 percent earned between $50,000 and $74,999 annually; and more than 30 percent of households earned above $75,000 annually. It is important to note that in addition to the increase in median household income over the last decade the percentage of households earning greater than $75,000 annually also increased substantially from 13 percent to more than 30 percent.

In identifying housing needs, State law recent established that jurisdictions must now identify and address the needs of extremely low-income (ELI) households. An ELI household is defined as any household earning less than 30% of the area median income which for Los Angeles County would equate to less than $21,030 annually. Extremely low-income families are often considered "at-risk" as they may be only one paycheck away from homelessness. According to the 2011 ACS there are approximately 900 households or 28% or the total households in the City of Commerce that earn below 30% of the Los Angeles AMI. To address the needs of Extremely Low Income households the City has determined that

half (9 units) of its very low income RHNA allocation will be dedicated to meet the needs of ELI households. Additionally, the City recently amended the Zoning Code to addresses the housing needs of extremely low income households by allowing for transitional housing, emergency housing and single room occupancy units to be constructed in identified zones by-right. The City has also created and will continue to fund the Senior Rent Subsidy Program which provides lower income senior residents with a subsidy to assist in paying their monthly rent.

4.6.5 - HOUSING OVERPAYMENT

State and Federal standards indicate that a household paying more than 30 percent of its income for housing is overpaying. Overpayment for housing can cause an imbalance on the remainder of a household's budget. The 2007-2011 American Community Survey, indicates that there were 3,246 total households paying mortgage or rent, of those households 1,587 households (49 percent) were overpaying for housing. Of these overpaying households, 676 (42 percent) were households with a mortgage, while the remaining 911 households (58 percent) were in renter-occupied units. **Table 4-11** summarizes housing overpayment statistics by tenure for the City of Commerce and also Los Angeles County based on the 2007-2011 American Community Survey Five-Year Estimates.

Table 4-11:
Summary of Housing Overpayment

Overpayment	Households	Percent	LA County Percent
Owners with mortgage	1,602[a]	--	--
Overpayment (>30% income on housing)	676	44.2%	55.1%
Occupied units paying rent	1,644	--	--
Overpayment (>30% income on housing)	911	55.4%	56.5%

Source: U.S. Census Bureau, 2007-2011 American Community Survey
Notes:
(a) The number of households represents the number of owner occupied housing units with an active mortgage, and may not match the total number of owner occupied households in the City.

4.7 – HOUSING STOCK CHARACTERISTICS

4.7.1 - HOUSING UNIT TYPES

According to the 2007-2011 American Community Survey Five-Year Estimates, there were 3,388 housing units in the City. **Table 4-12** compares the ACS estimates for the City with those of Los Angeles County.

Table 4-12:
Housing Unit Type

Unit Type	Los Angeles County		City of Commerce	
	Number	Percent	Number	Percent
Single-Family Detached	1,713,982	49.9%	2,299	67.9%
Single-Family Attached	226,826	6.5%	296	8.7%
2-4 Units	280,110	8.1%	246	7.3%
5+ Units	1,159,643	33.8%	547	16.1%
Mobile Homes/Other	57,023	1.7%	0	0.0%
Total	**3,418,698**	**100.0%**	**3,388**	**100.0%**

Source: U.S. Census Bureau, 2007-2011 American Community Survey

As shown in **Table 4-12**, 75 percent of the total housing units in the City are single family attached or detached units. Within the City an additional 7 percent of units were in structures with 2 to 4 units and 16 percent of units are in structures with 5 or more units. While manufactured units and mobile homes are permitted in the City, no such units are presently located in Commerce. In comparison to Los Angeles County, the City has a higher percentage of single family detached units and far fewer multi-family units.

4.7.2 – VACANCY RATES

The vacancy rate of a community's housing supply is a key indicator of whether an appropriate number of units are available in the City. If the vacancy rate is too high, this can have negative impacts on the community and the investment potential of a neighborhood. If the vacancy rate is too low, it may indicate that there are not enough units for any one income category to meet existing market demands, and that a portion of the population may be denied housing opportunities. The California State Department of Housing and Community Development has determined that the "healthy" vacancy rate for ownership is between 2 percent and 3 percent and 5 percent to 6 percent for rental complexes. This ensures the continued upkeep of rental properties and keeps housing costs down.

The 2007-2011 American Community Survey reported that the vacancy rate for ownership housing in the City was 3.1 percent while the rate for rental units was 0 percent. The vacancy rate for ownership housing is considered to be healthy based on the range recommended by HCD, while the rental housing vacancy rate is significantly lower than the target rate. These percentages suggest that there are few to no vacant rental housing units in the City which often results in higher rents as demand far exceeds supply.

This may be a reflection of the limited number of housing units in the City, the high jobs to housing ratio, and the desire of workers to live close to where they are employed.

4.7.3 - HOUSING CONDITION

Age is one measure of housing stock condition and a factor for determining rehabilitation or replacement need within the City. Without proper maintenance, housing units deteriorate over time. Units that are older are more likely to be in need of repairs (e.g. a new roof or plumbing). In general, houses 40 years or older are considered aged and are more likely to generate major repairs. In addition, older homes may not be built to current housing standards for fire and earthquake safety. The units of general concern are those that were constructed prior to 1969.

Majority of the City's current housing stock (67 percent) was constructed prior to 1969. The 2007-2011 ACS showed that Commerce has only 823 units that were constructed after 1980, or 24 percent of the total housing stock. **Table 4-13** provides information on the number of units constructed by decade. In addition to age, a lack in infrastructure and utilities often serves as an indicator of substandard conditions. According to the 2011 ACS, there were only 20 units lacking complete plumbing facilities, and 6 units lacking complete kitchen facilities in the City. Due to the number of units built prior to 1969, the City is aware that their rehabilitation programs and outreach to residents is crucial to update and maintain the existing housing stock.

Table 4-13: Age of Housing Stock

Age of Structure	Number	Percent
1939 or earlier	304	9.0%
1940-1949	730	21.5%
1950-1959	838	24.7%
1960-1969	400	11.8%
1970-1979	293	8.6%
1980-1989	493	14.6%
1990-1999	220	6.5%
2000 or later	110	3.2%
Total	**3,388**	**100%**

Source: U.S. Census Bureau, 2007-2011 American Community Survey

During the previous planning period, a housing condition survey was conducted to assess the magnitude of rehabilitation needs in the City. The survey identified approximately 74 units that needed rehabilitation and 10 units needing replacement. The City has successfully addressed a number of units through the Substantial Rehabilitation Program and their smaller grant programs; however there are still units in need of repairs. The City's Northwest Neighborhood contained the highest percentage of substandard and dilapidated units, with over 20% of the units in some state of disrepair. In this area the age of the housing stock is a major contributing factor to overall housing conditions in the City. In general the housing stock throughout the City is in good shape and is less than 50 years old.

Approximately 51.2% of the existing units in the City were constructed prior to 1960 with 20.9% constructed after 1980.

4.7.4 - HOUSING COSTS

This section discusses new home prices and resale costs of existing housing, as well as the average rental prices, in the City. The information provided was obtained from reliable real estate industry data sources, the 2010 Census, 2007-2011 American Community Survey (ACS) and data provided by the City.

Affordability is determined by comparing the cost of housing to the income of local households. HUD defines affordable housing costs as contract rents or mortgage payments, including taxes and insurance, but not utilities, that are equal to or less than 30 percent of the gross income of very low-, low-, and moderate-income households.

Households spending more than 30 percent of gross annual income on housing experience a housing cost burden, which occurs when housing costs increase faster than household income. When a household spends more than 30 percent of its income on housing costs, it has less disposable income for other necessities such as health care. Lower income households with a burdensome housing cost are more likely to become homeless or experience overcrowding. Homeowners with a housing cost burden have the option of selling the homes and becoming renters. Renters, however, are vulnerable and subject to constant changes in the housing market.

For purposes of determining housing affordability, the California Health and Safety Code Section 50052.5 provides the following definition of affordable housing cost based on the area median income (AMI), which is adjusted by family size and income level for each multi-family income (MFI) range.

Table 4-14:
Calculation of Affordable Housing Costs by Tenure

Income Level	Owner	Renters
Extremely Low-Income(0-30% MFI)	30% of 30% AMI	30% of 30% AMI
Very Low-Income (0-50% MFI)	30% of 50% AMI	30% of 50% AMI
Low-Income (51-80% MFI)	30% of 70% AMI	30% of 60% AMI
Moderate-Income (81-120% MFI)	35% of 110% AMI	30% of 110% AMI

Source: California Health and Safety Code Section 50052.5

In 2010, Census data indicated that for owner-occupied housing units, the majority of the monthly mortgage payments in the City were more than $2,000 a month with the median being $1,994 per month. The median monthly payments for owners increased substantially from $1,256 in 2000 to $1,994 in 2010, or approximately 60 percent. A household was considered to be overpaying for housing if more than 30% of their net "take-home" income was used for paying rent or mortgages. According to the 2007-2011 ACS, 657 households (55 percent of the total owner-occupied units with a mortgage) living in owner-occupied units paid in excess of 30 percent of their monthly income towards the mortgage. According to the 2007-2011 ACS estimates, 911 renter households (56 percent of the total renter households) paid in excess of 30% of their monthly income towards the rent.

4.7.4.A - For Sale Housing

In the City of Commerce there are approximately 3,388 occupied housing units according to the 2007-2011 American Community Survey. Of this total roughly 2,595 units were owner occupied units, the majority of which are single family detached homes. Despite the recession that occurred in 2008, home prices in the Southern California area remain some of the most expensive in the United States. Key contributors to the area's high cost for housing include the following:

- While some vacant property is available for new residential development, the majority of the new residential construction will occur on land that is presently occupied by existing development. The demolition, removal, and clean-up of these existing properties contribute to the higher cost of development.
- An earlier 1984 study prepared by the California Homebuilders Association indicates that less than 15 percent of first-time homebuyers in the State were willing to accept condominiums as a housing choice. This trend is continuing, as shown in part by the number of condominiums developed in the area since the early 1990s and continuing to the present. Thus, one of the few market devices available to counteract high land prices is burdened by the psychological attachment of the population to traditional housing stock.
- During the latter part of the 1990s, interest rates were generally low. In 2000, interest rates were raised by the Federal Reserve though they were once again lowered in the years following 2008 in response to the recession. Despite locked in low interest rates, the lack of inventory has kept housing prices high.
- In general, the cost (market-rate) for new land in the City ranges from $10/square foot up to $15/square foot. The actual construction cost for residential development ranges from $100/square foot up to $130/square foot. Real estate data was collected for the City in 2005 to determine the "asking price" of for-sale units and the asking monthly rents for rental units. The survey identified a total of 18 for-sale units and 10 rental units.

Table 4-15 compares the value of for-sale ownership housing units in the City according to the 2000 Census and 2007-2011 ACS. The median housing unit value in 2000 was approximately $219,100 in Commerce, which was slightly higher than the County median value of $170,900 in the same year. The median for Commerce increased to $366,000 in 2010, representing a 67 percent increase. **Table 4-15** generally indicates that from 2000 to 2010 home values changed considerably. The 2000 Census reported that roughly 43 percent of the houses were valued at less than $150,000, which was reduced to only 7.1 percent in 2010. In 2000 the majority of homes were valued between $150,000 and 199,999 (40 percent) while in 2010 the majority of homes were valued between $300,000 and $399,999 (56 percent). Generally, **Table 4-15** shows that home values are increasing, which may be a reflection of low vacant rates.

Table 4-15: Housing Values

Price Range	2000		2010	
	Number	Percent	Number	Percent
Less than $50,000	22	1.4%	28	1.7%
$50,000-$99,999	107	6.8%	11	0.7%
$100,000-$149,999	545	35.0%	75	4.7%
$150,000-$199,999	620	39.8%	15	0.9%
$200,000-$299,999	249	16.0%	348	21.7%
$300,000-$399,999	14	1.0%	905	56.5%
$500,000 or more	0	0.0%	220	13.8%
Total	**1,557**	**100%**	**1,602**	**100%**
Median Home Price	**$219,100**		**$366,000**	

Source: Census 2000 Summary File 3 (SF 3), U.S. Census Bureau, 2007-2011 American Community Survey

Redfin, an online real estate website provides market trend overviews for jurisdictions, including detailed information on the number and price of home sales on an annual basis. In 2012, Redfin reports that there were 12 homes sold in the City of Commerce at a median sales price of $228,000. **Table 4-16** provides information about the County and home prices in surrounding cities as reported by Redfin in January 2013. For all of the jurisdictions shown, including Los Angeles County, there has generally been an increase in the home sales prices from January 2012 to January 2013. Commerce is one of the only cities in its region that experienced a decrease in the median sales price during this period of time. With regard to price per square foot, Commerce has one of the higher ratios, comparable to Pico Rivera and only slightly lower than Los Angeles County overall.

Table 4-16: Median Home Prices

Jurisdiction	Homes Sold in 2012	Median Sales Price (Jan 2013)	Percent Change (from Jan 2012)	Price per Square Foot
Commerce	12	$228,000	-3.1%	$232
Bell	18	$250,000	16.8%	$190
Downey	193	$372,000	13.9%	$215
Maywood	28	$228,000	26.4%	$215
Montebello	68	$296,000	18.6%	$202
Pico Rivera	128	$278,000	11.0%	$232
Los Angeles County	14,400	$335,000	15.6%	$244

Source: Redfin.com, Accessed March 1, 2013.

Despite the recent drop in home prices, the cost of housing in Southern California in general remains high in comparison to the nation as a whole. This is of great concern not only for low-income families who

often cannot afford a large down payment, but is increasingly impacting middle class and workforce families (i.e. teachers, firefighters etc) that are struggling to afford a decent home. While much of the region is expected to see home prices decline following the sub-prime mortgage market collapse of 2007, overall home sale prices throughout Southern California will continue to be dramatically higher than in 2000.

4.7.4.B - Rental Housing

According to the 2007-2011 American Community Survey Estimates, there were 3,388 total occupied units in Commerce. Of this total, approximately 793 units (23 percent) were renter-occupied units in buildings with 2 or more units. For renters, the median gross rent per month increased from $623 in 2000 to $893 in 2010. This increase represents a 43 percent increase over the ten year period, or 4.3 percent annually. The median gross rent dollar amount refers to the contract rent (i.e., monthly rent agreed to, or contracted for) plus the estimated average cost of utilities and fuels if paid for by the renter. In comparison to surrounding jurisdictions, the median rent paid in Commerce is the lowest in the region. **Table 4-17,** provides the median housing rental rates for Commerce and surrounding jurisdictions as reported by the 2007-2011American Community Survey.

Table 4-17:
Median Housing Rental Rates

Jurisdiction	Median Gross Rent
Commerce	**$893**
Bell	$979
Downey	$1,139
Maywood	$962
Montebello	$1,100
Pico Rivera	$1,123
County of Los Angeles	$1,117

Source: U.S. Census Bureau, 2006-2010 American Community Survey.

To further understand the rental housing market in Commerce **Table 4-18,** provides an estimate of rents based on the number of bedrooms per unit. The table indicates that the largest number of renter households pay more than $1,000 a month for rent and further illustrates that larger units are more costly which can create a housing burden for larger households.

Table 4-18:
Rents by Number of Bedrooms

Range	Studio	1 Bedroom	2 Bedroom	3 Bedroom+	Total	Total %
$0-$499	33	140	0	0	173	10.5%
$500-$749	45	152	62	62	321	19.5%
$750-$999	27	238	231	38	534	32.5%
$1000 or more	25	46	372	150	677	41.2%
No Rent	0	0	7	16	23	1.4%
Total	130	576	672	266	1,644	100%

Source: U.S. Census Bureau, 2007-2011 American Community Survey.

Finding rental information for Commerce was difficult, as the vacancy rate is reported to be close to zero in 2012. To verify the estimates reported by the Census, various internet rental listings were accessed including: Craig's List, Padmapper.com, and Southland Rental in February and March of 2013. On all three sites, no units were listed as available in the City. While the lack of rental units is a concern, new development is limited by the lack of vacant land and the numerous industrial developments in the area. To address the need for new residential development, specifically the creation of new rental units, the City has created the Housing Opportunity Overlay which is discussed in more detail in the Housing Resources section.

4.7.5 – Housing Cost and Affordability

The costs of home ownership and rent can be compared to a household's ability to pay for housing, using the 2013 HUD-established Area Median Family Income (MFI) limit for Los Angeles County of $61,900. **Table 4-19** illustrates maximum affordable mortgage payments and rents for a four-person household in Los Angeles County. Affordable housing cost is based on a maximum of 30 percent of gross household income devoted to mortgage or rental costs. These maximum affordable costs would be adjusted downward for smaller households, or upward for larger households.

Returning to **Table 4-16**, the median home price for the City of Commerce was $228,000 in 2012. Comparing this median price to **Table 4-19**, it is apparent that home prices in the City are affordable to most moderate income households, excluding single individuals. **Table 4-19** also shows that extremely low-, very low- and low-income households cannot afford the monthly mortgage payment. It is also important to note that saving up a 20 percent down payment ($45,600 for a $228,000 home) can be difficult for even a moderate income household. With regard to renters living in the City, **Table 4-17** shows that the median rent charged for housing was $893, according the 2007-2012 ACS. Comparing the median rent charged to the data provided in **Table 4-19**, to the information presented in **Table 4-17** the median rent charged in Commerce is affordable to all moderate income households and larger low income households with three or more people. Based on this information the City needs to focus on providing housing options for extremely low and very low income households.

Table 4-19:
Housing Affordability by Income Group

Income Group		AMI adjusted by size	Affordable Payment		Housing Costs		Maximum Affordable Price	
			Renter	Owner	Utilities	Taxes & Insurance	Owner	Renter
Extremely Low (0-30% MFI)		**30% AMI**						
Two Person (1 bdrm)		$13,293	$332	$332	$50	$80	$47,112	$282
Three Person (2 bdrms)		$15,192	$380	$380	$75	$90	$50,017	$305
Four Person (3 bdrms)		$17,091	$427	$427	$100	$95	$54,086	$327
Five Person (4 bdrms)		$20,056	$501	$501	$125	$100	$64,358	$376
Very Low (30-50% MFI)		**50% AMI**						
One Person (Studio)		$21,665	$542	$542	$50	$115	$87,698	$492
Two Person (1 bdrm)		$24,760	$619	$619	$50	$115	$105,715	$569
Three Person (2 bdrms)		$27,855	$696	$696	$100	$130	$108,596	$596
Four Person (3 bdrms)		$30,950	$774	$774	$125	$140	$118,463	$649
Five Person (4 bdrms)		$33,426	$836	$836	$175	$145	$120,070	$661
Lower (50-80% MFI)	**60%AMI**	**70%AMI**						
One Person (Studio)	$25,998	$30,331	$758	$758	$48	$150	$130,578	$711
Two Person (1 bdrm)	$29,712	$34,664	$867	$867	$85	$165	$143,577	$782
Three Person (2 bdrms)	$33,426	$38,997	$975	$975	$125	$190	$153,665	$850
Four Person (3 bdrms)	$37,140	$43,330	$1,083	$1,083	$175	$210	$162,589	$908
Five Person (4 bdrms)	$40,111	$46,796	$1,170	$1,170	$200	$220	$174,618	$970
Moderate Income (81-120% MFI)		**110% AMI**						
One Person (Studio)		$47,663	$1,192	$1,390	$135	$405	$197,964	$1,057
Two Person (1 bdrm)		$54,472	$1,362	$1,589	$135	$405	$244,207	$1,227
Three Person (2 bdrms)		$61,281	$1,532	$1,787	$157	$475	$269,028	$1,375
Four Person (3 bdrms)		$68,090	$1,702	$1,986	$211	$571	$280,344	$1,491
Five Person (4 bdrms)		$73,537	$1,838	$2,145	$238	$628	$297,779	$1,600

Source: Compiled by ESA.

Notes:

1. Property taxes and insurance based on averages for the region.
2. Calculation of affordable home sales prices based on a down payment of 20%, annual interest rate of 5%, 30-year mortgage, and monthly payment 30% of gross household income.
3. Based on 2013 Los Angeles County MFI $61,900 and 2012 HCD State Income Limits
4. Monthly affordable rent based on payments of no more than 30% of household income.

4.8 – Assisted Housing At-Risk of Conversion to Market Rate Housing

The City of Commerce has shown a strong commitment towards providing housing assistance to its low-income population. Over 300 units of affordable housing have been developed in Commerce since 1980. In the City there is a mix of both single family and multi-family housing as well as both rental and homeownership properties. There are currently three federally assisted multifamily rental complexes in Commerce with affordability covenants including: 55 units at the Rosewood Park Senior Apartments, 24 units at TELACU Gardens and 76 units at TELACU Manor. The City's most recent senior project, TELACU Manor, is a Section 202 project consisting of 76 units of rental housing for lower income seniors, developed in 1992. **Table 4-20** presents the multi-family rental complexes in the City with affordable units that receive federal funding.

Table 4-20:
Existing Affordable Units for Rent

Development Name	Very Low	Low	Moderate	Type of Assistance	Covenant Start	Covenant End
Rosewood Park Senior Apts. Total Units = 94 units	18	37	0	LIHTC	2001	2029
TELACU Manor Total Units = 76 units	0	75	0	Section 202/811	1990	2029
TELACU Gardens Total Units = 24 units	0	23	0	PRAC 202/811	1998	2028
Total	**18**	**135**	**0**			

Source: City of Commerce, 2009

The City of Commerce also has a number of ownership units with deed restrictions, many of which have utilized City rehabilitation programs or were rehabilitated through partnerships with local non-profits (i.e. Habitat for Humanity) in exchange for long term affordability covenants. As shown in **Table 4-21**, there are at least 13 properties with affordability covenants that extend to 2023 and beyond. The majority of the housing units were assisted through the City's First Time Homebuyer Program, with two properties recently assisted through the Substantial Rehabilitation Program.

Table 4-21:
Existing Affordable Units for Sale

Development Name	No. of Units	No. of Bedrooms	Type of Assistance	Covenant Start	Covenant End
5812 Bartmus Street	1	3	First Time Homebuyer Program	2011	2056
5253 Everington Street	1	2	First Time Homebuyer Program	2011	2056
6741 Lanto Street	1	3	First Time Homebuyer Program	1993	2023
6745 Lanto Street	1	3	First Time Homebuyer Program	1993	2023
6201 Pacific Drive	1	3	First Time Homebuyer Program	1993	2023
6205 Pacific Drive	1	3	First Time Homebuyer Program	1993	2023
6207 Pacific Drive	1	3	First Time Homebuyer Program	1993	2024
6211 Pacific Drive	1	3	First Time Homebuyer Program	1993	2023
6215 Pacific Drive	1	3	First Time Homebuyer Program	1993	2020
6219 Pacific Drive	1	3	First Time Homebuyer Program	1993	2023
5466 Pueblo Court	1	3	First Time Homebuyer Program	2011	2056
2472 Elkgrove Avenue	1	3	Substantial Rehab Program	2011	2056
5040 Gafford Street	1	2	Substantial Rehab Program	2010	2056
Total	**13**				

Source: City of Commerce, 2013.

A community's existing affordable housing stock is a valuable resource that should be conserved, and if necessary, improved to meet habitability standards. As shown in **Table 4-20** and **Table 4-21** there are three federally assisted apartment housing developments in Commerce, totaling 191 units of rental housing affordable to lower income households and 13 ownership units assisted through the First Time Home Buyer and Substantial Rehabilitation Programs.

A City housing conservation program, Monitor and Preserve Affordable Housing, Program 1.6 in the Housing Plan is specifically designed to monitor the continued participation of these projects that participate in the HUD Section 221 and Section 8 programs. The City will continue to inventory and gather information to establish an early warning system for publicly assisted housing projects that have the potential to convert to market rate. This early warning system will include a regular and periodic review of the conversion status of all subsidized housing in the City. The City has also created a database that includes the identification of all subsidized units including those that have resale covenants. Once

the City receives notice of a potential conversion of the federally assisted units, the Housing Division will contact the owners to ascertain what will be required to extend the participation of these projects in the HUD assisted programs.

In the upcoming planning period, there are no multi-family housing developments with affordable rental units at risk of conversion to market-rate. The City understands that the cost to replace at-risk developments converted to market rate rents is prohibitive. In general, the cost for new land in the City ranges from $10/square foot up to $15/square foot. The actual construction cost for residential development ranges from $100/square foot up to $130/square foot. The cost for replacing a 50-unit rental property would total roughly $6,000,000. This figure assumes that 2.3 acres of land would be required (2,000 square feet/unit) and each unit would have a total floor area of 850 square feet (two-bedrooms). The land cost would total approximately $1,250,000 while the construction cost would total approximately $5,525,000 (assuming a total floor area of 42,500 square feet). There are a number of housing providers that have been identified by the State HCD as candidate entities that could assume responsibility for at-risk units if they convert to market rate units:

- Community Development & Preservation, LLC;
- MBK Management Corporation;
- Community Rehabilitation Services, Inc;
- East Los Angeles Community Corporation
- FAME Housing Corporation;
- Los Angeles Center for Affordable Tenant Housing;
- Los Angeles Housing Partnership, Inc.;
- Los Angeles Low Income Housing Corp. (LALIH); and,
- The East Los Angeles Community Union (TELACU).

The City maintains partnerships with several of the developers identified above in order to maintain existing affordable units and create new affordable developments.

4.9 – SPECIAL HOUSING NEEDS GROUPS

Local housing elements must include an analysis of special housing needs. Special needs refer to those households that include the elderly, disabled, developmentally disabled, large families, and overcrowded households.

4.9.1 - SPECIAL NEEDS - ELDERLY

The elderly can be expected to increase as those persons between the ages of 35 and 64 grow older. Escalating housing costs, particularly in the rental market, severely impact housing affordability for the elderly, who are usually on fixed incomes. The housing needs of the elderly can be addressed through the provision of smaller units, congregate housing, and rental and rehabilitation assistance programs. The special needs of many elderly households result from their lower, fixed incomes, physical disabilities, and dependence needs. The elderly comprised 11.1% (1,422 persons) of the City's population up from 10.2% (1,281 persons) in 2000. In 2010, there were 715 households headed by seniors, aged 65 or older, a slight decrease from 981 households in 2000. The most recent Census figures indicated that 456 households had a head of household over 65 years of age in owner occupied units (29 percent of the total owner occupied units) and 263 senior headed households resided in rental units (16 percent of the total renter occupied units).

4.9.2 - DISABLED

Disabled persons have special needs when it comes to housing and many of the households in the category are occupied by elderly persons. Door frames must be wider to accommodate wheel chairs, ramps instead of stairs are needed, hand rails in bathrooms need to be installed, cabinet doors must be accessible, and light switches and other devices also need to be within easy reach. The cost for retrofitting an existing structure may be thousands of dollars and be beyond the reach of those households with lower incomes. The lack of such housing is even more pronounced when it comes to market-rate rental units. Unless such provisions are made for disabled persons during original construction, such facilities will not likely be provided in a typical rental unit. Senior housing (both owner and rental) generally has many of the features outlined above. The real constraints are associated with the housing for families and working-aged adults.

Unfortunately, data for the number of residents with a disability is not provided by the 2010 Census or the American Community Survey for the City of Commerce. This may be due to the small number of residents living in the City. The most recent 2000 Census identified a total of 732 working aged adults with physical disabilities living in the City. **Table 4-22** provides additional information on the number and type of disabled residents living in the City.

Table 4-22:
Disability Type by Age, 2000

Disability Type	16-64 Years of Age	65 Years or Over	Total	Percent
Sensory Disability	68	173	241	1.9%
Physical Disability	308	426	734	5.7%
Mental Disability	277	180	457	3.6%
Self Care Disability	113	182	295	2.3%
Go-outside-home Disability	896	386	1,282	10.0%
Employment Disability	1,083	N/A	1,083	8.4%
Total with Disability	**1,524**	**623**	**2,165**	**16.8%**

Source: U.S. Census 2000 Summary File 3 (SF3).

To estimate how the number of disabled residents may have changed since 2000, **Table 4-23** provides the number and percentage of disabled residents for the County of Los Angeles and applies those percentages to the City of Commerce to project the number of residents

Table 4-23:
Disability Type by Age, 2010

	Los Angeles County[1]		Commerce[2]	
Disability Type	**Number**	**Percent**	**Number**	**Percent**
Hearing Difficulty	232,959	2.4%	302	2.4%
Vision Difficulty	182,104	1.9%	239	1.9%
Cognitive Difficulty	347,902	3.6%	453	3.6%
Ambulatory Difficulty	513,272	5.3%	668	5.3%
Self Care Difficulty	254,139	2.6%	327	2.6%
Independent Living Difficulty	395,484	4.1%	517	4.1%
Total with a Disability	**910,294**	**9.3%**	**1,172**	**9.3%**

Notes:

1. Based on information provided by the 2007-2011 American Community Survey.
2. Estimates based on a total population of 12,603 residents and the percentages reported for Los Angeles County.

Table 4-22 shows a total of 2,165 persons 16 years and older in the City of Commerce with a disability. Based on the percentages reported for Los Angeles County by the 2010 Census, the City of Commerce would have approximately 1,172 residents living with a disability. This would represent a decrease in the number of individuals experiencing a disability from 2000 to 2010. It is difficult to compare these figures, as the classifications have changed from the 2000 to the 2010 Census, and the City of Commerce is a small jurisdiction that has unique characteristics that do not necessarily represent the County.

Under Senate Bill (SB) 520, which became effective January 1, 2002, the City is required to analyze potential and actual constraints that could affect the development, maintenance and improvement of housing for persons with disabilities. In the event that these constraints are governmental, the Element must identify those measures that will be effective in removing the constraints that may hinder the City from meeting the need for housing for persons with disabilities.

In accordance with SB 520, a review of zoning and land use, development procedures, policies, and practices, and building codes was conducted in order to identify any potential constraints that could affect the provision of housing that would be accessible to persons with disabilities. The results of this analysis are summarized below according to three general categories of potential constraints: 1. zoning and land use, 2. permits and processing procedures, and 3. building codes.

- **Zoning and Land Use.** The Zoning Ordinance does not preclude or restrict the construction of exterior ramps or other improvements (exterior or interior) for disabled persons. The City treats residential care facilities with six or fewer persons as a single-family use. These facilities are allowed by right in any zone where single-family homes are permitted under State law. The City's Zoning Ordinance also permits reduced off-street parking space requirements for seniors though no such allowance is specifically identified for persons with disabilities. A program has been added to the City's Housing Program in order to address potential constraints.
- **Permits and Processing Procedures.** There are no permit requirements for residential care facilities serving six or fewer persons. In general, no special design or permitting standards have been established for residential care facilities. The City has no occupancy standards that specifically apply to unrelated adults. Requests to retrofit homes for disabled accessibility or for reasonable accommodation are handled as any other building permit or variance application.
- **Building Code.** The City has adopted the Uniform Building Code and the most recent Los Angeles County Code which includes provisions of the Americans with Disabilities Act. One provision is that a number of the residential units in new multi-family construction of three or more apartments, or four or more condominiums, must be accessible or adaptable. The City has added no amendments to the Building Code that would place constraints on accommodation of persons with disabilities.

Based on a review of City development procedures and policies, no specific constraints were identified. The City currently considers reduced parking requirements for group care housing and streamlined review for applications that involve the retrofit of existing units to accommodate reasonable access. In summary, the City's zoning ordinance does not contain any provisions that would preclude the development of housing for handicapped persons. There are no zoning restrictions that limit the use of ramps, wider doorways, or other features desirable in such units. No additional review or development standards are required for handicapped units beyond that required for all units.

4.9.3 – DEVELOPMENTALLY DISABLED

According to Section 4512 of the California Welfare and Institutions Code a "Developmental disability" means a disability that originates before an individual attains age 18 years, continues, or can be expected to continue, indefinitely, and constitutes a substantial disability for that individual which includes mental retardation, cerebral palsy, epilepsy, and autism. This term shall also include disabling conditions found

to be closely related to mental retardation or to require treatment similar to that required for individuals with mental retardation, but shall not include other handicapping conditions that are solely physical in nature.

Many developmentally disabled persons can live and work independently within a conventional housing environment. More severely disabled individuals require a group living environment where supervision is provided. The most severely affected individuals may require an institutional environment where medical attention and physical therapy are provided. Because developmental disabilities exist before adulthood, the first issue in supportive housing for the developmentally disabled is the transition from the person's living situation as a child to an appropriate level of independence as an adult.

The State Department of Developmental Services (DDS) currently provides community based services to approximately 243,000 persons with developmental disabilities and their families through a statewide system of 21 regional centers, four developmental centers, and two community-based facilities. The Eastern Los Angeles Regional Center is one of 21 regional centers in the State of California that provides point of entry to services for people with developmental disabilities. The center is a private, non-profit community agency that contracts with local businesses to offer a wide range of services to individuals with developmental disabilities and their families.

Table 4-24 provides information from the Eastern Los Angeles Regional Center of on the number of developmentally disabled individuals in the City of Commerce. In 2012, there were approximately 92 individuals actively utilizing services at the Regional Center for a developmental disability. This is approximately 0.7 percent of the City's total population.

Table 4-24:
Developmentally Disabled Residents by Age

Zip Code Area	0-14 Years	15-22 Years	23-54 Years	55-65 Years	65+ Years	Total
90040	42	17	28	4	1	92
90091	0	0	0	0	0	0
Total	**42**	**17**	**28**	**4**	**1**	**92**

Source: South Central Los Angeles Regional Center, 2012.

To assist with any housing needs for persons with developmental disabilities, the City will implement programs to coordinate housing activities and outreach with the Eastern Los Angeles Regional Center and encourage housing providers to designate a portion of new affordable housing developments for persons with disabilities, especially persons with developmental disabilities, and pursue funding sources designated for persons with special needs and disabilities.

4.9.4 - LARGE FAMILIES

According to the HCD's definition, the term "large family" refers to a family containing five or more persons. Large family households, containing five or more persons, frequently experience a greater incidence of overcrowding due, especially in older units and rental housing. Most rental units in the City contain one or two bedrooms. In addition, landlords may be reluctant to rent smaller units to larger families. Finally, many owner occupied units are overcrowded (refer to the subsection that follows) due to extended families sharing housing as a means to reduce mortgage or rental costs. Large families are identified as a group with special housing needs based on the limited availability of adequately sized, affordable housing units. Large families are often of lower income, frequently resulting in the overcrowding of smaller dwelling units, and in turn accelerating unit deterioration. As shown in **Table 4-8** a total of 981 occupied housing units had five or more residents according to the 2007-2011 ACS. Of this total, 369 units occupied by large families were occupied by renters while 612 units were owner occupied.

All new, assisted, owner-occupied housing contains at least three bedrooms, with the majority containing 4 bedrooms. In addition, the majority of the market rate owner-occupied housing constructed during the past ten years had four or more bedrooms. In recent years, few rental units have been constructed in the City and no new rental units containing three or more bedrooms. According to the most recent census, 895 units (26.4 percent of the total housing units in the City) contained five rooms, 444 units (13.1 percent) contained six rooms, and 323 units (9.6 percent) have seven or more rooms. The City continues to address the needs of large households by prioritizing funding for projects that include large units.

4.9.5 - FEMALE HEADED HOUSEHOLDS

Single-parent households often require special consideration and assistance due to their greater need for affordable and accessible day care, health care, and other supportive services. In particular, many female-headed households with children are susceptible to having lower incomes than similar two-parent households. Single, female mothers also face social marginalization pressures that often limit their occupational choices, housing options and access to supportive services.

The 2007 - 2011 American Community Survey indicates that there are 513 female-headed households in the City of Commerce, of which 259 have children under the age of 18. These numbers account for approximately 16 percent and 8 percent, respectively, of all households in the City. In the County, there are 491,428 female - headed households with no husband present, of which 261,586 have children under the age of 18. These numbers account for approximately 22 percent and 12 percent, respectively, of all households in the County. The percentage of female-headed households within the City is lower than that of County as a whole.

4.9.6 - FARM WORKER HOUSEHOLDS

The special housing needs of many farm workers stem from their low wages and the seasonal nature of their employment. Most of Commerce residents work in the Los Angeles-Long Beach Metropolitan area in non-agricultural occupations. The 2007-2011 ACS identified 63 farm workers and other persons in forestry and fishing occupations in the City, accounting only 0.6 percent of the total employable

population in the City. This is a decrease from the 2000 Census which identified 92 farm workers, representing 0.7 percent of the total population in the City. These persons are likely to be employed in nurseries, stables, and not in traditional agricultural production. The demand for housing generated by farm workers in the City is thus estimated to be extremely low.

4.9.7 – EXTREMELY LOW-INCOME HOUSEHOLDS

According to 2005 - 2009 CHAS data generated for the City, there were approximately 520 very low-income households living in Commerce. Very low-income households are those households that earn 50 percent or less of the median family income (MFI) for the statistical region in which they are located. Extremely low-income households are those households which earn less than 30 percent of the MFI. Based on this data there are approximately 710 extremely low income households in Commerce (renters and owners). **Table 4-25**, below, includes data characterizing affordability and other housing problems in Commerce for various income groups. There are limited opportunities to address the housing needs of extremely low-income households in Commerce. However, the needs of this special needs group are taken into consideration and are generally addressed through the City's overall programs for housing affordability and by prioritizing funding and development opportunities for projects that include housing for ELI households.

Table 4-25:
Housing Problems for All Households

Household by Type, Income & Housing Problem	Renters	Owners	Total Households
Extremely Low-Income (0-30% MFI)	**525**	**185**	**710**
# with any housing problems	390	145	535
# with cost burden > 30%	390	140	530
# with cost burden > 50%	330	105	435
Very Low-Income (31-50% MFI)	**315**	**205**	**520**
# with any housing problems	250	85	335
# with cost burden > 30%	230	85	315
# with cost burden > 50%	95	75	170
Low-Income (51-80% MFI)	**330**	**440**	**770**
# with any housing problems	200	320	520
# with cost burden > 30%	100	300	400
# with cost burden > 50%	0	140	140
Moderate-Income (81% + MFI)	**465**	**835**	**1,300**
# with any housing problems	190	325	515
# with cost burden > 30%	10	214	224
# with cost burden > 50%	0	14	14
Total Households	**1,635**	**1,665**	**3,300**
# with any housing problems	1,030	875	1,905
# with cost burden > 30%	730	739	1,469
# with cost burden > 50%	425	334	759

SOURCE: CHAS DATA BOOK, 2005 - 2009.

4.9.8 – HOMELESS

Enumerating the homeless population is difficult due to the transient nature of the population, as well as the existence of hidden homeless or persons that move between housing situations (e.g. doubling up with another household). The Los Angeles Homeless Services Authority (LAHSA) generally reports homeless counts for Los Angeles County; however homeless counts are conducted by Service Planning Area (SPA), which include large groupings of cities. Commerce, for example, is included in the East Los Angeles SPA, which includes 22 other jurisdictions. Generally, 4,517 homeless individuals have been reported in the East Los Angeles SPA, however there is no data reported that provides a specific number of homeless living in the City.

In an effort to determine a more accurate number of homeless individuals living in the City, local homeless service providers including the Bell Shelter and the Shelter Partnership were contacted. To date, neither organization has data regarding where homeless individuals are from or the number of individuals by jurisdiction. Consequently, the City of Commerce Social Services department provides the most specific data regarding the number of homeless individuals living in the City. The Commerce Social Services department provides food, education, transportation vouchers, and other services to low income and homeless individuals year round. In the last year, the department reports that 20 individuals have been observed in the City, which may be attributed to a number of factors such as the primarily industrial nature of the City and the presence of a major homeless shelter adjacent to the City. Of the total reported, 16 individuals were located in the Veteran's and Rosewood neighborhoods and 2 individuals were each found in the Ferguson and Bristow neighborhoods.

Of the individuals identified as homeless in the City, the majority are able to reference a permanent address. If an individual is unable to provide a permanent address the Sheriff's Department acts as a referral resource to shelters in the area and in some cases will offer transport to a sub-regional facility. These shelter facilities include: the Long Beach Rescue Mission, Long Beach Salvation Army, Bell Salvation Army, Catholic Charities and Homeless Programs, Mental Health Association/Los Angeles County, and East Rancho Dominguez Community Services.

The Salvation Army operates a shelter located at East 5th Street in the City of Long Beach. The operators of this shelter report that providing temporary shelter to the homeless is the shelter's primary function. This Salvation Army shelter provides services to an average of 73 people per day. Of this number, approximately 10 percent are homeless. The Bell Shelter, located in the City of Bell, adjacent to the City of Commerce, provides transitional housing for women with dependent children. The focus of the shelter's services is to provide women who are victims of domestic violence with housing while they are making a transition to independent living. The shelter has a 24-bed capacity.

The City of Commerce is a potential source of employment for those individuals that are housed in the Bell Shelter. The MTA, Montebello Bus Lines and Commerce Transit (operated by the City) are readily available. The City's transit system consists of five routes that run within the Commerce City limits, Monday through Saturday. All transportation services offered by the department are free of charge. The City also recently amended their Zoning Code to allow emergency shelters in the Industrial Manufacturing (M-2) zone and transitional housing as a permitted uses in the residential zone districts (R-1, R-2, and R-3). To date, no applications have been submitted to the City for such uses.

Table 4-26:
Inventory of Homeless Services and Facilities in the Region

Organization	Services Provided
Salvation Army Bell Shelter 5600 Rickenbacker Rd. #2d Bell, CA 90201 (323) 262-1804	Temporary emergency housing and support services for individuals. Services include; general program referral and counseling, emergency shelter vouchers, transportation assistance, mental health services, food and clothing distribution, and rental and utility payment assistance.
Long Beach Rescue Mission 1335 Pacific Avenue Long Beach, CA 90801 (562) 591-1292	Provides shelter and a 12-month substance abuse program for men and women. Up to 120 beds are provided. The length of stay varies. Provides food services to the public.
Salvation Army 809 E. 5th St. Los Angeles, CA 90013 (213) 626-4786	Provides 286 beds for men and women for up to a stay of one year. Provides food services to the public.
Catholic Charities - Family Shelter 123 East 14th. Long Beach, CA 90813 (562) 591-1351	Provides transitional housing for homeless men, women and children. Single residents must be elderly or disabled. Stays of up to 45 days are permitted.
Mental Health Association of Los Angeles County 100 W. Broadway, Suite 5010 Long Beach, CA 90802-2310	Temporary emergency housing and support services for individuals.
East Rancho Dominguez Community Services 4513 E. Compton, Boulevard Compton, CA 90221	Multi-purpose facility designed to enhance the community with educational, social and recreational activities. Staff and non-profit agencies provide comprehensive information and referrals, case management, utility assistance, outreach, and food pantry. Emergency Food Distribution, Toy Loan, and bus tokens are provided on regular basis.
Christian Outreach Appeal 515 E. Third Street Long Beach, CA 90802 (562) 436-9877	Provides programs and informational resources for women and single mothers of jobs, training, and housing opportunities.
Catholic Charities - Family Shelter 123 East 14th. Long Beach, CA 90813 (562) 591-1351	Provides transitional housing for homeless men, women and children. Single residents must be elderly or disabled. Stays of up to 45 days are permitted.

Organization	Services Provided
Family Crisis Center Confidential Location Redondo Beach (310) 792-5900	Provides beds for up to 15 women with children under 18 who are victims of domestic violence. Shelter for adolescents at risk of becoming homeless is also provided. Services include referrals to homeless shelters and outpatient counseling. Stays of up to 6 months are permitted.
Harbor Interfaith Shelter 670 W 9th Street San Pedro, CA 90732 (310) 831-0589	Provides 20 single-bedroom units for families and children for up to 90 days. Provides food services to the public.
House of Yahweh 4430 West 147th Street Lawndale, CA 90260 (310) 675-1384	Provides transitional housing with 10 trailer units for families with children for up to 2 years. Provides food services to public.
Southern California Alcohol and Drug Programs, Inc. Angel Step Inn Address: Confidential Site Downey, CA 90239	Emergency shelter for battered, substance abusing women and women with children.
Southern California Alcohol and Drug Programs, Inc. La Casita 10603 Downey Avenue Downey, CA 90241	Provides addiction counseling and life skills education for mothers living in shelter plus care and permanent housing.
Southern California Alcohol and Drug Programs, Inc. Positive Steps 11501 Dolan Downey, CA 90241	Residential treatment for pregnant and parenting women and their children.
Southern California Alcohol and Drug Programs, Inc. Los Angeles Area 11500 Paramount Boulevard Downey, CA 90241	Alcohol/Drug addiction prevention counseling and recovery.
Transitional Living Centers 16119 Prairie Avenue Lawndale, CA 90260 (310) 542-4825	Alcohol/Drug addiction prevention counseling and recovery.

Source: California Department of Housing and Community Development, the Multi-Service Center City of Long Beach Health and Human Services; City of Commerce Housing Division.


CITY OF COMMERCE
CALIFORNIA
INCORPORATED JANUARY 28, 1960

5. HOUSING CONSTRAINTS

The housing constraints section of the Housing Element analyzes barriers that may hinder the City's ability to achieve its housing objectives or to obtain the necessary resources to assist in the production, maintenance and improvement of the overall housing stock.

A number of different dynamics that include governmental, market, infrastructure, and environmental factors may constrain the provision of adequate and affordable housing in a city. Consequently, State law requires that Housing Elements analyze potential and actual governmental and non-governmental constraints to the production, maintenance, and improvement of housing for persons of all income levels and disabilities. In instances where barriers exist, State law requires the local jurisdiction to demonstrate efforts to remove, where appropriate and legally possible, governmental constraints that hinder the achievement of housing goals.

5.1 - GOVERNMENTAL CONSTRAINTS

Governmental constraints include policies, development regulations, standards, fees or other actions that impose limitations by various levels of government upon land and housing ownership and development. Local land use controls can include site improvement requirements, fees and exactions, permit processing procedures, and other factors that may constrain the maintenance, development, and improvement of housing. At the local level, government housing regulations are necessary to assure: (1) that housing is constructed and maintained in a safe manner, (2) that the density and design of housing is consistent with community standards, and (3) that adequate infrastructure to support new housing is provided. While local policies are necessary to ensure a quality housing stock, these regulations can also affect the price and availability of housing and, in particular, the availability of affordable housing. Key development standards that could add to the cost of housing development and the City's response include the following:

- The City has adopted the Los Angeles County Building Code by reference that establishes minimum construction standards. The City's existing development requirements included in the Zoning Ordinance and Building Code do not include any architectural standards that would add to the cost of new housing development. The City also relies on Los Angeles County to provide plan check services. In addition, there are no unique open space, parking, Mello-Roos fee requirements that are applicable to new developments.
- Code Enforcement site visits are typically complaint driven. The City of Commerce also maintains a number of programs that property owners may take advantage of if their unit is found to be substandard. Code Enforcement officers have been very proactive in referring residential property owners to these programs.
- All of the residential areas where the residential zoning is applicable are well served by streets and other infrastructure. No street dedications or new infrastructure is required for the typical infill development. The Housing Opportunity Overlay zone permits new residential

development within an area that is currently developed as industrial. As a result, new on-site roadways will be required to accommodate the potential housing.

- The California Energy Resources Conservation and Development Commission have developed guidelines used by building code enforcement officials to implement energy conservation regulations established by the California Energy Commission. While serving as a mitigation tool to help reduce electricity and natural gas consumption, they do add to the cost of housing. State law also authorizes school districts to collect impact fees for all new residential, commercial, and industrial construction.
- The City of Commerce Zoning Ordinance includes development standards and requirements for existing and potential development within the R-1, R-2, and R-3 zone districts. The development standards outlined in **Table 5-2** do not appear to represent a constraint to development given the amount of rehabilitation that has occurred in recent years. The minimum lot size and setback requirements are very liberal. For example, most communities in the area require between 5 to 10 feet for the side yard setbacks. This Housing Element includes a program that commits the City to a periodic review of the Zoning Ordinance to remove or modify other development standards and/or requirements that may represent a governmental constraint to housing development.

The City has established a goal within the Housing Plan to target governmental constraints that may inhibit the development of new housing in the City. Goal 3 in the Housing Plan also focuses on establishing policies and programs that will remove constraints and help facilitate affordable housing development. The City will review and, if necessary, revise the existing residential development standards as well as the density bonus provisions outlined in the City's Zoning Code.

State and Federal regulations, which are beyond local jurisdiction control, can also add to governmental constraints. Regulations related to environmental protection, building codes, and other topics have significant, often adverse, impacts on housing costs and availability. Although Federal and State agencies play a role in the imposition of governmental constraints, the actions of these agencies are, for the most part, beyond the influence of local government and are therefore not addressed in this document. Therefore this section of the Housing Element emphasizes policies and regulations that can be mitigated by the City.

5.1.1 - Land Use Controls

The Community Development Element indicates the location and extent of permitted land uses and development within the city. The following residential designations are included in the Community Development Element:

- **Low-Density Residential.** Land uses within this land use category are characterized by single-family homes and correspond to the R-1 (single-family residential) zone district.
- **Medium-Density Residential.** The medium-density residential land use category corresponds to the R-2 (light multiple-family residential) zone district. Permitted uses within this land use designation include single-family homes and duplex units.
- **High-Density Residential.** This category of land use corresponds to the R-3 (medium multiple-family residential) zone district that provides for higher-density residential development, including multiple-family residential development.

- **Mixed-Use.** This land use designation applies to the Atlantic Avenue corridor between the Mix-Master (on the north) and Washington Boulevard (on the south). This land use provides for both residential development and commercial development. A new overlay zone will be prepared for this area along with design guidelines for new development.
- **Housing Opportunity Area.** This designation applies to the Rosewood Planning Area. This land use designation permits the existing manufacturing uses to recycle to residential development should the property owner desire to do so.

Table 5-1 itemizes the land area devoted to the various land use designations that comprise the city of Commerce General Plan.

Table 5-1:
City of Commerce General Plan Land Use Designations

Land Use Designation	Land Use Description	Density Standard	Area
Low-Density Residential	Single-Family Residential Units	0-11 units/acre	151 acres
Medium-Density Residential	Single-Family & Duplex Units	12-17 units/acre	93 acres
High-Density Residential	Multiple-Family Residential Units	18-27 units/acre	74 acres
Atlantic Blvd. Mixed-Use	Mixed Use	Up to 27 units/acre	21 acres
Housing Opportunity	Residential	Up to 27 units/acre	25 acres
Total Land Area of the City			**364 acres**

Source: City of Commerce Land Use Element, 2005

5.1.2 - DEVELOPMENT STANDARDS

The City of Commerce Zoning Code establishes specific development standards, allowable uses and other limitations, and must be consistent with the community's standards as set forth in the General Plan. Zoning regulations control development by establishing requirements related to height, density, lot area, minimum unit size, yard setbacks, and minimum parking spaces. Site development standards ensure a quality living environment for all households groups in the City, including special needs groups, and low- and moderate-income households. Differences in development standards are just one factor of many that can affect the relative affordability of housing.

On a regular basis, City staff reviews the established development standards for the R-1, R-2, and R-3 zones, to ensure that the standards do not constrain the development of housing. Generally, the City's development standards outlined in **Table 5-2** are consistent with those of neighboring cities. In addition to periodically evaluating the existing residential zones in the Zoning Code update, the City established new design guidelines and development standards for the Housing Opportunity Overlay during the previous planning period. The Housing Opportunity Overlay allows for higher density residential development within parcels that are currently zoned for commercial and industrial uses. Future, potential development may include properties developed exclusively in higher density multiple-family developments.

Table 5-2:
Development Standards by Residential Zone District

	R-1	R-2	R-3
Permitted Uses	Single-family	Single-family and duplex units	Single-family, duplex units, and multiple-family (multiple-family development is permitted by right)
Density Range	0-8.7 du/acre	8.7-14.5 du/acre (for duplex units)	21.8 du/acre
Minimum Lot Area	4,000 sq. ft.	3,000 sq. ft. (duplex)	2,000 sq. ft./unit and not more than 7,500 sq. ft.
Minimum Dwelling Size	950 sq. ft.	850 sq. ft.	700 sq. ft. (1 bedroom) 850 sq. ft. (2 bedroom) 1,000 sq. ft. (3 bedroom) 1,150 sq. ft. (4-bedroom)
Maximum Building Height	Maximum 25 feet (2-story)	Maximum 25 feet (2-story)	Maximum 35 feet (3-story)
Distance Between Buildings	10 feet	10 feet	20 feet
Front Yard Setback	20 feet	20 feet	15 feet
Side Yard Setback	3 feet minimum	3 feet minimum	5 feet minimum
Rear Yard Setback	15 feet minimum	15 feet minimum	15 feet minimum
Off Street Parking	2 spaces/unit[1]	2 spaces/unit[1]	2 spaces/unit[2]
Uses Permitted	All uses permitted in R-1 zone	All uses permitted in R-1 and R-2 zones	All uses permitted in R-1, R-2, and R-3 zones

Source: City of Commerce, 2013.
Notes: 1. Enclosed parking.
2. Open Parking is permitted for R-3 developments. Parking requirements are relaxed for senior housing.

Table 5-2 summarizes various housing types and the residential zones in which they are permitted. In recent years, multiple family developments, within the R-3 zones, have utilized a variety of modifications to the existing development standards, specifically reduced setbacks and smaller yard area requirements. The City also allows developers to utilize the Planned Development (PD) overlay zone as a strategy to achieve alternative development standards. The PD process is voluntary and allows the City Staff to assist a developer in constructing a viable project on small infill lots while ensuring that the needs of residents living on the site will be met. Of the City's existing development standards for the R-3 zone, the minimum unit size, parking requirements and environmental review are most likely to be interpreted as a constraint to the development of affordable units or housing for extremely-low income residents. These requirements are discussed below.

5.1.2.A - MINIMUM UNIT SIZE

The City currently outlines a minimum square footage allowed in each residential zone. Specifically, the R-1 zone requires a minimum of 950 square feet per unit, the R-2 requires a minimum of 850 square feet per unit and the R-3 zone requires a minimum of 700 square feet for a one bedroom unit. While this requirement could be seen as a constraint to the development of housing for extremely low income residents (i.e. SRO units) the City has established this standard to ensure that a quality living environment is maintained for all residents regardless of income. Generally, this requirement is comparable or lower than the restrictions placed by surrounding jurisdictions. Furthermore, the development standards for the Housing Opportunity Overlay establish a minimum unit size requirement that is less restrictive than the residential zones.

A review of development applications during the previous planning period did not identify any development requests for smaller unit floor areas. Despite this fact, Staff will continue to monitor this stand and is committed to working with developers to reduce the unit size if the requirement becomes a constraint to the development of housing for extremely low- and low-income residents. The City has also established separate development standards for emergency and transitional housing for the benefit of extremely low-income households.

5.1.2.B - PARKING

The City's parking standards for residential developments are tailored to the vehicle ownership patterns associated with different residential uses. As such, the City currently requires garage parking for multi-family units, one garage space for a one-bedroom unit and two spaces for any unit with two or more bedrooms. This ratio is lower than many surrounding jurisdictions and garages are a common requirement in Southern California due to weather conditions and the need to limit on-street parking. While the City's parking requirements could be viewed as a constraint to the construction of multifamily affordable housing, the City offers developers the option to utilize a density bonus and is flexible with required parking requirements for specific types of residents, including the elderly. As noted above, the City recognizes that reduce parking standards are appropriate for certain types of housing and Staff is committed to working with developers to modify parking standards. To further provide flexibility with parking standards the City has established guidelines for the Housing Opportunity Overlay area that are less restrictive and offer alternatives such as shared parking, tandem parking, carports in lieu of garages, and reduced parking for senior housing or units near public transportation. Generally, a parking study for specific projects is recommended to justify reduced parking standards.

5.1.2.C - CEQA

To address potential environmental analysis constraints, which can add significant expense to a project, the City has relaxed the environmental review requirements relying on CEQA Class 32 exemptions. This has significantly streamlined the review procedures for such infill development and has reduced the costs associated with the preparation of environmental documents. As CEQA is required by the State and the City does not have the ability to modify this requirement it is not a constraint that can be addressed by the City.

5.1.3 - PROVISIONS FOR A VARIETY OF HOUSING TYPES

Housing Element Law requires jurisdictions to identify available sites in appropriate zone districts with development standards that encourage the development of a variety of housing types for all income levels, including multi-family rental housing, factory-built housing, mobile homes, emergency shelters, and transitional housing. The following paragraphs describe how the City makes provisions for these types of housing.

5.1.3.A - SECOND UNITS

City of Commerce revised its Zoning Ordinance to allow second units in all single-family residential zones in compliance with Government Code sections 65852.2 and Section 65583.1. These sections require local governments without a local second-unit ordinance or a local ordinance not in compliance with second-unit law should ministerially consider second-unit applications in accordance with State standards, as of January 1, 2003.

5.1.3. B - EMERGENCY SHELTERS AND TRANSITIONAL HOUSING

Pursuant to State law, the City permits transitional or supportive housing as a residential use, by right, subject only to the requirements of other similar residential uses in that zone. These facilities are subject to the same underlying zoning standards as other residential uses in the same residential zoning district.

Due to funding reductions and staff cutbacks, the City was unable to complete the Zoning Code amendments to address transitional housing and emergency shelters in the time specified by the 2008-2014 Housing Plan. The City has drafted an ordinance amending the Zoning Code to allow emergency shelters in the Light Manufacturing (M1) Zone, by right, without any other discretionary permit required. The City has also updated their Zoning Code to allow transitional and supportive housing, including Single Resident Occupancy (SRO) as a residential use, by right, subject only to the requirements of other residential uses in that zone. The City will take the Ordinance to City Council in 2013, in conjunction with the adoption of the 2014-2021 Housing Element.

5.1.3. C – SINGLE ROOM OCCUPANCY UNITS

Due to funding reductions and staff cutbacks the City was unable to complete the Zoning Code amendments to address SRO units in the time specified by the 2008-2014 Housing Plan. The City has drafted an ordinance amending the Zoning Code to permit SRO's in at least one non-residential zone as a permitted use and SRO's as a conditionally permitted use in appropriate residential zones. The applicable development standards are no more restrictive than standards that apply to other residential uses of the same type permitted in the same zone. The City will take the Ordinance to City Council in 2013, in conjunction with the adoption of the 2014-2021 Housing Element.

5.1.3.D – SENIOR HOUSING

The City of Commerce has previously amended its Zoning Ordinance to allow Senior Housing in all residential zones in the City. The development standards for these units differ from the requirements for conventional units in that the ordinance allows for smaller and/or efficiency units with reduced parking requirements, higher densities, and common recreation areas.

5.1.3.E - HOUSING FOR THE DISABLED

Physical disabilities can hinder access to housing units of traditional design as well as limit the ability to earn adequate income. In 2010, approximately 9.3 percent of Commerce's population was estimated to be living with a disability. This count includes age-related as well as other disabilities. Housing opportunities for the physically disabled are maximized through the provision of affordable, barrier-free housing. Special modifications include units with access ramps, wider doorways, assist bars in bathrooms, lower cabinets, and elevators. This is accomplished through the City's compliance with the Federal Americans with Disabilities Act (ADA) and the 2007 Title 24 Part 2, California Building Code regulations. In addition, the City administers a number of programs that provides financial assistance to disabled households to perform modifications such as those described above.

The Commerce Municipal Code permits residential care facilities, including facilities for the disabled (with 6 or fewer residents), by right in all residential zones in the City. For group homes with 7 or more residents, the City requires approval of a conditional use permit in all residential zones in the City. There are no facility concentration or distance requirements or similar limitations for either type of residential care facility. The applicable development standards are no more restrictive than standards that apply to other residential uses of the same type permitted in the same zone.

The City's Zoning Ordinance does not contain any provisions that would preclude the development of housing for handicapped persons or units designed to accommodate larger families. There are no restrictions that would limit the use of ramps, wider doorways, or other features that would be desirable in such units. To further assist residents with disabilities the City has established a reasonable accommodation ordinance that establishes a clear procedure for residents to apply for development modifications to accommodate a disability and refers residents to City programs that offer funding to complete proposed modifications.

Table 5-3 addresses how uses are permitted in zones that allow residential uses per the Commerce Municipal Code.

Table 5-3:
Housing Types by Residential District

Housing Type	Existing Zone Districts			Proposed Zone Districts	
	R-1	R-2	R-3	Housing Opportunity Overlay	Atlantic Blvd. Mixed Use
Single-family	P	P	P	P	N
Duplex (2 units)	N	P	P	P	N
Multiple-family	N	N	P	P	P
Mixed-Use	N	N	N	P	P
Manufactured Housing	P	P	P	P	N
Second Units	P	P	P	P	N
Care Facilities (<6 persons)	P	P	P	P	P
Care Facilities (>6 persons)	C	C	C	C	C
Senior Housing	P	P	P	P	P
Emergency Shelters[1]	C	C	C	C	C
Transitional Housing	P	P	P	P	N
Single Room Occupancy Units	N	N	P	P	N

Source: City of Commerce, 2013.
Notes: 1. Emergency shelters are permitted by right in the M-1 zone.
2. P - Permitted, N - Not permitted, C - Conditionally permitted.

The City of Commerce defines a "family" as one or more persons, related or unrelated, living together as a single integrated household in a dwelling unit.

5.1.4 - DEVELOPMENT FEES

Development fees can affect the development of affordable housing as they require the developer to spend their limited budget on fees such as school fees, plan check fees, etc. The school fees that are charged towards new residential development are a State mandate and are beyond the City's ability to control. The Montebello Unified School District (MUSD) and Los Angeles Unified School District (LAUSD) both levy a school development fee for residential construction. No other fees beyond school, development application and permit fees are applied in the City of Commerce.

Building inspection services such as plan checks and permit issuance are contracted through the County of Los Angeles. Fees charged to the developer for these services are typically less than the actual cost for review time though any increased administrative costs beyond the base fees for discretionary review are waived. The planning fees that are charged in the City do not make any distinction between rental housing and owner-occupied housing or the types of housing (single-family or multiple-family). The development fees for processing development cases in Commerce are among the lowest compared to those of the surrounding communities. As indicated previously, the City does not derive full compensation for staff hours through filing fees. This policy, whereby fees do not reflect the actual costs of performing services, results in the reduction of front-end costs to developers.

To better illustrate the development fees for residential units in the City, **Table 5-4**, generally provides the total fees charged per unit for both single family and multi-family developments.

Table 5-4:
Development Fees per Unit

Permit Fees	Single Family Residential Unit	Multi-Family (per unit)
Building Permit	1,445.00	37.70
Plan Check Fee	1,300.50	33.93
Fire Hydrant Fee	660.00	22.00
Plan Maintenance	28.90	0.75
EQ Instrumentation	30.00	1.00
Grading Pre-Inspection	0.00	0.00
Posting	0.00	0.00
Issuing Fee	0.00	0.00
Planning (incl. $5 misc)	171.46	4.39
One Stop Surcharge	56.09	1.46
System Dev Surcharge	168.26	4.40
Dwelling Unit Construction Tax	200.00	200.00
Residential Development Tax	300.00	300.00
School Fee	297.00	297.00
TOTAL	$4,657.00	$902.64

The development processing fees and school fees are largely determined by square footage, valuation and a number of other factors including the number of bedrooms, bathrooms, outlets, etc. This makes it difficult to accurately determine the average and actual fees charged to a developer. Generally the City's fees are consistent with the fees charged in the surrounding area, particularly as the permitting process is contracted through the County of Los Angeles. Consequently the development fees are not deemed to be a constraint on the development of affordable housing. In specific instances, the City previously worked with developers to modify fees however the loss of redevelopment set aside money and reductions in CDBG funds has resulted in a direct decrease in opportunities to assist with projects that include affordable housing, housing for extremely low income and disabled residents. It is important to note that the development fees have not changed since the previous planning period.

5.1.5 - DEVELOPMENT REVIEW AND PROCESSING

In addition to permit fees the processing time needed to obtain development permits and required approval can contribute to the high cost of housing. This is not the case in the City of Commerce. After completing an internal review of the City's fees and comparing them to surrounding jurisdictions, Staff has determined that the established development and permit fees are at least 15-20% lower than most surrounding jurisdictions. The City has also committed to fee modifications and will ensure fast track processing for projects that include affordable units, with priority given to projects for extremely low-income and very low-income residents.

The City of Commerce has fully implemented the provisions of AB884 and has established an expedited review process for building and construction plans through the establishment of a review committee. This committee consists of representatives from the Planning, Public Works, Engineering, and Fire Departments. The advantage of such a committee is that questions and/or problems that might surface at the Planning Commission meeting can be addressed prior to the meeting. The committee meets with the prospective applicant to discuss the project and to ascertain the nature of any issues that may arise in subsequent plant review. The effect of this review process is to provide valuable feedback to an applicant early in the planning process as a means to avoid potential delays and increased development costs related to a redesign of the development. No cost to the applicant is associated with these pre-consultation reviews. This process has expedited the Planning Commission's review of residential projects. In the past several years, residential projects that have appeared before the Planning Commission have been approved at a single hearing. In the case of the Southwest neighborhood's infill developments, multiple-projects were considered at a single hearing, thus saving time and money for the applicant.

Cases that do not involve any discretionary approvals (cases that do not require approval by the Planning Commission) may also be approved by the Review Committee. Such procedures speed up the approval process by several weeks. The Plan Check Review for new construction averages four to six weeks, which is considerably less than most surrounding cities. During the course of a development's design and planning, the City staff is available to conduct pertinent reviews and issue permits related to engineering, drainage, grading, public works, electrical, and other aspects of new developments. Even with those infill projects that require some form of discretionary review, the City has taken advantage of recent legislation that calls for smaller infill projects to be categorically exempt through the referral of a Class 32 Categorical Exemption.

Residential infill projects are handled through the City's streamlined review and entitlement process. The entire development process from land clearance through construction typically takes between six months to one year to complete, depending on the number of units. This includes the time required for plan check and construction. Land clearance and site preparation will typically require two to four weeks to complete. Actual construction will take between twelve to 24 weeks, depending on the number of units. Tract map/parcel map review (by the County) typically requires six weeks if a soils report is not required. When developments are subject to the CEQA review, a Class 32 exemption is generally provided to streamline the process.

Finally, no design review is required. A list of the cost and average processing time for each development application is provided in **Table 5-5** below.

Table 5-5:
Development Application Cost and Processing Times

APPLICATION	PRICE	AVERAGE TIME
General Plan Amendment	$1,000	6-12 months
Zone Change	$1,000	3-6 months
Zoning Ordinance Amendment	$1,000	3-6 months
Zoning Clearance Fee	$100	2 weeks
SUBDIVISIONS		
Parcel Map (4 or less lots)	$2,000	3-6 month
Tract Map (5 or more lots)	$2,000	3-6 months
Lot Line Adjustment	$750-Commercial	2-4 months
	$500-Residential	2-4 months
Lot Combination	$0	2-4 months
PLOT PLAN/SITE PLAN REVIEW		
Non-residential	$750	3-6 months
Residential	$250	2-4 months
CONDITIONAL USE PERMIT	$1,000	2-4 months
ABC and Temporary Trailer	$1,000	2-4 months
CUP MODIFICATION	$1,000	2-4 months
VARIANCE		
Non-residential	$1,000	2-4 months
Residential	$500	2-4 months
Additional Variances	$100	2-4 months
MODIFICATION OF STANDARDS		
Non-residential	$250	1-2 months
Residential	$150	1-2 months
HOME OCCUPATION PERMIT	$100	2-3 months
TEMPORARY USE PERMIT	$75	1-2 weeks
SPECIAL USE PERMIT	$75	1-2 months
TIME EXTENSIONS	$200	N/A
APPEALS OF PLANNING COMMISSION DECISION		
Non-residential	Cost of Application	1-3 months
Residential	Cost of Application	1-3 months
STREET OR ALLEY VACATION	$1,000	1-2 months
RELOCATION OF STRUCTURE	$500	2-4 months
ENVIRONMENTAL REVIEW		
EIR Review	If Services Agreement is required, Consultant's Cost Plus 20%. If not, $750	6-12 months
Categorical Exemption	$250	1-2 months
Negative Declaration	If Services Agreement is required, Consultant's Cost Plus 20%. If not, $500	3-6 months
Mitigated Negative Declaration	If Services Agreement is required, Consultant's Cost Plus 20%. If not, $500	3-6 months
ZONING VERIFICATION LETTER	$100 (per parcel)	1-2 weeks

Source: City of Commerce, 2013.

5.2 – NON-GOVERNMENTAL CONSTRAINTS

5.2.1 – CONSTRUCTION COSTS

The cost of building materials for residential construction has risen dramatically in recent years. According to the U.S. Department of Labor, the overall cost of residential construction materials rose by 2 percent between 2011 and 2012, with steel costs increasing 0.4 percent and the cost of cement increasing 1.5 percent. With the slowdown of the real estate market from 2008 until 2012, the price of construction materials has shown a significant decrease compared to the construction boom. The 2 percent increased in over all construction costs experienced over the past year is primarily due to the cost of labor.

Together, the cost of building material and construction labor are the most significant cost components of developing residential units. In the current southern California market, construction costs are estimated to account for upwards of 50 percent of the sales price of a new home. Typical construction costs for high-density apartment (20 units per acre) development run around $150,000 per unit including $10,000 per unit for structured parking. Hard construction costs for development of median-density (15 units per acre) condominiums over podium parking run approximately $200,000 per unit, including $35,000 per unit for the parking structure.

Variations in the quality of materials, type of amenities, labor costs and the quality of building materials could result in higher or lower construction costs for a new home. Pre-fabricated factory built housing, with variation on the quality of materials and amenities may also affect the final construction cost per square foot of a housing project. Furthermore, the unit volume - that is the number of units being built at one time - can change the cost of a housing project by varying the economies of scale. Generally, as the number of units under construction at one time increases, the overall costs decrease. With a greater number of units under construction, the builder is often able to benefit by making larger orders of construction materials and pay lower costs per material unit.

Density bonuses granted to a project, can also impact construction costs. Municipalities often grant density bonuses as an incentive for the builder to provide affordable units at the project site. The granting of a density bonus provides the builder with the opportunity to create more housing units and therefore more units for sale or lease than would otherwise be allowed without the bonus. Since greater units can potentially increase the economy of scale, the bonus units could potentially reduce the construction costs per unit. This type of cost reduction is of particular benefit when density bonuses are used to provide affordable housing.

As noted in the analysis provided on the units at-risk of conversion to market rate, recent appraisals completed for the City estimate that the cost of land ranges from $10/square foot up to $15/square foot. This means that land to construct a new single family home would cost approximately $50,000 to $75,000 for a 5,000 square foot lot and land for a new multifamily development would cost $450,000 per acre.

5.2.2 – LAND AVAILABILITY AND COST

There is very little vacant residential land available in the City. This is a significant constraint to the development of new housing within the City. The economy of land value and the cost of new construction can limit what a property owner can expect to achieve on an underdeveloped property. Even with an allowable 27 units per acre, as permitted by the Commerce Municipal Code, recycling and redevelopment can be difficult. As noted, in **Section 4-9**, the actual construction cost for residential development ranges from $100/square foot up to $130/square foot. This means that the cost to construct a new single family home would range from approximately $150,000 to $195,000 for a 1,500 square foot home and $100,000 to $130,000 per unit for a 1,000 square foot multifamily unit.

Chapter 6, *Housing Resources*, includes an analysis and discussion of vacant and underutilized residentially-zone parcels in the City that can accommodate new housing. Aside from the three residential zones in the City that accommodate residential development (R-1, R-2, and R-3 zones), the City has also identified opportunities in which industrial properties can be "recycled" for residential purposes, specifically through the Housing Opportunity Overlay area which will support the development of housing in a mixed-use configuration. In the City of Commerce 2020 General Plan, the Housing Opportunity Overlay area was implemented, encouraging industrial uses to recycle into mixed use, multifamily housing. During the 2008-2014 planning period, the City Council adopted specific development standards to further implement the overlay area.

5.2.3 – AVAILABILITY OF FINANCING

The availability of financing in a community depends on a number of factors, including the type of lending institutions active in the community, lending practices, rates and fees charged, laws and regulations governing financial institutions, and equal access to those institutions. Through analysis of Home Mortgage Disclosure Act (HDMA) data on the disposition of residential loan applications, an assessment can be made of the availability of residential financing within a community.

Residential lending activity in Commerce consisted of 41 applications for conventional home purchase loans in 2011, reflecting 1.2 percent of the ownership housing stock. This is a significant decrease from the 251 total applications in 2006. **Table 5-6** provides the status of home purchase loan applications in both Commerce and Los Angeles County. As illustrated by this table, the 68 percent loan approval rate in Commerce was slightly lower than the 71 percent approval rate Countywide.

Table 5-6:
Disposition of Loans

	Loans Approved[1]		Loans Denied		Loans Withdrawn/ Incomplete	
	Commerce	LA County	Commerce	LA County	Commerce	LA County
Number of Loan Applications	28	38,827	8	8,054	5	7,601
Percent of Total Applications	68%	71%	20%	15%	12%	14%

Source: Home Mortgage Disclosure Act (HMDA), Accessed 3-6-2013. Compiled by ESA.
Notes: [1] Approved loans include: loans originated and applications approved, but not accepted.

The Home Mortgage Disclosure Act (HMDA), also provides data on the total number of applications for home improvement loans in Commerce. Home improvement loans generally have lower approval rates than loans used to purchase homes. In 2011, only 17 households in the City of Commerce applied for home improvement loans. Approximately 47 percent were approved and 9 percent were denied or withdrawn, indicating a significant gap differential between those who were actually able to obtain the financing to complete home improvements and those that were not. This is where City run programs are significant to make up the gap by providing available additional assistance to the households that could not qualify for a home improvement loan, perhaps making available rehabilitation loans with special finance rates.

5.3 - Environmental Constraints

5.3.1 – Seismic Hazards

As stated in the General Plan Safety Element, the entire City - as well as most of Southern California - is located within a seismically active region that has been subject to major earthquakes in the past. There are no known faults in Commerce. However, the Whittier fault, which is in close proximity from the City of Commerce. According to the Southern California Earthquake Data Center, the maximum probable earthquake that can be generated by the Whittier Fault is a magnitude 7.2. The greatest damage from earthquakes results from ground shaking. Although ground shaking is generally most severe near quake epicenter, property not immediately adjacent to the epicenter may be subject to extreme damage due to liquefaction. The greatest potential danger is the collapse of older residential units constructed from unreinforced masonry, and explosions of petroleum and fuel lines.

5.3.2 – FLOODING

The Federal Emergency Management Agency (FEMA) publishes maps that identify areas of the City subject to flooding in the event of a major storm. These Flood Insurance Rate Maps (FIRMs) indicate areas that may be inundated in the event of a 100-year or a 500-year storm. In addition, the maps indicate the base flood elevations at selected intervals of the floodway. Commerce lies within the dam inundation area of the Garvey Reservoir in Monterey Park. Dam rupture could result in the flooding of areas between Eastern Avenue and Garfield Avenue. The Ferguson neighborhood and portions of the Rosewood neighborhood could be affected by the flooding. Areas that are designated for future residential development do not fall within the 100-year floodplain and are not subject to specialized flood construction requirements.

5.3.3 – FIRE HAZARDS

The most serious fire threat within the City is building and structure fires. Like most southern California cities on the urban fringe, the late summer fires that result from the accumulation of this brush have the potential to spread into the City proper. Since the City center is largely developed, there is less potential for fire in central City communities. Other fire hazards within the City may be associated with heavy industrial uses, older commercial and residential structures, the presence of hazardous materials, and arson.

5.3.4 – NOISE

Residential land uses are sensitive to loud noises. State noise guidelines recommend that residential development be located in areas exposed to ambient outdoor noise levels no greater than 65 A-weighted decibels (dBA). A citywide noise inventory performed in October, 2005, found that virtually all of the neighborhoods in Commerce are located in areas where noise levels exceed 65 dBA. The City's noise environment is not expected to significantly change over time since the primary factors contributing to noise - the I-5 and I-710 Freeways, the railway freight lines, the railroad yard, and local truck traffic will have a continued presence in the City.

The General Plan FEIR identifies Community Development and Health and Safety policies that are designed to protect sensitive uses (such as housing) from excessive noise impacts. First, noise sensitive land uses are generally prohibited from being sited in areas characterized by high ambient noise levels. Second, land uses that generate excessive noise levels may not permitted near sensitive land uses. Finally, the General Plan promotes measures that will reduce noise exposure through the use of site planning and construction techniques. These policies are implemented by the City through its standard environmental review process that requires preparation of noise impact studies, as necessary.
All new residential development will need to meet General Plan Noise Element and State guidelines for exterior and interior ambient noise levels. Compliance with these guidelines may require more expensive construction techniques, which may in turn increase housing costs. The industrial operations located throughout the City of Commerce produce unpleasant dusts and odors that may be irritating and harmful to residents. Moreover, some industries produce and store toxic materials.

5.3.5 – AIR QUALITY

Given the composition of land uses in the City, the 2020 General Plan establishes a set of strategies to enable industrial activities and businesses to coexist with residential uses. Specifically, a major consideration in land use decisions is an evaluation of how stationary emissions from these businesses can be mitigated so they do not impact sensitive receptors. In addition to emissions generated by local businesses the City also experiences high volumes of truck traffic and railways running through the City to accommodate goods movement. Both rail and truck traffic can generate significant amounts of particulate matter which contribute to a less than ideal environment for residential uses. Furthermore, the City of Commerce is also bisected by two freeways: Interstate 5 which runs generally in an east-west orientation and Interstate 710 which runs north-south. It is not recommended that housing be located within 500 feet of freeways to avoid long term exposure to particulate matter for long term residents. Generally, the City is aware of potential air quality impacts on future residential development and has been careful to identify opportunity areas for residential development that are less impacted than other areas of the City. It is important to understand the existing environment and conditions present in the City with regard to housing, as the options for safe and healthy sites within the City are limited based on the industrial activity established in the City.

5.3.6 – HAZARDOUS MATERIALS

As the City of Commerce is primarily made up of industrial uses, it is important to ensure that sites that are identified and developed with housing are appropriate and safe. According to the California Department of Toxic Substance Control, in 2013, no parcels within the Housing Opportunity Overlay were identified on the Hazardous Waste and Substances Site List or the State Water Resources Control Board (SWRCB) list of cleanup sites. Despite this, future housing development or redevelopment will be reviewed on a project-by-project basis as part of the City's standard environmental review process to determine, if any, site contamination and the degree of remediation required. This is consistent with the policies of the General Plan Safety Element and the findings of the General Plan FEIR. It is possible that additional analysis may be required, including a soils analysis, to ensure that sites are safe for residential development, which can add cost and time to the development process. The City of Commerce will work with developers to streamline the process and when provide funding, when possible, but it is vital that sites are properly analyzed prior to the development of housing.

6. HOUSING RESOURCES

The Housing Resources section summarizes the land, financial, and administrative resources available for the development and preservation of housing in Commerce. The analysis conducted includes an evaluation of the availability of land resources for future housing development, the City's ability to satisfy its share of the region's future housing needs, the financial resources available to support housing activities, and the administrative resources available to assist in implementing the City's housing programs and policies.

6.1 - REGIONAL HOUSING NEEDS ASSESSMENT

This section of the Housing Element compares the housing need projections developed by the State Department of Housing and Community Development (HCD) and distributed by the Southern California Association of Governments (SCAG) as part of the Regional Housing Needs Assessment (RHNA), with historic housing growth and potential housing development in the city. The SCAG housing projections were derived from population, housing, and employment figures developed by the Department of Finance as part of the earlier planning process undertaken to develop the RHNA. The authority to determine housing needs for the various income groups for cities within the region has been delegated to the Southern California Association of Governments (SCAG), pursuant to Section 65584 of the Government Code. Housing needs are categorized according to income groups. The income categories include very low, low, moderate, and above-moderate income households, and the incomes of the selected income groups are based upon percentages of the median household income for the larger Los Angeles County region:

- Very low-income households are those households whose income is less than 50% of the median household income for the greater Los Angeles area. The RHNA requires 12 very low-income units to be provided. Of these units it is assumed that 7 units will be allocated for extremely low-income households.
- Low-income households earn from 50% to 80% of the County median. The RHNA requires 7 low-income units to be provided.
- Moderate-income groups earn from 80% to 120% of the County median. The RHNA requires 7 moderate-income units to be provided.
- Above-moderate Income households earn over 120% of the County median income. The RHNA requires 20 above moderate-income units to be provided.

The 2014-2021 RHNA allocation for the City of Commerce, as determined by SCAG, is 46 units. The RHNA allocation is presented by income category in **Table 6-1** below.

Table 6-1:
RHNA 2014-2021

Income Category	Number of Units	Percent of Total
Extremely Low Income[a]	6 units	13%
Very Low	6 units	13%
Low	7 units	15%
Moderate	7 units	15%
Above Moderate	20 units	44%
Total	**46 units**	**100%**

Source: SCAG Regional Housing Needs Assessment, 2012.
(a) The regional housing need for extremely low income is assumed to be 50 percent of the City's very low income RHNA of 12 units.

6.2. AB 1233 COMPLIANCE

In January 2006, changes to Housing Element law, specifically Assembly Bill 1233, created additional incentive for jurisdictions to achieve a compliant Element. AB 1233 requires "communities that failed to comply with requirements to make available sufficient sites to meet their regional housing need in the previous planning period must, within the first year of the new planning period, zone or rezone enough sites to accommodate the RHNA not accommodated from the previous planning period."

The City of Commerce Housing Element for the 2008-2014 planning period was certified by HCD in May 2010. However, due to budget cut backs and staffing reductions, the City was unable to complete the rezoning necessary to provide adequate sites to accommodate the City's lower income RHNA. Specifically, City was unable to implement the required code amendments (as outlined in Program 3.1 of the 2008-2014 Housing Plan to implement the Housing Opportunity Overlay) within the allocated timeframe. Consequently, the City is required to plan for the current planning period of 2014-2021 as well as any unaccommodated shortfall identified from the previous (2008-2014) planning period. The 2008-2014 RHNA for Commerce is shown in **Table 6-2**.

Table 6-2:
RHNA 2008-2014

Income Category	Number of Units	Percent of Total
Very Low	15 units	23%
Low	10 units	16%
Moderate	10 units	16%
Above Moderate	29 units	45%
Total	**64 units**	**100%**

Source: SCAG Regional Housing Needs Assessment, 2006.

The two planning period allocations combined result in a final housing needs allocation as shown in **Table 6-3**. The total fair share allocation for Commerce for the combined planning periods is 110 units.

Table 6-3: Combined 2008-2014 and 2014-2021 RHNA Allocations

	Very Low	Low	Moderate	Above Moderate	Total
2008-2014 RHNA	15	10	10	29	64
2014-2021 RHNA	12	7	7	19	46
Total	**27**	**17**	**17**	**48**	**110**

As Commerce's 2008-2014 Housing Element was adopted and certified, but not fully implemented the City must evaluate two key factors to determine their exact shortfall, in compliance with AB 1233. First, as the RHNA process establishes January 1, 2006 as the baseline for growth projections for the Housing Element planning period of 2008-2014, jurisdictions may count any new units built or approved since January 1, 2006 toward their 2008-2014 RHNA allocation. This means that any units built or approved from 2006 to the present may be credited toward the City's 2008-2014 RHNA allocation of 64 units. Second, as AB 1233 focuses on units that are accommodated specifically on rezoned sites, the shortfall will primarily include lower income units that were to be accommodated on sites in the Housing Opportunity Overlay. **Table 6-4** below, presents the number of units that the City must address in their 2014-2021 sites inventory, including any shortfall from the 2008-2014 planning period.

Table 6-4: 2014-2021 RHNA with AB 1233 Shortfall

	Very Low	Low	Moderate	Above Moderate	Total
2008-2014 RHNA	15	10	10	29	64
Credits (2006-present)	0	0	0	-29	-29
Units Accommodated on Vacant Sites	-14	0	-10	0	-24
Sub-Total	**1**	**10**	**0**	**0**	**11**
2014-2021 RHNA	12	7	7	19	46
Combined RHNA Total	**13**	**17**	**7**	**19**	**57**

Source: Compiled by ESA.

As shown in **Table 6-4**, between 2006 and 2012 the City entitled, approved or developed 67 market rate units, which is more than enough to meet the City's above moderate income RHNA allocation of 29 units for the 2008-2014 planning period. No deed restricted units were constructed during the planning period.

Additionally, within the 2008-2014 Housing Element, the Housing Resources section demonstrated vacant land to accommodate the City's remaining moderate income allocation of 10 units on land zoned Light Multiple Residential (R-2) and 14 lower income units on land zoned Medium Multiple Residential (R-3). The 2008-2014 included Site One, a grouping of four vacant parcels totaling 1.44 acres zoned R-2 allowing up to 17 dwelling units per acre. At the permitted density Site One accommodated 22 moderate income units. The 2008-2014 Housing Element also included a second vacant site, Site Four that

accommodated 14 lower income units. Site Four, was comprised of four parcels located in the southern tip of the City, zoned Medium Multiple Residential (R-3). Medium Multiple Residential allows development up to 27 dwelling units per acre to be constructed. Both sites, described above, were vacant during the 2008-2014 planning period, and did not require rezoning. Consequently, as shown in **Table 6-4**, the units accommodated on Sites One and Four of the 2008-2014 Housing Element will not be carried forward.

After taking into account, the number of units constructed and the units accommodated on vacant residentially zoned land, the City must carry forward 1 very low income unit and 10 low income units. The City's combined RHNA allocation, including the 11 lower income units from the 2008-2014 planning period is 57 units.

6.3. 2014-2021 SITES INVENTORY

As shown in **Table 6-4** above, based on the requirements of AB 1233, for the 2014-2021 planning period the City must make available sites to accommodate a total of 57 units, including 13 units for very low income, 17 units for low income (a total of 30 lower income units), 7 units for moderate income, and 19 units for above moderate income. This total includes 1 very low income unit and 10 low income units which were unaccommodated and thus carried forward from the 2008-2014 planning period per AB 1233.

6.3.1 - DENSITIES TO ACCOMMODATE LOWER INCOME HOUSING

Density is a critical factor in the development of affordable housing. In theory, maintaining low densities typically increases the cost of construction per unit, while higher density development lowers the per-unit land cost and facilitates construction in an economy of scale. In addition to density bonus provisions, more intense residential development can be achieved through a number of mechanisms, including clustering of residential development and zero lot line development, subject to City development standards. Clustering of housing can produce higher densities on a portion of land while creating space for amenities, and retaining the overall density assignment of the entire property. This method is effective when portions of the property not utilized for residential development can be developed with compatible uses, such as open space/recreation, parks, schools, public facilities and supportive commercial uses.

The State Housing and Community Development Department (HCD) have deemed affordability as correlated with density. Consequently, HCD has established "default densities" that by definition are considered sufficient to provide market-based incentives for the development of housing for lower-income households. For jurisdictions with a population less than 25,000 and located within a Metropolitan Statistical Area (MSA) with a population of more than 2 million, the City is considered to be Suburban and the default density is 20 dwelling units per acre. Commerce has a population of approximately 13,000 and is within the Los Angeles MSA. Thus, HCD has determined that Commerce's default density is 20 dwelling units per acre.

Due to the level of diversity in neighborhood types, land costs, and proximity to desired destinations throughout the urbanized Los Angeles region, utilizing a specific residential density (20 units per acre as

established by State law as the default density for affordable housing production) to determine the feasibility of affordable housing is problematic. As indicated in this Housing Element, affordable housing is feasible in Commerce at the required 20 dwelling units per acre, where it may not be as feasible in more expensive parts of the urbanized County.

As shown in **Table 6-5**, the City of Commerce Municipal Code identifies three residential land use classifications. Additionally, the Housing Opportunity Overlay requires the development of residential uses at a minimum density of 20 dwelling units per acre. The availability of land suited to accommodate the various income levels is based upon the allowed density.

Table 6-5:
Combined 2008-2014 and 2014-2021 RHNA Allocations

Income Category	Zoning Districts	Density
Very Low Low	Housing Opportunity Overlay Medium Multiple Residential (R-3)	27 du/ac
Moderate	Light Multiple Residential (R-2)	17 du/ac
Above Moderate	Single Family Residential (R-1)	8.7 du/ac

6.3.2 – HOUSING OPPORTUNITY OVERLAY

To accommodate their 2014-2021 total RHNA allocation and AB 1233 carryover, the City has identified the Housing Opportunity overlay area to facilitate and encourage the development of residential uses. As part of the City of Commerce 2020 General Plan, the Housing Opportunity overlay was applied to a 44.3 acre area, located in the center of the City, adjacent to the Rosini, Rosewood, and The Village residential neighborhoods. The area is loosely bounded by Harbor Street on the north, Strong Avenue on the west, Jillson Street to the south, with no formal boundary on the east. Commerce City Hall and the City Aquatorium are located on the eastern side of the Overlay area. The Overlay designation includes a cluster of industrial properties totaling 44.3 acres, within the Rosewood Planning Area, that the City would like to see transition to residential and mixed use development. The Overlay area requires residential densities at a minimum 20 dwelling units per acre.

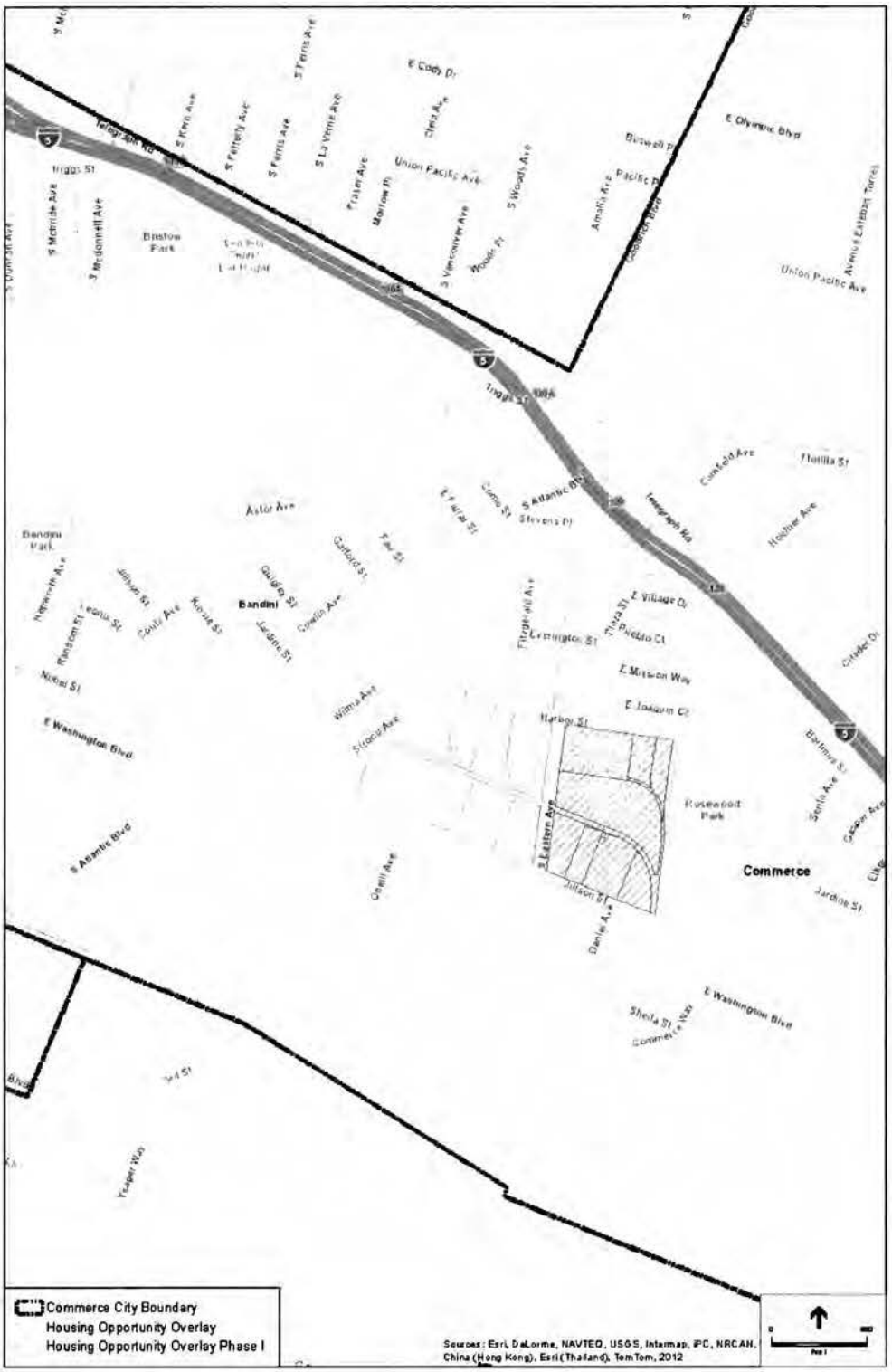
Based on the utilization and existing uses onsite, the City has identified the eastern portion of the Overlay area as most realistic to transition from industrial to residential uses during the 2014-2021 planning period. Consequently, the sites inventory for the 2014-2021 planning period, includes the parcels located Harbor Street on the north, Eastern Avenue on the west, Jillson Street to the south, with Commerce City Hall and other public facilities located to the east. This portion of the Overlay area will be called Phase I for the purposes of the Housing Element and includes approximately 19.9 acres of the total Overlay area.

To conservatively calculate unit capacity, the following assumptions were made: 1) the minimum 20 dwelling units per acre was utilized, 2) based on the existing uses onsite and given that initial projects will be in close proximity to industrial uses, 75 percent land capacity was assumed to allow for adequate buffers and onsite amenities. Given this established density and the calculation assumptions, if all 19.8 acres of the Phase I area are redeveloped, the City anticipates that approximately 298 new units could be provided. The specific parcels included in Phase I of the Housing Opportunity Overlay area are listed in **Table 6-6** and the Overlay area is shown in **Figure 6-1**.

Table 6-6:
Housing Opportunity Overlay Parcel Inventory

AIN	Acres	General Plan/Zoning	Minimum Density	Potential Capacity	Existing Use	Structure Year
6335025004	1.22	Housing Opportunity Overlay	20 du/ac	18	Packaging Manufacturer	1950
6335025005	1.77	Housing Opportunity Overlay	20 du/ac	27	Packaging Manufacturer	1952
6335025009	1.17	Housing Opportunity Overlay	20 du/ac	18	Hat Manufacturer	1955
6335025010	3.71	Housing Opportunity Overlay	20 du/ac	56	Warehouse/Office (vacant)	1951
6335025011	5.96	Housing Opportunity Overlay	20 du/ac	89	Clothing Manufacturer	1952
6335025013	0.02	Housing Opportunity Overlay	20 du/ac	1	Transportation Depot	N/A
6335025805	0.29	Housing Opportunity Overlay	20 du/ac	4	Rail Right-of-Way	1975
6335025806	0.86	Housing Opportunity Overlay	20 du/ac	13	Rail Right-of-Way	1975
6335025903	1.09	Housing Opportunity Overlay	20 du/ac	16	City Hall North Annex	1956
6335025905	1.43	Housing Opportunity Overlay	20 du/ac	21	Transportation Depot	1949
6335025906	2.36	Housing Opportunity Overlay	20 du/ac	35	Hat Manufacturer	N/A
TOTAL	**19.9**			**298**		

Figure 6-1: Housing Opportunity Overlay Area



While the City feels that the Phase I area is most likely to transition during the planning period, based on number of suite vacancies and the age and condition of the structures onsite, the City will consider redevelopment proposals for the entire Overlay area. The Housing Opportunity overlay area is the ideal location for the development of new housing including market rate and affordable units as stand-alone projects or incorporated into mixed use development. The Overlay is intended to locate employment opportunities, dining, shopping, neighborhood services, and residential uses in close proximity of one another thereby reducing vehicle trips and encouraging walkability. The Overlay area is ideal for the development of affordable units for residents that may need access to services, as it is close to existing residential development, City Hall, the City's transit center, the library, Rosewood Park, the City of Commerce Employment Center, the City of Commerce Aquatorium, and numerous commercial businesses. To further encourage and facilitate the transition of the area to residential uses, specific development standards have been developed and are included in the Housing Constraints analysis.

As the Housing Opportunity Overlay contains parcels that are developed with older industrial uses, it is important to understand the context of the area and its potential for redevelopment. Many of the existing on-site structures include older, vacant industrial buildings, as well as surface parking areas. To illustrate the existing conditions of the Overlay area, the following images have been provided of the Phase I area.



Single story, older industrial warehouse buildings are located facing Strong and Eastern Avenues. A sign in front of 2300 Eastern indicates that the space is vacant. Several other buildings in the Overlay area have signs advertising vacancies and parking lots mid-day during a work week indicate that few businesses are in operation.





Underutilized parking areas and thoroughfares can be found throughout the overlay area.



A deserted rail right-of-way runs through the overlay area. There is potential to covert the right-of-way into trails or incorporate them into the circulation plan of future projects.



As buildings sit vacant they are not properly maintained which creates blight and lowers property values.

As shown in the images above there are numerous opportunities for redevelopment within Phase I of the Housing Opportunity Overlay area. There are generally three large buildings fronting Jillson Street and three additional large structures fronting Harbor Street with one additional large manufacturing warehouse in the center of the area. These buildings are all single story, with surface parking areas and many are in need of rehabilitation. Several buildings are advertising vacancies and majority appear closed. Signs on the properties area faded or in some instances blacked out. Observation of the area revealed no pedestrian activity and limited auto access. Within the overlay area the parcels are currently disconnected from one another and there is an abandoned rail right-of-way running east-west dividing the area in half. This area is ripe for redevelopment and appropriate for residential uses, given its location and proximity to existing neighborhoods and supporting services.

6.4. SUMMARY OF AVAILABLE SITES

Table 6-3 and **Table 6-4** illustrate the City's RHNA allocation for the 2014-2021 planning period, as well as unaddressed units from the 2008-2014 planning period. Generally, the City must make available sites to accommodate a total of 57 units, including 13 units for very low income, 17 units for low income (a total of 30 lower income units), 7 units for moderate income, and 19 units for above moderate income. This total includes 1 very low income and 10 low income units which were unaccommodated per AB 1233 and thus carried forward from the 2008-2014 planning period. **Table 6-7** provides a summary of the strategies the City has identified to facilitate the development of new residential units to accommodate their combined RHNA allocation of 57 units.

Table 6-7:
Accommodation of the 2014-2021 RHNA

	Very Low	Low	Moderate	Above Moderate	Total
2008-2014 RHNA	15	10	10	29	64
Credits (2006-present)	0	0	0	-29	-29
Units Accommodated on Vacant Sites	-14	0	-10	0	-24
Sub-Total	**1**	**10**	**0**	**0**	**11**
2014-2021 RHNA	12	7	7	19	46
Combined RHNA Total	**13**	**17**	**7**	**19**	**57**
Housing Opportunity Overlay	-74	-74	-74	-76	-298
TOTAL	**0**	**0**	**0**	**0**	**(238)**

Source: Compiled by ESA.
Notes:
(a) As the Housing Opportunity Overlay requires a minimum density of 20 dwelling units per acre the units accommodated in the Overlay area have been evenly distributed across all income categories.
(b) Parentheses indicate a surplus of units.

As shown in **Table 6-7**, the City is more than able to accommodate their remaining RHNA allocation of 57 units. The City has identified the Housing Opportunity Overlay area which requires a minimum density of 20 dwelling units per acre, in accordance with AB 2348, to accommodate its remaining RHNA allocation, including their very low- and low-income units. The Overlay area can accommodate a total of 298 units, assuming a conservative 75 percent capacity. The existing conditions of the area, as shown in the images above, indicate that there are numerous underutilized parcels with vacant structures, available to facilitate and encourage development. To accommodate their RHNA and any carry over units in compliance with AB 1233, the City has identified a surplus of opportunities for all income groups.

As discussed throughout this section, the City of Commerce has been successful in providing affordable housing within their current zoning designations, which currently allows development of up to 27 units per acre. The City anticipates that with assistance from affordable housing developers such as TELACU and Mayans Development additional affordable units will be constructed within the planning period. As mentioned previously, the City in the last 30 years has been successful in creating affordable units with deed restrictions through infill opportunities and on small lots. Several of these developments are

between 20 and 30 units total and in some instances the City or the developer purchased a single-family home and established a covenant to ensure that the home remained affordable.

Allowing for a variety of units in various areas of the City at different densities is crucial to ensuring that affordable units are not concentrated in one specific area. It is also necessary to ensure that units of varying sizes, product types and styles can be developed. Based on the City's history of providing affordable units and the sites identified in Section 5.3 the City has identified many opportunities for the production of affordable housing.

6.5 – CONSTRAINTS TO HOUSING PRODUCTION

6.5.1 – PARCEL SIZE

In addition to density, the acquisition of parcels large enough to accommodate an affordable housing complex can also be challenging in the City of Commerce. In reviewing a jurisdiction's Housing Resources section, the State typically looks for properties that are between 5 and 10 acres in size. As Commerce has few vacant parcels remaining, much of the development in the City is redevelopment. This has resulted in the development of small infill projects. **Table 6-8** provides development information regarding the existing multifamily rental complexes with affordable units that occurred on small groupings of parcels up to 2 acres in size.

Table 6-8:
Density and Lot Size Calculations for Existing Multi-Family Projects

Project Name	Total Site Acreage	Approximate Density	Zoning	Number of Units
Commerce Senior Apartments Total Units = 68 units	1.94 acres	35 du/ac	R-3	68
Rosewood Park Senior Apts. Total Units = 94 units	2.12 acres	44 du/ac	R-3	94
TELACU Manor Total Units = 76 units	1.43 acres	53 du/ac	R-3	75
TELACU Gardens Total Units = 24 units	0.50 acres	48 du/ac	R-3	23
Total Average	**1.5 acres**	**45 du/ac**	**R-3**	**260**

Source: City of Commerce, 2009.

6.5.2. Environmental Constraints

Potential environmental constraints to future development of sites are addressed in Section 5, Housing Constraints. Parcels identified in the site specific Inventory were compared with all hazards maps included in the City's Safety Element; none were found to be within areas that have development restrictions due to risk of damage from disasters (such as floods, wildfires, or seismic events). The sites inventoried have a land use designation which was determined based on surrounding land uses and has already examined potential environmental constraints. Aside from the constraints mentioned above, there are no additional constraints that would impede the development of new housing units in the future on the identified sites.

6.5.3 - Infrastructure Constraints

The City's five year Capital Improvement Plan has identified expenditures of City funds used for public improvement projects, including infrastructure. The City understands that improvements can be achieved with a comprehensive approach that includes reviewing infrastructure plans for each application for discretionary approval of General Plan amendments, tentative parcel or tentative tract maps, or development proposals that includes extension of an existing street or construction of a new street. The City requires that project applications for new development be reviewed for adequate infrastructure. Applications are evaluated on a case-by-case basis to ensure there is the capacity to service new developments. Infrastructure requirements and costs are also addressed in Section 5, Housing Constraints. As the overlay area is currently developed with light manufacturing uses, the provision of infrastructure is not seen as a constraint to development of residential uses.

6.6 – Financial Resources

A variety of potential funding sources are available to finance housing activities in Commerce. Due to both the high cost of developing and preserving housing, and limitations on both the amount and uses of funds, layering of funding sources may be required for affordable housing programs and projects. **Table 6-9** lists the potential funding sources that are available for housing activities. They are divided into five categories: federal, State, county, local, and private resources.

In previous years, the primary source of funds for affordable housing activities in Commerce included HOME funds, CDBG funds as well as the Redevelopment Agency housing set-aside fund. However, on Dec. 29, 2011, the California Supreme Court ruled to uphold ABx1 26, which dissolved all redevelopment agencies (RDAs) in the State. A companion bill, ABx1 27, which would have allowed the RDAs to continue to exist, was also declared invalid by the court. The court's decision required that all RDAs within California be eliminated no later than February 1, 2012. The City of Commerce Redevelopment Agency was dissolved as of February 1, 2012 and the City was selected to be the Successor Agency responsible for all enforceable obligations owed.

Commerce previously relied on estimated redevelopment housing set-aside revenues ranging from $850,000 to $1.1 million annually to support the development of affordable housing and the

implementation of programs outlined in the Housing Plan. For the 2014-2021 planning cycle, the City is investigating new funding sources to utilize to continue administering its existing programs.

Table 6-9:
Financial Resources Available for Housing Activities

Program Name	Description	Eligible Activities
1. Federal Programs and Funding Sources		
Community Development Block Grant (CDBG)	The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs.	Acquisition Rehabilitation Homebuyer Assistance Economic Development Homeless Assistance Public Services
Home Investment Partnership (HOME)	Commerce can apply to receive HOME funds through the County of Los Angeles. HOME funds are used to assist low income (80% AMI) households.	New Construction Acquisition Rehabilitation Homebuyer Assistance Rental Assistance
Emergency Shelter Grant (ESG) Program	Funds emergency shelters, services and transitional housing for homeless individuals and families.	Homeless Assistance Public Services
Neighborhood Stabilization Program (NSP) Funds	Provides funds to purchase abandoned and foreclosed homes and residential property.	Acquisition Homebuyer Assistance
Choice Neighborhoods Grants	Funds to address distressed neighborhoods and public and assisted projects to transform them into viable and sustainable mixed-income neighborhoods by linking housing improvements with appropriate services, schools, public assets, transportation, and access to jobs. Planning grants and implementation grants are available.	New Construction Acquisition Rehabilitation Economic Development Public Services
Section 202 Housing for Seniors	HUD provides capital advances to finance the construction, rehabilitation or acquisition with or without rehabilitation of structures that will serve as supportive housing for very low-income elderly persons, including the frail elderly, and provides rent subsidies for the projects to help make them affordable.	Acquisition Rehabilitation New Construction

Program Name	Description	Eligible Activities
Section 811 Housing for Disabled Persons	Grants to non-profit developers of supportive housing for persons with disabilities, including group homes, independent living facilities and intermediate care facilities.	Acquisition Rehabilitation New Construction Rental Assistance
Housing Opportunities for Persons with AIDS (HOPWA)	HOPWA is an entitlement grant distributed to the largest jurisdiction in each county. HOPWA funds may be used for a wide range of housing, social services, program planning, and development costs. These include, but are not limited to, the acquisition, rehabilitation, or new construction of housing units; costs for facility operations; rental assistance; and short-term payments to prevent homelessness. HOPWA funds also may be used for health care and mental health services, chemical dependency treatment, nutritional services, case management, assistance with daily living, and other supportive services.	Acquisition Rehabilitation Homebuyer Assistance Homeless Assistance Public Services Rental Assistance
Supportive Housing Program	Provides funding to develop supportive housing and services that will allow homeless persons to live as independently as possible. Grants under the Supportive Housing Program are awarded through a national competition held annually.	Homeless Assistance Public Services
Shelter Plus Care	Provides rental assistance for hard-to-serve homeless persons with disabilities in connection with supportive services funded from sources outside the program.	
2. State Programs		
Low-income Housing Tax Credit (LIHTC)	Tax credits are available to persons and corporations that invest in low-income rental housing. Proceeds from the sale are typically used to create housing. Tax credits are available between 4% and 9%.	New Construction

Program Name	Description	Eligible Activities
Building Equity and Growth in Neighborhoods (BEGIN)	Grants to cities to provide down payment assistance (up to $30,000) to low and moderate income first-time homebuyers of new homes in projects with affordability enhanced by local regulatory incentives or barrier reductions. One funding round annually through 2009.	Homebuyer Assistance
CalHome	Grants to cities and non-profit developers to offer homebuyer assistance, including down payment assistance, rehabilitation, acquisition/rehabilitation, and homebuyer counseling. Loans to developers for property acquisition, site development, predevelopment and construction period expenses for homeownership projects. One funding round annually through 2011.	Predevelopment Site development Site acquisition Rehabilitation Acquisition/Rehab Down payment assistance Mortgage financing Homebuyer counseling
Transit-Oriented Development Housing Program	Under the program, low-interest loans are available as gap financing for rental housing developments that include affordable units, and as mortgage assistance for homeownership developments. In addition, grants are available to cities, counties, and transit agencies for infrastructure improvements necessary for the development of specified housing developments, or to facilitate connections between these developments and the transit station.	Homebuyer Assistance Predevelopment Site development Infrastructure
Infill Incentive Grant Program	Funding of public infrastructure (water, sewer, traffic, parks, site clean-up, etc) to facilitate infill housing development. One funding round annually.	Regulations pending
CalHFA FHA Loan Program	Provides fixed rate FHA mortgages in Federally Designated Targeted Areas.	Homebuyer Assistance
CalHFA Homebuyer's Down payment Assistance Program	CalHFA makes below market loans to first-time homebuyers of up to 3% of sales price. Program operates through participating lenders who originate loans for CalHFA. Funds available upon request to qualified borrowers.	Homebuyer Assistance

Program Name	Description	Eligible Activities
CalHFA Mental Health Services Act Funds	Jointly administered by the California Department of Mental Health and the California Housing Finance Agency on behalf of counties, the Program offers permanent financing and capitalized operating subsidies for the development of permanent supportive housing, including both rental and shared housing, to serve persons with serious mental illness and their families who are homeless or at risk of homelessness. MHSA Housing Program funds will be allocated for the development, acquisition, construction, and/or rehabilitation of permanent supportive housing.	New Construction Acquisition Rehabilitation Homeless Assistance Public Services Rental Assistance New
CalHFA New Issue Bond Program (NIBP)	Provides affordable housing bond funding to CalHFA and other housing finance agencies. This funding allows developers to secure a source of affordable financing in the marketplace which otherwise could not be obtained.	New Construction Acquisition Rehabilitation Preservation
Golden State Acquisition Fund (GSAF)	Affordable Housing Innovation Program (AHIP): provides loans for developers through a nonprofit fund manager to provide quick acquisition financing for the development or preservation of affordable housing.	New Construction Acquisition Rehabilitation Preservation
Emergency Housing and Assistance Program Operating Facility Grants (EHAP)	Provides operating facility grants for emergency shelters, transitional housing projects, and supportive services for homeless individuals and families.	Homeless Assistance Public Services
Emergency Housing and Assistance Program Capital Development (EHAPCD)	Funds capital development activities for emergency shelters, transitional housing, and safe havens that provide shelter and supportive services for homeless individuals and families.	Homeless Assistance Public Services

Program Name	Description	Eligible Activities
Emergency Solutions Grant (ESG) Program	Funds projects that serve homeless individuals and families with supportive services, emergency shelter/transitional housing, assisting persons at risk of becoming homeless with homelessness prevention assistance, and providing permanent housing to the homeless population. The Homeless Emergency Assistance and Rapid Transition to Housing (HEARTH) Act of 2009 places new emphasis on assisting people to quickly regain stability in permanent housing after experiencing a housing crisis and/or homelessness.	Homeless Assistance Public Services
Infill Infrastructure Grant Program (IIG)	Provides grants for infrastructure construction and rehabilitation to support higher-density affordable and mixed-income housing in infill locations.	Predevelopment Site development Infrastructure
Multifamily Housing Program:	Provides funding for new construction, rehabilitation, or acquisition and rehabilitation of permanent or transitional rental housing. Projects are not eligible if construction has commenced as of the application date, or if they are receiving 9% federal low income housing tax credits. Eligible costs include the cost of child care, after-school care and social service facilities integrally linked to the assisted housing units; real property acquisition; refinancing to retain affordable rents; necessary onsite and offsite improvements; reasonable fees and consulting costs; and capitalized reserves.	Acquisition Rental Assistance Public Services Site development Infrastructure Development Fees
Predevelopment Loan Program (PDLP)	Provides predevelopment capital to finance the start of low income housing projects.	Predevelopment
3. County Programs		
Housing Choice Vouchers (formerly Section 8)	Rental assistance payments to owners of private market rate units on behalf of low-income (50% MFI) tenants.	Rental Assistance

Program Name	Description	Eligible Activities
Home Ownership Program (HOP)	The County of Los Angeles provides a secondary mortgage loans to first time homebuyers. HOP has been designed to meet the needs of low-income families and individuals who want to purchase a new home, but are unable to qualify without financial assistance.	Homebuyer Assistance
Mortgage Credit Certificate (MCC)	Federal tax credit for low- and moderate-income homebuyers who have not owned a home in the past three years. Allocation for MCC is provided by the State and administered by the County.	Homebuyer Assistance Income Tax Credit
Affordable Homeownership Program (AHOP)	The Los Angeles Community Development Commission provides first-time homebuyer assistance to low-income families and individuals to purchase newly constructed homes that were partially financed with CDC development funding.	Homebuyer Assistance
Housing Economic Recovery Ownership (HERO)	The Los Angeles County HERO program meets the needs of low, moderate and middle-income households who want to purchase a foreclosed or abandoned single family home, but are unable to qualify without financial assistance. This program provides a 0% interest loan as a secondary mortgage for the purchase of that home, down payment assistance, and rehabilitation grant opportunities.	Rehabilitation Acquisition Homebuyer Assistance
Infill Sites Rental Program (ISRP)	The ISRP is designed to provide financial assistance for acquisition and rehabilitation of foreclosed residences for affordable rental housing to low-income persons. Developers must agree to operate the housing at affordable rents for a period of 55-years.	Rehabilitation Acquisition
4. Local Programs		
Tax Exempt Housing Revenue Bond	The City can support low-income housing by holding the required TEFRA hearing prior enabling the issuance of housing mortgage revenue bonds. The bonds require the developer to lease a fixed %age of the units to low-income families at specified rental rates.	New Construction Rehabilitation Acquisition

Program Name	Description	Eligible Activities
5. Private Resources/Financing Programs		
Federal National Mortgage Association (Fannie Mae)	Fixed rate mortgages issued by private mortgage insurers; mortgages which fund the purchase and rehabilitation of a home; low down-payment mortgages for homes in underserved areas.	Homebuyer Assistance
National Housing Trust	The Green Affordable Housing Preservation Loan fund through the National Housing Trust Provides below market predevelopment and interim development loans to affordable housing developers who seek to incorporate green building techniques when rehabilitating existing affordable housing. Under the program, a portion of the loan will be forgiven when the developer demonstrates that they have incorporated practical, environmentally friendly design elements in the property's rehabilitation plan.	Predevelopment Development Loans
California Community Foundation	Provides support for general operating of existing nonprofit affordable housing developers, with the focus on supporting the development and preservation of permanent affordable housing.	New Construction Rehabilitation Acquisition
MacArthur Foundation:	Preserving Affordable Rental Housing Program is a $150 million initiative that seeks to preserve and improve affordable rental housing.	Preservation Rehabilitation Acquisition
Local banks:	Thanks to the Community Reinvestment Act of 1977, commercial banks are required to "meet the credit needs" of all the areas from which they draw deposits. They usually do this through below-market loans to both developers and qualified low-income homebuyers, and grants to community development nonprofits. Many banks have set up a separate community development division, and partner with local organizations that provide services like homeownership counseling to their borrowers. Larger banks often have a separate foundation to handle the grants.	Homebuyer Assistance

6.6.1. POTENTIAL FUTURE FUNDING SOURCES

In addition to the funding sources listed in **Table 6-9**, affordable housing advocates are working with large foundations in hopes of creating a low-interest loan fund from endowments. Housing groups are also continuing attempts to broaden infrastructure financing authority. An infrastructure financing district (IFD) may be formed pursuant to California Government Code Section 53395 et seq. (the "IFD Law"). These districts have rights to the tax increment for financing public infrastructure. This authority exists at both the state and local level, but under current law requires a vote. Another hurdle is that current IFD law prohibits IFDs within any portion of a redevelopment project area that is or has been previously created; coupled with the fact that the legislative intent of the IFD law is that IFD areas are substantially undeveloped. However, many advocates remain hopeful that IFDs may provide an opportunity to fill the redevelopment gap. Current drafts of new legislation would allow cities to create infrastructure districts without voter approval and make IFDs more user-friendly. There is also proposed legislation that, in addition to allowing for IFD formation by resolution, would require set-asides for affordable housing where an IFD is formed in a transit village development district. Certain legislation also seeks to broaden the share of property tax increment that IFDs in specified locations may collect, and seeks to address the current deficiencies in the IFD Law.

6.6.2. ADMINISTRATIVE RESOURCES

Described below are several non-profit agencies that are currently active and have completed projects in Los Angeles County. These agencies serve as resources in meeting the housing needs of the City, and are integral in implementing activities for acquisition/rehabilitation, preservation of assisted housing, and development of affordable housing. The City currently has a program within their Housing Plan to partner with affordable housing developers, including the three mentioned below.

Habitat for Humanity
Habitat is a non-profit, Christian organization that builds and repairs homes for sale to very low-income families with the help of volunteers and homeowner/partner families. Habitat homes are sold to partner families at no profit with affordable, no interest loans. The local affiliate, Habitat for Humanity, has been active in the region, rehabilitating or building new homes for families annually.

Jamboree Housing Corporation (JHC)
JHC is a non-profit developer that has developed and implemented numerous affordable housing projects throughout Southern California and the State. Jamboree has also established an in-house social services division to assist residents in maintaining self-sufficiency. "Housing with a HEART" (Helping Educate, Activate and Respond Together) now operates at most Jamboree-owned properties.

Mercy Housing California
Mercy Housing has offices in Los Angeles, San Francisco, and Sacramento. Mercy Housing serves more than 10,000 people at about 100 properties. Residents range from families to people with special needs to seniors.

6.7 - ENERGY CONSERVATION

As cities construct more housing to meet growing population demands, the consumption rate of energy becomes a significant issue. The primary uses of energy in urban areas are for transportation, lighting, water, heating and space heating and cooling. The high cost of energy demands that efforts be taken to reduce or minimize the overall level of urban consumption. In recent months, as the cost of fuel, has become increasingly more expensive, homeowners have become more aware of energy-conserving measures. The most readily available energy conservation alternatives are easily installed in new homes. As in many cities, the older homes in Commerce were constructed with minimum concern for energy conservation. However, there are numerous energy- conserving measures that can be retrofitted into existing older units that conserve the use of non-renewable fuels and save money.

There are many opportunities for conserving energy in new and existing residential units. Construction of energy efficient buildings does not lower the price of housing. However, housing with energy conservation features should result in reduced monthly occupancy costs as consumption of fuel and energy is decreased. Similarly, retrofitting existing structures with energy conserving features can result in a reduction in utility costs. Examples of energy conservation opportunities include weatherization programs and home energy audits; installation of insulation; installation or retrofitting of more efficient appliances, and mechanical or solar energy systems; and building design and orientation which incorporates energy conservation considerations. The City enforces all provisions of Title 24 of the California Administrative Code, which provides for energy conservation features in new residential construction.

Southern California Edison programs: Southern California Edison offers a variety of energy conservation services under the Low Income Energy Efficiency programs (LIEE), which help qualified homeowners and renters conserve energy and control electricity costs. Eligible customers can receive services from local community agencies and licensed contractors working with Edison. Services include weatherization, efficient lighting and cooling, refrigerator replacement, and energy education. In addition, Edison participates in the California Alternative Rates for Energy (CARE) program, which provides a 15% discount reduction on electric bills for low-income customers and the Family Electric Rate Assistance Program (FERA) that provides discounts for families with household incomes slightly exceeding the low-income energy program allowances.

Southern California Gas programs: The Southern California Gas Company offers two direct assistance programs to limited income customers: (1) a no-cost weatherization (attic insulation and water heater blankets) and (2) a no-cost furnace repair and replacement service. The Gas Company also participates in the State LIEE and CARE programs, helping low-income customers conserve energy and providing them with a discount on their gas bills.

6.6.1 - Techniques to Conserve

Many modern design methods used to reduce residential energy consumption are based on proven techniques that have been known to humans since the earliest days of collective settlement. These methods can be categorized in three ways:

1. Building design that keeps natural heat in during the winter and out in the summer. Designs aim to reduce air conditioning and heating demands. Proven building techniques in this category include:

- Orienting windows and openings of a building to follow the path of the sun, in order to minimize solar gain in the summer and maximize solar gain in the winter;
- Utilizing "thermal mass," earthen materials such as stone, brick, concrete, and tiles that absorb heat during the day and release heat at night;
- "Burying" sections of the structure in a hillside or berm to insulate the home against extremes of temperature;
- Application of window coverings, insulation, and other materials to reduce heat exchange between the interior and the exterior of the home;
- Strategic placement of openings and the use of ventilating devices that take advantage of natural air flow (particularly cool evening breezes); and
- Designing eaves and overhangs above windows to block direct summer solar gain during the summer, but allow for solar gain during the winter.

2. Building orientation that allows natural elements to maintain a comfortable interior temperature. Examples include:
   - Orienting the long axis of a building in a north-south position;
   - Minimizing the southern and western exposure of exterior surfaces; and
   - Designing the structure to admit the maximum amount of sunlight into the building and to reduce exposure to extreme weather conditions;
   - Positioning dwelling units to take advantage of natural air circulation and evening breezes.

3. Use of landscaping features to moderate interior temperatures. Such techniques include:
   - Planting of deciduous shade trees and other plants to protect the home;
   - Design including natural or artificial flowing water; and
   - Strategic placement of trees and hedges to control air flow.

In addition to natural techniques that have been used historically, a number of modern energy conversion methods have been developed and advanced in more recent years. These include:

- Implementation of solar panels and other devices to generate electricity;
- Application of solar energy to heat water;
- Employment of window glazing to repel summer heat and trap winter warmth;
- Use of weather-stripping and other insulating devices to reduce heat gain and loss; and
- Acquire energy efficient home appliances.

7. PROGRESS REPORT

The Progress Report reviews the previous Housing Element's programs, objectives, and actions that were to be implemented during the previous planning period. The City of Commerce 2008-2014 Housing Element identified five goals to be implemented during the previous planning period. Each goal has specific policies that were to be achieved in order to facilitate the construction of affordable housing and to maintain the existing affordable housing stock. Each policy has specific actions and quantified objectives that were to be implemented to accomplish the goal of the program. Each of the actions and objectives had a timeframe for completion along with a responsible agency to monitor the program.

Accomplishments that occurred during the 2008-2014 planning period are listed in the right-hand column of the table and display the progress, effectiveness, and appropriateness of the program. Pursuant to Government Code Section 65588 local governments shall review their Housing Element and evaluate the following:

1. The progress of the City or County in implementation of the housing element.
2. The effectiveness of the housing element in attainment of the community's housing goals and objectives.
3. The appropriateness of the housing goals, objectives, and policies in contributing to the attainment of the State housing goal.

Table 7-1 below provides a brief description of the housing programs outlined in the previous Element, the program's objective and the progress/appropriateness of the program. In providing the status of the program the table will indicate whether the program will be continued into the 2014-2021 planning period.

Table 7-1:
Effectiveness of Previous Housing Element Programs

Goal 1: Conserve and enhance the quality of existing housing and residential neighborhoods in Commerce.

Description of Previous Housing Element Program	Status
Program 1.1 - Code Enforcement Program. The objective of the City's Code Enforcement Program is to bring substandard housing units into compliance with City codes. Potential code violations are identified based on exterior windshield surveys and complaints reported to the City. **Objective:** To promote the use of established City programs for rehabilitation and revitalization or housing units in the City. Corrections will be addressed on a case by case basis.	**Progress and Effectiveness**: The City currently conducts windshield surveys and addresses complaints on an ongoing basis. Throughout the planning period the City addressed more than 50 violations annually including: 329 violations in 2006, 235 violations in 2007, 259 in 2008, 132 in 2009, 146 in 2010, 257 in 2011, and 263 in 2012. This is an average of 230 violations addressed per year. When appropriate code enforcement officers referred residents to the Substantial Housing Rehabilitation Loan Program, Emergency Home Repair Grant Program, Neighborhood Fix Up Grant Program, and the Environmental Rehabilitation Program. The City has successfully implemented this program. **Appropriateness**: This program is crucial to preserving the City's existing housing stock and is connected to rehabilitation programs offered by the City. The City will continue to offer this program in the upcoming planning period.

Goal 1: Conserve and enhance the quality of existing housing and residential neighborhoods in Commerce.

Description of Previous Housing Element Program	Status
Program 1.2 - Substantial Housing Rehabilitation Loan Program. The n provides deferred loans of up to $100,000 for the rehabilitation of single-family homes that are owner-occupied by low -income families. **Objective:** Assist 3 households during the planning period.	**Progress and Effectiveness**: On an annual basis the City administers loans between $50,000 and $100,000 to substantially rehabilitate units and in return property owners are required to put affordability convents in place. During the planning period the City was able to achieve their objectives and assist 3 households with substantial rehabilitation loans. In FY 2008-2009 the City administered a loan of $50,000, in FY 2010-2011 the City administered a loan of $100,000, and in FY 2011-2012 the City administered another loan of $100,000. The units assisted were rehabilitated and affordability covenants put in place to preserve the units as affordable to low income households for 45 years. Units that utilized $100,000 loans will be counted as "substantial rehab" project units towards the City's required housing allocation consistent with HCD requirements. **Appropriateness**: The Substantial Housing Rehabilitation Loan Program has historically been an important mechanism for the City to improve the existing housing stock and to increase the number of affordable units with deed restrictions. As this program was funded by the former Commerce Community Development Commission, the program moving forward will be administered based on funds available. This program will be included in the 2014-2021 Housing Element.

Goal 1: Conserve and enhance the quality of existing housing and residential neighborhoods in Commerce.

Description of Previous Housing Element Program	Status
Program 1.3 – Environmental Rehabilitation Program. The Environmental Rehabilitation Program will provide grant assistance up to $30,000 to address the negative air quality and noise impacts created by the operation of the rail road yards and freeways within the City. This program targets those households with very low- or low-incomes. **Objective:** Provide $600,000 in available RDA funding to assist 20 households over the planning period.	**Progress and Effectiveness:** The City established the Environmental Rehabilitation Program to provide grant assistance up to $30,000 to address the negative air quality and noise impacts created by the operation of the rail road yards and freeways within the City, specifically homes within the Ayers Residential Neighborhood. For the 2008-2104 planning period, the City is very close to achieving their objectives. In FY 2007-2008 the City administered one loan of $30,000 and in FY 2008-2009 the City administered 17 loans of $30,000, providing a total of $540,000 in RDA set-aside funds to 18 households between 2006 and 2012. With the dissolution of the Commerce Community Development Commission and the taking of the LMIHF in January 2012, funding for this program was suspended. **Appropriateness**: The Environmental Rehabilitation Program has historically been an important mechanism for the City to improve the existing housing stock and assist homeowners with emergency repairs that would otherwise be unaffordable. As this program was funded by the former Commerce Community Development Commission, the program moving forward will be administered based on funds available. For the upcoming planning period the City will research and apply for grant opportunities that address environmental justice to fund program activities. This program will be included in the 2014-2021 Housing Element.

Goal 1: Conserve and enhance the quality of existing housing and residential neighborhoods in Commerce.

Description of Previous Housing Element Program	Status
Program 1.4 - Neighborhood Fix Up Grant Program. The Neighborhood Fix Up Grant Program provides up to $1000 for housing repairs and alterations that are visible from the street. **Objective:** Provide $72,000 in available funding to assist 72 Households annually.	**Progress and Effectiveness:** The Neighborhood Fix Up Grant Program provides up to $1,000 for housing repairs and alterations that are visible from the street. Over time the City has seen the demand for this program increase and in response has allocated additional funding for the program. During the planning period the City increased funding from $16,500 in FY 05-06 to $72,000 in FY 08-09. The City, unfortunately did not start monitoring the households assisted through the program until 2009 however from 2009 to 2011, the City assisted 311 households, or an average of 103 households annually. While this program has been highly successful, the dissolution of the Commerce Community Development Commission, as acting RDA, in January 2012, was resulted in a direct loss of funding for this program. **Appropriateness**: The Neighborhood Fix Up Grant Program has historically been an important tool used by the City to improve existing neighborhoods and the housing stock by providing funds for exterior improvements. As this program was funded by the former Commerce Community Development Commission, the program moving forward will be administered based on funds available. It is the City's hope that as the economy improves, having a comprehensive rehabilitation program in place will allow Staff to easily begin accepting applications when funding is available. The City will also modify to focus on applying for grants and other funds to continue their efforts. This program will be included in the 2014-2021 Housing Element

Goal 1: Conserve and enhance the quality of existing housing and residential neighborhoods in Commerce.

Description of Previous Housing Element Program	Status
Program 1.5 – Emergency Home Repair Grant Program. The Emergency Home Repair Grant Program will provide emergency assistance up to $10,000 for the repair of roofs, sewers, and other emergency repairs. This program targets those households with very low- or low-incomes. These funds may only be used for emergency repairs and is not to be used for general remodeling. **Objective:** Provide $24,000 in available funding to assist 5 households annually	**Progress and Effectiveness**: The Emergency Home Repair Grant Program provides emergency assistance up to $10,000 for the repair of roofs, sewers, and other emergency repairs. From 2006-2012 the City expended $74,226.02 Emergency Repair Grant Funds to assist 8 homes. Generally, the homes assisted completed repairs that were not fully funded through the Emergency Repair Funds. Emergency Home Repair Grants were only issued to address unexpected repairs that were discovered during the Home Preservation Grant Construction process or when the Home Preservation Grant amount was exceeded. With the dissolution of the Commerce Community Development Commission and the taking of the LMIHF in January 2012, funding for this program was suspended. **Appropriateness**: The Emergency Home Repair Grant Program has been an important tool for the City to quickly address immediate housing issues, including code enforcement violations. Due to funding limitations this program will be continued into the 2014-2021 planning period under Program 1.6 and will utilize CDBG funds to assist homeowners in the City.

Goal 1: Conserve and enhance the quality of existing housing and residential neighborhoods in Commerce.

Description of Previous Housing Element Program	Status
Program 1.6 - CDBG Home Preservation Grant Program. The CDBG Home Preservation Grant Program provides $10,000 grants to eliminate substandard housing conditions and to promote property maintenance by providing residential rehabilitation grants to qualified low- and moderate-income residents living in single-family owner-occupied dwellings **Objective:** Provide $140,000 in available funding to assist approximately 15 households annually.	**Progress and Effectiveness**: Through the CDBG Home Preservation Grant Program, households can apply for grants up to $20,000 to repair of roofs, sewers, and other emergency repairs and generally eliminate substandard housing conditions and to promote property maintenance. The City of Commerce as a sub grantee of the Los Angeles Community Development Commission's Federal Community Development Block Grant (CDBG) funds was awarded $85,000 annually throughout the planning period to assist approximately 12 households per year. Between 2008 and 2012 the City administered 45 loans, 8 for $20,000 and 37 for $10,000. As the allocation of CDBG funds to jurisdictions has decreased due to the 2008 economic downturn, and the City has no control over their final allocation, they have continued to allocate the funds they are given to the fullest extent possible. **Appropriateness**: The CDBG Home Preservation Grant Program has historically been an important tool used by the City to improve existing neighborhoods and provide emergency assistance to homeowners. With the elimination of the LMIHF as a funding source, the City will likely need CDBG funds to continue providing rehabilitation services to homeowners. To simplify the rehabilitation programs offered by the City and to maximize the available CDBG funds, this program will be combined with Program 1.5. This program will be included in the 2014-2021 Housing Element.

Goal 1: Conserve and enhance the quality of existing housing and residential neighborhoods in Commerce.

Description of Previous Housing Element Program	Status
Program 1.7 - Senior Yard Maintenance Program. The Senior Yard Maintenance Program provides property maintenance (primarily landscaping services) for approximately 28 senior homeowners a year. Objective: Provide approximately $29,000 in available funding to assist 28 households annually.	**Progress and Effectiveness:** To assist senior residents in the City of Commerce with the maintenance of their properties the City established the Senior Yard Maintenance Program. The program provides landscaping services to elderly home owners that are not otherwise physically or financially able to maintain their properties. This program has played a significant role in improving the overall quality of neighborhoods in the City. When the program started more than 5 years ago there were approximately 100 households involved. Over time the City has had a reduced interest from residents and in recent years has not accepted new applicants into the program. In 2010 the number of households active in the program had been reduced to approximately 29. With the dissolution of the Commerce Community Development Commission and the taking of the LMIHF in January 2012, there is no permanent funding source for this program. **Appropriateness**: As there is no identified funding source and the City has been in the process of tapering off the program and reducing the number of residents involved over the years, this program will not be included in the 2014-2021 Housing Element. Elderly residents can still apply for loans and grants through the City's CDBG Home Preservation Grant Program as well as County programs.
Program 1.8 - Monitor and Preserve Affordable Housing. The City will inventory and gather information to establish an early warning system for publicly assisted housing projects that have the potential to convert to market rate Objective: Maintain the City's existing affordable rental units by monitoring their affordability and contacting property owners to discuss options for long term affordability.	**Progress and Effectiveness**: Commerce currently has a number of deed restricted units; however the majority of units are ownership units. The City currently has one multi-family rental property with 94 units that will not expire until 1234. The City maintains compliance with AB 987 and publishes a table annually with information on affordable units that exist in the City. **Appropriateness**: The City maintains a number of affordable units through existing deed restrictions. No rental units are at-risk of conversion to market rate during the 2014-2021 planning period. An inventory of affordable units will be kept up-to-date by Staff to monitor affordable units throughout the planning period and update the list with new deed restricted properties that are developed during the planning period. This program will be included in the 2014-2021 Housing Element.

Goal 1: Conserve and enhance the quality of existing housing and residential neighborhoods in Commerce.

Description of Previous Housing Element Program	Status
Program 1.9 - Energy Efficient Design. The City will review ordinances and recommend changes where necessary to encourage energy efficient housing design and practices that are consistent with state regulations. **Objective:** Encourage energy conservation and green building techniques and refer residents to available County programs.	**Progress and Effectiveness:** The City currently provides information on energy efficiency programs on their website and at City Hall. When appropriate, City Staff and code enforcement officers, direct residents to apply for applicable programs. Additionally, the City encourages all new development to be energy efficient and to take into consideration LEED standards. **Appropriateness:** The City recognizes the importance of encouraging energy efficient design, particularly in the design of new residential units for lower income households. The City will continue to encourage maximum utilization of Federal, State, and local government programs that assist homeowners in providing energy conservation measures. Staff will provide information on available programs and funding opportunities to residents on City website and at City Hall. This program will be included in the 2014-2021 Housing Element.

Goal 2: Provide a variety of housing types to accommodate all economic segments of the community.

Description of Previous Housing Element Program	Status
Program 2.1 - First Time Homebuyer Program. Provide down payment assistance to low and moderate income households in conjunction with the Substantial Housing Rehabilitation Loan and/or the Acquisition and Rehabilitation Program. **Objective:** Provide $300,000 in available funding to assist 3 households annually.	**Progress and Effectiveness:** This program operates in conjunction with the Substantial Housing Rehabilitation Loan and/or the Acquisition and Rehabilitation Program. In FY 2009-2010 the City reestablished the First Time Home Buyer Program and assisted four households with $150,000 to assist with the down payment in FY 2010-2011. In exchange for City assistance, an affordability covenant was put in place on each unit to preserve the units as affordable to low income households for 45 years. The City was able to achieve its objectives. **Appropriateness:** The First Time Homebuyer Program has historically been an important mechanism for the City to increase the number of affordable units with deed restrictions. As this program was funded by the former Commerce Community Development Commission, the program moving forward will be administered based on funds available. This program will be included in the 2014-2021 Housing Element.
Program 2.2 -Acquisition and Rehabilitation of Single-Family Units. In conjunction with the Housing Rehabilitation Loan Program and the First Time Homebuyer Program Staff will identify homes in need of substantial repairs, complete those repairs and sell the home to a lower income family. **Objective**: Acquire and rehabilitate existing single-family units in the City to ensure that the quality and affordability of those units is maintained.	**Progress and Effectiveness**: Throughout the planning period, the City monitors and inventories units that are in need of substantial rehabilitation and are ideal for acquisition. During the planning period, the City was able to purchase two homes, one on Jardin Street and a second on Astor Avenue. With the home on Jardin the City was able to substantially rehabilitate the unit, however the elimination of the Commerce Community Development Commission the City was unable to sell the property as part of the First Time Home Buyer Program prior to the February 1, 2012 deadline. Similarly with the property on Astor the condition of the home required that the unit be demolished and the City had developed conceptual plans for the development of a new unit that once constructed would be deed restricted for a lower income household. The City is in the process of preparing a Long Range Property Management Plan in compliance with AB 1484 that will identify all City owned assets and hopefully Staff will know the future of these two properties in the near future. Currently all activity under this program has been suspended with the loss of redevelopment as a funding source, until a new more permanent source is identified. **Appropriateness**: Due to increased home prices and a loss of redevelopment as a primary funding source, this program will not be continued into the next planning period. The City has had great success with the Substantial Housing Rehabilitation Loan and the First Time Homebuyer Program and will continue to focus their efforts on those two programs. This program will not be included in the 2014-2021 Housing Element.

Goal 2: Provide a variety of housing types to accommodate all economic segments of the community.

Description of Previous Housing Element Program	Status
Program 2.3 - Infill Housing Program. The Infill Housing Program will provide for the development of infill housing units within Commission-owned properties. **Objective**: Negotiate with Mayans the development of Sites 1 and 4 during the planning period and solicit proposals for the development of Commission owned sites.	**Progress and Effectiveness:** The Infill Housing Program was established to provide for the development of infill housing units within Commission-owned properties, including Sites 1 and 4 in the sites inventory and two sites along Atlantic Boulevard. Due to changing market conditions, the City was unable to move forward with development on Sites 1 and 4, as previously anticipated would occur in partnership with Mayans Development. Furthermore, the elimination of the Commerce Community Development Commission and the taking of the LMIHF in January 2012, have left the City's land assets frozen with no future plans for resolution. The City is in the process of preparing a Long Range Property Management Plan in compliance with AB 1484 that will identify all City owned assets and hopefully the City will know the future of these two properties in the near future. Currently all activity under this program has been suspended with the loss of redevelopment as a funding source. **Appropriateness**: With the elimination of the Commerce Community Development Commission this program is no longer appropriate to include in the 2014-2021 Housing Element. The City will continue to identify sites to accommodate their RHNA allocation and will work with affordable housing developers when appropriate to facilitate the development of new housing units on city owned land.

Goal 2: Provide a variety of housing types to accommodate all economic segments of the community.

Description of Previous Housing Element Program	Status
Program 2.4 - (Senior and Handicapped) Rent Subsidy Program. To augment limited Federal resources for rental assistance, the City utilizes redevelopment set-aside monies to provide rent vouchers to seniors and handicapped residents **Objective:** Provide $100,000 in redevelopment set aside funds to assist 40 households annually.	**Progress and Effectiveness**: To augment limited Federal resources for rental assistance, the City utilizes redevelopment set-aside monies to provide rent vouchers to seniors and handicapped residents.). Applicants are expected to pay a minimum of 25% of their income towards rent and the City will provide up to $200 in supplemental payments to the landlord. Landlords must maintain rents at or below Section 8 rental limits for Los Angeles County limits. The City only started monitoring participation in the program in 2009. From 2009 to 2012 the City expended $366,008. In April 2012, the City had approximately 37 seniors enrolled in the program and actively receiving assistance. Since April 2012, the City has not accepted new applications and in some incidences has had to reduce assistance due to the loss of redevelopment funds. **Appropriateness:** The City recognizes the importance of assisting special needs households by providing additional funding to off-set the cost of rising rents. In the wake of the Commerce Community Development Commission being eliminated the City has shifted responsibility for the program to the Community Services Division who utilizes the General Fund to continue the program. Due to funding limitations the City will continue the program with the existing participants, but will not expand the program. This program will be modified and included in the 2014-2021 Housing Element.

Goal 2: Provide a variety of housing types to accommodate all economic segments of the community.

Description of Previous Housing Element Program	Status
Program 2.5 – Los Angeles County Partnership. As a means of further leveraging housing assistance, the City will cooperate with the Los Angeles County Community Development Commission (CDC) and Los Angeles County Housing Authority to promote resident awareness and application for County run housing assistance programs. **Objective:** Increase resident awareness about housing programs offered by the County (because the City has no control over the administration of funding for these programs.	**Progress and Effectiveness:** The City currently offers information on their website and on City Hall on housing programs offered by the City, the County of Los Angeles Housing Authority, and other local housing service providers. **Appropriateness:** The County offers a variety of housing assistance programs that can supplement the City's current housing programs. Consequently, the City will continue to provide information on programs offered by the County on the City website, at City Hall, and in other public places. This program will be included in the 2014-2021 Housing Element.

Goal 3: Minimize the impact of governmental constraints on housing production and affordability.

Description of Previous Housing Element Program	Status
Program 3.1 - Housing Opportunity Overlay. Program The City recently adopted a new Housing Opportunity Overlay in the City of Commerce General Plan to facilitate the transition of existing non-residential uses to new residential development. **Objective:** Complete the Zoning Code update creating standards for the overlay area.	**Progress and Effectiveness:** The Housing Opportunity Overlay designation includes a cluster of industrial properties within the Rosewood Planning Area totaling 24.5-acres. Within the Rosewood Planning Area the overlay encourages manufacturing uses to redevelop into residential development. Due to funding reductions and staff cutbacks the City was unable to complete the Zoning Code amendments to establish development standards for the overlay, in the timeframe specified in the Housing Plan. The City has drafted an ordinance to establish development standards and design guidelines and will take the proposed ordinance to City Council for approval in conjunction with Housing Element adoption. Furthermore the City has expanded the number of Housing Opportunity Overlay sites included in the Housing Resources section to encourage the transition of the area to residential uses. **Appropriateness**: As the City will complete the required Zoning Code update to create specific standards for the Housing Opportunity Overlay prior to the end of the planning period, this program will be modified to focus on developing partnerships with land owners and monitoring the sites within the overlay area. This program will be included in the 2014-2021 Housing Element.

Goal 3: Minimize the impact of governmental constraints on housing production and affordability.

Description of Previous Housing Element Program	Status
Program 3.2 - Atlantic Blvd. Housing Program. In the 2020 General Plan a Mixed-Use designation along the Atlantic Boulevard corridor to encourage residential and commercial development. **Objective**: Complete the development standards for the Mixed Use Overlay in the Zoning Code	**Progress and Effectiveness:** As part of the 2000 General Plan, the City established a Mixed-Use designation along the Atlantic Boulevard corridor between the Mixmaster (on the north) and Washington Boulevard. Within the General Plan general standards were created to regulate density and intensity; however within the 2008-2014 Housing Element the City committed to updating the Zoning Code to establish specific development standards and design guidelines for the area. Due to funding reductions and staff cutbacks the City was unable to complete the Zoning Code amendments to establish development standards for the Mixed-Use designation, in the timeframe specified in the Housing Plan. The City has drafted an ordinance to establish development standards and design guidelines and will take the proposed ordinance to City Council for approval in conjunction with Housing Element adoption. **Appropriateness**: As the City will complete the required Zoning Code update to create specific standards to ensure consistency with the Atlantic Boulevard Mixed-Use designation prior to the end of the planning period, this program will be modified to focus on developing partnerships with land owners and monitoring the sites within the corridor. This program will be included in the 2014-2021 Housing Element.

Goal 3: Minimize the impact of governmental constraints on housing production and affordability.

Description of Previous Housing Element Program	Status
Program 3.3 - Atlantic Blvd. Lot Consolidation Program. To encourage the development of residential and mixed-use projects, the City will offer development incentives. **Objective**: During the planning period the City will contact property owners in order to purchase a property adjacent to Site Three to accommodate an affordable housing development along Atlantic Blvd.	**Progress and Effectiveness:** To allow for larger more comprehensive development projects, the City will offer development incentives and land swaps to affordable housing developers to encourage lot consolidation. For the 2008-2014 planning period, this program was specifically intended to promote development on Site 3 of the 2008-2014 Sites Inventory, by acquiring land in the immediate vicinity to develop a larger project. With the economic downturn of 2008, the City saw a decline in development generally throughout the City which in turn affected applications for affordable housing and lot consolidation. In line with the economic climate, no developers or land owners approached Staff regarding lot consolidation during the planning period. The City has historically offered development incentives for projects that include affordable units and will continue to offer these incentives for projects requiring lot consolidation actions. On a case-by-case basis the City does review projects and provides project assistance to developments that include affordable units, when funding is available. **Appropriateness**: The City recognizes the importance of offering incentives to encourage lot consolidation and will continue to provide incentives when feasible. The City will continue to provide information on this program to developers with applicable projects. While funding is limited, the City recognizes the importance of maintaining this program, which will allow Staff to easily administer funds as they become available. This program will be included in the 2014-2021 Housing Element.
Program 3.4 - Density Bonus Program. Facilitate the development of additional affordable units through a density bonus ordinance that is compliant with State law. **Objective**: The Density Bonus will be emphasized in future development within the Housing Opportunity Overlay Areas to increase the number of affordable units throughout the City in new housing developments.	**Progress and Effectiveness:** Section 19.07.150-170 of the Code of Ordinances provides for density bonuses pursuant to the provisions of State law. In late 2012, the City completed a review of the density bonus provisions and anticipates that City Council will adopt an updated ordinance in conjunction with Housing Element adoption. The updates completed ensure that the City is in compliance with State law. City staff has made the Code provisions readily available to those developers seeking a density bonus and actively supports these bonuses when they are in compliance with the State law and the Development Code. **Appropriateness:** The City recognizes the importance of offering incentives like the density bonus incentive and will continue to provide this incentive in the future. The City will continue to provide information on this program to developers with applicable projects. This program will be included in the 2014-2021 Housing Element

Goal 3: Minimize the impact of governmental constraints on housing production and affordability.

Description of Previous Housing Element Program	Status
Program 3.5 - Incentives for Large Multi-Family Units. Review the Zoning Ordinance to determine what incentives and/or regulations can be implemented as a means to promote the development of rental housing with three or more bedrooms. **Objective**: To increase the number of affordable multi-bedroom units to accommodate larger low-income families	**Progress and Effectiveness**: As the average household size has held steady over the last decade, the City has prioritized funding and incentives for developers that include large units in their projects. With the economic downturn of 2008, development activity in the City has decreased significantly and the majority of applications submitted have been for single family homes. To increase the number of affordable units in the City, the Commerce Community Development Commission has been instrumental in purchasing and/or rehabilitating larger homes with three and four bedrooms that are then deed restricted for 45 years. **Appropriateness**: Large renter households continue to be a prominent special needs group in the City, as identified in Chapter 4, Community Profile. The City will continue to provide incentives, when feasible, to encourage developers to provide units with three or more bedrooms. Specifically the City will develop language for the Housing Opportunity Overlay area to encourage the development of larger units. While funding is limited, the City recognizes the importance of maintaining this program, which will allow them to easily administer funds as they become available. This program will be included in the 2014-2021 Housing Element.

Goal 3: Minimize the impact of governmental constraints on housing production and affordability.

Description of Previous Housing Element Program	Status
Program 3.6 - Residential Development Standards. City staff will review the development standards for the R-1, R-2, and R-3 zones to identify standards that may constrain the development of affordable housing and housing for disabled individuals. **Objective**: Review development standards to identify constraints and remove or offset constraints where possible.	**Progress and Effectiveness:** On a regular basis the City reviews their development standards and also in instances where developers express concern regarding the feasibility of constructing new housing in the City. During the planning period, Staff did not receive an application for affordable housing development or housing for people with disabilities, due to the economic downturn that occurred in 2008. In general development activity decreased significantly over the planning period with the change in economic climate, with only 19 units built from 2006 to 2013. Staff has maintained their commitment to address development constraints on a project by project basis and to identify ways that standards could be modified if it is determined that such requirements were impeding the development of affordable housing or housing for disabled residents. The City also provides fast track processing for applications related to the creation of affordable housing and offers fee modifications, when funds are available, for projects including affordable units that are required to apply for variations to the existing development standards. **Appropriateness:** The City recognizes the importance of reviewing their development standards on a regular basis and seeking input from developers to identify potential constraints to the development affordable housing. The City will continue to review their standards and address any standards that may be identified in the 2014-2021 Housing Element. This program will be included in the 2014-2021 Housing Element.
Program 3.7 - Second Unit Ordinance. Provide opportunities for affordable housing through second unit development. **Objective**: Update the City's second unit ordinance to be compliant with State law. Encourage the construction of 5 units over the planning period.	**Progress and Effectiveness:** Section 19.07.090 of the Code of Ordinances provides standards addressing second units in the R-1 zone. In conjunction with Housing Element adoption, a revised version of the City's second unit ordinance was presented to the City Council for adoption. The update to the City's existing ordinance ensures that the City is compliance with State law. During the 2008-2014 planning period, the City continued to provide for second units in R-1 zones with an appropriate lot area. Since 2006, no applications for second unit developments were received by City Staff. **Appropriateness:** The City recognizes second units as an affordable housing option and will continue to allow for second units to be constructed. This program will be included in the 2014-2021 Housing Element.

Goal 3: Minimize the impact of governmental constraints on housing production and affordability.

Description of Previous Housing Element Program	Status
Program 3.8- Off Site Improvements. Provide opportunities for public, private and non-profit groups to develop affordable housing by constructing off-site improvements and physical infrastructure as Capital Improvement Projects. **Objective**: Facilitate easier development of affordable housing by allowing improvements to be negotiated.	**Progress and Effectiveness:** During the planning period, Staff did not receive an application for affordable housing development or housing for people with disabilities, due to the economic downturn that occurred in 2008. In general development activity decreased significantly over the planning period with the change in economic climate, with only 19 single family units built from 2006 to 2013. Staff has maintained their commitment to encourage housing development by constructing off-site improvements and physical infrastructure prioritizing incentives for extremely low income and special needs groups. While no applications for multifamily affordable housing development were received, the elimination of the Commerce Community Development Commission and the LMIHF has resulted in the loss of a permanent funding source for this program. **Appropriateness:** The City recognizes the importance of offering infrastructure assistance and will continue to provide incentives when feasible. The City will continue to provide information on this program to developers with applicable projects. While funding is limited, the City recognizes the importance of maintaining this program, which will allow Staff to easily administer funds as they become available. This program will be included in the 2014-2021 Housing Element.
Program 3.9 - Water and Sewer Service Providers. Ensure compliance with Government Code Section 65589.7. **Objective**: Ensure that water and sewer providers are aware of the City's intentions for residential development throughout the City.	**Progress and Effectiveness:** Following the certification and adoption of the 2008-2014 Housing Element the City submitted the final draft to the appropriate water and sewer service providers. **Appropriateness:** As required by State law, the City will submit the final 2014-2021 Housing Element to local water and sewer providers for their review and input. This program will be included in the 2014-2021 Housing Element.

Goal 4: Promote equal housing opportunity for all residents.

Description of Previous Housing Element Program	Status
Program 4.1 - Reasonable Accommodation Program for Disabled. Ensure that sufficient provisions are in place by the City to facilitate a resident's request for "reasonable accommodation." **Objective**: Develop procedures for reasonable accommodation in accordance with fair housing and disability laws.	**Progress and Effectiveness:** In conjunction with Housing Element adoption, the City Council will consider an ordinance, to establish reasonable accommodation procedures to address existing constraints to the provision of accommodations for persons with disabilities. The City is committed to assisting residents in need of reasonable accommodation and will continue to direct eligible residents to apply for applicable funds through various housing programs offered by the City, including: the CDBG Home Preservation Grant Program, the Neighborhood Fix Up Grant Program and the Environmental Rehabilitation Program. These programs allow residents to make modifications to their homes such as ramps, wider doorways, handrails etc. At least one accessibility case was completed in 2009 in which an elderly resident was able to install a hand railing at their home. The City will continue to use CDBG funds to assist residents as funds allow. **Appropriateness:** The City will effectively implement this program within the 2008-2014 planning period. Due to staffing restrictions, the timeframe was pushed back from the goal date; however, the program will be in place and advertised by the end of the planning period. For the 2014-2021 planning period the City will promote the adopted reasonable accommodation procedures on the City website and at City Hall.
Program 4.2 - Fair Housing Program. The City will continue to contract with the Housing Rights Center to provide residents with fair housing services using Community Development Block Grant (CDBG) funds. **Objective:** Comply with all State and federal fair housing requirements when implementing housing programs or delivering housing-related services.	**Progress and Effectiveness:** The Fair Housing Program is an ongoing program developed to ensure that fair housing practices are being implemented for renters. As part of the program the City maintains a referral for the Fair Housing Foundation. The Fair Housing Foundation (FHF) is a non-profit corporation formed in 1964 to promote the enforcement of fair housing laws and to encourage an atmosphere of open housing. The City currently advertises the program on the City's website and offers information on the program at City Hall. **Appropriateness:** The City will continue to be involved with the Fair Housing Council to eliminate housing discrimination and distribute information to the public about how they can report housing discrimination. This program will be included in the 2014-2021 Housing Element.

Goal 5: Identify Adequate Sites to Achieve Housing Variety.

Description of Previous Housing Element Program	Status
Program 5.1 - Ensure Adequate Sites to Accommodate Regional Fair Share of Housing Growth. Identify appropriate sites to accommodate the City's RHNA allocation. **Objective**: Provide appropriate land use designations and maintain an inventory of suitable sites for residential development	**Progress and Effectiveness:** During the previous planning period the City has maintained an inventory of sites appropriate to accommodate their RHNA allocation. The City also offers fast track processing, fee modifications, density bonus incentives, reductions in development and parking standards, and funding for off-site improvements and any required environmental clean up to further encourage the development of affordable units on identified sites. In general development activity decreased significantly during the planning period with the change in economic climate, with only 19 single family units built from 2006 to 2013. **Appropriateness:** The City maintains an inventory of available and potential residential development sites and will continue to do so for the upcoming planning period as part of Programs 3.1 and 3.2. The City utilizes this inventory to help direct interested developers to potential sites for housing. The City will continue to update the inventory throughout the 2014-2021 planning cycle, and will continue to offer development incentives whenever feasible. This program will not be included in the 2014-2021 Housing Element but the actions will be continued in conjunction with Programs 3.1 and 3.2.
Program 5.2 - Extremely Low-Income and Special Needs Housing. Ensure compliance with Senate Bill 2. **Objective:** Amend the Zoning Code to facilitate housing opportunities for extremely low-income persons by establishing definitions, performance standards, and siting regulations for single-room occupancy developments (SRO).	**Effectiveness:** Due to funding reductions and staff cutbacks the City was unable to complete the Zoning Code amendments in the time specified in the Housing Plan. In late 2012, the City drafted an ordinance amending the Zoning Code to allow emergency shelters in the Manufacturing (M-1) Zone by right without any other discretionary permit required. The City will also amend the Zoning Ordinance to allow transition and supportive housing as a residential use, subject only to the requirements of other residential uses allowed within that zone. This ordinance will be presented and adopted by the City Council in conjunction with Housing Element adoption. **Appropriateness:** As the City will complete the required rezoning to ensure that emergency and transitional housing opportunities are permitted, this program will be included in the 2014-2021 Housing Element as a program to monitor available sites.

Goal 5: Identify Adequate Sites to Achieve Housing Variety.

Description of Previous Housing Element Program	Status
Program 5.3 - Alternative Housing Models. Encourage through development incentives the provision of more innovative housing types that may be suitable for the community, including community care facilities, supportive housing, and assisted living for seniors. **Objective:** Facilitate the development of alternative housing models suited to the community housing needs through the provision of flexible zoning regulations	**Progress and Effectiveness:** To address the needs of the community and accommodate aging residents the City offers development incentives to encourage the provision of more innovative housing types that may be suitable for the community, including community care facilities, supportive housing, and assisted living for seniors. Assisted living facilities are designed for elderly individuals needing assistance with activities of daily living but desiring to live as independently as possible for as long as possible. Such facilities bridge the gap between independent living and nursing homes, and offer residents help with daily activities such as eating bathing, dressing, laundry, housekeeping, and assistance with medications. Assisted living can help to meet the housing and supportive services needs of Commerce's relatively large and growing senior population. During the planning period the City continued to provide appropriate standards to encourage development of senior housing to meet the needs of the City's growing senior population. Unfortunately, no applications for age-restricted housing were received; however this is likely reflective of the economic conditions effecting development in the City. **Appropriateness:** This program will be modified in the 2014-2021 Housing Element to focus on informing local and regional developers of the program and promoting its application.

APPENDIX A. COMMUNITY OUTREACH

This appendix contains the following materials to illustrate the City's effort to conduct quality community outreach efforts with regard to the Housing Element update process:

- Meeting flyer
- Stakeholder Letter
- Public Notice for the Housing Element meetings
- List of stakeholders contacted
- Photos of the stakeholder flyer posted at various locations around City Hall

City of Commerce Housing Element

The City of Commerce is in the process of updating the State-required Housing Element.



Please join us at the upcoming community workshops:

Planning Commission	City Council
Wednesday, April 24, 2013	Tuesday, May 7, 2013
6:30 pm	6:30 pm

The workshops will be held during regularly scheduled meetings at:

Council Chamber of Commerce City Hall
2535 Commerce Way
Commerce, CA 90040

Both workshops will discuss the following:

- Purpose and intent of the Housing Element
- Why and how often the Housing Element is updated
- The contents of the Housing Element
- The process for adoption
- Benefits of Housing Element certification

If you have any questions or would like additional information, please contact Matt Marquez at (323) 722-4805, ext. 2349, or visit the Community Development Department located in Commerce City Hall.

CITY OF COMMERCE

COMMUNITY DEVELOPMENT DEPARTMENT

April 10, 2013

Subject: Community Workshops for the City of Commerce 2014-2021 Housing Element Update

To Whom It May Concern:

The City of Commerce cordially invites you to two upcoming community workshops to discuss the 2014-2021 Housing Element update. These community events are intended to provide information to the City Council, Planning Commission and the community about the General Plan Housing Element update, and to answer any questions regarding the update process. In addition, we would like to gather input from residents, City leaders, and interested stakeholders on housing issues and concerns that should be addressed in the Housing Element update. The workshops will be held during regularly scheduled Planning Commission and City Council meetings:

Planning Commission	**City Council**
Wednesday April 24, 2013 6:30 p.m. Council Chamber of City Hall 2535 Commerce Way Commerce, CA 90040	Tuesday, May 7, 2013 6:30 p.m. Council Chamber of City Hall 2535 Commerce Way Commerce, CA 90040

The Housing Element is one component of the City's General Plan, the City's long-range plan for land use in the community. The Housing Element identifies housing specific needs in Commerce and describes the approaches the City will take to facilitate meeting those needs.

If you have questions or would like additional information, please contact Matt Marquez by telephone at (323) 722-4805 ext. 2349, or visit the Community Development Department website at http://www.ci.commerce.ca.us/.

If you cannot attend the meeting in person and would like to comment, please forward written comments to Matt Marquez in the Community Development Department, located at Commerce City Hall, 2535 Commerce Way Commerce, CA 90040.

Enclosed with this letter are flyers that provide information about the community workshop. Please distribute and post these flyers at your earliest convenience. Thank you.

Sincerely,

Alex Hamilton
Assistant Community Development Director

2535 Commerce Way • Commerce, California 90040 • (323) 722-4805 • FAX (323) 726-6231

CITY OF COMMERCE

COMMUNITY DEVELOPMENT DEPARTMENT

PUBLIC NOTICE
2014-2021 HOUSING ELEMENT UPDATE
COMMUNITY WORKSHOPS

The City of Commerce cordially invites you to two upcoming community workshops to discuss the 2014-2021 Housing Element update. These community events are intended to provide information to the City Council, Planning Commission and the community about the General Plan Housing Element update, and to answer any questions regarding the update process. In addition, City staff would like to gather input from residents, City leaders, and interested stakeholders on housing issues and concerns that should be addressed in the Housing Element update. The workshops will be held during the regularly scheduled Planning Commission and City Council meetings as follows:

Planning Commission
Wednesday April 24, 2013
6:30 p.m.
Council Chamber of City Hall
2535 Commerce Way
Commerce, CA 90040

City Council
Tuesday, May 7, 2013
6:30 p.m.
Council Chamber of City Hall
2535 Commerce Way
Commerce, CA 90040

The Housing Element is one component of the City's General Plan, the City's long-range plan for land use in the community. The Housing Element identifies housing specific needs in Commerce and describes the approaches the City will take to facilitate meeting those needs.

If you have questions or would like additional information, please contact Matt Marquez, City Planner, by telephone at (323) 722-4805 ext. 2349, or visit the Community Development Department website at http://www.ci.commerce.ca.us/.

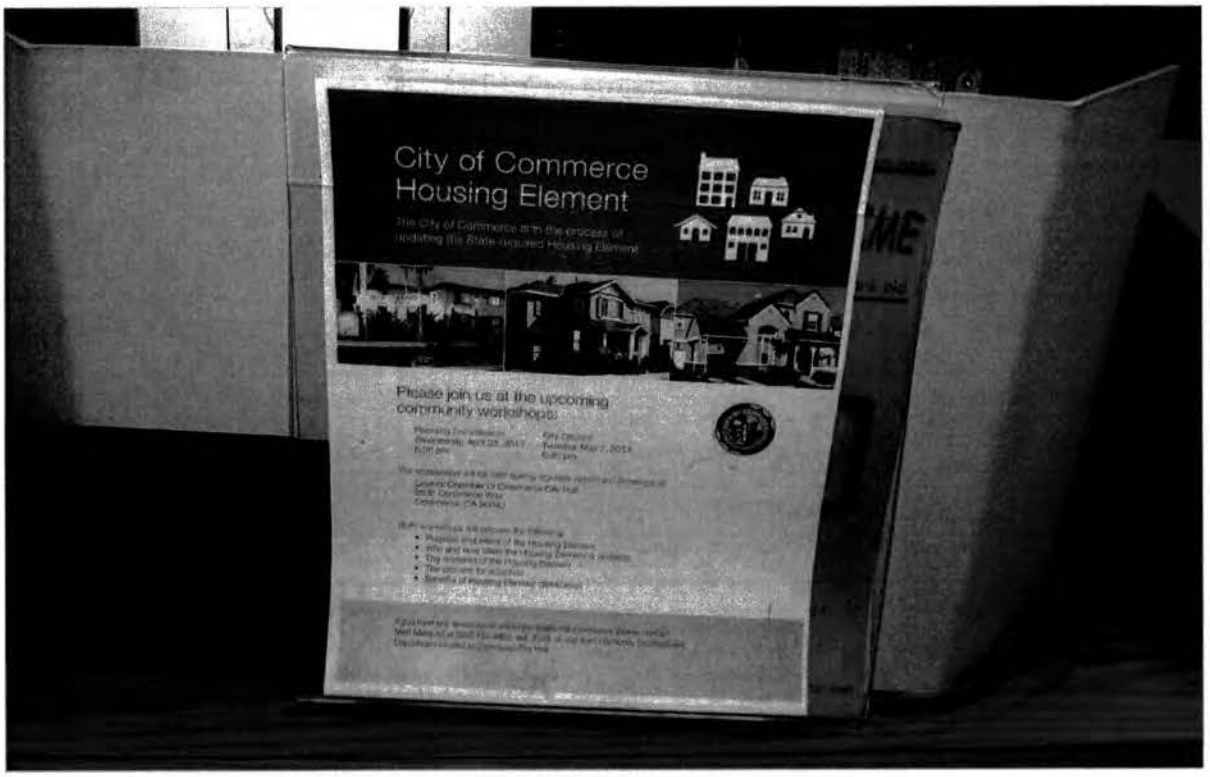
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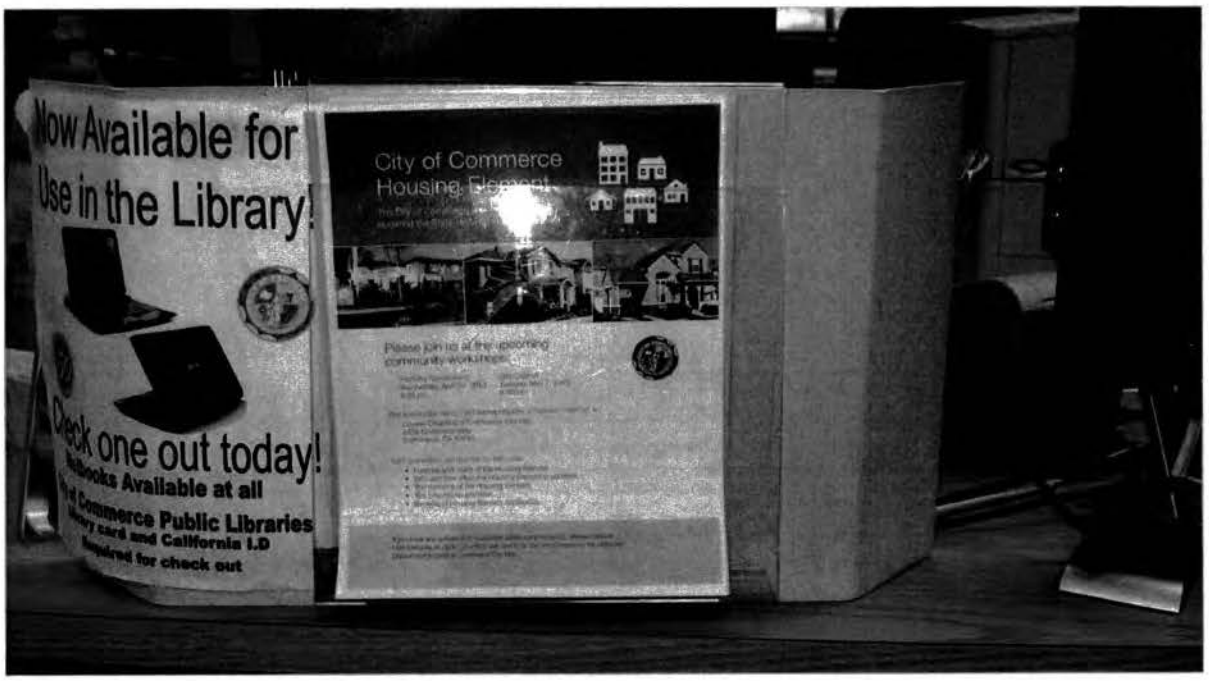
(Publish Commerce Comet: April 11, 2013)

2535 Commerce Way • Commerce, California 90040 • (323) 722-4805 • FAX (323) 726-6231

Table A-1: Identified Stakeholder Groups

Organization	Address	City	State	Zip
Housing Authority of Los Angeles Co.	700 West Main Street	Alhambra	CA	91801
Human Services Association	6800 Florence Ave.	Bell Gardens	CA	90201
Southeast L.A. County Workforce Investment Board	10900 E. 183rd St. Suite 350	Cerritos	CA	90703
The Commerce Industrial Council	6055 E. Washington Blvd. #120	Commerce	CA	90040
Montebello Unified School District	123 S. Montebello Blvd	Montebello	CA	90640
Lamp Community Homeless Center	627 San Julian Street	Los Angeles	CA	90014
Los Angeles Mission	303 East 5th Street	Los Angeles	CA	90013
Jordan's Transitional Shelter	1616 E. Pine Street	Compton	CA	90221
Southern California Rehabilitation Services	7830 Quill Dr. Suite D	Downey	CA	90242
TELACU Development Corporation	5400 E Olympic Blvd,	Commerce	CA	90022
Mayans Development	22343 La Palma Avenue, Suite 132	Yorba Linda	CA	92887
TLC Family Resource Center	13220 Bellflower Blvd.	Downey	CA	90242
Habitat for Humanity	17700 Figueroa St.	Gardena	CA	90248
Salvation Army Homeless Shelter	2965 E. Gage Ave.	Huntington Park	CA	90255
L.A. County Public Social Services	12860 Crossroads Parkway South	Industry	CA	91746
LINC Housing	110 Pine Avenue, Suite 500	Long Beach	CA	90802
Fair Housing Foundation	3605 Long Beach Blvd. Suite 302	Long Beach	CA	90807
Eastern Los Angeles Regional Center	1000 South Fremont Avenue	Alhambra	CA	91802
SCAMP	501 Shatto Place, Suite 403	Los Angeles	CA	90020
Abode Communities	701 East 3rd Street, Suite 400	Los Angeles	CA	90013
A Community of Friends	A Community of Friends	Los Angeles	CA	90010
Esperanza Community Housing Corporation	2337 S. Figueroa Street	Los Angeles	CA	90007
Shelter Partnership	523 W. 6th Street, Suite 616	Los Angeles	CA	90015
Legal Aid Foundation of LA	1102 Crenshaw Blvd.	Los Angeles	CA	90019
Su Casa Family Crisis & Support Center	3840 Woodruff Ave. Suite 203	Long Beach	CA	90808
WLCAC Homeless Access Center	958 E.108th Street	Los Angeles	CA	90059
The Shields for Families, Inc.	11601 S. Western	Los Angeles	CA	90059
Salvation Army Bell Shelter	5600 Rickenbacker Rd. Bldg 2A-2B	Bell	CA	90201





Flyers advertising the Housing Element workshops were posted at Bristow Library located near City Hall.



Flyers advertising the Housing Element workshops were posted at Bristow Library located near City Hall.


CITY OF COMMERCE
CALIFORNIA
INCORPORATED JANUARY 28, 1960

City of Commerce
2014-2021 Housing Element

City of Commerce
2535 Commerce Way
Commerce, CA 90040
www.ci.commerce.ca.us

ESA
626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
www.esassoc.com

L-19-1

Caltrans and Metro thank the City for providing their input. The City's support of Alternative 7 and zero emission technology is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the selection of the Preferred Alternative. The Zero-Emission Truck Extension Design Option evaluated in the 2012 Draft EIR/EIS briefly examined the potential for an overhead catenary electric power distribution system to/from the northern terminus of the freight corridor connector ramps and the I-710 general purpose lanes. A ZEE design option, similar to that evaluated in the 2012 Draft EIR/EIS, was not included because Alternative 7's freight corridor as proposed in the RDEIR/SDEIS is "technology neutral" in that the freight corridor needed to be flexible to accommodate one or more different types of ZE heavy-duty truck technologies that have the potential to be in commercial mass production prior to construction of Alternative 7, including technologies such as battery electric vehicles, hydrogen fueled vehicles, and ZE hybrid vehicles, that are able to travel distances of up to 200 miles before recharging/refueling and that are not reliant upon an overhead catenary electric power system. As part of the build alternatives, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) would make available (should a build alternative be selected as the Preferred Alternative) incentive funding for any heavy duty truck technology capable of achieving the ZE and NZE standards (established by CARB) for travel on I-710 in order to facilitate the deployment of 4,000 clean emissions vehicles. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the I-710 Clean Truck Program will not be implemented as part of this Project**.** Please refer to Section 1.3 of this appendix for more information on the I-710 Clean Truck Program.

L-19-2

Caltrans and Metro acknowledge the City's appreciation and understanding of the significant right-of-way constraints in the I-710 Corridor and within the City of Commerce. However, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, right-of-way acquisition will not be necessary. It should be noted that mitigation funds for targeted improvements within environmental justice communities adjacent to the I-710, as described in more detail in Measure C-7 in Section 3.3.3.7 of this Final EIR/EIS, would have been made available to the City for use as they would deem appropriate and within the bounds of the program as outlined, if a build alternative would have been selected as the Preferred Alternative. In addition, City of Commerce residents would have benefitted from the improved air quality and mobility within the region after implementation of the build alternatives.

L-19-3

The RDEIR/SDEIS did indicate that the City of Commerce would experience a permanent impact to community cohesion under both Alternatives 5C and 7; this conclusion was outlined in Section 3.3.1.3, Environmental Consequences (Permanent Impacts). Should a build alternative be selected as the Preferred Alternative, relocations associated with impacts to community cohesion would be addressed by Measure C-1, outlined in Section 3.3.2.4, which may provide for the construction of Last Resort Housing in the event where adequate comparable replacement housing is not available. It should be clarified that Section 3.3.1.3 indicated that overall, for the balance of the cities within the Study Area, permanent impacts to community cohesion would not occur as a result of the build alternatives.

L-19-4

Although not included in the RDEIR/SDEIS itself, detailed housing stock information, including the number of single-family residential, multi-family residential, and mobile homes available at the time of preparation of the report was included in Section II.A of the *Draft Relocation Impact Report* (March 2017). Updated information based on the *Final Relocation Impact Report* (March 2019), has been added to Section 3.3.2 of the Final EIR/EIS for cities in which Last Resort Housing could potentially be utilized, including Commerce, should a build alternative be selected as the Preferred Alternative.

L-19-5

This feedback regarding the access differences between Design Options 3A and 3B and the base Alternatives 5C and 7 as presented in the RDEIR/SDEIS is appreciated. Due to public and agency input, the No Build Alternative has been identified as the Preferred Alternative.

L-19-6

Should a build alternative be selected as the Preferred Alternative, Measure CON-U&ES-1, described in Section 3.24.4.4 and included in the Environmental Commitment Record, would provide for coordination during construction of ramp closures and detour plans with fire, emergency medical, and law enforcement providers, as well as with local jurisdictions' Departments of Public Works, to minimize temporary delays in emergency response times as part of the Transportation Management Plan (TMP), including the identification of alternative routes and routes across the construction areas for emergency vehicles, developed in coordination with the affected agencies. Currently, staging strategies during construction of either of the build alternatives have not been identified, and no proposed routing options for emergency responders have been assessed at this time. As stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, more detailed information regarding construction-related closures and detours will not be provided.

L-19-7

As is stated on page F-3 of Appendix F, Environmental Commitments Record, of this Final EIR/EIS, “The ECR provided in this Appendix meets the requirements for an MMRP for the project under CEQA.” As the ECR is one component of the EIR circulated for review, cities and the general public are invited to comment on it. The discussion of the TMP in particular (included in Section 3.24.4.5 and Appendix F, the ECR, as Measure CON-TR-1) describes the objectives of and elements to be included in the TMP, as well as referencing the Caltrans TMP Guidelines, which would be used in preparing a TMP, should a build alternative be selected as the Preferred Alternative. Specific construction details regarding detour routes, closures, and other information is not available at the current level of design. As stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a higher level of detail, and coordination with the local jurisdictions, including the City of Commerce as part of the TMP will not occur.

L-19-8

The determination of whether a project may have a significant effect on the environment calls for careful judgment and based to the extent possible on the results of field surveys and technical studies. Because the significance of an effect may vary depending on the environmental setting, set rules for determining significance in every case (“thresholds”) have not been established. Some public agencies have established thresholds of significance for CEQA. Because Caltrans has statewide jurisdiction and the setting for Caltrans’ projects varies so extensively throughout the state, Caltrans has not and has no intention to develop thresholds of significance under CEQA.

The CEQA analysis is contained in Chapter 4.0, CEQA Evaluation, of the RDEIR/SDEIS. A determination of significant impacts pursuant to CEQA for Transportation/Traffic is listed in Chapter 4.0. As detailed in Section 4.2.1.11, there would be no impact under the build alternatives for the following CEQA Checklist questions:

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

e) Would the project result in inadequate emergency access?

f) Would the project conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

As detailed in Section 4.2.4.4, impacts would be significant and unavoidable under the build alternatives for the following CEQA Checklist questions:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Please refer to Chapter 4.0, CEQA Evaluation, for the full CEQA analysis for Transportation/ Traffic.

L-19-9

Analysis of arterial traffic volumes at project screenlines, as well as the evaluation of the major arterial roadway segments throughout the I-710 Study Area reported in the *Intersection Traffic Impact Analysis Report* (March 2017) for the proposed project (Figure 6-2), shows that the arterial system as a whole is modestly relieved by the build alternatives relative to no build conditions. In part, this is because the proposed improvements to I-710 under the build alternatives would draw freeway traffic back onto the freeway itself, and freeway traffic would be less apt to use the arterial system as a “cut through” to avoid I-710 freeway congestion. Likewise, pedestrians and bicycles using the arterial system would also benefit. However, for crossing arterials near the interchanges, traffic volumes would increase relative to no build conditions near the ramps which feed I-710. The build alternatives include a redesign of the ramps, add or widen bicycle and pedestrian facilities through the interchange areas, and in some cases introduce traffic controls at ramp termini to help improve traffic safety for bicyclists and pedestrians. In key areas, the build alternatives would also provide new, exclusive pedestrian and bicycle overcrossings, so that some bicyclists and pedestrians could avoid using the arterials altogether to cross over I-710 and the Los Angeles River Channel. The discussion in Section 3.5.3 has been expanded in the Final EIR/EIS to provide more information on how pedestrian and bicycle safety would be improved by the various features included in the build alternatives.

L-19-10

It is Caltrans' standard practice to utilize the Highway Capacity Manual (HCM) methodology as described in Chapter 11 through Chapter 13 of the HCM (2010). Intersection Level of Service (LOS) was calculated according to analysis methodologies described in the HCM. Section 7, Project Impacts and Mitigation Measures, of the *Intersection Traffic Impact Analysis Report* (March 2017) outlined the criteria for determining impacts to arterial intersections. As lead agency for the I-710 EIR/EIS, Caltrans is responsible for establishing the traffic impact thresholds for the I-710 Project. With respect to the intersection impact analysis, the same thresholds and methodologies were uniformly applied for the intersections of all local jurisdictions that make up the I-710 Study Area for the purpose of determining impacts and for identifying mitigation. This is appropriate given that each city has their own thresholds for their own local projects, which vary from city to city. The thresholds established for the project, described in Section 3.5.3.1 of the I-710 RDEIR/SDEIS, were identified based on: an examination of future (congested) travel conditions of the arterial network within the I-710 Study Area; Caltrans' project experience with other major freeway projects in Los Angeles County similar in scope and magnitude to the I-710 Corridor Project; and consistency with intersection impact thresholds utilized in the SR-710 North Project EIR/EIS. The I-710 intersection traffic impact thresholds are very sensitive, particularly for congested intersections (i.e., those intersections projected to operate at LOS E or worse.) Because of the congested nature of the arterial system in the I-710 Study Area in the future year (2035), even very small increases in traffic volumes – in any one of the peak hours (AM, MD or PM) – trigger impacts.

L-19-11

The issue of induced travel demand is very complex, involving various travel behavior responses, residential and business location decisions, and other factors that influence regional population and economic growth. While some of these responses may represent new trips, much of the observed increase in traffic comes from trips that were already being made before the increase in highway capacity, or reflect predictable behavior that is accounted for in travel demand forecasts. Accordingly, Caltrans' guidance on this topic of induced demand maintains that each project should be evaluated case by case.

"Induced travel" is characterized as the additional demand for travel that occurs as a result of a decrease in the generalized cost of travel, including both travel-time and out-of-pocket costs. I-710 is part of a highly congested metropolitan roadway network and is located within an urbanized area which is essentially built out. Given the high levels of congestion in the peak periods, the I-710 travel demand forecast model is particularly sensitive to changes in travel times. The proposed improvements included in the build alternatives improve speeds and reduce travel times on I-710, which in turn attracts more traffic to the facility relative to the no

build condition. The predicted shifts in traffic are accounted for in the analysis presented in Sections 3.5 and 3.13 of the I-710 RDEIR/SDEIS for both Alternatives 5C and 7.

L-19-12

At the time of the commencement of technical studies, including detailed traffic forecasting, in support of the I-710 Corridor Project RDEIR/SDEIS, Caltrans reviewed the status of each of the SCIG and ICTF projects and concluded that they were reasonably foreseeable projects, and in order to represent a likely future scenario, should be included in the No Build scenario. Additionally, the Southern California International Gateway (SCIG) and Intermodal Container Transfer Facility (ICTF) are reasonably foreseeable future projects included in the future No Build Alternative (2035) for the I-710 Project and the Future Year (2035) Baseline for SCAG's 2012 Regional Transportation Plan as well as SCAG's 2016 Regional Transportation Plan. Because of the lead time necessary for the complex traffic modeling efforts on the I-710 Corridor Project, it was not possible to revise the No Build scenario and re-run the model, and all subsequent analyses that depend upon the traffic model, and still meet the schedule established for the project. In addition, in January 2018 the California Courts of Appeal ruled that the Port of Los Angeles and BNSF were in compliance with the majority of CEQA requirements in the SCIG Final EIR, with the exception of the air quality analysis of ambient air concentrations and associated cumulative impacts of such pollutant concentrations. The court further ordered that work on the project be suspended until such time that these deficiencies are addressed. However, the Caltrans maintains that, due to the information provided above, there is sufficient evidence and rationale for retaining the SCIG project in the No Build scenario.

According to the meeting minutes for the December 6, 2017 meeting of the ICTF Joint Powers Authority (JPA)[3], development of the Draft EIR for the ICTF Expansion and Modernization Project has begun but is currently on hold due to changes in schedule and other necessary updates. It is unknown when the process will be reinitiated.

A Sensitivity Test was conducted that removed the SCIG and ICTF Expansion Projects from the I-710 Corridor traffic model to evaluate the effects on the I-710 Corridor transportation travel patterns. These sensitivity tests can be reviewed in more detail in the I-710 Travel Demand Methodology Technical Memorandum (June 2017). In general, viewed from daily conditions for total vehicles, removal of the SCIG and ICTF expansion projects from the No Build scenario resulted in only a slight overall change in vehicles, with additional trucks using I-710 displacing some autos.

[3] Intermodal Container Transfer Facility - Joint Powers Authority. 2017. Special Meeting of the Governing Board of the Intermodal Container Transfer Facility Joint Powers Authority Minutes. Website: http://www.ictf-jpa.org/pdf/12-06-17/Draft%20Meeting%20Minutes%20for%20December% 206,%202017.pdf (accessed March 21, 2017).

L-19-13

Please refer to Section 1.6 of this appendix for further discussion on parking details. These restrictions have been eliminated from further consideration and are not being carried forward as a programmatic element since the No Build Alternative has been identified as the Preferred Alternative.

L-19-14

It is acknowledged that uniform cycle lengths, by type, were utilized in the traffic analysis performed for the alternatives in the RDEIR/SDEIS. The commenter is correct in that for over 180 intersections it is not practical or reasonable to obtain existing signal timing plans for each individual intersection and that basic assumptions must be used, especially when evaluating a future condition (year 2035) when future timing plans for the intersections are not yet known. These uniform assumptions allow for an objective evaluation of the relative performance and impacts of the alternatives across multiple jurisdictions at a level of detail which is applicable to the EIR/EIS. These assumptions are clearly stated in Section 2.2.2.1 of the *Intersection Traffic Impact Analysis Report* (March 2017), one of the supporting technical documents for the I-710 EIR/EIS.

L-19-15

Metro and Caltrans understand the City's desire to add additional intersections for analysis in the Final EIR/EIS. However, limitations in study resources, as well as schedule demands, require that analyses in the EIR/EIS be devoted to those intersections most likely to be impacted by the build alternatives. Nearly 200 intersections were evaluated throughout the I-710 Study Area in the RDEIR/SDEIS. The I-710 analysis intersections were originally identified with the consent and approval of the I-710 Technical Advisory Committee (TAC) in 2009. This list of I-710 analysis intersections was updated based on the findings of the 2012 I-710 Draft EIR/EIS and was appended and reaffirmed by the I-710 TAC prior to initiating work on the 2017 RDEIR/SDEIS. The three additional intersections requested by the City (Bandini Boulevard/ Garfield, Telegraph Road/Garfield Avenue, and Atlantic Avenue/Eastern Avenue) fall mainly within the influence area of I-5 as opposed to I-710.

L-19-16

An assessment of potential impacts to transit is included in Section 3.24.4.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, of this Final EIR/EIS. The transit improvements described in Section 2.3.2.1 of the RDEIR/SDEIS are considered programmatic elements of the build alternatives, and as specified in that section, would not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Extensive consultation has taken place with Metro's transit service planning department to

define the proposed transit improvements at a programmatic level for the I-710 Corridor Project EIR/EIS. It is important to note that the proposed operational transit improvements outlined would be phased in incrementally based on available funding, as well as transit demand. However, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the proposed transit concepts will not be considered, evaluated, or integrated into Metro's future plans for the full transit network as a part of the I-710 Corridor Project.

L-19-17

In response to this and other comments, Measure CON-N-9 in the Final EIR/EIS has been revised to provide for continuous monitoring for residential structures within 200 feet of pile driving operations, should a build alternative be selected as the Preferred Alternative. This is partially due to the dense urbanized Study Area and proximity of residences to future construction areas. Should a build alternative be selected as the Preferred Alternative, should damage occur, operations would cease and construction methods and/or equipment would be re-evaluated. Measures in the Caltrans *Transportation and Construction Vibration Guidance Manual* (September 2013) would be implemented as necessary. However, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore Measure CON-N-9 will not be implemented.

L-19-18

The discussion provided in Section 3.24.3.14, Construction Impacts, addresses noise impacts during the construction phase of the build alternatives. However, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a more detailed Noise Monitoring Plan and Noise Control Plan will not be prepared.

L-19-19

The build alternatives include I-710 ramps and connector roads targeted to more directly serving the railyards within the Cities of Commerce and Vernon. In several cases, this would relieve traffic on local roads that currently serve as collector-distributors to the railyards. Specifically, at Washington Blvd. and Atlantic Ave., traffic analysis demonstrates that delay (and thus idling) would be reduced at this intersection relative to the No Build Alternative as a result of the build alternatives (*Intersection Traffic Impact Analysis Report* [March 2017]). Further, delay at all study intersections on Washington Blvd. and Atlantic Ave. within the City of Commerce are generally improved under the build alternatives. This evidence suggests that further analysis, including queueing analysis, would not be warranted.

L-19-20

Specific construction staging areas, including routes into and out of the staging/storage areas, have not yet been identified, and are typically not known in detail until final design of a build alternative. In the right-of-way analysis conducted for the I-710 RDEIR/SDEIS, temporary construction easements for the build alternatives were determined in a manner that anticipated the need for construction staging in addition to space that would be required for construction activities. However, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will not be impacts as a result of staging areas for construction.

L-19-21

Please refer to Response to Comment L-19-18 regarding the development of a Noise Community Protection Plan.

L-19-22

As disclosed in Section 3.3.2, Relocations and Real Property Acquisitions, of the RDEIR/SDEIS, the City of Commerce would experience the most residential and nonresidential relocations under Alternative 5C (over 50 percent of the residential displacements and over 25 percent of the nonresidential relocations). It is important to note that, should a build alternative be selected as the Preferred Alternative, ultimately, the displaced person(s) would make the final determination of the location of replacement property, within relocation guidelines. However, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will not be any relocations.

As discussed in Section 3.3, Environmental Justice, most acquisitions as a result of the build alternatives would occur in the immediate vicinity of the I-710 freeway where the population demographics are predominantly minority and low-income. However, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will not be any relocations and there would not be a disproportionate adverse impact to environmental justice populations.

L-19-23

It is important to note that the analyses of tax losses under the build alternatives included in the RDEIR/SDEIS, whether they are property tax losses or sales tax losses, represent a conservative scenario that presumes all businesses or residences would not be able to be relocated within their existing jurisdiction. However, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will not

be the need to relocate residents and businesses For more information regarding relocations, please refer to Section 1.5 of this appendix.

L-19-24

Details on assumptions related to the air quality impacts related to ZE/NZE vehicles are included in Section 7 of Appendix C to the *Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (AQ/GHG/HRA Technical Study) (June 2017), and the associated *Addendum to the Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (December 2020). As stated in this section, the analysis conservatively assumes that all ZE/NZE trucks will be NZE. NZE trucks would be non-diesel (as diesel trucks have not been able to meet CARB's optional low-NO_X standard of 0.02 gm/bhp-hr), thereby reducing diesel particulate matter (DPM) to zero and NO_X emissions by 90 percent compared to conventional heavy-duty trucks. Consistent with the CARB's EMFAC2014 emission factor program, it was conservatively assumed that NZE trucks would not reduce in any other criteria air pollutant or greenhouse gas emissions as compared to a conventional heavy-duty truck; therefore, no credit was taken for further tailpipe reductions for those ZE/NZE trucks that are pure ZE.

L-19-25

Please refer to Response to Comment L-19-22 regarding residential and nonresidential relocations in the City of Commerce. The Preferred Alternative, the No Build Alternative, does not result in residential and nonresidential relocations.

L-19-26

Caltrans acknowledges the support and appreciation of the City of Commerce regarding elements of Community Alternative 7 that have been incorporated into Alternative 7, as well as the determination of adverse effects to communities in the City of Commerce as a result of the build alternatives.

L-19-27

The requested language has already been included in Measure C-1 in Section 3.3.2.4 and Appendix F, Environmental Commitments Record, of the Final EIR/EIS, which states: "While adequate comparable replacement housing appears to exist presently in neighboring cities, new replacement dwellings under Last Resort Housing may be considered for these cities as a method of providing comparable replacement housing to displaced persons who reside in areas where the replacement housing is low." The specific cities in which replacement housing stock may be currently low are not named in the measure, as the real estate market may change drastically between the time an environmental document is prepared and the time a build alternative is constructed and acquisitions are conducted (should a build alternative be selected

as the Preferred Alternative). It is important to note that, should a build alternative be selected as the Preferred Alternative, ultimately, the displaced person(s) would make the final determination of the location of replacement property, within relocation guidelines. It is also important to note that the No Build Alternative has been selected as the Preferred Alternative and therefore acquisitions are no longer necessary.

L-19-28

Caltrans and Metro acknowledge the importance of the City's Housing Opportunity Overlay in the Housing Element of the General Plan. As indicated in Measure C-1, should a build alternative be selected as the Preferred Alternative, Caltrans would cooperate with the affected jurisdictions in relocating business and residential uses within the existing communities wherever possible and feasible. Should they be displaced as a result of the build alternative, all residents, including renters, would be afforded relocation benefits in accordance with the Uniform Relocation Act as also indicated in Measure C-1. However, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there would not be an inconsistency with the goals and policies of the City's Housing Opportunity Overlay and Housing Element of the General Plan.

It should be noted that many of the specific points outlined by the City in this comment are already addressed by Caltrans' Relocation Assistance Program (RAP), including: provision of funds for moving expenses and general relocation assistance, including assistance for special needs, incidentals, interest rate differentials, property tax differentials, and other items. The disbursement of these funds are calculated on a case-by-case basis and are individual to each situation. In addition, the RAP provides for the provision of Last Resort Housing in the event that comparable replacement dwellings are not available. The employment of Last Resort Housing is limited in that consideration must be given to the availability of comparable housing in the program or project area, the resources available to provide comparable replacement housing, and the individual circumstances of the displaced person(s), and by a determination that Last Resort Housing is necessary for the area as a whole, a program or project cannot be advanced to completion in a timely manner without Last Resort Housing assistance, and the method selected for providing Last Resort Housing is cost-effective.

For more information on the methodologies used to analyze displacements and relocations, please refer to Section 1.5 of this appendix.

L-19-29

The City's support for construction of a new interchange at Slauson Boulevard is noted. Although reconstruction of Slauson Boulevard, including the freeway overcrossing from the Los Angeles River to approximately 700 feet east of the existing Los Angeles Junction Railway

at-grade crossing is included as part of the Alternative 5C, it is not included as part of the No Build Alternative which has been selected as the Preferred Alternative.

L-19-30

The City's support of Alternative 7 and a ZE freight corridor is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

L-19-31

Caltrans and Metro acknowledge that the City of Commerce would experience the highest amount of relocations of the I-710 Corridor area cities as a result of the build alternatives. Should a build alternative be selected as the Preferred Alternative, relocation assistance as outlined in Measure C-1 would be provided to all residents, owner or renter, which would be displaced as a result of the build alternatives. In addition, due to the disproportionate impact to environmental justice populations as a result of the build alternatives and related to community cohesion and land use, should a build alternative be selected as the Preferred Alternative, Measure C-7 would provide for funding for targeted improvements made in specific census tracts adjacent to the build alternatives containing substantial environmental justice populations. However, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there would not be a disproportionate number of residential displacements in the City of Commerce as a result of the build alternatives.

L-19-32

The City's support of ZE design options and efforts to reduce emissions within the I-710 Corridor is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

L-19-33

As stated in Chapter 8 in Appendix D of the AQ/GHG/HRA Technical Study, the closest receptor used in the dispersion modeling is 50 meters (approximately 164 feet) from the edge of the Alternative 5C mainline footprint. Receptors at this distance are fully consistent with (and in many cases, closer than) recent analyses of port, railyard and other transportation projects in Southern California. In addition, EPA guidance on dispersion modeling calls for an "exclusion zone" in certain types of modeling, such as was done for the air quality analysis for I-710 Corridor Project. Results of the dispersion modelling and health risk assessment are in line with the emission calculations, and show no exceedances in the CO or NO_2 National Ambient Air Quality Standards (NAAQS), a reduction in health risk, and increases in particulate matter (PM) concentrations at some receptors. The guidance referred to by the commenter is for PM "hot-

spot" analyses, not non-conformity AQ/HRA analyses, and thus is not applicable to the AQ/HRA analyses described above. Please refer to Section 3.13.3.2 of this Final EIR/EIS for updated information regarding project-level conformity analyses.

L-19-34

The AQ/HRA analyses followed SCAQMD and EPA general (not conformity hot-spot) modeling guidance, as they are not conformity analyses (CO conformity hot-spot analyses in Appendix G of the AQ/GHG/HRA Report do conform to EPA CO Hot-Spot Guidelines.) SCAQMD and EPA general modeling guidance, and indeed EPA's AERMOD modeling software, does not allow calculation of modeled concentrations within the exclusion zone as they would not be technically accurate. As noted in Response to Comment L-19-33, the AQ/HRA analyses are for CEQA and non-conformity NEPA assessments and follow the applicable guidance for such modeling (as described in the air agency-reviewed AQ/HRA Protocol in Appendix A of the AQ/GHG/HRA Report). They are not conformity hot-spot analyses and are not subject to EPA's PM hot-spot analysis guidance. Please refer to Section 3.13.3.2 of this Final EIR/EIS for updated information regarding project-level conformity analyses.

L-19-35

The commenter is stating that localized impacts to near-road communities were not analyzed and is requesting zoomed in figures of the air quality emission figures. Localized impacts to near-road receptors were analyzed in Section 3.13, Air Quality, in the RDEIR/SDEIS. The analysis contained in that section discloses that all build alternatives would generally improve air quality. However, although air quality would be improved at most locations along I-710, but there are a few near-roadway locations where there would be an increase in certain emissions. The maps included in Appendix Q of the RDEIR/SDEIS visually depict the change in emissions and the areas where emissions would increase. In addition, Figures 3.3-4, 3.3-5, 3.3-7, and 3.3-8 in Section 3.3.3, Community Impacts, of the RDEIR/SDEIS include maps at a larger scale to illustrate the change in air pollutant concentrations for PM2.5 and PM10 impacts.

L-19-36

The commenter is stating that Figures 4-1a through 4-1c in the AQ/GHG/HRA Technical Study are unclear. Figures 4-1a through 4-1c depict emission changes for both $PM_{2.5}$ and PM_{10}. The large figure depicts $PM_{2.5}$, as indicated by the main title for each figure. The sub-figures depict PM_{10}, as indicated in the label associated with the subfigures.

L-19-37

Dispersion-modeling-based HRAs are not required by the EPA, FHWA, or Caltrans for freeway projects but were completed for the I-710 Corridor Project. As noted in Responses to Comments

L-19-33 and L-19-34, the HRA analyses followed the AQ/HRA Protocol (Appendix A of the AQ/GHG/HRA Report) that was reviewed by SCAQMD, EPA and other agencies. The HRA analysis methodology is consistent with the applicable California's Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Risk Assessment Guidelines* (note: this "hot spot" is not the same as an EPA/FHWA conformity "hot-spot") and SCAQMD's updated HRA guidance for AB2588.

L-19-38

The commenter is stating that locations of cancer risk were not discussed in the RDEIR/SDEIS and is requesting zoomed in figures of the cancer risk figures. Cancer risk was discussed in Section 4.2.4.1 of the RDEIR/SDEIS. The analysis contained in that chapter discloses that all build alternatives would generally reduce public health risk. However, although public health risk would be reduced at most locations along I-710, but there are a few near-roadway locations where there would be an increase in certain emissions. Specifically, when compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one million.

The maps included in Appendix Q of the RDEIR/SDEIS visually depict the change in cancer risk. In addition, Figures 3.3-6 and 3.3-9 in Section 3.3.3, Community Impacts, of the RDEIR/SDEIS include maps at a larger scale to illustrate the change health risk. It should be noted that the cancer risk presented in these figures was estimated using a 30-year residential exposure scenario. Some of the areas with the small increases in cancer risk are not in residential areas, and as workers have a shorter exposure period, cancer risk would be less than the residential cancer risk results.

L-19-39

This comment is requesting clarification of Table 4.2-1 and the associated text in the RDEIR/SDEIS. Table 4.2-1 of the RDEIR/SDEIS presents the MSAT health risk for the project alternatives compared to the 2012 Baseline. All project alternatives show a decrease in cancer risk at all modeled receptors when compared to the 2012 Baseline.

The paragraph following Table 4.2-1 is referring to the incremental cancer risk impacts seen when comparing the build alternatives to the No Build Alternative in 2035. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately

three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one million.

L-19-40

As stated in the comment, the determination of significance for NEPA is based on context and intensity. For traffic, context and intensity is considered in the traffic analysis in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, of the RDEIR/SDEIS. Context is framed by the existing setting detailed in Section 3.5.2, Affected Environment of the RDEIR/SDEIS. The intensity of traffic impacts is detailed in Section 3.5.3, Environmental Consequences, of the RDEIR/SDEIS. Specifically, changes in level of service and density/volume-to-capacity (v/c) ratio are used to quantify the intensity of traffic impacts and the level of congestion on the roadways within the traffic Study Area. As discussed in Section 3.5, traffic operations within the traffic Study Area were evaluated and defined in terms of level of service (LOS), which ranges from LOS A to LOS F. LOS describes the efficiency of traffic flow and how such conditions are perceived by persons traveling in the traffic stream, and accounts for variables such as speed and travel time, freedom to maneuver, traffic interruptions, traveler comfort and convenience, and safety. LOS A indicates free traffic flow with low volumes and high speeds, resulting in low densities, while LOS F indicates traffic volumes that exceed capacity and result in forced-flow operations at low speeds, resulting in high densities. Density is defined a as the number of vehicles per mile per lane. The volume-to-capacity ratio is the ratio of the volume of traffic using the facility to the capacity of the facility. These factors are all considered together when determining the significance of impacts under NEPA.

L-19-41

Under the build alternatives, HCS analysis demonstrates that LOS would be improved for the I-710 freeway segments relative to the No Build Alternative. See Figures 5-1 and 5-2 provided in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017). The volume-to-capacity (v/c) analysis conducted for the arterial roadway segments for the build alternatives show no major changes (i.e., only very slight improvements in the number of highly congested arterial segments) relative to the No Build Alternative. See Figure 6-2 provided in the *Intersection Traffic Impact Analysis Report* (March 2017). For the arterial network, the traffic impact analysis focused on the intersections as that is where most of the delay on the roadway network is occurring. While the methodologies used to determine LOS for signalized versus unsignalized intersections is different (Tables 2-2 and 2-3, *Intersection Traffic Impact Analysis Report* [2017]), the same intersection impact threshold criteria was uniformly applied to all (i.e., both signalized and unsignalized) intersections as stated in Section 3.5.3.1 of the I-710 RDEIR/SDEIS.

L-19-42

The information presented in Section 3.5.2.1 was provided to help characterize existing conditions on I-710. Caltrans has no accepted methodology for projecting future accident rates at this time. Actual collision data based on reporting provided by the California Highway Patrol is collected in order to understand if existing accident rates are higher on the subject route than on similar facilities within the state, and if the types of accidents that occur help to identify the types of improvements that would be most beneficial to implement. Analysis of accident rates for a future condition, after construction of the build alternatives, using the same methodology as existing accident data is not possible and would, therefore, be highly speculative in this context. Any assessment of the relative safety or operational benefits of the proposed future alternatives would need to utilize methods other than accident rates. More information on the types of accidents that occur within the I-710 Corridor can be found in Section 1.2.1.2, Capacity, Transportation Demand, and Safety, in this Final EIR/EIS.

L-19-43

Chapter 4.0, CEQA Evaluation, of the RDEIR/SDEIS was structured in a way that groups the various checklist questions together according to the response, rather than separated by resource area, as is described in more detail in Section 4.2, Discussion of Significance of Impacts. CEQA Checklist questions XVI.a and XVI.b are addressed together in Section 4.2.4.4. CEQA Checklist questions XVI.c through XVI.g are discussed previously in the CEQA chapter in Section 4.2.1.11. Therefore, all of the traffic- and transportation-related CEQA Checklist questions are included in Chapter 4.0.

L-19-44

The I-710 travel demand forecast (focus area) model is based on the 2012 RTP SCAG model, which has a future horizon analysis year of 2035. The 2016 RTP SCAG model has a future horizon analysis year of 2040. Because of the extensive amount of validation, calibration, and post-processing necessary to produce the I-710 travel demand forecasts for the Study Area, an “apples to apples” comparison between 2035 and 2040 specific to the I-710 Study Area cannot easily be made. However, based on travel information extracted from the adopted California Resources Board Emissions Factors model (EMFAC 2014), which is a single, credible source that contains both future analysis years, 2035 and 2040, vehicle miles traveled (VMT) in Los Angeles County is projected to increase by approximately 1.6 percent between 2035 and 2040.

L-19-45

For the existing condition, these freeway segments on I-710, around the Washington and Atlantic interchange, were identified as LOS F based on actual observed speed data (e.g., field reviews, travel time runs) and actual collected traffic data (PEMS), which confirms the traffic

queues that develop in this area of I-710 during the AM and PM peak hours. These oversaturated segments are identified with a footnote (refer to Footnote 6) on Table 3.5-1. For the future condition, observed data is not available, leaving only HCS methods to determine LOS, which can only identify and evaluate congestion on a segment by segment basis. Traffic queues that extend beyond more than one segment are not fully captured in the HCS operational analyses. In considering design improvements for the build alternatives for the area between Atlantic Blvd./Bandini Blvd and the I-5 interchange, the project engineers took into account both observed data and future operational analyses. As a consequence, the build alternatives would include extensive ramping, collector-distributor road systems, reconfiguration of the I-710/I-5 connectors, and additional lanes through this stretch of I-710 between Slauson Avenue and I-5.

L-19-46

The commenter is correct. This is a typographical error which has been corrected in Table 3.5-2 of the Final EIR/EIS for the existing condition, midday (MD) peak hour, for the “Atlantic Boulevard Off / Atlantic Boulevard southbound On” segment of I-710.

L-19-47

The commenter is referring to queues based on observed I-5 travel data upstream and downstream of the I-710 as noted in Table 3.5-6 under existing conditions. See those segments identified with Footnote No. 6 in Table 3.5-6. With regard to the section of I-710 approaching the I-5 interchange, please refer to Response to Comment L-19-45. The design improvements included in the build alternatives would materially improve traffic operations in this stretch of I-710 between Slauson Avenue and I-5. Under the build alternatives, much of the heavy truck traffic and weaving movements would be taken off the I-710 mainline and would be managed via a set of connector ramps and collector-distributor roads.

L-19-48

The parking analysis memorandum was included in full as Appendix D to the Community Impact Assessment (July 2017). In general, the analysis of parking demand and associated percentages was evaluated at a corridor-wide level. However, due to community input, the programmatic parking restrictions have not been carried forward as part of Alternative 5C. Please refer to Section 1.6 of this appendix for more information. In addition, it should be noted that the No Build Alternative has been selected as the Preferred Alternative, which would also not include the programmatic parking restrictions.

L-19-49

A discussion of freeway mainline LOS by segment was included in the RDEIR/SDEIS and can be seen visually on Figures 3.5-3 (existing conditions LOS), 3.5-4 (No Build Alternative LOS), 3.5-6 (Alternative 5C LOS), and 3.5-7 (Alternative 7 LOS), for a.m., p.m., and midday peak periods. In-text discussion of LOS on freeway segments for the I-710 mainline as well as portions of the crossing freeways was summarized in Section 3.5.2.2, Existing and Future No Build Traffic Conditions, and 3.5.3.1, Permanent Impacts.

L-19-50

Table 3.5-23 of the RDEIR/SDEIS provides a high-level summary of the impacted locations and recommended potential improvements and is equivalent to Table 7-12, Summary of Impacted Intersections, in the *Intersection Traffic Impact Analysis Report* (March 2017). In response to this comment, a new table (Table 3.5-24) has been added to Section 3.5 to provide more detailed information regarding intersection level of service after mitigation.

L-19-51

Please refer to Section 1.7 of this appendix for more information on the I-710 Corridor Early Action Projects . In addition, local intersection improvement projects may be eligible for funding under the ITS/TSM/Congestion Relief Program. Please refer to Section 2.3.2.1 of the Final EIR/EIS for more details regarding this program.

L-19-52

As required under Section 4(f) of the United States Department of Transportation Act (now codified in 49 U.S.C. §303 and 23 U.S.C. §138), Caltrans has consulted with the City of Commerce regarding the proposed *de minimis* impact determination and temporary occupancy exception for Bandini Park under the build alternatives. This coordination included a discussion of measures to minimize harm to the property, which included design refinements of the build alternatives to minimize the proposed permanent aerial easement and TCE area at Bandini Park, or to avoid the TCE in the park if feasible. Based on the coordination that has taken place with the City to date, the need for the TCE within Bandini Park has been avoided. In addition, as stated in Response to Comment L-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no impact to Bandini Park.

L-19-53

Please refer to Response to Comment L-19-52 regarding impacts to Bandini Park.

L-19-54

Please refer to Response to Comment L-19-52 regarding impacts to Bandini Park.

L-19-55

Please refer to Response to Comment L-19-52 regarding impacts to Bandini Park.

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City of LYNWOOD
A City Meeting Challenges
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PUBLIC WORKS DEPARTMENT

ALL-AMERICA CITY

October 20, 2017

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 164
Los Angeles, CA 90012

Re: City of Lynwood's Written Comments on the I-710 Corridor Project Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS)

Dear Mr. Kosinski:

The City of Lynwood appreciates the opportunity to review and provide written comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Interstate 710 (I-710) Corridor Project, dated July 2017. This letter represents the official comments from the City of Lynwood.

The technical review and comments provided herein focus on the subject matters pertaining to the City of Lynwood and are limited to that portion of the project study area within or adjacent to Lynwood's city limits (primarily from Rosecrans Avenue to Imperial Highway). The review comments are associated with the following sections of the RDEIR/SDEIS:

- Section 2.3 Project Alternatives (including Concept Plans in Appendix O)
- Section 3.3 Community Impacts
- Section 3.4 Utilities and Emergency Services
- Section 3.5 Traffic and Transportation/Pedestrian and Bicycle Facilities
- Section 3.6 Visual/Aesthetics
- Section 3.14 Noise
- Section 3.24 Construction Impacts

The City of Lynwood recognizes the regional significance and fully supports the I-710 Corridor Project. The City thanks Caltrans and Metro in advance for their attention to the City's technical review comments on the I-710 Corridor Project RDEIR/SDEIS and looks forward to working with Caltrans and Metro towards a successful completion of the project. If you have any questions regarding this letter, please do not hesitate to contact Nick Servin at 310.603.0220 or nservin@lynwood.ca.us. L-20-1

Sincerely,

Alma K. Martinez
City Manager

BACKGROUND

The I-710 Corridor Project is being undertaken by the Department of Transportation (Caltrans) as the lead agency, in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro) as the sponsoring agency. The purpose of the project is to modernize a 19-mile segment of the I-710 corridor from Ocean Boulevard in Long Beach to State Route 60 (SR-60) in Los Angeles, address projected growth and traffic demand, improve air quality and public health, and enhance traffic safety. A No Build and two build alternatives are being considered in the RDEIR/SDEIS, as briefly described below:

- Alternative 1 (No Build) would maintain the existing lane and interchange configuration with no additional improvements to be provided, other than those projects that are already funded and/or committed to be constructed by or before the planning horizon year 2035.
- Alternative 5C (I-710 Widening and Modernization) would add up to one general purpose (GP) lane in each direction of I-710 between Anaheim Street in Long Beach and Olympic Boulevard in east Los Angeles.
- Alternative 7 (I-710 Modernization plus Freight Corridor) would add two controlled-access truck lanes in each direction of I-710 from Anaheim Street in Long Beach to Washington Boulevard in Commerce.

The City of Lynwood is located on the west side of the I-710 freeway, generally where I-710 meets Interstate 105 (I-105). Construction on the I-710 freeway and interchanges as well as associated roadway improvements under both build alternatives would have direct effects on the City of Lynwood including:

- Reconfiguration of the N/S105-N710 Connector and Rosecrans Avenue NB on-ramp CD road.
- Reconfiguration of the S710/N/S105 Connector and the Martin Luther King Jr. Boulevard SB off-ramp.
- Construction of new braided ramps in the NB and SB directions between Imperial Highway ramps and the I-105 Connectors.
- Reconstruction of the I-710/Imperial Highway interchange from cloverleaf to diverging diamond configuration.
- Reconstruction of Imperial Highway including overcrossing bridge and bridge over the LA River.
- Construction of a parkway along the north side of Imperial Highway from Atlantic Avenue to the LA River.
- Termination of Wright Road on the north side of Imperial Highway.
- Reconfiguration of Wright Road (Duncan Avenue) with right-in/right-out access from/to Imperial Highway.

The build alternatives include three design variations which are called Option 1A, 2A, and 3A for Alternative 5C and Option 1B, 2B, and 3B for Alternative 7. None of the design options would affect the project design in the area adjacent to the City of Lynwood. For Alternative 7, Option 7ZE is also proposed to provide exclusive use of the freight corridor by zero emission trucks. This option is operational in nature and does not result in different geometric design of Alternative 7.

SECTON 2.3 PROJECT ALTERNATIVES

Comment 1 – Support for Alternative 5C as Preferred Alternative

Based on the ability to improve air quality and relieve traffic congestion, the City would like to express our support for implementation of Alternative 5C as the Preferred Alternative. L-20-2

Comment 2 – Wright Road/Louise Avenue Intersection

The City requests that the project team extend the proposed improvements on Wright Road to the Wright Road/Louise Avenue intersection as part of the I-710 Corridor Project. There is currently a sight distance issue at this intersection for the NB Louise Avenue traffic continuing northbound onto NB Wright Road. L-20-3

Comment 3 – Zero-Emission Incentive

Both build alternatives under consideration propose a Zero-Emission/Near Zero Emission (ZE/NZE) Truck Technology Deployment Program as a programmatic component that provides funding to subsidize the purchase of NE/NZE trucks for use within the I-710 corridor. The funding would be $100 million under Alternative 5C and $460 million under Alternative 7, and up to $1.05 billion under Design Option 7ZE. To encourage the use of ZE/NZE trucks in either of the build alternatives to provide equitable air quality improvement in the region, the City requests that the project team consider increasing the funding amount in Alternative 5C to a similar level as Alternative 7. L-20-4

Comment 4 – Access Modification at Wright Road (Duncan Avenue)

Wright Road is classified as a truck route in the City of Lynwood which connects between two other truck routes: Imperial Highway and Martin Luther King Jr. Boulevard. Due to reconfiguration of the Imperial Highway interchange, the project proposes to modify Wright Road (Duncan Avenue) at its intersection with Imperial Highway to a right-in/right-out access. The City requests that the impact to truck traffic network be analyzed in the appropriate section of the environmental document. L-20-5

SECTION 3.3 COMMUNITY IMPACT

Comment 5 – Parking Restrictions Along Atlantic Avenue and Long Beach Boulevard

Table 3.3-9 of the RDEIR/SDEIS reveals that the proposed parking restrictions during peak hours (6:00 to 9:00 a.m. and 4:00 to 7:00 p.m.) would impact up to 754 on-street parking spaces along Atlantic Avenue and Long Beach Boulevard within the City of Lynwood. The large number of on-street parking removal during peak hours in the City of Lynwood is substantial and the City believes this would have significant impacts to its residences and businesses. The City requests that the impact of the proposed parking restrictions be further analyzed in the environmental document, including identification of off-street parking areas or other on-street parking areas that may absorb the parking demand. L-20-6

Comment 6 - Vista High School HVAC System

Under Alterative 5C, Vista High School, which is adjacent to I-710, would not receive a new HVAC system to reduce the exposure of children and staff to near roadway emissions from the project, as it would under Alternative 7. *Page 3.3-151.*

The City requests that the project team consider increasing the funding amount in Alternative 5C to a similar level as Alternative 7 to receive a new HVAC system for Vista High School. L-20-7

Comment 7 – Will Rogers Elementary School HVAC System

Will Rogers Elementary School is not addressed in the list of schools within 0.25 mile from I-710, that could potentially receive a new HVAC system to mitigate air quality emissions from the project to reduce the exposure of children and staff to near roadway emissions, despite the school being 0.2 mile from I-710. *Page 3.13-56 and 3.13-57.*

The City requests that the project team include Will Rogers Elementary School and increase the funding amount in Alternative 5C to a similar level as Alternative 7 to receive a new HVAC system for Will Rogers Elementary School. L-20-8

Comment 8 – On-Street Parking Along Imperial Highway

There is currently on-street parking along both sides of Imperial Highway between Atlantic Avenue and the I-710 ramps. The City requests that on-street parking be reestablished along Imperial Highway under both build alternatives. L-20-9

Comment 9 – Property Relocations

Table 3.3-12 of the RDEIR/SDEIS reveals that two nonresidential relocations within the City of Lynwood would be required to accommodate the project under both build alternatives. However, the parcel acquisitions exhibit in Appendix L shows that full acquisition of six nonresidential properties are needed to accommodate the realignment of Imperial Highway. Please verify and update the documents as appropriate. L-20-10

Comment 10 – Right of Way at Imperial Highway/Atlantic Avenue Intersection

The City requests that the project team include a discussion in the environmental document regarding additional right of way that may be required to accommodate the proposed mitigation at the Imperial Highway/Atlantic Avenue intersection (identified in Table 3.5-23 of the RDEIR/SDEIS). L-20-11

Comment 11- Marco Antonio Firebaugh High School

Access impacts to Marco Antonio Firebaugh High School are not addressed in the report, despite the school's proximity to I-710 (0.10 mile) and the freeway exit ramp located on Martin Luther King Jr. Blvd, one block from the campus. (Table 3.3-8) *Page 3.3-41*

The City requests that access to Marco Antonio Firebaugh High School be addressed due to these improvements. L-20-12

SECTION 3.4 UTILITIES/EMERGENCY SERVICES

Comment 12 – Utility Impacts

The City recognizes that only major utilities are being evaluated as part of the environmental document for the project, while minor utilities would be investigated in the subsequent phase of the project development process. However, due to complete reconstruction of Imperial Highway, the City requests that potential impacts to overhead and underground utilities along Imperial Highway be evaluated in the environmental document. Anticipated service disruption should be identified along with mitigation/minimization measures. L-20-13

Comment 13 – Flood Control Facilities

Lynwood Retention Basin: This basin receives runoff from the local land uses including the Caltrans right of way. The basin is drained by a pump system to the LA River. The existing basin does not currently provide water quality treatment. Alternative 7 would bisect the primary basin. The capacity and functionality of the primary retention basin would be impacted, therefore the basin would need to be reconfigured or relocated elsewhere in the interchange area to remain functional. Based on the existing underground piping configuration, one possible location for a new basin would be in the northwest quadrant of the I- 105/I-710 interchange. As specified in Mitigation Measure FP-2, Caltrans will coordinate with the Los Angeles County Department of Public Works to identify a suitable location for replacement of the I-105 retention basin that will provide equal or greater capacity than the basin impacted by the freight corridor. L-20-14

The City requests that Caltrans also coordinate with City staff regarding the relocation of this basin and to further study the proposed improvements to provide water quality treatment and meet capacity purposes.

SECTION 3.5 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYLE FACILITIES

Comment 14 – Traffic Volumes

Section 3.5 of the RDEIR/SDEIS includes various tables showing level of service (LOS), traffic flow density and/or volume-to-capacity ratio, and intersection delay information for a.m., mid-day, and p.m. peak hours for the freeways, ramps, and local arterials. The City requests that peak hour traffic volumes be provided in these tables as well to allow the City to fully understand the traffic demand and review the potential impacts the I-710 Project Corridor will have on the traffic and transportation system. L-20-15

Comment 15 – Impact of Increased Truck Traffic on Pavement

The projected increase in the truck traffic along Imperial Highway west of Atlantic Avenue under both build alternatives (per Tables 5-2, 6-2, and 6-7 of the Intersection Traffic Impact Analysis Report) will potentially increase the impact to the pavement system on local streets within the City of Lynwood. The City requests that the potential impact to the local street pavement system be evaluated in the appropriate section of the RDEIR/SDEIS and suitable mitigation measures, such as pavement rehabilitation or replacement identified as part of the I-710 Corridor Project. L-20-16

Comment 16 - Imperial Highway Operation

Level of service (LOS) F is projected for Imperial Highway between Long Beach Boulevard and Atlantic Avenue under both built alternatives. This roadway segment currently experience congestion during peak hours. Additional automobile and truck volumes projected along this roadway segment would exacerbate this condition. The City requests the project team investigate and incorporate additional improvements to address the degradation of this roadway segment under the build alternatives. L-20-17

Comment 17 – Imperial Highway/Atlantic Avenue Intersection Impact

Under both build alternatives, the project is predicted to increase vehicular traffic volumes along Imperial Highway and result in level of service (LOS) degradation from LOS E to LOS F at the Imperial Highway/Atlantic Avenue intersection. The queue analysis provided in the Traffic Operations Analysis Report also forecasts inadequate queue storage length for all NB and SB movements (left, through and right) as well as the EB left and right, and WB left-turn movements at this intersection. Mitigation entailing the addition of an extra left-turn lane is proposed on the EB approach at this intersection under both alternatives. However, no improvements are proposed for other approaches. Due to the additional truck volumes projected along Imperial Highway, the City requests that the project team consider additional improvements to mitigate the project impact on this intersection. L-20-18

In addition, please note that there is currently a single left-turn lane on the EB approach, which is shown to be replaced in kind (i.e. as a single left-turn lane) in the Concept Plan (Appendix O). Table 3.5-23 of the RDEIR/SDEIS indicates that an extra left-turn lane would be added on the EB approach of the Imperial Highway/Atlantic Avenue intersection, creating a triple left turn. Please verify that a triple left turn is proposed on the EB approach as stated in Table 3.5-23. L-20-19

Comment 18 – Bus Stops

There is currently a bus stop on WB Imperial Highway west of Wright Road. The City requests that the impact to this bus stop and required reconstruction/relocation be discussed in the appropriate section of the environmental document. The City also requests that the project design include bus turnouts at bus stop locations to prevent buses from blocking through traffic. L-20-20

SECTION 3.6 VISUAL/AESTHETICS

Comment 19 – Imperial Highway Bridge over LA River

In harmony with the proposed bike parkway along Imperial Highway, the City requests that the project team consider incorporating a lookout belvedere at the proposed Imperial Highway bridge over the LA River. L-20-21

Comment 20 – Sound Wall Aesthetics

The City requests that construction of any new sound walls be coordinated with City staff and members of the community for aesthetic purposes. L-20-22

Comment 21 – Landscaped Median Along Imperial Highway

The City's General Plan identifies the Imperial Highway corridor as a "landscaped boulevards" corridor with tree-line landscaped median, ornamental lighting, and decorative paving. The City requests that a discussion be included in the environmental document regarding impact and restoration of Imperial Highway landscaped median. L-20-23

SECTION 3.14 NOISE

Comment 22 – Soundwall SW-508

Per Page 3.14-28, under Alternative 5C, SW-508 (along the edge of shoulder from EB Imperial Highway transitioning onto the SB I-710 on-ramp) was found to be acoustically feasible, providing noise abatement for at least 7 residences. Per Page 3.14-66, this soundwall has not been recommended for construction due to a sight distance issue and a proposed retaining wall along the SB on-ramp from Imperial Highway is anticipated to provide some abatement for the projected noise level.

The City requests that additional analysis be performed to mitigate the sight distance issue. There appears to be extra right of way adjacent to the proposed SB on-ramp that can accommodate the soundwall set back to avoid sight distance issue. L-20-24

Comment 23 – Noise Study Report (Page 3.14-21)

The project identifies Marco Antonio Firebaugh High School as not having "exterior area of frequent human use", and therefore proposes that no noise impacts are predicted to occur at this school under either of the build alternatives, and no noise abatement will be considered, despite the school's outdoor playground and eating areas (visible on Google maps).

The project also identifies Vista High School as not having "exterior area of frequent human use", and therefore proposes that no noise impacts are predicted to occur at this school under either of the build alternatives, and no noise abatement will be considered, despite the school's outdoor playground and eating areas (visible on Google maps). L-20-25

The City requests an additional study to confirm that there are no frequent human use areas along this high school.

SECTION 3.24 CONSTRUCTION IMPACTS

Comment 24 – Ramp and Street Closures

The project construction in and near the City of Lynwood is estimated to take 48 to 72 months depending on the alternative chosen. In addition, the Construction Staging Concepts report, dated May 18, 2017, reveals that there is high likelihood that the Imperial Highway interchange ramps would need to be closed for a prolonged period, possibly up to 3 months. L-20-26

Prolonged closure of Imperial Highway and the connecting interchange ramps (i.e. more than 10 consecutive days) would have significant impacts to the residences and businesses in the City of Lynwood. This interchange is the primary access for residences and businesses in the northeast portion of the City. The City requests that each of the closure is limited to less than 10 consecutive days and that the number of closure periods be limited to a maximum of three times within a 12-month period. Construction of temporary ramp pavement and temporary street widening should be considered where feasible to keep the street and interchange open and minimize closures during construction. L-20-26

Additionally, the City requests that Measure CON-TR-1 on page 3.24-48, include language that any ramp closures exceeding 10 days need a formal "Ramp Closure Study". L-20-27

L-20-1

The City's support of the I-710 Corridor Project is acknowledged and included in the project record.

L-20-2

Caltrans and Metro thank the City for their comment. Your support for Alternative 5C as the Preferred Alternative due to the improvements to air quality and traffic congestion are acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion of the identification of the Preferred Alternative.

L-20-3

Project improvements related to the build alternatives in the vicinity of Wright Road are shown in Figure 2.3-6, Sheet 3 and Figure 2.3-11, Sheet 3 in Sections 2.3.2.2 and 2.3.2.3 of this Final EIR/EIS. The improvements suggested in the comment do not have a nexus to the I-710 Corridor Project improvements, and therefore have not been incorporated into the design of the build alternatives.

L-20-4

Caltrans and Metro appreciate the City's support of the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program). It should be noted that Metro Board Motion 5.1 changed the ZE/NZE Truck Technology Deployment Program to the phased-in Zero-Emission Truck Technology Deployment Program, which increased the program funding target from $100 million to $200 million, and include in the Program incentives and grants investment in the acceleration of ZE technology both for long-haul trucks and for freeway infrastructure. In April 2020, the Metro Board of Directors programmed $50 million in Metro-controlled funds to provide funding for the initial deployment of the I-710 Clean Truck Program and to leverage the remaining funds required for full program implementation. However, as stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the I-710 Clean Truck Program will not be implemented as part of this Project. Please refer to Section 1.3 of this appendix for more detail on the I-710 Clean Truck Program.

L-20-5

Based on the design of the diverging diamond interchange, truck access from the City of Lynwood along Wright Rd. is maintained in both the southbound and northbound directions of I-710 under the build alternatives. With the cul-de-sac proposed under the build alternatives for Wright Rd. within the City of South Gate, some traffic would be re-routed through the Atlantic Blvd./Imperial Hwy. intersection along Atlantic Ave. and away from residential land uses along Wright Rd.. The Atlantic Ave./Imperial Hhyw. intersection was evaluated as part of the intersection impact analysis assessment conducted for the project. As shown in detail in Table 6-3 of the *Intersection Traffic Impact Analysis Report* (March 2017), the level of service at this intersection improves from LOS F under the 2035 No Build Alternative to LOS E for Alternative 5C in the p.m. peak hour. However, this intersection would experience a degradation in LOS in the a.m. peak hour. As a result, a measure to address that impact is proposed for the intersection of Atlantic Ave./Imperial Hwy. under the build alternatives. The proposed measure (Measure TR-1, in Section 3.5.4 of the RDEIR/SDEIS) would improve the LOS of this intersection to better than No Build Alternative conditions. As shown in detail in Table 7.3 of the *Intersection Traffic Impact Analysis Report* (March 2017), the Atlantic Avenue/Imperial Highway intersection would operate at LOS E or better in the a.m., mid-day, and p.m. peak hours as a result of Alternative 5C. Based on this analysis, trucks operating along designated truck routes would not be affected under the Alternative 5C.

L-20-6

Please refer to Section 1.6 of this appendix for further information regarding parking restrictions during peak hours. These restrictions have been eliminated from further consideration as the No Build Alternative has been selected as the Preferred Alternative.

L-20-7

The determination of specific schools and other facilities that would receive filtration systems under each build alternative as outlined in Measure C-8 was not determined by funding levels, but by whether or not the facility would be located within an area of pollutant increase under the build alternatives. As the increase in pollutant levels would be lesser in areas under Alternative 5C than it was under Alternative 7, fewer facilities would fall within an area of increased pollutant levels which would therefore require mitigation. Specifically, Vista High School in the City of Lynwood was identified as falling within an area of 24-hour PM_{10} impact under Alternative 7 (as seen on Figure 3.3-7, sheet 3 of 4), and would not be impacted by either $PM_{2.5}$ or PM_{10} increases under Alternative 5C (as seen on Figure 3.3-5, sheet 3 of 4, and Figure 3.3-4, sheet 3 of 4, respectively). However, the City and/or school district could be eligible for funding under the Community Health Benefit Program for the installation of filtration or HVAC systems. However, as the No Build Alternative has been selected as the Preferred Alternative, the Community Health Benefit Program will not be implemented by Caltrans as a part of the I-710

Corridor Project. Please refer to Section 1.10 of this appendix for more detail on the Community Health Benefit Program.

L-20-8

Will Rogers Elementary School was inadvertently omitted from the list of schools in Measure AQ-2, and does fall within 0.25 mile of the improvements proposed under the build alternatives. Measure AQ-2 has been revised to include Will Rogers Elementary School.

L-20-9

The current roadway design for Alternative 5C would call for removal of existing on-street parking for a small stretch of Imperial Highway, between Wright Rd. and Atlantic Blvd., to provide sufficient space for turning lanes entering and exiting the I-710 freeway, as well as for the proposed Class 1 bicycle and pedestrian facilities requested by the community. However, as stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, existing on-street parking on Imperial Highway within the City of Lynwood will not be affected.

L-20-10

As stated in Section 3.3.2.4 of the RDEIR/SDEIS, the number of parcels listed in Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, may differ from those listed in Section 3.3.2.3. The difference in the number of properties affected may be a result of some parcels being either vacant, or the same business occupies multiple parcels (i.e., only one business would require relocation even though multiple parcels would be acquired for the build alternatives). The information contained in both Section 3.3.2.3 and Appendix L has been updated to reflect the Preferred Alternative (Alternative 1 – No Build).

L-20-11

As discussed in Section 3.5.4 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, mitigation for impacts to local intersections by the build alternatives would be implemented by Caltrans as the lead agency in coordination with the local jurisdiction. The proposed mitigation improvements are only conceptual at the time the RDEIR/SDEIS was circulated. However, as stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, intersection mitigation will not be implemented .

L-20-12

No permanent or temporary access impacts on Marco Antonio Firebaugh High School have been identified as a result of the build alternatives, as the work proposed at the I-710/I-105 freeway to freeway interchange and proposed modifications at the Martin Luther King Jr. on- and off-ramp to and from southbound I-710 under the build alternatives would be minimal. Measure CON-TR-1 in Section 3.24.4.5 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, would require implementation of a Transportation Management Plan, which would address any temporary access impacts during construction of either of the build alternatives. However, as stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will not be any modifications to the Martin Luther King Jr. on- and off-ramp to and from southbound I-710.

L-20-13

Major utilities along or near Imperial Highway (specifically, conflict C7202, which consists of one six-inch and one eight-inch underground Chevron pipeline that share a trench near the west side of the Los Angeles River) were included in Section 3.4.2.2 of the RDEIR/SDEIS. However, the City is correct in noting that generally, only major utilities were specifically evaluated within the RDEIR/SDEIS. A “major” utility was defined as those that would require significant effort to relocate in the field or those that would require substantial coordination efforts with the respective utility company or companies. However, as stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to utilities.

L-20-14

As stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no impacts to the Lynwood Retention Basin will occur.

L-20-15

Peak hour traffic volumes are provided in the supporting traffic technical reports prepared for the RDEIR/SDEIS, specifically the *Intersection Traffic Impact Analysis Report* (March 2017) and the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017), which are publicly available documents that can be found at: http://www.dot.ca.gov/d7/env-docs/docs/710corr-eir/.

L-20-16

The commenter’s concern regarding pavement deterioration on local streets as a result of increased traffic from the build alternatives is acknowledged and included in the project record. Based on the information provided in Tables 5-2 and 6-2 of the *Intersection Traffic Impact Analysis Report* (March 2017), the projected increase in truck traffic would not measurably

affect this section of Imperial Hwy., which is a major arterial and designated truck route within Los Angeles County. However, as stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no additional pavement deterioration on local streets resulting from the build alternatives and additional analysis will not need to be conducted during final design to determine the timing of the construction staging, finalize construction staging plans, or develop a Transportation Management Plan (TMP) detailing anticipated traffic diversion routes for the different construction stages of the build alternatives. It should be noted that allowances for local roadway construction impacts were accounted for in the cost estimates for the build alternatives developed for the EIR/EIS.

L-20-17

As depicted on Figure 5-4 of the *Intersection Traffic Impact Analysis Report* (March 2017), this segment of Imperial Hwy. would operate at Level of Service (LOS) F under Alternative 1 (future No Build) conditions. While this LOS designation would not change as a result of the build alternatives, the intersection of Imperial Hwy./Atlantic Ave. would be impacted, and, should a build alternative be selected as the Preferred Alternative, mitigation for this intersection would be proposed (please refer to Measure TR-1 in Section 3.5.4 of the RDEIR/SDEIS and this Final EIR/EIS). Additionally, the I-710 Congestion Relief Program is a programmatic feature included as part of the build alternatives that would help address congestion on the arterial system associated with future No Build conditions, particularly directed toward intersections on the arterial system near the I-710 freeway where most of the future No Build delay (LOS E or worse) is projected to occur. The City of Lynwood is encouraged to identify project improvements along this segment of Imperial Highway that could be submitted for funding consideration under the I-710 Congestion Relief Program to help address this issue.

L-20-18

Measure TR-1 identified in Section 3.5.4 of the RDEIR/SDEIS is aimed to reduce delay at the impacted intersection from poor operating conditions (LOS E or F) under the build alternatives to the level projected under the 2035 No Build Alternative, or better. By adding an extra left-turn lane on the southbound approach as mitigation, the total delay at the intersection could be reduced to better than projected under the 2035 No Build Alternative. Therefore, no additional improvements would be required to mitigate impacts for this intersection as a result of the build alternatives. In response to this comment, a typographical error was corrected in Table 3.5-23 of this Final EIR/EIS for intersection ID no. 55 under both build alternatives, as follows: “Add an extra left-turn lane on the SB approach resulting in triple left-turn lanes.”

L-20-19

It is important to note that Table 3.5-23 in Section 3.5.3.1 of the RDEIR/SDEIS includes proposed improvements that are recommended to address impacted intersections that would occur as a result of implementation of the build alternatives. These proposed improvements are not included in the Concept Plans shown in Appendix O, as they are considered mitigation measures. Further, these improvements are currently only in conceptual stages. In addition, as stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, mitigation is not necessary.

L-20-20

As stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the existing Metro bus stop on westbound Imperial Highway just west of Wright Road within the City of South Gate, would not be impacted during construction of the build alternatives and would not require relocation

L-20-21

As stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a lookout belvedere along Imperial Hwy. will not be incorporated.

L-20-22

Measure VIS-9, provided in Section 3.6.4, Visual/Aesthetics, of the RDEIR/SDEIS states that, should a build alternative be selected as the Preferred Alternative, “During final design, Caltrans will review with each local jurisdiction the aesthetic features and treatments proposed to be incorporated in the final facility design for freeway components adjacent to each local jurisdiction, in accordance with the *I-710 Corridor Aesthetics Master Plan* described in Measure VIS-1." However, as stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will not be any construction of soundwalls as a result of this project.

L-20-23

A discussion of restoration of landscaping was included in the project description contained in Section 2.3.2.1 of the RDEIR/SDEIS, which states: “Landscaping and irrigation systems would be provided where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the build alternatives. Close coordination among Caltrans, Metro, various I-710 Corridor committees, and the landscape design consultant on this project has occurred to identify areas available for planting in addition to coordination with Caltrans’ Operations and Maintenance Branch to ensure consistency with their objectives and

requirements. Features included as part of the project design for the build alternatives would include drought-tolerant and native landscaping, plants that change colors with the seasons, and use of vines where space is limited. New irrigation systems would be designed to use reclaimed water (if available). In an effort to surpass the minimum tree removal-to-replacement ratio, the number of new trees, shrubs and foliage within State right-of-way would be maximized, would be drought-resistant, and would have superior biosequestration and biofiltration capabilities. An *Enhanced Water Quality Features Report* (2016) was prepared to identify potential stormwater management solutions in the corridor, along with hardscape and landscape options. The development of final landscape plans for the build alternatives would occur during later phases of design, and would maximize the number of drought-tolerant trees, shrubs, and foliage and identify additional stormwater BMP locations. In addition, a I-710 Corridor Aesthetics Master Plan (2015) was developed to guide the design of hardscape features throughout the corridor for the build alternatives, including highway design elements and themes, lighting, bridge structures, and other components. Under the No Build Alternative, this will not be implemented." As the No Build Alternative has been selected as the Preferred Alternative, the landscaping on the Imperial Highway corridor within the City of Lynwood will not be impacted by project construction.

L-20-24

Caltrans acknowledges that the soundwall in question (SW-508) is not recommended for construction due to sight distance issues. The new retaining walls that would be constructed under the build alternatives from eastbound Imperial Highway transition to the southbound I-710 on-ramp would block much of the traffic noise to the adjacent residential area. The retaining walls would provide a noise reduction of up to 7 dBA from future worst-hour noise levels, and as such, it would be difficult for SW-508 to meet the acoustical design goal of providing a 7 dBA noise reduction to at least one receptor, as is required by the Caltrans Traffic Noise Analysis Protocol. In addition, if SW-508 were constructed on a different alignment in order to avoid the sight distance issue as suggested in this comment, it would not be deemed cost-reasonable. As it was proposed, SW-508 was positioned on the edge of shoulder along eastbound Imperial Highway transitioning to the southbound I-710 on-ramp,and would cost approximately $540,000 to construct. The maximum allowable cost at that location is $560,000. Any additional widening under the build alternatives at this location to shift the alignment would exceed the maximum allowable cost, thereby deeming the wall not cost-reasonable.

L-20-25

In response to this comment, these areas were reexamined. It was determined that Marco Antonio Firebaugh High School does have exterior areas of frequent human use: a student gathering area in between the two-story classroom buildings, and the playground area along Wright Rd. Both of these areas were modeled using TNM to determine if noise impacts would

occur under the build alternatives. Under Alternative 7, the modeling results determined that the predicted worst-hour noise levels would be 59 dBA at the student gathering area, and 63 dBA at the playground area. It should be noted that each of these areas are below the 67 dBA threshold for considering noise abatement. Additionally, the predicted interior classroom noise level of 47 dBA under Alternative 7 would be below the threshold of 52 dBA. Therefore, no noise impacts would occur at this high school under either of the proposed build alternatives, and no noise abatement is considered. No similar area was identified at Vista High School.

L-20-26

A preliminary construction staging analysis for the build alternatives was provided in the Construction Staging Concepts Report, which was prepared as one of the supporting technical documents for the *Draft Project Report* (2017). The construction staging analysis preliminarily identifies the sequence of construction activities and ramp closures that would be necessary for the construction of the build alternatives. However, as stated in Response to Comment L-20-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no effects of short and long-term ramp closures during construction

L-20-27

Please refer to Response to Comment L-20-26 regarding construction staging of the build alternatives.

AL AUSTIN II
COUNCILMEMBER, EIGHTH DISTRICT
CITY OF LONG BEACH
CITY HALL: (562) 570-6685
DISTRICT OFFICE: 570-1326

October 23, 2017

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

The I-710 Corridor Project has been studied and discussed for the better part of two decades. Meanwhile, conditions on the I-710 are not getting any better, and the impacts on the adjacent neighborhoods continue.

The Ports of Long Beach and Los Angeles have taken significant steps to reduce harmful air emissions from the port complex. However, without improvements to the I-710 Freeway to address the serious congestion and safety issues, a major source of diesel particulate matter and other air toxins will continue unabated.

In addition, as a City Councilmember whose district is adjacent to the I-710, and as Immediate Past President of the Gateway Cities Council of Governments, I have seen the firsthand the critical role that the I-710 plays in the region's economy and our quality of life.

Easing the congestion and improving the safety on the I-710 is vital to the goods movement industry, as well as the economic vitality of Long Beach, serving as the gateway to major entertainment, tourism and jobs hubs for the region. The I-710 Corridor Project will also improve access to Uptown Long Beach neighborhoods and business corridors.

I appreciate the revisions that have been made to the project and to the project alternatives since the DEIR/DEIS was initially circulated in 2012. More has been done to address community health and benefits, and to utilize improving technology in near-zero and zero emissions. However, the City of Long Beach still has numerous technical comments and concerns submitted separately, including some that were initially raised in 2012, that I hope Caltrans will address in the Final EIR. L-21-1

It is important for this project to move forward in a timely fashion, especially given the funding sources that will be available for the project during the upcoming years. Therefore, I would like to state that I support Alternative 5C as the most responsible and prudent path to move forward for the I-710 Corridor. L-21-2

The I-710 Corridor Project Team has worked closely with the City of Long Beach throughout this process to reduce impacts (such as property acquisitions) and maximize benefits including safety, congestion relief, improvements to local streets and arterials, and providing better connections for bicycles and pedestrians.

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Among the reasons that Alternative 5C should be the preferred alternative:

- Alternative 5C will give the City of Long Beach an opportunity to improve traffic safety for residents and visitors to and from downtown Long Beach by providing resources to improve Shoemaker Bridge.

- Alternative 5C also requires the **least** amount of residential and property acquisitions in Long Beach, especially near the I-710/SR-91 interchange.

- There are other planning projects currently underway that will best be served by Alterntiave 5C. One such effort is the Lower LA River Revitalization Plan (LLARRP), for which I serve on the Working Group. One of the goals for the LLARRP is to improve access to the River, and increasing connections with neighborhoods to the west of the River and the 710 freeway. Two new pedestrian and bicycle bridges are planned as part of the 5C design at Spring Street and Hill Street. These will serve as important connections for communities that have been divided by the I-710 and the LA River, but they would not be feasible under Alternative 7. L-21-3

- Having the elevated truck lanes envisioned in Alternative 7, will have significant impacts on adjacent neighborhoods, including an additional visual impact.

- While the cost of the project will be a hurdle for completion in either case, the initial projected cost for Alternative 7 ($10 billion) is almost double the cost for Alternative 5C ($6 billion). If we are ever going to see the environmental, congestion and safety conditions on the 710 Freeway improve, we need to move this project forward and utilize funding that will be available to us in the near future.

Both alternatives will feature a community health and benefit program, an emphasis on zero and near-zero technology for trucks, active transportation improvements, public transit improvements consideration of public private partnerships. The Early Action Projects identified will also have more immediate impacts on the safety and quality of the 710 Corridor, thus making it more essential that the project move forward in a timely manner.

Thank you for the opportunity to comment on the RDEIR/SDEIS for the I-710 Corridor Project.

Sincerely,

Al Austin II
Councilmember, Eighth District
City of Long Beach

L-21-1

Caltrans and Metro thank the Councilmember for his appreciation regarding the revisions to the build alternatives since the circulation of the 2012 Draft EIR/EIS. The City of Long Beach provided comments on the RDEIR/SDEIS. Caltrans has addressed their comments and made revisions to the Final EIR/EIS where applicable. The comments on the RDEIR/SDEIS from the City of Long Beach and the responses can be found in this appendix as L-12 (City of Long Beach, Department of Parks, Recreation, and Marine) and L-27 (City of Long Beach, Department of Public Works).

L-21-2

The Councilmember's support for Alternative 5C as the most responsible and prudent path forward for the project is acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

L-21-3

The Councilmember's support for Alternative 5C and opposition to Alternative 7 is acknowledged and included in the project record.

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CITY OF BELL

October 23, 2017

Mr. Ronald Kosinski RK
Caltrans District 7,
Division of Environmental Planning
100 South Main Street, MS 164
Los Angeles, CA 90012
Email: 710eir@metro.net
Esubmission: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/

Subject: City of Bell Comments on the I-710 Corridor Project Recirculated Draft Environmental Impact Report/Environmental Impact Statement (RDEIR/RDEIS) and Section 4f Evaluation

Dear Mr. Kosinski:

The City of Bell would like to thank the State of California Department of Transportation (Caltrans) and Los Angeles County Metropolitan Transportation Authority (Metro) for the opportunity to review the Recirculated Draft Environmental Impact Report/Draft Environmental Impact Statement (RDEIR/RDEIS) for the I-710 Corridor Project. The City of Bell appreciates that Metro has taken the time to revise the project and prepare the RDEIR/RDEIS, based on comments received on the 2012 DEIR/DEIS for the Project.

In the City's September 27, 2012 comment letter on the original Draft Environmental Impact Statement/ Draft Environmental Impact Report (DEIS/DEIR) for the I-710 Corridor Project (Project), the City detailed the City's financial concerns and the fact that the City is a significantly disadvantaged community at risk for urban decay and underserved by community facilities. Those prior comments are incorporated herein by reference.[1] In that comment letter the City detailed the City's financial concerns and the fact that it was vitally important to the City's financial health that Project not place I-710 components on the City's prime developable properties.

[1] Appendix S, Letter L-17 of the RDEIR/RDEIS.

This comment letter discusses the degree to which the City's 2012 comments and concerns on the DEIS/DEIR have been addressed in the RDEIR/RDEIS. In addition, this comment letter discusses any new concerns raised by new Alternatives 5C and 7, and their variants, as analyzed in the RDEIR/RDEIS.

BACKGROUND

The City of Bell has a total land area of 2.81 square miles. The City of Bell consists of two district geographic areas that are connected by the Los Angeles River and the Long Beach Freeway (I-710): the *Central City* and the *Cheli Industrial Area*. The southerly portion of the City is commonly referred to as the *Central City,* which includes the residential neighborhoods and the local commercial districts. The Central City area is generally bounded by Randolph Street on the north and Florence Avenue on the south. Commercial development is concentrated along the City's major thoroughfares that include Florence Avenue, Gage Avenue, and Atlantic Avenue. The dominant commercial district and the source of recent development activity extend along the Atlantic Avenue corridor. The City's traditional downtown or *central business district* extends along Gage Avenue between Atlantic Avenue and Otis Avenue. Mixed commercial and residential uses are found along Florence Avenue in the southernmost portion of the City. A small industrial area is located along Salt Lake Avenue, at the western edge of the Central City. The second, northern portion of the City is located to the north of the Central City area and east of the Los Angeles River and the Long Beach Freeway. This area is largely industrial in character and is referred to as the Cheli Industrial area. The Federal government owns a large portion of the Cheli Industrial area. Land devoted to industrial uses account for approximately 390 acres or 21.7 percent of the City's total land area. These parcels have a combined area of approximately 151 acres and include properties located adjacent to the I-710 freeway and north and south of Bandini Boulevard. The properties south of Bandini Boulevard and along the I-710 Freeway were first developed during the Second World War as the Los Angeles Air Base. This area includes a National Guard facility, a Federally owned GSA land holding, and the Bell Salvation Army Shelter, which is the largest such facility west of the Mississippi River. Much of the Cheli Industrial area has undergone redevelopment in recent years with new business parks.

ISSUES OF CONCERN 2012 COMMENT LETTER

Economic Impact Analysis

In the City's prior comment letter (L-17-2), the City expressed concern regarding the loss of potential City income in the event that the project required full or partial acquisition of the following City-owned parcels on Rickenbacker Road:

- 6332-002-945,

- 6332-002-948,
- 6332-002-949,
- 6332-002-961,
- 6332-002-903, and
- 6332-002-965.

Based on the list of parcel acquisitions included as Appendix L – Parcel Acquisitions Under Alternative 5C and 7, to the RDEIR/RDEIS, it appears that neither Alternative 5C nor 7 would result in the full or partial taking of these parcels, or adjacent parcel 6332-002-962. Please confirm that these parcels would not be impacted by the Project. (Response to Comment L-17-2 only refers the reader to Section 3.3.2.3 of the RDEIR/RDEIS, but does not indicate how the City's concern over these parcels was addressed in the redesign. As a general rule it would be helpful if future responses to comments included a brief summary of how issues were resolved, rather than merely pointing the reader to large sections of the document to go looking for how a comment has been addressed.) L-22-1

If these parcels would no longer be impacted under Alternatives 5C and 7, then the City would like to thank Metro and Caltrans for addressing a major concern of the City with Alternatives 5C and 7.

Tax Revenue Loss Calculation (RDEIR/RDEIS)

Sales Tax - The RDEIR/RDEIS and Community Impact Assessment estimate that the City of Bell would experience a loss of $83,281 under Alternative 5C and $86,352 under Alternative 7. This was calculated by first calculating the average sales tax paid per businesses in the City and then applying this average figure to the number of businesses that would be relocated and potentially lost.

Does the sales tax analysis consider the short-term sales tax losses that will be experienced by traffic dependent businesses due to disruptions in traffic during Project construction, as requested in the City's 2012 comment L-17-17? As noted in Chart 4 of the City's 2012 comment letter, the loss of sales tax revenue during construction could be substantial. The RDEIR/RDEIS should address impacts revenue impacts during both construction and operation of the Project. L-22-2

Property Tax - The RDEIR/RDEIS and Community Impact Assessment estimate that the City of Bell will experience a loss of $16,835 in property taxes under Alternative 5C and $25,642 under Alternative 7 (see RDEIR/RDEIS p 3.3-71). However, the document fails to disclose how these figures were calculated. L-22-3

Please detail how this was calculated. Was this based on Bell's tax rate of 1.558% of which Bell receives 0.340413%?[2] L-22-3

It appears the RDEIR/RDEIS substantially underestimates the City's property tax loss. By way of illustration, the estimated property tax loss in the RDEIR/RDEIS is less than the calculation included in **Attachment 1** to this comment letter, which is based on the list of property acquisitions in Appendix L of the RDEIR/RDEIS. **Attachment 1** shows that the property tax loss to the City of Bell from Alternative 5C would be $146,572.84 per year from the full parcel acquisitions[3], based on the Los Angeles County Assessor's 2017 (current) Roll,[4] given the City of Bell's property tax recovery rate of 0.340413%. This amounts to a loss of approximately 1% of the City's annual property tax revenues, exclusive of any loss from partial acquisitions.[5] Please update the FEIR to provide more accurate information on the property tax impact of the proposed Project on the City of Bell for both Alternatives 5C and 7. L-22-4

In crosschecking the list of acquisitions in Appendix L against the list on pages 5.2-7 to 5.2-9 of the Community Impact Assessment technical report, there are differences in the two lists. For example, the Community Impact Assessment list shows 58 full or partial acquisitions for Alternative 5C; the Appendix L list shows 74 full and partial acquisitions. (See **Attachment 2**). Which of the two acquisition lists in the RDEIR/RDEIS is correct? Please provide an accurate list of the potential acquisitions in the City of Bell and a corresponding calculation of the property tax impacts for the two alternatives. Please revise the RDEIR/RDEIS as need to reflect the correct information. L-22-5

The RDEIR/RDEIS fails to provide any mitigation for this loss of tax revenue by the City. Decreases in the City's budget have the potential to result in physical changes to the environment over time. As a result, the Project should include mitigation for any loss of more than 1% of the property tax revenues for cities with a high environmental justice (low income minority) population. L-22-6

Need for More Detail

As noted by the City in 2012:

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[2] http://www.cityofbell.org/?NavID=292 The City of Bell rate of .340413% reflects payment for two levy bonds, the 2007 Measure A General Obligation Bond at a rate of .152859%, and the 2005 Bell Public Finance Authority Taxable Pension Revenue Bond at a rate of .187554.

[3] A number of the full parcel acquisitions involve Building 7 of the Cheli Industrial Park. A diagram of this building is provided in **Attachment 2**.

[4] The list of parcels in **Attachment 1** is RDEIR/RDEIS Appendix L. The land, improvement and total assessed values in Attachment 1 are from parcel searches conducted at: https://portal.assessor.lacounty.gov

[5] Based on the City's 2017/18 adopted budget which shows $14,372,320 in property tax revenues.

> Public participation is integral to CEQA analysis. Courts continually emphasize the importance of public participation to the EIR: "Environmental review derives its vitality from public participation." See, e.g., Ocean View Estates Homeowners Assn., Inc. v. Montecito Water Dist., 116 Cal. App.4th 396,400 (2004); "Comments are an integral part of the final] EIR." Sutter Sensible Planning, Inc. v. Board of Supervisors, 122 Cal. App. 3d 813, 820 (1981). Public review allows citizens affected by a project's ecological implications to assist in determining the project's direction. Schoen v. Department of Forestry & Fire Protection, 58 Cal. App. 4th 566, 573-574 (1997); Save Our Peninsula Committee v. Monterey County Bd. Of Supervisors, 87 Cal. App. 4th 99,133 (2001).
>
> An EIR/EIS is an informational document and "must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." Laurel Heights Improvement Assn. v. Regents of University of California, 47 Cal. 3d 376, 404- 405 (1988), Cal. Pub. Res. C.2106l. An agency's bare conclusions or opinions are continually found to be insufficient. See generally Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn., 42 Cal3d 929, 935 (1986); People v. County of Kern, 39 Cal. App. 3d 830, 841-842; Citizens for Quality Growth v. City of Mount Shasta, 198 Cal. App. 3d 433,441.

The RDEIR/RDEIS for the Project is not user-friendly because it is difficult for the reader to find community-specific information in the document to allow an understanding of how the Project will affect specific cities and populations, thus inhibiting public participation in the environmental process. The RDEIR/RDEIS is 1,817 pages in length.[6] In addition, there are 21 Appendices to the document and 28 technical studies that are listed on the Department of Transportation's website.[7] The Study Area includes the portion of the I-710 Corridor from Ocean Boulevard in Long Beach to SR-60, a distance of approximately 19 miles and includes all or portions of the Ports, the Cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Lynwood, Maywood, Paramount, Signal Hill, South Gate, and Vernon, as well as unincorporated areas of Los Angeles County, including the communities of East Los Angeles, Boyle Heights, Wilmington, and San Pedro. L-22-7

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[6] (PDF length inclusive of cover, etc) http://www.dot.ca.gov/d7/env-docs/docs/RDEIR_SDEIS%20July%202017.pdf

[7] http://www.dot.ca.gov/d7/env-docs/docs/710corr-eir/

While the complexities of preparing an environmental document for a project of this magnitude are understandable, the RDEIR/RDEIS lacks the kind of clear summary typically included in CEQA documents, and the CEQA summary table included in the document is so summary as to be meaningless when it comes to understanding the specific impacts of the Project. While the Community Impact Assessment, which is one of the technical studies for the document, does provide some city-specific information, it does not address all of the CEQA issue areas. As written, the RDEIR/RDEIS makes it difficult for local jurisdictions to get a clear picture of how their individual cities would be impacted by the project, and the reader must go to Appendix F – Environmental Commitments Record, which contains the equivalent of a Mitigation Monitoring Plan to see the complete list of mitigation measures for the project in one place. It is unlikely that the public will be able to navigate the document to find this information of concern. L-22-8

As noted on page 7 of the RDEIR/RDEIS: "some of the project's pragmatic elements would not be implemented by Caltrans as the Lead Agency under CEQA and NEPA, but would instead by implemented by Metro or other public agencies with jurisdiction over a particular element." As stated on page 5.2-1 of the Community Impact Assessment: " . . adoption of one of the I-710 Corridor Project build alternative would require the City of Bell to amend its General Plan Land Use and Circulation Elements to reflect modifications to arterials, interchange modifications, and elimination of any land uses that may need to be acquired for the I-710 Corridor Project . . " Mitigation Measure LU-1 in fact requests that local jurisdictions update their General Plans accordingly. Since a number of the local jurisdictions along the alignment will need to take discretionary actions to implement portions of the project, it is important that the document be written in a way that facilitates it use by other jurisdictions for purposes of CEQA. L-22-9

As currently written it is difficult for cities to easily find a summary of the impacts that affect their communities, the applicable mitigation measures, and the level of significance after mitigation specific to their communities. In the Final EIR/EIS, please provide city-specific CEQA-style summary tables to facilitate a clear understanding of the impacts, and associated mitigations for each city along the alignment, and the processing of any Project required discretionary approvals by local cities along the alignment. L-22-10

In the City's 2012 comment letter (L-17-3), the City requested information on the construction impacts of all build alternatives on the City. Construction impacts should be included in the requested summary table. L-22-11

Florence Avenue

In the City's 2012 comment letter (L-17-3 and L-17-4), the City requested information on the land acquisitions at the intersection of Florence Avenue and Atlantic Avenue, including detail and with justifications on the exact lane configurations. The response to this comment directs the reader to Appendix O for geometric detail at this location, and Appendix L for a list of acquisitions resulting from the build alternatives, but fails to actually provide the requested information in a manner that puts the two piece of information together (parcel acquisitions and geometrics) and explains the justifications. It appears from the RDEIR/RDEIS that the Florence Avenue/Atlantic Avenue intersection is not affected by the proposed Project. Are any improvements planned at this intersection under Alternative 5C and 7? If so, please provide the requested information. L-22-12

Northern Terminus Alignment

Land Acquisition

The City of Bell appreciates efforts to reduce Project impacts to industrial land within the City. However, According to the Community Impact Assessment and RDEIR/RDEIS, Alternative 5C would still impact 47.21 acres within the City including 20.53 acres of industrial land and Alternative 7 would impact 66.49-66.60 acres including 37.72-37.83 acres of industrial land. Does this calculation include the effect of partial acquisitions? If not, the total impact on the City may be understated. L-22-13

As noted in the City's prior comment letter, any option selected should be thoroughly investigated to reduce the total land acquisition in the City of Bell industrial area, with consideration given to keeping large, economically viable pieces of land for future development. It is important that any remaining parcels have good traffic access point. Given the level of detail provided in the RDEIR/RDEIS, it is impossible to tell the impact of partial acquisitions on the City's Industrial Area, as no tentative limits for those acquisitions have been provided. Please provide information on the limits of the partial parcel acquisitions. L-22-14

Sleepy Lagoon Monument Area

The City of Bell is in the process of planning for a monument[8] to mark the site of Sleepy Lagoon. As explained on the City's flyer for the Sleepy Lagoon

[8] For more information on the City's efforts and Sleepy Lagoon, please listen to July 27, 2017 interview on KUCR Radio (88.3 FM) on the Sleepy Lagoon Monument Project available at: http://www.cityofbell.org/Home/Components/News/News/471/50

project (see **Attachment 4**)[9], in 1940 there was an area in East Los Angeles (now City of Bell) that contained a water reservoir nicknamed "Sleepy Lagoon." It was named "Sleepy Lagoon" after a popular song by the same name made famous by Glenn Miller and also Harry James' Orchestras. "It was in this location on August 2, 1942 that a young man named Jose Gallardo Diaz was allegedly murdered." "In response to the alleged murder, the media began a campaign calling for action against "zoot suiters" which led police on August 10 to conduct a roundup of 600 Latinos who were charged with suspicion of assault, armed robbery, and related offenses; 175 were eventually held for various crimes." "Despite one medical examiner stating that the injuries were consistent with being hit by a car, 20-year-old Henry Leyvas and 24 members of what the media termed "the 38th Street gang" were arrested for allegedly murdering Díaz." The case is considered a precursor to the Zoot Suit Riots of 1943. "In October 1944, the state Court of Appeals unanimously decided the evidence was not sufficient to sustain a guilty verdict." "It reversed the 12 defendants' convictions, in the case of People v Zammora 66 Cal.App.2d 166." "The appeals court also criticized the trial judge for his bias and mishandling of the case." "The 1979 play *Zoot Suit* and the 1981 movie *Zoot Suit* are loosely based on events surrounding the murder trial. In James Ellroy's novel *The Big Nowhere*, the Sleepy Lagoon murder plays a major role in the story."[10]

It appears from the maps in Appendix L (Sheet 32 of 35 and 30 of 36), that the Sleepy Lagoon area may be impacted by partial acquisitions under Alternatives 5C and 7. Please address any impacts to this potential historic site, and the City's Sleepy Lagoon Monument Project. Please work with the City to define the limits of the acquisitions so as to avoid this site. L-22-15

Disposition of Remnant Land

In the City's 2012 comments (L-17-4, L-17-7) the City requested that as part of mitigation for impacts, any remnant land should be offered to the City as partial compensation for the Project's negative economic (and community cohesion) impacts. In response the RDEIR/RDEIS indicates, "land not used for any highway purposes may be retained within the State right-of-way for possible future use or may be designated excess property and sold to other parties. If Caltrans determines that there are remnant parcels in the City of Bell that are not needed by Caltrans for State highway improvements, the City would have the opportunity to negotiate with Caltrans to transfer that property to the City of for the City to purchase those parcels." The opportunity to purchase is not mitigation. The EIS/EIR needs to include a mitigation measure specifying that L-22-16

[9] http://www.cityofbell.org/home/showdocument?id=9489

[10] https://en.wikipedia.org/wiki/Sleepy_Lagoon_murder

any remnant parcels designated excess property shall be offered, free of charge, to the City in which they are located. This will help to partially mitigate the economic and community cohesion impacts of the project. L-22-16

Impact to Bell Homeless Shelter

While the updated project design requires a smaller footprint in this area, the Project will still impact the Bell Homeless Shelter. As explained on page 151-152 of the City's Draft General Plan:

> The Salvation Army Bell Shelter opened in January 1988. The shelter is located in a converted 40,000 square-foot hangar formerly used as a U.S. Army Air Corp depot. The facility, the only one of its kind in the State, is designed to fulfill the objectives of the 1987 Stewart B. McKinney Homeless Assistance Act, which encouraged the use of vacant Federal facilities as homeless shelters. The Shelter, now the largest homeless shelter west of the Mississippi, operates a comprehensive program that offers transitional care for up to 350 homeless men and women. Services provided at the shelter include emergency housing, transitional housing, substance abuse rehabilitation, case management, counseling, on-site health care and medical referrals, HIV/AIDS education, ESL classes, computer training, vocational assistance, job referrals, and life skills classes. The Salvation Army Bell Shelter, in collaboration with the Los Angeles County Department of Mental Health and ENKI Health and Research Systems, Inc., developed a program to provide on-site assessment and treatment for homeless clients who are mentally ill or dual diagnosed with mental illness and substance abuse. Key elements of this program include the following:
>
> - Case Management in which all client's visit a case manager on a weekly basis;
> - Supportive and transitional housing services to assist with a client's reintegration into society;
> - Individual and group counseling including psychological services provided through a collaboration with ENKI mental health services;
> - The operation of a licensed, 128-bed, drug and alcohol program where clients receive treatment in a recovery center;
> - The operation of a *Back on Track* program where clients are able to address the emotional and psychological barriers that often prevent them from escaping homelessness;
> - Working with the legal system where alternate sentencing for non-violent offenders may be considered;

- Job search assistance to help homeless clients secure meaningful employment;
- The *Homeless Veterans Reintegration Program* provides employment assistance for homeless veterans;
- On-site adult education classes, offered through the Los Angeles Unified School District, to lead to a General Education Diploma (GED), computer competency, HIV/AIDS awareness, and/or a security guard certificate; and,
- Mobile medial services are provided to all clients at the Bell Shelter, three or four times per week.

The Bell Shelter is thus a unique and important community service. According to page 3.3-144 of the RDEIR/RDEIS:

> Under Alternative 5C, the Bell Shelter facility would be avoided, but the Mark Taper Foundation Shelter Resource Bank (a nearby facility at the same street address that is owned by the Shelter Partnership and whose operations are interrelated with those of the Bell Shelter) would be partially acquired. Alternative 7 would require a partial acquisition of the Bell Shelter, and a full acquisition and relocation of . . . the Resource Bank . . . In addition, the relocation or disruption of operations at the Resource Bank would also have indirect impacts to the operations of the Bell Shelter. The RIR recognizes that relocation of any of the above facilities would be difficult and does not identify specific locations for the relocation of these facilities.

To address the impact to the Bell Shelter, the RDEIR/RDEIS includes Mitigation Measure C-4 that provides:

> During final design, and consistent with the requirements of the Uniform Act, Caltrans shall negotiate with the City of Bell to determine appropriate action and/or identify an alternative location for the Bell Shelter/Resource Bank within the general vicinity of the existing facility so as to maintain the service area and its cooperative relationship with the Bell Shelter and mitigate for the acquisition of the center. The existing center shall not be demolished until the facility has been relocated and is operational.

The RDEIR/RDEIS needs to demonstrate that mitigation is feasible and the full range of services provided by the Bell Shelter will still be provided following L-22-17

implementation of Measure C-4 [11] As quoted above, the RDEIR/RDEIS acknowledges that the: "RIR recognizes that relocation of any of the above facilities would be difficult and does not identify specific locations for the relocation of these facilities." The conclusion on page 4-45 that: "Measures C-1 through C-4 are identified to address acquisition and relocation impacts of the build alternatives. With implementation of these measures, impacts would be less than significant" is not supported by substantial evidence. In the absence of a showing that Measure C-4 is feasible, the Project would result in a significant unmitigated public service impact and additional mitigation for at-risk populations would be required. L-22-17

Noise

Why are there no locations in the City of Bell included on Table 3.14-2 Traffic Noise Level Measurements and Modeling Results? Please identify any areas within City where noise mitigation was identified as necessary, but not provided due to feasibility. L-22-18

Overall

Effectiveness of Relocation Mitigations

The response to comment L-17-11 states: As stated in Section 3.3.2.3, it is the goal of the project to relocate any impacted businesses within their existing communities; therefore losses of productive businesses would not be an irreversible effect of the proposed project."

The RDEIR/RDEIS needs to address whether and to what degree relocations of businesses within their existing communities is feasible. Given the degree to which the City of Bell is already built out and the acreage of land to be lost as a result of the Project, how many of the 27 businesses (170 employees) under Alternative 5C or 28 businesses (175 employees) under Alternative 7 that would be relocated would likely be relocated within the City? Relocations outside the City would be an irreversible effect of the proposed Project and should be identified as such. L-22-19

How will the Mitigation Measure C-1 insure that Bell businesses that are dislocated by the Project will be relocated within the City? As written, the mitigation does not include specific actions for ensuring local relocation. The L-22-20

[11] It should be noted that the 5600 Rickenbacker Road parcels (6332-002-035 and parcel 6332-002-036 which is now 6332-002-090 and 6332-002-091) have a 2017 assessed value of $7,396,030, $35,845,364 and 2,082,667 respectively. The market and social service value is clearly much higher. This further illustrates the potential difficulty of relocation.

mitigation should include specific actions that are likely to increase the likelihood of relocation within the City. How will the result of efforts to encourage local relocation be both quantifiable and verifiable? L-22-20

Parking Restrictions

As noted in City comment L-17-15:

> Parking restrictions are also proposed on Atlantic Boulevard during peak periods (6 A.M. to 9 A.M., 4 P.M., and 7 P.M.) to increase traffic capacity by one lane in each direction. . . It should be noted that imposing parking restrictions on Atlantic Boulevard during peak hours could have a significant impact on traffic-dependent businesses with a lack of off-street parking available to accommodate patrons.

The updated analysis of effects of peak-hour parking restrictions on Atlantic Boulevard is located on page 3.5-90 to 3.5.91 of RDEIR/RDEIS. According to the Community Impact Assessment (page 5.2-20) approximately 110 currently available parking spaces would be eliminated along northbound and southbound Atlantic Boulevard in the City of Bell. Page 3.5-90 of the RDEIR/RDEIS states that "Although some drivers may alter their behaviors and schedules to avoid the time-of-day parking restrictions, much of the parking demand is expected to be absorbed in off-street parking areas for uses that generate the parking demand and in nearby available on-street parking areas."

The DEIS/DEIR should provide a detailed analysis of whether there is sufficient on and off-street parking in the City of Bell in the vicinity of the Atlantic Boulevard businesses to accommodate the lost parking and identify any long-term financial impacts to businesses as well as to the City as a result of parking restrictions imposed on Atlantic Boulevard. These businesses primarily serve minorities and may be owned by minorities. To the degree that loss of parking impacts the economic viability of businesses along Atlantic Boulevard, indirect environmental impacts could occur. To the degree that impacts to businesses affect minority and low-income populations, environmental justice impacts would occur. Where the economic or social changes of a project have secondary environmental consequences, an agency must consider those consequences. (Citizens Assn. for Sensible Development of Bishop Area v. County of Inyo, (1985) I72 Cal.App.3d 151. Where there are secondary or indirect environmental consequences from a project's social or economic impacts, those impacts must be considered. Indirect environmental consequences are not necessarily insignificant solely because they are derived from economic or social changes. (Id. at 170). L-22-21

2017 RDEIR/RDEIS

Environmental Justice

According to page 3.3-144 of the RDEIR/RDEIS:

> Two social-service locations would be adversely affected by one or both of the project alternatives: the Bell Shelter, the S. Mark Taper Foundation Shelter Resource Bank, and the Long Beach Multi-Service Center. Under Alternative 5C, the Bell Shelter facility would be avoided, but the Mark Taper Foundation Shelter Resource Bank (a nearby facility at the same street address that is owned by the Shelter Partnership and whose operations are interrelated with those of the Bell Shelter) would be partially acquired. Alternative 7 would require a partial acquisition of the Bell Shelter, and a full acquisition and relocation of both the Resource Bank and the Long Beach Multi-Service Center. In addition, the relocation or disruption of operations at the Resource Bank would also have indirect impacts to the operations of the Bell Shelter. The RIR recognizes that relocation of any of the above facilities would be difficult and does not identify specific locations for the relocation of these facilities. The Bell Shelter and Resource Center are located in a census tract that exceeds the Los Angeles County average percentage for both minority and low-income, and while the Long Beach Multi-Service Center is not, both facilities serve minority and low-income residents, as well as other vulnerable and disadvantaged populations. Although these impacts would be predominantly borne by environmental justice populations, with application of standard mitigation via the Uniform Act, these impacts would not represent a disproportionate adverse impact to environmental justice communities.

As previously discussed, the RDEIR/RDEIS has not shown that mitigation Measure C-4 is feasible. The RDEIR/RDEIS has failed to provide substantial evidence that the impacts to environmental justice communities in general, and environmental justice communities within the City of Bell are mitigated to a less than significant. The potential for significant unmitigated impacts remains. L-22-22

Mitigation Measure C-7 is intended to address impacts to environmental justice populations:

> **C-7** To address disproportionate impacts to environmental justice populations with regards to air quality, traffic, visual impacts, and land use/parks and recreation, funding will be provided to local

> jurisdictions for targeted improvements that would improve air quality and public health, reduce traffic congestion, provide aesthetic/visual enhancements, and improve parks and recreation. These improvements must be made within the United States Census Bureau census tracts adjacent to the I-710 freeway that have been identified as having a high percentage of minority and/or low income populations compared to the County of Los Angeles. These targeted improvements may include, but are not limited to, air filtration systems installation or upgrade, urban art installations and community events, landscaping, traffic calming measures, pedestrian/bicycle enhancement measures, and development of pocket parks or other park space. Funding for these targeted improvements will be made in the amount of up to 1 percent of the capital construction cost for either of the build alternatives. This funding will be provided through a funding agreement between the Los Angeles County Metropolitan Transportation Authority (Metro), Caltrans, and the affected local jurisdiction upon the commencement of construction within the limits of that local jurisdiction (in the event of staged construction).

The mitigation should include a mechanism for ensuring that funding is appropriately allocated between environmental justice communities. L-22-23

Community Cohesion Impact

According to the Community Impact Analysis the proposed Project would:[12]

- **Central City** – "While the I-710 Corridor Project build alternatives ***would not directly impact the majority*** of this planning area, improvements would be made to the I-710/Florence Ave. local interchange."

- **Cheli Industrial Area** – "The I-710 Corridor Project build alternatives would modify circulation within parts of this planning area (i.e. modifications to railroad line connections and the new, realigned configuration of the Atlantic Blvd./Bandini Blvd./710 interchange). In addition, Alternatives 5C and 7 require several property acquisitions, including several industrial uses, and non-profit organizations in this planning area."

Please provide specific information on the acreage of each of these areas impacted, including the specific industrial uses and non-profit organizations impacted and the nature and magnitude of the impact. What is meant by "not L-22-24

[12] Community Impact Assessment page 5.2-2.

directly impact the majority" of the Central City planning area? How much of the planning area is actually impacted and in what way? L-22-24

According to page 11 of the RDEIR/RDEIS:

- Community Cohesion Impacts – "community cohesion impacts do occur at a localized level within the Cities of Long Beach, Bell, and Commerce due to relocations of existing cohesive communities or vital community facilities under Alternative 7. Mitigation for relocations within these communities is provided through implementation of Mitigation Measure C-1 described in Section 3.3.2.4. However, as a result of the relocations of residents . . . and businesses, and/or vital community facilities under Alternative 7, localized areas within the Cities of Long Beach, Bell, and Commerce would experience adverse impacts to community cohesion as a result of these relocations."

According to the Community Impact Assessment,[13] which is one of the many technical studies for the RDEIR/RDEIS, Alternative 5C will impact 47.21 acres within the City including:

- 20.53 acres of industrial land,
- 2.87 acres of commercial and services,
- 12 acres of transportation facilities and utilities,
- 11.60 acres of military installations
- and 0.02 acres of facilities and general office.
- Require 41 full and nine partial commercial/industrial parcel acquisitions,
- one partial residential parcel acquisition,
- one full and two partial railroad parcel acquisitions,
- one partial public parcel acquisition,
- one partial flood control parcel acquisition, and
- two partial utility parcel acquisitions.
- Option 1A would also require one partial public parcel acquisitions.
- 27 business relocations.
- An estimated 170 employees would be displaced.
- The Bell Shelter facility would be avoided, but the Mark Taper Foundation Shelter Resource Bank (a nearby facility at the same street address that is owned by the Shelter Partnership and whose operations are interrelated with those of the Bell Shelter) would be partially acquired.[14]

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[13] Community Impact Assessment Interstate 710 Corridor Project Ocean Boulevard to State Route 60 07-LA-710-PM 5.4/24.5 EA 249900 WBS ID: 165.10.15 (Second Revised Final Report, July 2017), page 5.2-2 -5.2-19

[14] Page 3.3-144 of the RDEIS/DEIR

Alternative 7 will impact 66.49-66.60 acres including:

- 37.72-37.83 acres of industrial land,
- 2.91 acres of commercial and services,
- 13.69 acres of transportation facilities and utilities,
- 11.85 acres of military installations,
- and 0.02 acres of facilities and general office.
- Require 42 full and seven partial commercial/industrial parcel acquisitions,
- one partial residential parcel acquisition,
- two full and one partial railroad parcel acquisitions,
- two partial public parcel acquisition, and
- two partial utility parcel acquisitions.
- 28 business relocations.
- Displacement of an estimated 175 employees.
- Alternative 7 would require a partial acquisition of the Bell Shelter, and a full acquisition and relocation of the Mark Taper Foundation Shelter Resource Bank. In addition, the relocation or disruption of operations at the Resource Bank would also have indirect impacts to the operations of the Bell Shelter.

As noted on page 5.2-4 of the Community Impact Assessment, the City of Bell currently has a high degree of community cohesion. The Community Impact Assessment concludes on page 5.2-5 that Alternative 5C "would not create a barrier or disrupt connectivity of the community as a result of property acquisitions" but that the "City of Bell would experience adverse impacts to community character and cohesion as a result of relocations of businesses and vital community facilities under Alternative 7" (see page 5.2-6). Please provide a more detailed and clearer explanation for why 47.21 acres of effect doesn't result in community cohesion impact under Alternative 5C, when 66.49-66.60 acres under Alternative 7 does. The RDEIR/RDEIS should be corrected to identify both alternatives as resulting in community character and cohesion impacts and to provide clear City of Bell-specific mitigation for these impacts. L-22-25

Cost of Mitigation LU-1

Mitigation LU-1 states:

> Following approval of the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Interstate 710 (I-710) Corridor Project and filing of a Notice of Determination with the State Clearinghouse, the California Department of Transportation (Caltrans) shall request that the affected Cities and the County to amend their respective General Plans to reflect the

> final alignment, interchange locations, and modification of land use designations for properties that would be acquired for the project, during the next cycle of amendments to each local jurisdiction's General Plan Circulation and Land Use Elements. The timing of the preparation and processing of such General Plan amendments will be at the discretion of each local jurisdiction. Caltrans will also initiate amendments to existing freeway agreements with cities where the build alternatives would add or remove access to I-710 or Interstate 405 (I-405).

The City is currently in the process of updating the General Plan. The City of Bell General Plan was last updated in the mid-1990s. Updating a General Plan is a costly effort, and the Project should include provisions for assisting jurisdictions that have updated their General Plan within four years of project adoption, with the cost of updates necessitated by the proposed project. L-22-26

TRAFFIC

Several of the Tables in both the TIA and TOAR do not list intersections numbered in the 200s. Information on these intersections is provided in the associated Figures but nothing is found in the Tables. This error/omission needs to be addressed. L-22-27

CONSTRUCTION IMPACTS

The RDEIR/RDEIS need to include a more comprehensive analysis of the potential impacts to arterials during project construction and anticipated truck routes when I-710 freeway traffic is diverted to surface streets during construction. It is important that mitigation to fix arterials impacted by truck traffic during construction is sufficient to meet anticipated costs and that provisions are made for providing local jurisdictions with money to address roadway impacts. L-22-28

CEQA

Is there a summary in the document that compares the degree to which the alternatives meet the project objective identified on page 1-40? L-22-29

Table 2.5-1 should include any discretionary actions required by local jurisdictions as part of project or mitigation implementation. L-22-30

NEED TO ACCELLERATE THE PROJECT

The RDEIR/RDEIS should address the timing of the proposed project as it relates to the continued growth of port traffic. Given the growth in port traffic, the Project timeline should be accelerated. L-22-31

SUMMARY

In summary, the City of Bell is supportive of the Project goals and efforts to address regional needs that are represented by the 710 Project. We appreciate efforts to reduce impacts to the City of Bell, and will continue to work with Caltrans and Metro to further reduce impacts to the City, its residents, and environmental justice communities and to make the document more accessible to the public. L-22-32

Respectfully Submitted,

Howard W. Brown, Jr., ICMA-CM
City Manager

Attachments:

1 Estimate Of Property Tax Impacts To City Of Bell Alternative 5C From Full Acquisitions With Relocation (Based On Appendix L)

2 Diagram Building 7 Cheli Industrial Condominiums

3 Comparison of Parcel Acquisitions Lists Alternative 5C Community Impact Assessment vs. Appendix L

4 City of Bell Sleepy Lagoon Monument Project

C: Honorable Mayor and City Council
Mr. Greg Tsujiuchi, Acting Community Development Director
Mr. Bill Pagett, PE, City Engineer – Willdan Engineering, Inc.

ATTACHMENT 1
ESTIMATE OF PROPERTY TAX IMPACTS
TO CITY OF BELL
ALTERNATIVE 5C
FROM FULL ACQUISITIONS WITH RELOCATION
(Based on Appendix L)

ALTERNATIVE 5C - PROPERTY TAX LOSS - CITY OF BELL
FROM FULL ACQUISITIONS WITH DISPLACEMENT - DOES NOT INCLUDE EFFECT OF PARTIAL ACQUISITIONS

AIN	2017 ASSESSORS ROLL VALUE: LAND	IMPROVEMENTS	TOTAL	BELL PROPERTY TAX RATE = 0.00340413	Address, City, Designation, Acquisition, Displacement		
6226-005-011					_ _ _ _ FLORENCE AVE BELL CA Residential Partial N		
6226-005-900					5162 FLORENCE AVE BELL CA Residential Partial N		
6226-005-902					5220 FLORENCE AVE BELL CA Commercial Partial N		
6226-033-002	540,317	1,080,642	1,620,959	$5,517.96	5427 CLARA ST BELL CA Industrial Full Y		
6226-033-270					LADWP BELL CA Miscellaneous Partial N		
6226-033-900					LA RIVER BELL CA Miscellaneous Easement N		
6226-034-002	675,398	675,398	1,350,796	$4,598.29	5427 CLARA ST BELL CA Industrial Full Y		
6226-034-270					LADWP BELL CA Miscellaneous Partial N		
6314-033-800					RAIL OPS BELL CA Miscellaneous Full N		
6314-034-272					BELL CA Industrial Easement N		
6314-034-803					BELL CA Miscellaneous Easement N		
6315-014-803					RAIL OPS BELL CA Miscellaneous Easement N		
6315-031-001					BELL CA Industrial Partial N		
6315-031-002					BELL CA Industrial Partial N		
6315-031-271					BELL CA Industrial Easement N		
6315-031-272					LADWP BELL CA Miscellaneous Easement N		
6315-031-800					RAIL OPS BELL CA Miscellaneous Easement N		
6315-031-803					RAIL OPS BELL CA Miscellaneous Easement N		
6315-031-903					BELL CA Miscellaneous Easement N		
6327-034-906					5241 FLORENCE AVE BELL CA Residential Easement N		
6327-039-001	100,324	557,708	658,032	$2,240.03	5412 GAGE AVE BELL CA Industrial Full Y		
6327-039-270					LADWP BELL CA Miscellaneous Partial N		
6327-039-900					LA RIVER BELL CA Miscellaneous Easement N		
6327-039-901					LA RIVER BELL CA Miscellaneous Partial N		
6328-005-270					BELL CA Miscellaneous Partial N		
6328-015-057					_ _ _ _ EASTERN AVE BELL CA Commercial Partial N		
6328-017-069					BELL CA Miscellaneous Partial N		
6332-002-020					5400 LINDBERGH LN BELL CA Industrial Partial N		
6332-002-021	6,566,780	7,911,118	14,477,898	$49,284.65	5350 LINDBERGH LN BELL CA Industrial Full Y		
6332-002-035					5600 RICKENBACKER RD BELL CA Industrial Partial N		sf unit
6332-002-036					5600 RICKENBACKER RD BELL CA Industrial Partial N		
6332-002-039	610,000	1,465,000	2,075,000	$7,063.57	5300 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	19051
6332-002-040	110,000	265,000	375,000	$1,276.55	5300 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-041	152,098	197,728	349,826	$1,190.85	5304 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	5700
6332-002-042	152,098	197,728	349,826	$1,190.85	5304 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-043	106,103	245,098	351,201	$1,195.53	5306 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	8640
6332-002-044	106,103	245,098	351,201	$1,195.53	5306 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-045	106,103	245,098	351,201	$1,195.53	5306 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	
6332-002-046	149,119	217,673	366,792	$1,248.61	5310 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	14400

ALTERNATIVE 5C - PROPERTY TAX LOSS - CITY OF BELL
FROM FULL ACQUISITIONS WITH DISPLACEMENT - DOES NOT INCLUDE EFFECT OF PARTIAL ACQUISITIONS

AIN	2017 ASSESSORS ROLL VALUE: LAND	IMPROVEMENTS	TOTAL	BELL PROPERTY TAX RATE = 0.00340413	Address, City, Designation, Acquisition, Displacement		
6332-002-047	149,119	217,673	366,792	$1,248.61	5310 LINDBERGH LN BELL CA Industrial Full Y	Cheli Industrial Condominiums	
6332-002-048	149,119	217,673	366,792	$1,248.61	5310 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-049	149,119	217,673	366,792	$1,248.61	5310 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	
6332-002-050	149,119	217,673	366,792	$1,248.61	5310 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-051	105,624	243,992	349,616	$1,190.14	5314 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	8640
6332-002-052	105,624	243,992	349,616	$1,190.14	5314 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-053	105,624	243,992	349,616	$1,190.14	5314 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	
6332-002-054	76,393	259,688	336,081	$1,144.06	5316 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	11520
6332-002-055	76,393	259,688	336,081	$1,144.06	5316 LINDBERGH LN BELL CA Industrial Full Y	Cheli Industrial Condominiums	
6332-002-056	76,393	259,688	336,081	$1,144.06	5316 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-057	76,393	259,688	336,081	$1,144.06	5316 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	
6332-002-058	143,506	222,103	365,609	$1,244.58	5318 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	5760
6332-002-059	143,506	222,103	365,609	$1,244.58	5318 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	
6332-002-060	143,506	222,103	365,609	$1,244.58	5330 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	9640
6332-002-061	143,506	222,103	365,609	$1,244.58	5330 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	
6332-002-062	143,506	222,103	365,609	$1,244.58	5330 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-063	108,225	250,217	358,442	$1,220.18	5336 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	5760
6332-002-064	108,225	250,217	358,442	$1,220.18	5336 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-067	107,735	249,409	357,144	$1,215.76	5340 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	5760
6332-002-068	107,735	249,409	357,144	$1,215.76	5340 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-069	357,144	220,780	364,286	$1,240.08	5344 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	9640
6332-002-070	357,144	220,780	364,286	$1,240.08	5344 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-071	357,144	220,780	364,286	$1,240.08	5344 LINDBERGH LANE BELL CA Industrial Full Y	Cheli Industrial Condominiums	11610
6332-002-072	654,870	853,445	1,508,315	$5,134.50	4348 LINDBERGH LANE BELL CA Industrial Full Y	Building 7	
6332-002-077					5553 BANDINI BLVD┬á BELL CA Industrial Partial N		
6332-002-078					5553 BANDINI BLVD┬á BELL CA Industrial Partial N		
6332-002-081					5391 RICKENBACKER RD BELL CA Miscellaneous Partial N		
6332-002-086	4,300,587	6,358,307	10,658,894	$36,284.26	5390 RICKENBACKER RD BELL CA Industrial Full Y		
6332-002-089					BELL CA Miscellaneous Partial Y		
6332-002-800					RAIL OPS BELL CA Miscellaneous Partial N		
6332-002-805					BELL CA Miscellaneous Partial N		
6332-002-920	0	0	0		5300 BANDINI BLVD BELL CA Miscellaneous Full Y		
6332-002-934					____ BANDINI BLVD BELL CA Miscellaneous Full N		
6332-002-966					5500 RICKENBACKER RD BELL CA Miscellaneous Partial N		
6332-014-813					RAIL OPS BELL CA Miscellaneous Easement N		

TOTAL (CITY PROPERTY TAX) **$146,572.84**

ATTACHMENT 2
BUILDING 7 CHELI INDUSTRIAL CONDOMINIUMS

Source: http://chelidistributionpark.com/files/Cheli%20Ind%20%20Condos%20-%20Building%207.pdf

For Sale
INDUSTRIAL CONDOMINIUMS

Cheli **Distribution Park**

BELL • CALIFORNIA



Cheli Industrial Condominiums - Building 7

BUILDING 7



Building #7: 5300-5348 Lindbergh Lane

	Size	Price/PSF
~~5300 Lindbergh Lane~~	~~13,051~~	~~$125~~ SOLD!
~~5304 Lindbergh Lane~~	~~5,760~~	~~$150~~ SOLD!
~~5306 Lindbergh Lane~~	~~8,640~~	~~$146~~ SOLD!
5310 Lindbergh Lane	14,400	$133
~~5314 Lindbergh Lane~~	~~8,640~~	~~$146~~ SOLD!
~~5316 Lindbergh Lane~~	~~11,520~~	~~$142~~ SOLD!
~~5318 Lindbergh Lane~~	~~5,760~~	~~$150~~ SOLD!

A ddress	Size	Price/PSF
~~5330 Lindbergh Lane~~	~~8,640~~	~~$146~~ SOLD!
~~5336 Lindbergh Lane~~	~~5,760~~	~~$150~~ SOLD!
~~5338 Lindbergh Lane~~	~~5,760~~	~~$150~~ SOLD!
~~5340 Lindbergh Lane~~	~~5,760~~	~~$150~~ SOLD!
~~5344 Lindbergh Lane~~	~~8,640~~	~~$146~~ SOLD!
~~5348 Lindbergh Lane~~	~~11,613~~	~~$149~~ SOLD!

* Units May be Combined

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ATTACHMENT 3
COMPARISON OF PARCEL ACQUISITIONS LISTS
ALTERNATIVE 5C
COMMUNITY IMPACT ASSESSMENT VS. APPENDIX L

Comparison of List of Full and Partial Acquisitions
Alternative 5C

Community Impact Assess. AIN	Appendix L AIN
6226005011	6226-005-011
	6226-005-900
6226005902	6226-005-902
6226033002	6226-033-002
6226033270	6226-033-270
	6226-033-900
6226034002	6226-034-002
	6226-034-270
6314033800	6314-033-800
	6314-034-272
	6314-034-803
	6315-014-803
	6315-031-001
	6315-031-002
	6315-031-271
	6315-031-272
	6315-031-800
	6315-031-803
	6315-031-903
	6327-034-906
6327039001	6327-039-001
6327039270	6327-039-270
	6327-039-900
6327039901	6327-039-901
	6328-005-270
6328015057	6328-015-057
	6328-017-069
6332002020	6332-002-020
6332002021	6332-002-021
6332002035	6332-002-035
6332002036	6332-002-036
6332002039	6332-002-039
6332002040	6332-002-040
6332002041	6332-002-041
6332002042	6332-002-042
6332002043	6332-002-043
6332002044	6332-002-044
6332002045	6332-002-045
6332002046	6332-002-046
6332002047	6332-002-047
6332002048	6332-002-048
6332002049	6332-002-049
6332002050	6332-002-050

Comparison of List of Full and Partial Acquisitions
Alternative 5C

Community Impact Assess. AIN	Appendix L AIN
6332002051	6332-002-051
6332002052	6332-002-052
6332002053	6332-002-053
6332002054	6332-002-054
6332002055	6332-002-055
6332002056	6332-002-056
6332002057	6332-002-057
6332002058	6332-002-058
6332002059	6332-002-059
6332002060	6332-002-060
6332002061	6332-002-061
6332002062	6332-002-062
6332002063	6332-002-063
6332002064	6332-002-064
6332002065	
6332002066	
6332002067	6332-002-067
6332002068	6332-002-068
6332002069	6332-002-069
6332002070	6332-002-070
6332002071	6332-002-071
6332002072	6332-002-072
6332002077	6332-002-077
6332002078	6332-002-078
6332002081	6332-002-081
6332002086	6332-002-086
6332002089	6332-002-089
6332002800	6332-002-800
6332002805	6332-002-805
6332002920	6332-002-920
6332002934	6332-002-934
6332002966	6332-002-966
	6332-014-813

Indicates Full Acquisition

ATTACHMENT 4
CITY OF BELL SLEEPY LAGOON MONUMENT PROJECT

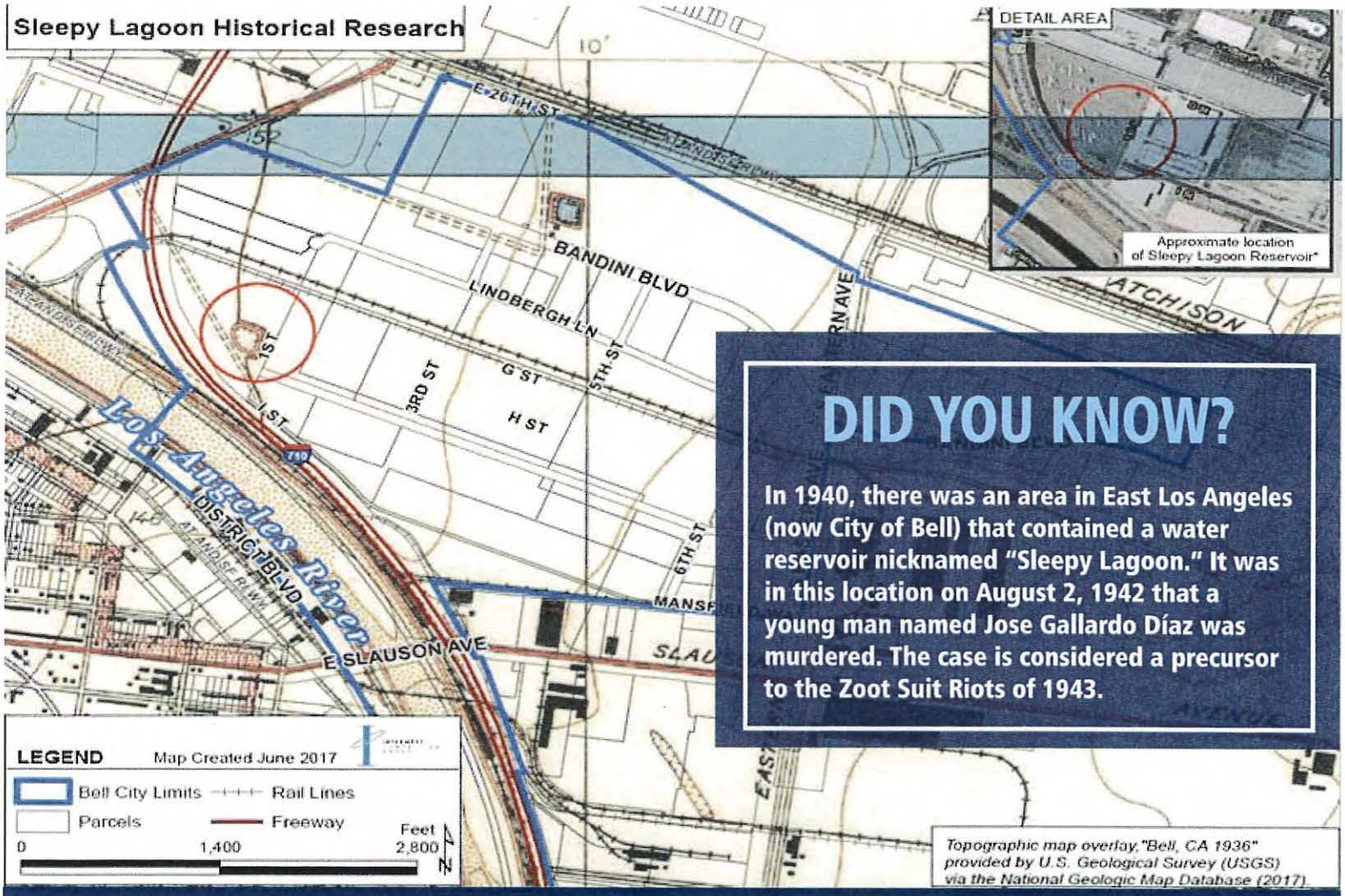
CITY of BELL

SLEEPY LAGOON MONUMENT PROJECT

WE NEED YOUR INPUT!

The City of Bell wants to construct a monument commemorating the Sleepy Lagoon and is seeking public input on what the monument should look like.

Please join us at our next City Council Meeting at the Bell Community Center located at 6250 Pine Ave. on Wednesday, August 9, 2017 at 7:00pm to discuss the project



DID YOU KNOW?

In 1940, there was an area in East Los Angeles (now City of Bell) that contained a water reservoir nicknamed "Sleepy Lagoon." It was in this location on August 2, 1942 that a young man named Jose Gallardo Díaz was murdered. The case is considered a precursor to the Zoot Suit Riots of 1943.

Mayor
Fidencio Joel Gallardo

Vice Mayor
Ana Maria Quintana

Councilmember
Alicia Romero

Councilmember
Ali Saleh

Councilmember
Nestor Enrique Valencia

L-22-1

Caltrans and Metro thank the City for its comment. The City's request to verify that under Alternatives 5C and 7, no full or partial acquisitions would occur to City-owned parcels 6332-002-945, 948, 949, 961, 903, and 965 is acknowledged and included in the project record. The referenced parcels are not included in Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, which verifies that they are not impacted under either of the build alternatives. The No Build Alternative has been identified as the Preferred Alternative.

L-22-2

It is difficult to quantify the short-term sales tax losses for individual businesses due to construction of the build alternatives because of a number of variables that must be considered such as whether the business is dependent upon traffic passing by for sales, how access to the business would be affected (if at all), and whether sales at some businesses would be increased by patronage from construction workers during the construction period. The RDEIR/RDEIS and this Final EIR/EIS does address permanent tax revenue impacts of the build alternatives (refer to Table 3.3-15 in Section 3.3). Should a build alternative be selected as the Preferred Alternative, the preparation of a TMP (Measure CON-TR-1) prior to the start of construction would help maintain the access and visibility of local businesses along roadways temporarily impacted by construction. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will not be short-term sales tax losses or access issues due to construction within the City of Bell. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

L-22-3

The property tax losses from the build alternatives were calculated based on each city's share of the 1 percent basic property tax levy based on the assessed values in Fiscal Year 2013-14 (Bell's share of the 1 percent levy in that year was 0.053662 percent). The property tax losses were then compared against each city's total annual property tax revenue, as reported in the annual Comprehensive Annual Financial Report (CAFR) or Financial Report for Fiscal Year 2013–2014. The property tax loss analysis did not consider potential losses related to bonds or other special assessments. This likely explains the substantial disparity between the property tax losses identified in the RDEIR/SDEIS and the City of Bell's estimates. For consistency of comparison between cities within the I-710 Corridor, the property tax loss calculations have not been revised at this time.

L-22-4

Please refer to Response to Comment L-22-3 regarding property tax loss.

L-22-5

Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, of the RDEIR/SDEIS provides a comprehensive list of acquisitions associated with the build alternatives. As stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no residential or non-residential property displacements.

L-22-6

It is important to note that the analyses of tax losses associated with the build alternatives included in the RDEIR/SDEIS, whether they are property tax losses or sales tax losses, represent a conservative scenario that presumes all businesses or residences would not be able to be relocated within their existing jurisdiction. However, should a build alternative be selected as the Preferred Alternative, it is not likely that businesses and residents would be unable to relocate within their existing jurisdictions and/or neighborhoods. In addition, specific mitigation has been identified that would provide funding for targeted improvements for environmental justice communities (refer to Measure C-7 in Section 3.3.3.7 of this Final EIR/EIS for more detailed information). However, as stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no displacements will be required, and no further mitigation is provided as requested in this comment.

L-22-7

As described later in the referenced paragraph, the Study Area includes the portion of I-710 Corridor from Ocean Boulevard in Long Beach to SR-60, a distance of approximately 19 miles. The Study Area traverses sixteen corridor cities and unincorporated areas of Los Angeles County, and is in proximity to two major port facilities. Caltrans acknowledges that the RDEIR/SDEIS contains a great deal of information and technical analysis in the document and supporting technical studies in order to meet the requirements for disclosure under CEQA and NEPA for a project of this size and magnitude. In many cases, and where it makes sense to do so in that the analysis can be segmented, impacts are presented by city (as one example, Table 3.3-12 in the RDEIR/SDEIS presents relocations by city). However, the overall structure of the RDEIR/SDEIS and the presentation of impacts by resource area are required by Caltrans. Caltrans respectfully disagrees that the organization of the RDEIR/SDEIS has inhibited public participation in the environmental process; please refer to Section 1.2 of this appendix, for more information on the structure of the public participation process throughout the development of the EIR/EIS.

L-22-8

Preceding Chapter 1.0, Proposed Project, of this RDEIR/SDEIS is the Executive Summary which provides a broad overview of the project, the project's purpose and need, project history, and a summary of project impacts and information. Section S.5 of the Executive Summary includes a summary of the environmental consequences (i.e., project impacts) and directs the reader to the applicable section of the RDEIR/SDEIS where additional information on a specific environmental topic and project impacts can be found. Where a jurisdiction-specific analysis was conducted, corresponding summary tables are provided in Section 3.1 and 3.3 of the RDEIR/SDEIS. Table 3.1-1 identifies existing land use impacts by jurisdiction; Table 3.3-9 identifies parking impacts by jurisdiction; and Table 3.3-12 identifies relocations by jurisdiction.

Much of the analysis throughout the RDEIR/SDEIS is regional in nature due to the scale of the proposed project; therefore, specific study areas were established to identify project-related impacts at a larger scale. As appropriate, and consistent with the requirements of NEPA and CEQA, the Environmental Commitments Record in Appendix F contains the full list of avoidance, minimization, and/or mitigation measures within the document. As described in Section S.5 on page 9 of the Executive Summary, the reader is guided to the environmental commitments and measures in Appendix F (Environmental Commitments Records), and also notes that the environmental commitments and measures are also listed in each topical section of Chapter 3.0, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures. Please refer to Chapter 4.0, CEQA Evaluation, for a discussion of impact significance before and after mitigation.

L-22-9

As described above in Response to Comment L-22-8, Section S.5 of the Executive Summary includes a summary of the environmental consequences (i.e., project impacts) and directs the reader to the applicable section of the RDEIR/SDEIS where additional information on a specific environmental topic can be found. Table 3.1-1 in Section 3.1 of the RDEIR/SDEIS identifies the acreage of land use impacts by jurisdiction and Figures 2.3-4 through 2.3-12 depict the conceptual plans of the build alternatives, including key features; improvements to freeway to freeway interchanges; improvements to local arterial interchanges, crossings, and frontage road, and bridges. Please refer to Chapter 4.0, CEQA Evaluation, for a discussion of impact significance before and after mitigation. As stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a General Plan Amendment, which requires discretionary approval by the City in its role as a Responsible Agency under CEQA, will not be necessary.

L-22-10

As described above in Response to Comment L-22-8, where a jurisdiction-specific analysis was conducted, corresponding summary tables are provided in Section 3.1 and 3.3 of the RDEIR/SDEIS. Table 3.1-1 identifies existing land use impacts by jurisdiction; Table 3.3-9 identifies parking impacts by jurisdiction; and Table 3.3-12 identifies relocations by City. Much of the analysis throughout the RDEIR/SDEIS is regional in nature due to the scale of the proposed project; therefore, specific study areas were established to identify project-related impacts at a larger scale. As stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will not be a need for any future actions which require discretionary approvals by the City in its role as a Responsible Agency under CEQA.

L-22-11

Section 3.24 of the RDEIR/SDEIS and this Final EIR/EIS identifies construction impacts related to the build alternatives. Construction impacts are identified by resource type (e.g., park and recreational facilities, police and fire facilities, etc.) and are described by specific jurisdiction, where applicable. Please refer to Table 3.24-1 for temporary impacts, direct and indirect, to park and recreational facilities, and to Table 3.24-2 for temporary direct and indirect impacts to community facilities. Section 3.24.3.4 discusses construction impacts of the build alternatives to police and fire stations.

L-22-12

The commenter's concern over the response to previous letters regarding the intersection of Florence Avenue and Atlantic Avenue and the request for confirmation of any effect to this intersection under Alternatives 5C and 7 are acknowledged and included in the project record. Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, of the Final EIR/EIS lists each parcel affected by Alternatives 5C and 7. However, as stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no improvements at the intersection of Florence Avenue and Atlantic Avenue and no impacts would occur at this location.

L-22-13

Table 3.1.1 in Section 3.1.1.21 of this Final EIR/EIS includes total acreage impacts that would be affected by both full and partial acquisitions required by the build alternatives. As discussed in Measure C-1 in Section 3.3.2.5, should a build alternative be selected as the Preferred Alternative, commercial and industrial land uses subject to partial acquisitions would be evaluated during final design to determine if they could be reconfigured on site in such a manner as to enable them to remain in operation. However, as stated in Response to Comment

L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no full or partial acquisitions will be required.

L-22-14

Please refer to Response to Comment L-22-13. Please also refer to the maps contained in Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, of this Final EIR/EIS.

L-22-15

The Sleepy Lagoon Monument Project includes the construction of a monument commemorating the Sleepy Lagoon. No specific plans regarding this project were publicly available at the time the RDEIR/SDEIS was prepared, and therefore, this site was not identified in the document. As detailed in Section 3.7.2.4 of the RDEIR/SDEIS and this Final EIR/EIS, records searches were conducted and information requests were submitted to local historical societies and local governments to identify historic sites within the project's area of potential effects (APE). The Sleepy Lagoon site was not identified as an historic site that would be potentially affected by the build alternatives. As stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to the planned Sleepy Lagoon Monument Project.

L-22-16

Caltrans and Metro recognize that the City of Bell is uniquely situated in proximity to the I-710 at the Atlantic Boulevard/Bandini Boulevard interchange area, and preliminary discussions involving the City have been held to date regarding the configurations of certain parcels and how right-of-way impacts under the build alternatives could be minimized. However, as stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no right-of-way acquisitions, excess parcels, or remnant land. Therefore, the City's request for a mitigation measure to transfer excess parcels free of charge does not need to be accommodated.

L-22-17

As stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there would be no impacts to the Bell Shelter or S. Mark Taper Foundation Shelter Resource Bank property.

L-22-18

In response to this and other comments related to noise, additional noise modeling has been performed along River Drive between Florence Avenue and Slauson Avenue within the City of Bell. The results of that modeling have been included in the *Supplemental Noise Study Report*

(May 2018) and included in the updated *Noise Abatement Decision Report* (NADR, May 2018) and in Section 3.14 of the Final EIR/EIS.

L-22-19

It was not known at this time of the RDEIR/SDEIS whether the guaranteed relocation of displaced persons within their existing communities and neighborhoods would be feasible at the time of right-of-way acquisition, should a build alternative be selected as the Preferred Alternative. As indicated in Measure C-1, should a build alternative be selected as the Preferred Alternative, Caltrans would strive to do so wherever possible and feasible, but as real estate markets can change drastically between the time of analysis and the time a build alternative is constructed, any such analysis would be speculative. Per the Uniform Act, only the property necessary for the build alternative would be acquired. However, as stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no acquisitions are necessary.

L-22-20

Please refer to Response to Comment L-22-19 regarding the need for relocations as a result of the Preferred Alternative.

L-22-21

As stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the parking restrictions proposed in the RDEIR/SDEIS are not a part of the scope of the Preferred Alternative. Therefore, no further analysis will be performed. Secondary environmental consequences, such as cumulative impacts of the project, have been considered in Section 3.25 of the document.

L-22-22

The commenter is questioning the feasibility of Mitigation Measure C-4 and the ability to relocate the S. Mark Taper Foundation Shelter Resource Bank (Resource Bank) and the Bell Shelter, should a build alternative be selected as the Preferred Alternative. Generally, should a build alternative be selected as the Preferred Alternative, many of the displaced businesses and other land use types would be able to be relocated within or near to their existing communities; however, Section 3.3.2.4 of the Final EIR/EIS goes into more detail regarding the potential difficulties should the relocation of part or all of the shelter facility be necessary. Community input regarding displacements as a result of the build alternatives, as well as the viability of displacing sensitive community resources including the Bell Shelter and Resource Bank were factors evaluated when identifying the No Build Alternative as the Preferred Alternative. Please

refer to Section 1.1 of this appendix, for more information regarding the identification of a Preferred Alternative.

L-22-23

Measure C-7 in Section 3.3.3.7 addresses disproportionate impacts from the build alternatives to environmental justice populations with regards to air quality, traffic, visual impacts, and land use/parks and recreation, and, should a build alternative be selected as the Preferred Alternative, would provide funding to local jurisdictions for targeted improvements. As is stated in the measure, the funding would be provided to the local jurisdiction through a funding agreement between Metro, Caltrans, and the local jurisdiction, upon the commencement of construction within the limits of that local jurisdiction in the event of staged construction of either of the build alternatives. The specific details of funding would be negotiated as part of that agreement. Once allocated, it would be up to each specific jurisdiction as to how they deem the funds should be appropriately allocated within their respective communities. However, as stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no need to ensure mitigation includes a mechanism for ensuring that funding is appropriately allocated between environmental justice communities.

L-22-24

Specific information regarding acquisitions associated with the build alternatives can be found in Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, of this Final EIR/EIS. As the No Build Alternative has been selected as the Preferred Alternative, more clarity does not need to be provided regarding directly impacted areas.

L-22-25

An assessment of, and impacts to, community cohesion takes into account several different variables rather than simply acreage. Impacts to community cohesion are determined in part by displacements of important community facilities as well. Caltrans acknowledges that the difference in parcel acquisition acreage between Alternatives 5C and 7 is not substantial; however, the rationale as to why Alternative 5C would not result in a disruption of community cohesion whereas Alternative 7 would, is based in part on the feedback received from the general public and local organizations that the displacement of any portion of the Bell Shelter/Mark Taper Foundation Shelter Resource Bank would have substantial effects on the residents of the shelter and larger community. Generally, should a build alternative be selected as the Preferred Alternative, many of the displaced businesses and other land use types would be able to be relocated within or near to their existing communities; however, Section 3.3.2.4 of this Final EIR/EIS goes into more detail regarding the potential difficulties associated with the relocation of part or all of the shelter facility. Community input regarding displacements as a result of the build alternatives, as well as the viability of displacing sensitive community

resources including the Bell Shelter were factors evaluated when identifying the No Build Alternative as the Preferred Alternative. Please refer to Section 1.1 of this appendix, for more information regarding the identification of the Preferred Alternative.

L-22-26

Caltrans acknowledges that changes to the City of Bell General Plan could be needed as a result of the build alternatives; however, should a build alternative be selected as the Preferred Alternative, these updates could be deferred to the City's next scheduled General Plan update in accordance with State law. This is outlined in Mitigation Measure LU-1. Because these amendments could occur in the normal course of General Plan updates, Caltrans and Metro would not be required to provide compensation to local jurisdictions for General Plan updates. However, as stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no change to the City of Bell General Plan is necessary.

L-22-27

Some of the intersections numbered in the 200s are not shown in some tables included in the *Intersection Traffic Impact Analysis Report* (March 2017) and *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) because they are new intersections that are formed by, and are exclusive to, certain build alternatives or design options. For example, intersections 230 and 231 are freight corridor ramp intersections which are relevant only to the freight corridor proposed in Alternative 7. These two intersections are not part of existing conditions, the No Build Alternative, or Alternative 5C and its associated design options. The information shown in the figures related to each table are consistent with their respective tables.

L-22-28

As stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, additional analysis does not need to be conducted during final design of either build alternative to determine the timing of the construction staging, finalize construction staging plans, or to develop a Transportation Management Plan (TMP) detailing anticipated traffic diversion routes for the different construction stages of the build alternatives. It should be noted that allowances for local roadway construction impacts were accounted for in the cost estimate of the build alternatives developed for the EIR/EIS.

L-22-29

As is stated on page 1-40 of the RDEIR/SDEIS, the project purpose statements are used as the decision factors for comparing alternatives and identifying/selecting the Preferred Alternative. A Preferred Alternative was not identified at the time of circulation of the RDEIR/SDEIS. Moreover,

the environmental impacts outlined in the RDEIR/SDEIS must be balanced with the benefits of the project. This analysis was undertaken during the Preferred Alternative identification process. Please refer to Section 1.1 of this appendix for more information on the identification of the Preferred Alternative.

L-22-30

As stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, discretionary actions required by local jurisdictions, including the City of Bell are not necessary.

L-22-31

Caltrans and Metro acknowledge the growth in Port traffic and the need for the I-710 Corridor Project build alternatives. The project was being accelerated as much as possible given that full funding for this project had not been secured at the time this Final EIR/EIS was being prepared. However, as stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative and therefore no funding is needed.

L-22-32

Caltrans and Metro appreciate that the City is supportive of the project goals and efforts to address the needs of the I-710 Corridor. However, as stated in Response to Comment L-22-2, the No Build Alternative has been selected as the Preferred Alternative and there will be no impacts to the City of Bell.

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Brad Jensen

From: cvu@bellgardens.org
Sent: Monday, October 23, 2017 4:52 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Chau Vu
Organization: City of Bell Gardens
Phone: 562-334-1790
Mailing Address: 7100 Garfield Ave
City, State: Bell Gardens
Zip: 92840
Comment/Question:
The following are comments on the Recirculated Draft EIR/Supplemental Draft EIS (RDEIR/SDEIS) for the I-710 Corridor Project, released on July 21, 2017.

The proposed project schedule is as follows:

- Circulate RDEIR/SDEIS for public review (Summer 2017)
- Identify Preferred Alternative (Fall 2017)
- Complete Final EIR/EIS (Winter 2018)
- Project Approval/Record of Decision (Winter 2018)

Until the "preferred alternative" is identified, it is ambiguous as to the direct impacts of the project onto the City of Bell Gardens. The current proposed and predicted impacts would be addressed according to the proposed mitigation measures. The following comments and further inquiries regarding the RDEIR/SDEIS will/should be addressed later into the EIR process and there will be further comments once the alternative is determined. L-23-1

1. Page 2-26: Arterial Parking Restriction Program
Comment: How does the restriction of parking on four arterial roadways affect land use parking availability for commercial, industrial and residential properties? Does this displacement of spaces onto off-street parking areas and on-street parking areas directly off the subject main arterials adequately address the future of increased population/increase of vehicles/drivers? L-23-2

2. Page 3.1-89 to 91: Parque Dos Rios under Alternative 5C and/or 7
Comment: What are the details of the future park and/or relocation? L-23-3

3. Last paragraph in the left column on Page 7 of Executive Summary; and Page 3.3-45 and 3.5-90
"Parking restrictions during peak periods (7:00 a.m.–9:00 a.m. and 4:00 p.m.–7:00 p.m.) on four arterial roadways: Atlantic Blvd. between Pacific Coast Hwy. and SR-60; Cherry Ave./Garfield Ave. between Pacific Coast Hwy. and SR-60; Eastern Ave. between Cherry Ave. and Atlantic Blvd.; and Long Beach Blvd. between San Antonio Dr. and Firestone Blvd." L-23-4
Comment: Eastern Avenue has a terminus at Garfield Avenue to the south, and Garfield Avenue changes to Cherry Avenue at 70th Street in the City of Long Beach. Thus, it should be corrected.

4. Table 3.3-9: Parking Impacts by Jurisdiction on Page 3.3-45
Comment: Due to the proposed parking restriction along both Eastern Avenue and Garfield Avenue within the Bell Gardens' city limit, this area would have severe parking space shortages. The shortages would include 285 impacted parking spaces and 304 spaces during peak hour only. However, no mitigation measures were proposed to resolve this L-23-5

parking shortage issue. Therefore, it is necessary to provide mitigation measures to relieve the anticipated parking shortages within the City of Bell Gardens. L-23-5

5. Table 3.5-23: Summary of Impacted Intersection on Page 3.5-98 and Page 3.5-109
Comment: One of the three (3) potential Improvements for the Florence Avenue and Eastern Avenue intersection is "Add an extra left turn lane on EB (triple left) approach". However, northbound Eastern Avenue currently has two (2) receiving lanes at the Florence Avenue intersection. To make it possible, one (1) additional receiving lane for triple receiving lanes is required. Therefore, it is necessary to include the required receiving lanes on the northbound Eastern Avenue north of Florence Avenue. L-23-6

*You received this message because Chau Vu submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

L-23-1

As is Caltrans' practice on environmental documents prepared for compliance with the National Environmental Policy Act (NEPA), a Preferred Alternative is typically not identified until the public has had the opportunity to review and provide comment on the environmental impacts of all proposed alternatives. The RDEIR/SDEIS presented the environmental impacts of all alternatives and design options in each resource area in order for the public and decisionmakers to be able to compare the impacts and benefits of each alternative/option. Comments provided on the RDEIR/SDEIS from the City of Bell Gardens have been responded to; please refer to the following responses.

L-23-2

Please refer to Section 1.6 of this appendix for further information regarding peak period parking restrictions. These restrictions have been eliminated from further consideration and are not being carried forward as a programmatic element as the No Build Alternative has been selected as the Preferred Alternative.

L-23-3

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no impacts to Parque Dos Rios Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

L-23-4

Please refer to Response to Comment L-23-2 regarding peak period parking restrictions. Since these restrictions have been eliminated from further consideration, no change to the referenced text is needed.

L-23-5

Please refer to Response to Comment L-23-2 regarding peak period parking restrictions.

L-23-6

The conceptual sketches illustrating the mitigation measure identified for the Florence Avenue/Eastern Avenue intersection take into account the need to incorporate the additional receiving lane on northbound Eastern Avenue north of Florence Avenue. However, as stated in Response to Comment L-23-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to the referenced intersection.

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COUNTY OF LOS ANGELES
Public Health

LOS ANGELES COUNTY HEALTH AGENCY

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10/23/17

TO: Ronald Kosinski
Division of Environmental Planning
Deputy District Director
California Department of Transportation

FROM: Jeanne Biehler, REHS
Environmental Health Division
Department of Public Health

SUBJECT: CEQA CONSULTATION
I-710 Corridor Project
Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement and Section 4(f) Evaluation (July 2017)

The Department of Public Health – Environmental Health Division has reviewed the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement and Section 4(f) Evaluation (RDEIR/SDEIS) for the I-710 Corridor Project.

Staff from the Department's Toxics Epidemiology Program reviewed the RDEIR/SDEIS for potential health impacts that may arise, and present the following comments concerning noise, air quality and other public health elements:

1) **Environmental Exposures**

a) The RDEIR should include a discussion on Valley Fever in the Air Quality section. Valley Fever is the common name (formally known as *Coccidioidomycosis*) for a fungal disease caused by inhalation of *Coccidioides immitis* spores that are carried in dust; it is found in parts of the southwestern United States, Mexico, and South America (LADPH 2016). In California, the highest incidence of Valley Fever occurs in the San Joaquin (Central) Valley, with over 75 percent of reported cases (CDPH 2014). In Los Angeles County or in Southern California, the fungus is

L-24-1

endemic. Overall, the Los Angeles County incidence rate for coccidiodomycosis has continued to increase over the last 10 years (please refer to the attached CDPH 2014 document, attached).

The fungus can become airborne when soil that contains *C. immitis* spores is disturbed, either by natural or anthropogenic (man-made) means, including wind, farming, and construction (excavation & grading). Valley Fever is diagnosed by a blood test, a chest x-ray, and other tests, and it is treatable with antifungal medications. Approximately 60 percent of people exposed to Valley Fever spores develop no symptoms. If symptoms develop, those individuals generally develop a mild respiratory illness with flu-like symptoms that can last a month or more. Rarely, individuals develop a severe illness such as pneumonia, meningitis, or dissemination when the fungus spreads to other parts of the body. At highest risk for exposure to Valley Fever are farmers, **construction workers**, military personnel, archaeologists, and others who are likely to engage in activities that actively **disturb soils** in areas where Valley Fever may be present. Persons at the highest risk of developing severe Valley Fever include the very young (under 5 years old); older adults (over 60 years old); immunocompromised individuals and those with diabetes; pregnant women; and certain ethnic groups, including African-Americans, Latinos, Native Americans, and Filipinos (LADPH 2016; CDPH 2014). It is believed that contributing factors may include changes in climate and rainfall patterns; **construction activities that disturb soil**; an increase in susceptible persons moving to endemic areas; and heightened awareness and diagnoses (Sondermeyer et al. 2013). L-24-1

A dust mitigation plan should be prepared and implemented to protect workers and the public from fugitive dust. Controlling fugitive dust is important to minimize exposure to the fungus. Worker protection practices should also be implemented (please refer to the attached document "Preventing Work-Related Coccidioidomycosis" sheet, CDPH 2013). L-24-2

b) One of the purposes of the I-710 S project is to improve air quality and public health. In some aspects air quality will be improved for the respective alternatives but there are nearby roadway locations and regional areas where there would be an increase in air pollutant emissions. The 2035 build alternatives show increases in near-roadway 24hour PM10 impacts for several receptors located along the I-710 freeway as compared to 2035 No Build. At least in those respects, the project fails to improve public health for all. L-24-3

The DEIR states that there are no feasible mitigation measures to reduce localized near-roadway impacts. Therefore, the Community Health Benefit Program should be implemented to provide best available technologies to reduce or minimize exposure to sensitive receptors affected by near roadway air quality impacts.

Section 3.13.4 mitigation AQ-2 measure would provide high efficiency air-filtration for the schools listed. The benefits of air filtration depend upon proper implementation of pressurization, weatherization, adequate air exchanges, and placement of the HVAC air intake. The measure L-24-4

should include a comprehensive evaluation of the building's HVAC to accommodate all the parameters listed above.

There may be other sensitive uses in the affected area such as senior-residential facilities, child care centers, and other uses that should be included in the list. Residential units are also not included and would be impacted as well. L-24-4

Section 3.13.4 mitigation AQ-3 measure would include the installation of barriers and vegetation to increase dispersion of particulate matter away from sensitive receptors nearby. The effectiveness of such a measure should be evaluated as part of a post mitigation measure. We want to ensure that the barriers are not dispersing the particulates to a location further downwind and possibly exacerbating the air quality in other locations. The selection of vegetation should take into consideration the decrease of density foliage due to seasonal changes, fire hazards associated with trees that have a high oil content, the surface area of the foliage and drought tolerance. L-24-5

c) The DEIR should provide more information or discussion on the health impacts of ultrafine particles. The decision-making body needs a better understanding of health impacts so that informative decisions can be made. Areas such as the East LA community are already impacted by multiple freeways (I-10, I-5, I-60, & I-710) transecting that community. The increase in traffic flowing from improvements made to the I-710 will flow onto adjoining freeways in East LA and will impact other areas of East LA (north of I-60 & east to Montebello) that need to be further assessed. Traditional filtration associated with ventilation system will not reduce or trap ultrafine particles. The Minimum Efficiency Reporting Value (MERV 17) is the equivalent of a HEPA filtration unit, which could remove up to 95% of UFP and would be the recommended filter for auto emissions reduction (diesel particles) within the indoor environment. ASHRAE (American Society of Heating Refrigeration Engineers) in their Guideline 24 (companion document to Standard 62.2, *Ventilation & Acceptable Air Quality in Low-Rise Residential Buildings*) recommends higher efficiency air filtration at MERV 13 or higher for residential units where high levels of ultra-fine particles are present. However, these filters and the required HVAC units are very costly. L-24-6

In regards to ultrafine particles, please see the attached document "Air Quality Recommendations for Local Jurisdictions."

d) The project will involve re-locating or removing existing businesses or other services. Do any of these businesses provide vital services to the affected communities? What would be the impact? For example, it was brought to our attention by a community member that six businesses will be taken with East Los Angeles Option 3A/3B. One of those businesses is a Dialysis Center – Davita Doctors Dialysis Center. How would the relocation of such a health care facility affect the local community? An HIA would be helpful in assessing such impacts and should be included either L-24-7

separate or part of the EIR. The decision-makers need to be fully informed about the impacts of this project to make a proper judgement. L-24-7

e) Oil and Gas facilities and their components are very common in areas on which construction is to take place. Are there any safety procedures in place for the accidental release of crude oil or other chemicals that are present at these facilities? Is there an inventory of such facilities? Underground oil and gas pipes? L-24-8

2) Noise Impacts

a) Section 3.14.3 states that "although permanent hearing loss is not predicted, since most traffic remains below 85 dBA over an eight hour period". The application of occupational exposures does not apply to sensitive or residential receptors which will be exposed to construction noise over extended time periods, especially if construction is to be conducted between the hours of 9:00 P.M. and 6:00 A.M. According to the EPA an average exposure of 70 dBA over a 24 hr. period, may result in hearing loss (EPA'74). Is hearing loss predicted in the affected areas if receptors are exposed to 70 dBA over a 24 hr. period? L-24-9

b) Construction noise impacts to the community are of a public health concern and should be fully evaluated to include mitigation measures. According to Cal-Trans standard specifications (14-8.02) sets a noise standard not to exceed 86 dBA at 50 feet from the job site between the hours of 9pm to 6 am. Applying a free-field calculation, a receptor 500 ft. away may be exposed to 66 dBA which exceeds residential night time construction noise levels in unincorporated Los Angeles County. A stricter standard especially for night time applications is recommended to minimize disturbance to nearby sensitive receptors. Night time construction should be avoided where feasible and local authorities should weigh in to evaluate and review mitigation measures to reduce noise at night. Once an alternative is chosen a specific analysis of the associated noise impacts must be evaluated to include mitigation measures. L-24-10

c) The DEIR relies on sound walls as the primary mitigation measure to reduce noise impacts on surrounding properties. Other mitigation measures in 3.14.5 were deemed not feasible. Alternative building materials such as rubberized asphalt concrete (RAC) can reduce noise levels (Sacramento County DPW-Asphalt study 1999). According to Cal-Recycle RAC lasts longer than conventional methods. This mitigation measure was not considered due to CFR regulations and funding. Did the DEIR consider tolling and or changes in port gate hours to reduce noise during peak hours? An HIA may be able to explore other measures to reduce noise impacts such as funding mechanisms and exemptions in the regulations to assist residents and other impacted sensitive receptors to improve noise insulation to affected structures, that are not within the scope of an EIR. L-24-11

d) The DEIR analyzes the noise impacts in the areas within the I-710 corridor but in communities such as East Los Angeles, the noise impacts affecting the entire community are not evaluated. As mentioned, there are multiple freeways transecting East L.A. which will be affected by the proposed changes made to the I-710; therefore, the noise study area should be expanded to the entire East L.A. community. Although this study would be beyond the scope what is required under CEQA, an HIA may include such an analysis and should be included. L-24-12

e) Zero emission trucks would not only have the benefit of improving existing air quality but would be substantially quieter than conventional freight trucks. What would be the noise impact of having zero-emission (electrical) freight trucks vs conventional combustion engine driven freight trucks or near zero (hybrid/natural gas) trucks? Would the ambient noise levels be substantially reduced? L-24-13

For questions regarding the above section, please contact Robert Vasquez or Evenor Masis of the Toxics Epidemiology Program at (213) 738-3220 or at **rvasquez@ph.lacounty.gov** and **emasis@ph.lacounty.gov**.

For any other questions regarding this report, please feel free to contact me at (626) 430-5382 or at **jbiehler@ph.lacounty.gov**.

Preventing Work-Related Coccidioidomycosis (Valley Fever)

Valley Fever is an illness that usually affects the lungs. It is caused by the fungus *Coccidioides immitis* that lives in soil in many parts of California. When soil containing the fungus is disturbed by digging, vehicles, or by the wind, the fungal spores get into the air. When people breathe the spores into their lungs, they may get Valley Fever.

Is Valley Fever a serious concern in California? YES!

Often people can be infected and not have any symptoms. In some cases, however, a serious illness can develop which can cause a previously healthy individual to miss work, have long-lasting and disabling health problems, or even result in death.

This fact sheet describes actions employers can take to prevent workers from getting Valley Fever and to respond appropriately if an employee does become ill.



➤ **In October 2007, a construction crew excavated a trench for a new water pipe. Within three weeks, 10 of 12 crew members developed coccidioidomycosis (Valley Fever), an illness with pneumonia and flu-like symptoms. Seven of the 10 had abnormal chest x-rays, four had rashes, and one had an infection that had spread beyond his lungs and affected his skin. Over the next few months, the 10 ill crew members missed at least 1660 hours of work and two workers were on disability for at least five months.**

FACT SHEET HESIS

HAZARD EVALUATION SYSTEM & INFORMATION SERVICE
California Department of Public Health, Occupational Health Branch
850 Marina Bay Parkway, Building P, 3rd Floor, Richmond, CA 94804
510-620-5757 • www.cdph.ca.gov/programs/ohb

JUNE 2013

California Department of Public Health • California Department of Industrial Relations

How do workers get Valley Fever?

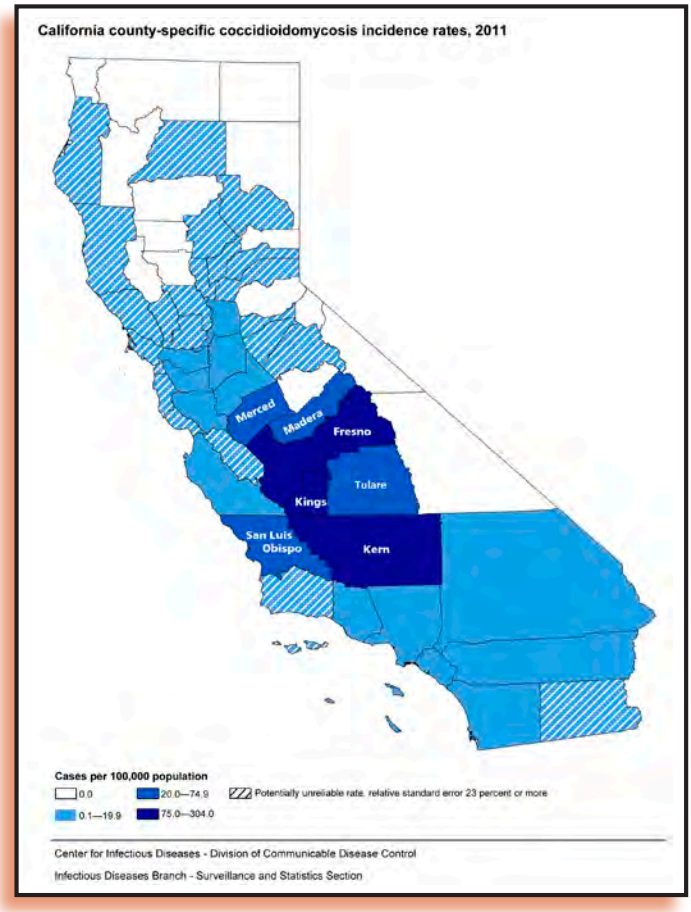
In California, Valley Fever is caused by the fungus *Coccidioides immitis* that lives in the top two to 12 inches of soil in many parts of the state. When soil containing this fungus is disturbed by activities such as digging, vehicles, or by the wind, the fungal spores get into the air. When people breathe the spores into their lungs, they may get Valley Fever. Fungal spores are small particles that can grow and reproduce in the body. The illness is not spread from one person to another.

How do employers know if the fungus is present in soil at their worksites?

The Valley Fever fungal spores are too small to be seen by the naked eye, and there is no reliable way to test the soil for spores before working in a particular place. Some California counties consistently have the Valley Fever fungus present in the soil. In these regions Valley Fever is considered endemic. Health departments track the number of cases of Valley Fever illness that occur. This information is used to map illness rates as seen on the figure above. Employers can contact their local health department for more information about the risk in their counties.

Where do people get Valley Fever?

Highly endemic counties, i.e., those with the highest rates of Valley Fever (more than 20 cases per 100,000 population per year), are Fresno, Kern, Kings, Madera, Merced, San Luis Obispo, and Tulare. Other counties or parts of counties also have the fungus present.



California county-specific coccidioidomycosis incidence rates, 2011

Who is at risk for Valley Fever?

Workers who disturb the soil by digging, operating earth-moving equipment, driving vehicles, or working in dusty, wind-blown areas are more likely to breathe in spores and become infected. Some occupations at higher risk for Valley Fever include:

- Construction workers, including road-building and excavation crews
- Archeologists
- Geologists
- Wildland firefighters
- Military personnel
- Workers in mining, quarrying, gas and oil extraction jobs
- Agricultural workers*

* Cultivated, irrigated soil may be less likely to contain the fungus compared to undisturbed soils.

Anyone, even healthy young people, can get Valley Fever. Once a person has had Valley Fever, their body may develop some immunity against future infections.

How does Valley Fever affect health?

- Experiments on laboratory animals indicate that a very small dose, 10 spores or fewer, may cause an infection.
- After breathing in the spores, the following can happen:
  - In about 60% of cases, symptoms are mild or not present.
  - In about 40% of cases, symptoms vary from moderate to severe. Usually symptoms are those of a flu-like illness that may last up to a month but goes away on its own. However, some people develop pneumonia (at times severe).
  - In a small proportion of cases (about 5%), disease spreads outside of the lungs causing very serious illness. Parts of the body that may be affected include the brain (meningitis), bones, joints, skin, or other organs. This is called ***disseminated Valley Fever*** (or disseminated coccidioidomycosis).
- People who are more likely to have severe or disseminated Valley Fever include those who have weakened immune systems, such as people who are HIV positive, have AIDS, cancer, or diabetes; who smoke; or who are pregnant. People of African and Filipino descent are much more likely to get disseminated disease; however, others can get disseminated disease, too.



Earth-moving equipment may stir up spores

What are signs or symptoms of Valley Fever?

When present, symptoms usually occur between seven to 21 days after breathing in spores, and can include:

- Cough
- Fever
- Chest pain
- Headache
- Muscle aches
- Rash on upper trunk or extremities
- Joint pain in the knees or ankles
- Fatigue.

Symptoms of Valley Fever can be mistaken for other diseases such as the flu (influenza) and TB (tuberculosis), so it is important for workers to obtain medical care for an accurate diagnosis and possible treatment.

Disseminated Valley Fever

Dissemination refers to spread of infection beyond the lungs to other parts of the body. With Valley Fever this usually occurs within the first six to 12 months after the initial illness.

Signs or symptoms of disseminated Valley Fever may vary but usually consist of some combination of the following:

- Fever
- Raised skin lesions with irregular surfaces
- Lymph node swelling, especially in the neck
- Pain and swelling in one or more joints
- Recurrent, persistent, new headaches (may be mild)
- Stiff neck.

Preventing Valley Fever exposure

There is no vaccine to prevent Valley Fever. Employers can reduce worker exposure by incorporating the following elements into the company's Injury and Illness Prevention Program and project-specific health and safety plans:

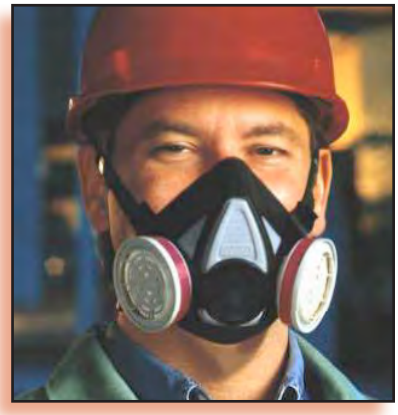
1. Determine if the worksite is in an area where Valley Fever is endemic (consistently present). Check with your local health department to determine whether cases have been known to occur in the proximity of your work area. See the map on page 2 to determine whether your company will be working in an endemic county.
2. Train workers and supervisors on the location of Valley Fever endemic areas, how to recognize symptoms of illness (see page 3), and ways to minimize exposure. Encourage workers to report respiratory symptoms that last more than a week to a crew leader, foreman, or supervisor.
3. Limit workers' exposure to outdoor dust in disease-endemic areas. For example, suspend work during heavy wind or dust storms and minimize amount of soil disturbed.
4. When soil will be disturbed by heavy equipment or vehicles, wet the soil before disturbing it and continuously wet it while digging to keep dust levels down.
5. Heavy equipment, trucks, and other vehicles generate heavy dust. Provide vehicles with enclosed, air-conditioned cabs and make sure workers keep the windows closed. Heavy equipment cabs should be equipped with high efficiency particulate air (HEPA) filters. Two-way radios can be used for communication so that the windows can remain closed but allow communication with other workers.
6. Consult the local Air Pollution Control District regarding effective measures to control dust during construction. Measures may include seeding and using soil binders or paving and laying building pads as soon as possible after grading.
7. When digging a trench or fire line or performing other soil-disturbing tasks, position workers upwind when possible.
8. Place overnight camps, especially sleeping quarters and dining halls, away from sources of dust such as roadways.



PAPR with helmet (APF=1000)



Full-face respirator (APF=50)



Half-mask respirator (APF=10)

9. When exposure to dust is unavoidable, provide NIOSH-approved ***respiratory protection*** with particulate filters rated as N95, N99, N100, P100, or HEPA. Household materials such as washcloths, bandanas, and handkerchiefs do not protect workers from breathing in dust and spores.

Respirators for employees must be used within a Cal/OSHA compliant respiratory protection program that covers all respirator wearers and includes medical clearance to wear a respirator, fit testing, training, and procedures for cleaning and maintaining respirators.

Different classes of respirators provide different levels of protection according to their Assigned Protection Factor (APF) (see table below). Powered air-purifying respirators (PAPRs) have a battery-powered blower that pulls air in through filters to clean it before delivering it to the wearer's breathing zone. PAPRs will provide a high level of worker protection, with an APF of 25 or 1000 depending on the model. When PAPRs are not available, provide a well-fitted NIOSH-approved full-face or half-mask respirator with particulate filters.

Fit-tested half-mask or filtering facepiece respirators are expected to reduce exposure by 90% (still allowing about 10% faceseal leakage), which can result in an unacceptable risk of infection when digging where Valley Fever spores are present.

The table below shows the relative effectiveness of various types of respirators for particles of dust and spores.

Respiratory Protection for Reducing Dust and Spore Exposure

	Respirator Type (worn with particulate filters)	**Assigned Protection Factor (APF)**	**Expected Reduction of Exposure to Dust and Spores (%)**
	No respirator	None	0
Increasing Protection ↓	Half-mask respirator (elastomeric or filtering facepiece)	10	90
	Powered air-purifying respirator with loose-fitting face covering	25	96
	Full-face respirator	50	98
	Some powered air-purifying respirators are designed to offer higher protection (check with manufacturer)	1000	99.9

Preventing transport of spores

- **Clean tools, equipment, and vehicles with water to remove soil before transporting offsite** so that any spores present won't be re-suspended in air and inhaled at a later time.
- **Provide workers with coveralls or disposable Tyvek™ daily.** At the end of the work day, require workers to remove their work clothes at the worksite.
- **Keep street clothes and work clothes separate by providing separate lockers or other storage areas.** If possible, store work boots at the worksite; otherwise, have workers use a boot wash before getting into their vehicles.
- **Encourage workers to shower and wash their hair at the workplace** (if at a fixed location) or as soon as they get home.

What should employers do if a worker reports Valley Fever symptoms?

- If the worker disturbed soil or otherwise did dusty work in an endemic area, **the employer should send the worker to their workers' compensation health care provider or occupational medicine clinic**. The employer should provide the health care provider with the details about the dust or soil exposure. The worker should give a copy of this fact sheet to the health care provider.
- When two or more workers report symptoms that suggest Valley Fever, workers should be sent to a single medical provider or occupational medicine clinic for coordinated medical care, if possible. This can facilitate better communication between the medical provider, public health agencies, and employer.
- **Travel through endemic areas has resulted in Valley Fever cases.** When a worker who has traveled through an endemic area reports a respiratory illness that lasts more than a week, the employer should send the worker to their workers' compensation health care provider or occupational medicine clinic.
- **Complete the "Employer's Report of Occupational Injury or Illness" (Form 5020) for each occupational Valley Fever illness** which results in "lost time" or medical treatment beyond first aid.
- **List cases on the Cal/OSHA Form 300,** "Log of Work-Related Injuries and Illnesses".
- **Report immediately any serious injury, illness or death occurring in a place of employment** or in connection with any employment to the local Cal/OSHA district office. A "serious injury or illness" is defined in 8 CCR 330(h) found at **www.dir.ca.gov/title8/330.html**.

What is the treatment for Valley Fever?

Although many people with Valley Fever do not require treatment, those with symptoms should seek medical attention. When Valley Fever is suspected, doctors can order specialized tests to confirm the diagnosis. If treatment is indicated, anti-fungal medications are available. Workers who develop severe or chronic infections may need to stay in the hospital.

It is especially important for people at risk for severe disease, such as people infected with HIV or those with weakened immune systems, to be diagnosed and receive treatment as quickly as possible. People with severe infections need to be treated because advanced Valley Fever can be fatal.

Summary of Controls to Minimize Workers' Dust Exposure and Risk of Valley Fever in Endemic Areas

Type of Control	Actions
Engineering and Work Practice Controls ➤ *to control dust at the source or isolate worker from exposure.*	Minimize exposure to outdoor dust: • Suspend (stop) work in dust storms or high winds. • Minimize the amount of digging by hand. Instead, use heavy equipment with operator in an enclosed, air-conditioned, HEPA-filtered cab. Continuously wet the soil before and while digging or moving the earth. Landing zones for helicopters and areas where bulldozers, graders, or skid steers operate are examples where wetting the soil is necessary. When digging in soil is required, train workers to reduce the amount of dust inhaled by staying upwind when possible.
Administrative Controls ➤ *to increase hazard awareness and knowledge of safe work practices and select safer work practices.*	Train workers and supervisors on: • Distribution of endemic areas • Symptoms and signs, and need to report to supervisor to obtain medical evaluation • People at highest risk of serious disease • Effective controls, including proper use of equipment.
Personal Protective Equipment ➤ *to decrease quantity of fungal spores inhaled.*	Provide respirators when digging or working near earth-moving trucks or equipment: • Powered air-purifying respirator (PAPR) with high efficiency particulate air (HEPA) filter or • Full-face respirator with particulate filter or • Half-mask respirator with particulate filter and • Implement a comprehensive respirator program including medical clearance, training, fit testing, and procedures for cleaning and maintaining respirators. Provide coveralls to prevent street clothes from being contaminated with fungal spores and then taken home.
Clean up ➤ *to decrease quantity of fungal spores inhaled.*	Provide lockers and require change of clothing and shoes at worksite so workers don't take dust and spores home. Wash equipment before moving offsite.
Medical care for disease recognition and prompt, appropriate treatment.	Contract with local medical clinics • Provide prompt evaluation and care • Make sure clinic has a protocol for evaluation, follow-up, and treatment of Valley Fever Make sure in-house physician is aware of work in Valley Fever endemic areas.

Valley Fever in the general population in California (*includes individuals exposed at work*):

- In 2011, 5123 people were diagnosed with new infections.
- The number of new Valley Fever cases reported in California increased dramatically in the past few years. In 2011, there were 20% more cases compared to 2010.
- Every year, about 1,430 people are hospitalized with Valley Fever.
- About 8% (8 out of 100) of people hospitalized with Valley Fever die due to the infection.

RESOURCES

FOR MORE INFORMATION

- **California Department of Public Health,** *"Coccidioidomycosis (Valley Fever) Fact Sheet"* **www.cdph.ca.gov/healthinfo/discond/pages/coccidioidomycosis.aspx** Available in English, Spanish, and Tagalog. Also see *Yearly Summary Report of Coccidioidomycosis in California.*
- **California Department of Public Health, Hazard Evaluation System and Information Service (HESIS).** HESIS answers questions about workplace hazards for California workers, employers, and health care professionals. Call **(510) 620-5817 or (866) 282-5516 (toll free in CA).** HESIS has many free publications available. To request publications, leave a message at **(510) 620-5717 or toll free (866) 627-1586**, or visit our website at **www.cdph.ca.gov/programs/ohb**
- **Centers for Disease Control and Prevention,** *"Coccidioidomycosis, Valley Fever"* **www.cdc.gov/fungal/coccidioidomycosis/.**
- **Centers for Disease Control and Prevention,** *"Increase in Reported Coccidioidomycosis-United States, 1998-2011,"* March 29, 2013 **http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6212a1.htm**
- **Injury and Illness Prevention Program.** This standard (California Code of Regulations (CCR) Title 8, Section 3203), requires employers to implement an injury and illness prevention program (IIPP). For links to publications on IIPPs, see **www.dir.ca.gov/title8/3203.html.**
- **Respiratory Protection.** This standard, CCR Title 8, Section 5144, requires employers to provide respirators when necessary to protect the health of employees. See **www.dir.ca.gov/title8/5144.html**.

To obtain a copy of this document in an alternate format, please contact: (510) 620-5757. (CA Relay Service: 800-735-2929 or 711). Please allow at least ten (10) working days to coordinate alternate format services.

Edmund G. Brown Jr., Governor
State of California

Diana S. Dooley, Secretary
Health and Human Services Agency

Ron Chapman, MD, MPH, Director and
State Health Officer
California Department of Public Health

Marty Morgenstern, Secretary
Labor and Workforce Development Agency

Christine Baker, Director
Department of Industrial Relations

JANE NORLING DESIGN

COCCIDIOIDOMYCOSIS

CRUDE DATA	
Number of Cases	426
Annual Incidence[a]	
LA County	4.51
California[b]	5.90
United States[b]	2.58
Age at Diagnosis	
Mean	52
Median	53
Range	2–91 years

[a]Cases per 100,000 population.
[b]Calculated from Final 2014 Reports of Nationally Notifiable Infectious Diseases. MMWR 64(36):1019–1033.

DESCRIPTION

Coccidioidomycosis, or valley fever, is a fungal disease transmitted through the inhalation of *Coccidioides immitis* spores that are carried in dust. Environmental conditions conducive to an increased occurrence of coccidioidomycosis include arid to semi-arid regions, dust storms, hot summers, warm winters, and sandy, alkaline soil. The fungus is endemic in the southwestern US and parts of Mexico and South America; Southern California is a known endemic area. Most infected people exhibit no symptoms or have mild respiratory illness, but a few individuals develop severe illness such as pneumonia, meningitis, or dissemination to other parts of the body. Among the wide range of clinical presentations, only the most severe cases are usually diagnosed and reported to the health department. Blacks, Filipinos, pregnant women, the very young (age <5 years), the elderly, and immunocompromised individuals are at higher risk for severe disease. Currently no safe and effective vaccine or drug to prevent coccidioidomycosis exists. Prevention lies mainly in dust avoidance and control (e.g., planting grass in dusty areas, putting oil on roadways, wetting down soil, air conditioning homes, wearing masks or respirators). Other options may be to warn people at high risk for severe disease not to travel to endemic areas when conditions are most dangerous for exposure.

Recovery from the disease confers lifelong immunity to reinfection, providing the rationale for development of a vaccine for prevention of symptomatic or serious forms of the disease. Increasing exposure and risk associated with construction, a growing naïve population in the endemic area, and antifungal treatments that are toxic and not uniformly effective validate the need for prevention efforts.

2014 TRENDS AND HIGHLIGHTS

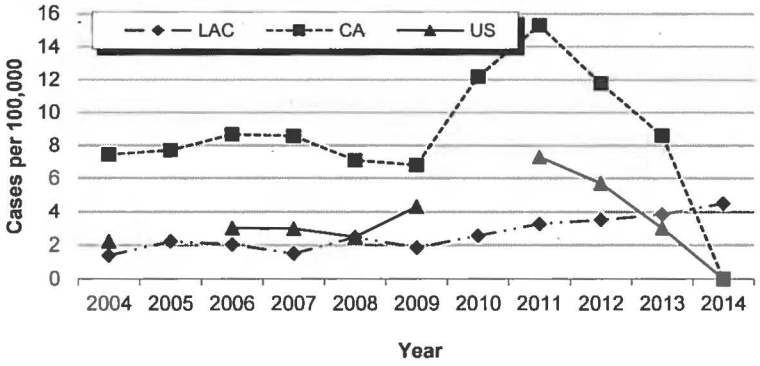
- Overall, the Los Angeles County incidence rate for coccidioidomycosis has continued to increase over the last ten years. No data were available for the US in years 2005 and 2010 (Figure 1).
- Case frequency and incidence rate increased with age. The 65+ year age group had the most cases at 25% and the highest incidence rate at 9.5 cases per 100,000 (Figure 2).
- Males represented 63% of cases; females 37% (Figure 3).
- Incidence rates by race/ethnicity have remained consistent over the past five years with the exception of 2014, in which whites had the highest incidence rate of 6.6 per 100,000 and blacks the second highest incident rate of 5.3 per 100,000. This in contrast with 2010-13 when the highest incidence rates occurred among blacks (Figure 4).
- SPA 1 reported the highest incidence rate of coccidioidomycosis in LAC; at 26.2 per 100,000 this is in comparison to the next highest incidence rate in SPA 2 of 5.7 per 100,000 (Figure 5).
- In 2014, December had the most cases at 11.3%. However, there are not marked seasonal differences in rate based on data from the past 5 years, other than a modest decrease in late-winter and early-spring (Figure 6).
- There were 28 cases of disseminated coccidioidomycosis reported in LAC in 2014. SPA 1 reported the highest incidence rate at 2.5 per 100,000; this is in comparison to the next highest incidence rate of 0.4 per 100,000 in SPA 2. Males made up 70% of disseminated cases reported in SPA 1, and 89% in SPA.

Reported Coccidioidomycosis Cases and Rates* per 100,000 by Age Group, Race/Ethnicity, and SPA
Los Angeles County, 2010–2014

	2010 (N=235)			2011 (N=304)			2012 (N=327)			2013 (N=362)			2014 (N=426)		
	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000	No.	(%)	Rate/ 100,000
Age Group															
<1	1	0.4	0.8	0	-	-	0	-	-	1	0.3	0.8	0	-	-
1-4	0	-	-	1	0.3	0.2	3	9.2	0.6	0	-	-	1	0.2	0.2
5-14	5	2.1	0.4	3	1.0	0.2	3	9.2	0.3	6	1.6	0.5	4	0.9	0.3
15-34	43	18.3	1.5	62	20.4	2.1	68	20.8	2.5	67	18.5	2.4	68	16.0	2.4
35-44	38	16.2	2.8	35	11.5	2.4	53	16.2	4.0	55	15.2	4.1	61	14.3	4.6
45-54	55	23.4	4.3	67	22.0	5.0	84	25.7	6.5	86	23.8	6.7	91	21.3	7.0
55-64	42	17.9	4.4	54	17.8	5.6	46	14.1	4.5	73	20.2	7.1	93	21.8	8.8
65+	51	21.7	5.1	82	27.0	7.7	70	21.4	6.3	74	20.4	6.7	108	25.3	9.5
Unknown	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Race/Ethnicity															
Asian	26	11.1	2.0	23	7.6	1.7	26	8.0	2.0	30	8.3	2.2	33	7.7	2.4
Black	43	18.3	5.6	48	15.8	5.6	46	14.1	5.9	50	13.8	6.4	42	9.9	5.3
Hispanic	71	30.2	1.6	94	30.9	2.0	133	40.7	2.9	104	28.7	2.3	139	32.6	3.0
White	76	32.3	2.9	134	44.1	4.7	121	37.0	4.6	132	36.5	5.0	174	40.8	6.5
Other	3	1.3	-	1	0.3		0	-	-	5	1.4	-	3	0.7	-
Unknown	16	6.8	-	4	1.3		1	0.3	-	41	11.3	-	35	8.2	-
SPA															
1	87	37.0	22.6	93	30.6	24.9	74	22.6	19.1	74	20.4	18.9	103	24.1	26.2
2	54	23.0	2.5	86	28.3	3.9	72	22.0	3.4	83	22.9	3.8	125	29.3	5.7
3	17	7.2	1.1	13	4.3	0.7	25	7.6	1.5	38	10.4	2.3	44	10.3	2.7
4	20	8.5	1.8	26	8.6	2.1	53	16.2	4.7	46	12.7	4.0	30	7.0	2.6
5	7	3.0	1.1	17	5.6	2.6	18	5.5	2.8	22	6.7	3.4	21	4.9	3.2
6	19	8.1	1.9	29	9.5	2.7	37	11.3	3.6	38	10.4	3.7	42	9.8	4.1
7	14	6.0	1.1	20	6.6	1.5	34	10.3	2.6	29	8.1	2.2	30	7.0	2.3
8	16	6.8	1.5	18	5.9	1.6	14	4.2	1.3	25	6.9	2.3	29	6.8	2.7
Unknown	0	-	-	2	0.7	-	0	-	-	-	-	-	0	-	-

*Rates calculated based on less than 19 cases or events are considered unreliable.

Figure 1. Incidence Rates of Coccidioidomycosis US*, CA and LAC, 2004-2014



* No data were available for the US in years 2005 and 2010.

Figure 2. Incidence Rates of Coccidioidomycosis by Age Group LAC, 2014 (N=426)

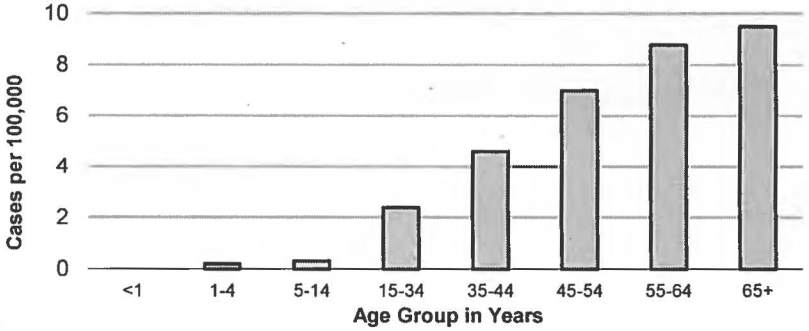


Figure 3. Percent of Reported Coccidioidomycosis Male Cases by SPA LAC, 2014 (N=426)

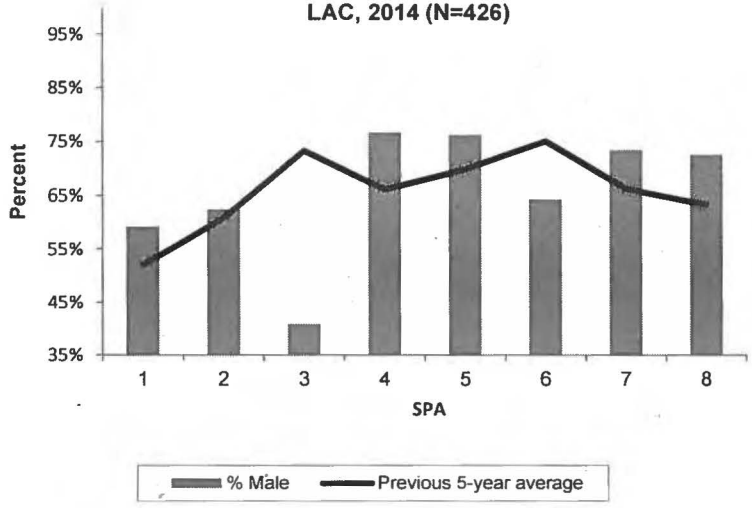


Figure 4. Coccidioidomycosis Incidence Rates by Race/Ethnicity LAC 2010-2014

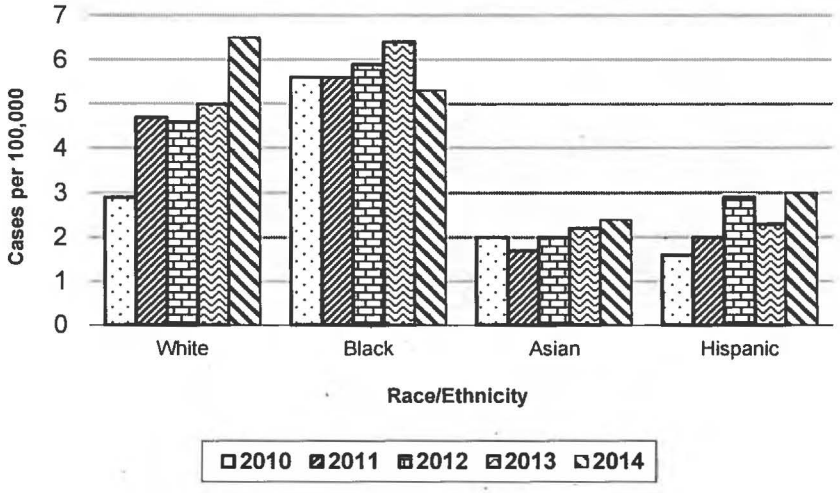


Figure 5. Incidence Rates of Coccidioidomycosis by SPA LAC, 2010-2014

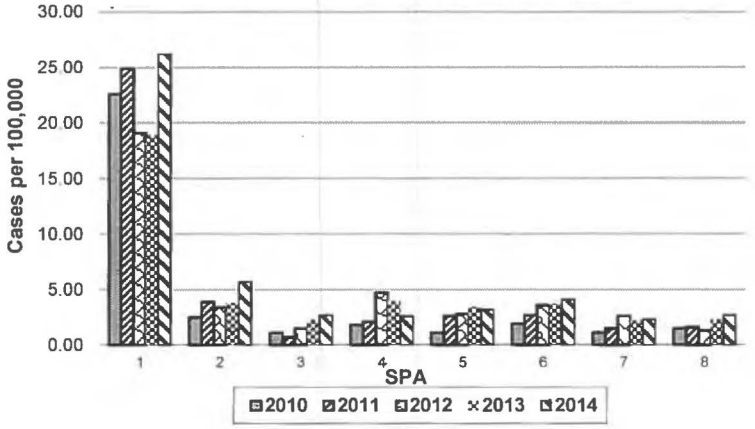
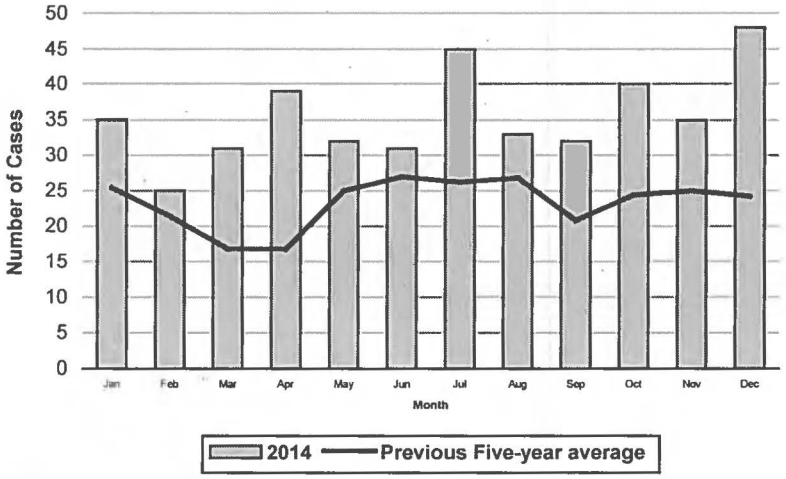
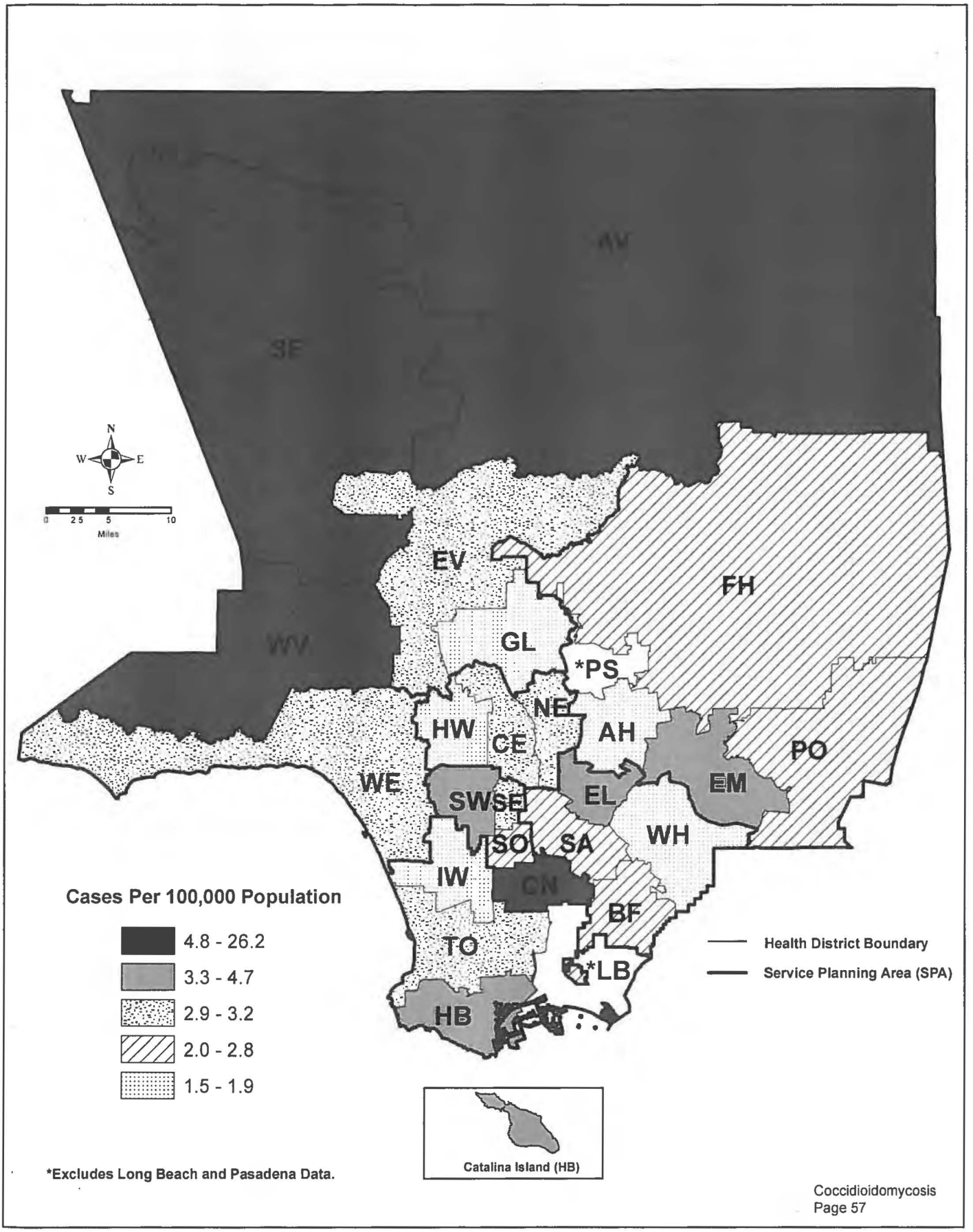


Figure 6. Reported Coccidioidomycosis Cases by Month of Onset, LAC, 2014 (N=426)



Map 3. Coccidioidomycosis
Rates by Health District, Los Angeles County, 2014*



*Excludes Long Beach and Pasadena Data.

Rx for Prevention

Increased Coccidioidomycosis ("Valley Fever") in Los Angeles County

Benjamin Schwartz, MD

Dawn Terashita, MD, MPH

July-August 2017

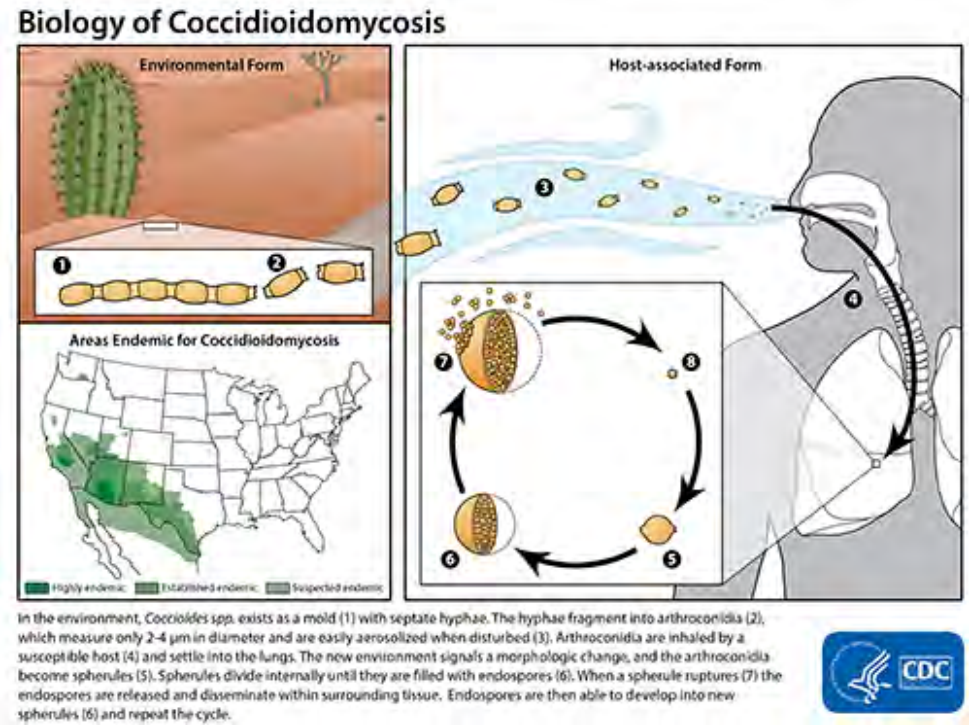
Coccidioidomycosis, commonly known as "Valley Fever," is an infection caused by inhalation of spores from the fungus *Coccidioides* that lives in dry soil and dust. The number of reported coccidioidomycosis cases have increased in Los Angeles County and in California in the past several years. In 2016, there were 714 reported cases in LA County, compared with 522 in 2015, a 37% increase. Each year since 2009, the number of reported coccidioidomycosis cases has increased annually and the total number of reports has increased 3-fold. While cases are reported from throughout the county, most cases have occurred in northern areas, specifically Antelope Valley and San Fernando Valley. Overall, the rate of coccidioidomycosis in LA County is about 7 cases per 100,000 people; among residents of Antelope Valley the rate is about 9-fold higher than elsewhere in the county. California is also seeing a significant increase in the number of cases reported statewide. The highest rate of infection in the state is in Kern County, immediately to the north of LA County (see map).

Possible reasons for the increase in disease include changes in weather and rainfall as well as persons moving into new developments in areas of higher risk. Changes in surveillance also may be contributing to increased case numbers with more cases being reported through an electronic laboratory reporting system.

Given the increase in risk of coccidioidomycosis, it is important for LA County providers to be familiar with this infection. A summary of coccidioidomycosis transmission, clinical characteristics, diagnosis, management, and prevention is presented below. For more detailed clinical guidance, please see the reference documents at the end of this article.

Transmission

Coccidioidomycosis is typically caused by the inhalation of spores from fungal species belonging to the *Coccidioides* genus from airborne dust or soil (see Biology of Coccidioidomycosis). The risk of infection is greater when the soil is disrupted such as during strong winds, dust storms, building construction, agriculture, earthquakes, and archaeological digs. It is not transmitted person-to-person.



Source: https://www.cdc.gov/fungal/diseases/coccidioidomycosis/pdf/coccidiomycosis-lifecycle508c.pdf

The fungi are endemic to the southwestern United States (i.e. Arizona, California, Nevada, New Mexico, Texas, and Utah) and parts of Central and South America. Highly endemic areas include the San Joaquin Valley in California and southern Arizona as shown in the maps below.

Areas Endemic for Coccidiodomycosis



This map is based on studies performed in the late 1940s and 1950s and also on locations of more recent outbreaks and cases. *Coccidioides* might also be found in similar areas with hot, dry climates that are not shaded on the map.

Source: https://www.cdc.gov/fungal/diseases/coccidioidomycosis/causes.html

Annual Rates of Valley Fever, California 2011-2015



Rates calculated per 100,000 population

Source: http://www.mbc.ca.gov/Publications/Newsletters/newsletter_2017_01.pdf#page=20

Clinical Picture

About 60% of infected people do not develop any symptoms. Among those who are symptomatic, typically beginning one to three weeks after exposure to the spores, a spectrum of symptoms and signs may occur (see box below).

Symptoms and Signs of Primary Coccidioidomycosis

- Fever
- Fatigue
- Night sweats
- Cough
- Chest pain
- Dyspnea
- Hemoptysis
- Headache
- Arthralgia
- Erythema nodosum
- Erythema multiform

Valley fever is the most common presentation and can include a self-limited flu-like illness and/or community acquired pneumonia (CAP) with fever, cough, chest pain, and headache. Systemic complaints — which include fatigue, myalagia, arthralgia, and night sweats — may last for weeks to months. Erythema nodosum and erythema multiforme also may occur. Chest radiograph findings may include diffuse pulmonary infiltrates, hilar adenopathy, and pleural effusion.

Complications are rare but can be severe. Approximately 5-10% of infections result in significant pulmonary disease and less than 1% result in extra-pulmonary disseminated disease that can involve multiple organ systems, last life-long, and lead to outcomes such as meningitis and death. Risk factors for severe or disseminated disease include immunosuppression (e.g. HIV/AIDS, TNF inhibitors, chemotherapy), diabetes mellitus, and pregnancy. In addition, some groups are at higher risk for complications including the elderly, African Americans, and persons of Filipino ethnicity.

Diagnosis

Coccidioidomycosis should be considered in any patient with a compatible clinical syndrome who resides in, works in, or has traveled to an endemic area including Antelope Valley, the north and west parts of the San Fernando Valley, Kern County, Ventura County, California's Central Valley (San Joaquin Valley), and southern Arizona. Providers should note any exposure to airborne dust or soil from the endemic areas. History should also include location and type of work as cases and outbreaks have resulted from work exposures. Prolonged illness or CAP unresponsive to antimicrobial therapy increases the likelihood of coccidioidomycosis. In endemic areas, clinicians should consider testing for coccidioidomycosis in patients who initially present with CAP (especially during seasons when other causes are less common) as an accurate diagnosis may reduce unnecessary exposure to antibiotics and facilitate appropriate counseling and possible therapy.

Serologic tests to detect IgM and IgG antibodies are used most often to diagnose coccidioidomycosis. Although cough associated with coccidioidomycosis generally is non-productive, if sputum can be obtained, direct examination of a smear with potassium hydroxide (KOH) or culture may be positive. The organism also may be identified by culture of tissue.

Treatment

There is currently no evidence that treatment of uncomplicated coccidioidal infections reduces symptom duration or prevents complications; therefore, most immunocompetent patients with mild symptoms will not require antifungal therapy. Supportive care should be provided as needed. Symptoms of prolonged fatigue can be managed by physical therapy for re-conditioning.

the California Department of Public Health.

Antifungal therapy should be started for patients with significantly debilitating illness or who are in groups at higher risk for disseminated disease or adverse outcomes: this includes persons with diabetes mellitus, who are immunocompromised, pregnant women, and the frail elderly. Per the 2016 Infectious Disease Society of America (IDSA) Clinical Practice Guideline for the Treatment of Coccidioidomycosis, treatment may be considered in demographic groups at higher risk for disseminated disease, e.g. African Americans and Filipinos. Generally, treatment is with an oral azole antifungal although in some groups amphotericin B is recommended. As detailed treatment recommendations are beyond the scope of this article, clinicians should refer to the IDSA guideline for more information. In general, primary care providers should consult with specialists if considering initiating treatment.

Prevention



There are no clearly effective interventions to prevent coccidioidomycosis for persons living or working in endemic areas. Approaches to reduce the risk of breathing in the fungal spores include staying inside with windows and doors closed when it is dusty outside, keeping car windows closed and using recirculating air conditioning while driving, and wearing an N95 mask if exposure to a high volume of dust that cannot be avoided.

Patient education materials are available from the Los Angeles County Department of Public Health (DPH). Employers who have staff with work exposures in endemic areas should maintain a comprehensive approach to minimize dust exposure including the use of respiratory protection.

Resources for preventing work-related Valley Fever are available from the Occupational Health Branch at the California Department of Public Health.

Disease Reporting

Providers in California must report coccidioidomycosis within 7 calendar days from identification (Title 17, CCR, Section 2500). For cases in LA County, reports should be submitted:

- by phone - call the Communicable Disease Reporting System at 888-397-3993, or
- by mail or fax - complete a Confidential Morbidity Report (CMR) Form available here http://www.publichealth.lacounty.gov/acd/reports/CMR-H-794.pdf and follow fax and mail instructions.

For more information or questions regarding coccidioidomycosis, call the DPH Acute Communicable Disease Control Program at 213-240-7941.

Key Messages

- Between 2015 and 2016, the number of reported coccidioidomycosis cases in Los Angeles County increased 37%. California also saw significantly more cases.
- Clinicians should consider coccidioidomycosis in any patient with a compatible clinical syndrome such as community acquired pneumonia who resides in, works in, or travels to an endemic area including parts of Los Angeles County (Antelope Valley and the west and north parts of the San Fernando Valley).

Additional Resources

- Los Angeles County Department of Public Health http://publichealth.lacounty.gov/acd/Diseases/Cocci.htm
- Valley Fever: Timely Diagnosis, Early Assessment, and Proper Management [30 min webinar; 0.5 CME] https://www.cdc.gov/fungal/diseases/coccidioidomycosis/health-professionals/cme.html
- Occupational Health Branch, California Department of Public Health, Preventing Work-Related Valley Fever (Coccidioidomycosis) https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/Pages/Cocci.aspx
- California Department of Public Health, Coccidioidomycosis (Valley Fever) https://archive.cdph.ca.gov/HealthInfo/discond/Pages/Coccidioidomycosis.aspx

Reference Documents

- 2016 Infectious Diseases Society of America (IDSA), Clinical Practice Guideline for the Treatment of Coccidioidomycosis
- Valley Fever Center for Excellence, Valley Fever (Coccidioidomycois) Tutorial for Primary Care Professionals
- Centers for Disease Control and Prevention, Information for Healthcare Professionals about Valley Fever (Coccidioidomycosis)



Also in this issue:

- Preventing Zika *(CME)*
- Increased Coccidioidomycosis
- Preventing Diabetes and Prediabetes
- New Health Brief: Trends in Health Insurance Coverage
- Mumps Outbreak in Adults

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Department of Public Health

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www.publichealth.lacounty.gov/acd

Rx for Prevention,
2017 July-August;7(2).

COUNTY OF LOS ANGELES
Public Health

AIR QUALITY RECOMMENDATIONS FOR LOCAL JURISDICTIONS

Development of new schools, housing, and other sensitive land-uses in proximity to freeways

Studies indicate that residing near sources of traffic pollution is associated with adverse health effects such as exacerbation of asthma, onset of childhood asthma, non-asthma respiratory symptoms, impaired lung function, reduced lung development during childhood, and cardiovascular morbidity and mortality.[1] These associations are diminished with distance from the pollution source.

Given the association between traffic pollution and health, the California Air Resources Board recommends that freeways be sited at least 500 feet from residences, schools, and other sensitive land uses.[2] Other reputable research entities such as the Health Effects Institute indicate that exposure to unhealthy traffic emissions may in fact occur up to 300 to 500 meters (approximately 984 to 1640 feet). The range reported by HEI reflects the variable influence of background pollution concentrations, meteorological conditions, and season.[3]

Based on this large body of scientific evidence, the Los Angeles County Department of Public Health strongly recommends:

- A buffer of at least 500 feet should be maintained between the development of new schools, housing or other sensitive land uses and freeways. Consideration should be given to extending this minimum buffer zone based on site-specific conditions, given the fact that unhealthy traffic emissions are often present at greater distances. Exceptions to this recommended practice should be made only upon a finding by the decision-making body that the benefits of such development outweigh the public health risks.

- New schools, housing or other sensitive land uses built within 1500 feet of a freeway should adhere to current best-practice mitigation measures to reduce exposure to air pollution which may include: the use of air filtration to enhance heating, ventilation and air conditioning (HVAC) systems, and the orientation of site buildings and placement of outdoor facilities designed for moderate physical activity as far from the emission source as possible.

Development of parks and active recreational facilities in proximity to freeways

Parks and recreational facilities provide great benefits to community residents including increased levels of physical activity, improved mental health, and opportunities to strengthen social ties with neighbors.[4,5,6] However, siting parks and active recreational facilities near freeways may increase public exposure to harmful pollutants, particularly while exercising. Studies show that heavy exercise near sources of traffic pollution may have adverse health effects.[7, 8, 9] However, there are also substantial health benefits associated with exercise.[10] Therefore, DPH recommends the following cautionary approach when siting parks and active recreational facilities near freeways:

- New parks with athletic fields, courts, and other outdoor facilities designed for moderate to vigorous physical activity, should be sited at least 500 feet from a freeway. Consideration should be given to

extending this minimum buffer zone based on site-specific conditions given the fact that unhealthy traffic emissions are often present at greater distances. Exceptions to this recommended practice should be made only upon a finding by the decision-making body that the benefits of such development outweigh the public health risks.

- New parks built within 1500 feet of freeways should adhere to best-practice mitigation measures that minimize exposure to air pollution. These include the placement of athletic fields, courts, and other active outdoor facilities as far as possible from the air pollution source.

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[1] Health Effects Institute. 2010. Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects. HEI Special Report. p.1-11

[2] California Environmental Protection Agency. California Air Resources Board. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005.

[3] Health Effects Institute. 2010. Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects. HEI Special Report. p.1-11

[4] L. Frank et al. 2005. Linking Objectively Measured Physical Activity with Objectively Measured Urban Form: Findings From SMARTRAQ. American Journal of Preventive Medicine, at 117-1255.

[5] Tabbush R and E O'Brien. 2003. Health and Well-being: Trees, Woodlands, and Natural Spaces. Forestry Commission, Edinburgh.

[6] E. Kuo et al. 1998. Transforming Inner-City Neighborhoods: Trees, Sense of Safety, and Preference. Environmental Behavior. 30(1): 28-59.

[7] McConnell R, Berhane K, Gilliland F, London SJ, Islam T, Gauderman WJ, Avol E,Margolis HG, Peters JM. Asthma in exercising children exposed to ozone: a cohort study. Lancet. 2002 Feb 2;359(9304):386-91.

[8] Sharman JE, Cockcroft JR, and JS Coombes. Cardiovascular implications of exposure to traffic air pollution during exercise. Q J Med 2004; 97:637–643.

[9] Rundell KW, Caviston R, Hollenbach AM, and K Murphy. Vehicular Air Pollution, Playgrounds, and Youth Athletic Fields. 2006, Vol. 18, No. 8 , Pages 541-547.

[10] de Hartog JJ, Boogaard H, Nijland H, and G Hoek. Do the Health Benefits of Cycling Outweigh the Risks? Environmental Health Perspectives. 2010; 118(8): 1109-1116.

L-24-1

This comment raises the concern that people may become infected with Valley Fever when soil containing the fungus coccidioides is disturbed and subsequently inhaled by the individual. Operation of either of the build alternatives (i.e., vehicles traveling on the highway) would not disturb soil containing coccidioides. However, construction of the build alternatives would involve excavation and grading activities which would disturb soil that may contain coccidioides. However, it should be noted that the Valley Fever is more common in San Joaquin Valley than in the urban area of Los Angeles. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no construction and subsequently no potential for infection with Valley Fever. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

L-24-2

As discussed in Section 3.24.3.13, Air Quality, in Section 3.24, Construction Impacts, of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, it would comply with the South Coast Air Quality Management District (SCAQMD) Rule 403 for fugitive dust during construction. In addition, per the Transportation Conformity Rule, the build alternatives would be required to comply with any $PM_{2.5}$ and PM_{10} control measures in the State Implementation Plan. In addition, construction activities associated with either build alternative would comply with Caltrans Standard Specifications 14.09, which include measures to control dust. These requirements are outlined in Measures CON-AQ-1 through CON-AQ-4, CON-AQ-6, CON-AQ-9 through CON-AQ-11, CON-AQ-13, CON-AQ-14, and CON-AQ-17 in Section 3.24.2.13 of the RDEIR/SDEIS. Additionally, it is Caltrans standard practice to prepare and implement a Construction Site Health and Safety Plan to protect worker health and safety, including from airborne hazards. These measures would address worker health concerns related to airborne dust including airborne fungus (Valley Fever). However, as stated in Response to Comment L-24-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no potential for construction workers to be exposed to airborne dust including airborne fungus.

L-24-3

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions. Should a build alternative be selected as the

Preferred Alternative, Measures AQ-2 and AQ-3 would reduce emissions at near-roadway locations. Measure AQ-2 would require filters on the ventilation systems of schools near I-710. Measure AQ-3 would require installation of solid barriers where feasible and where soundwalls are not proposed, and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. Additionally, the build alternatives include programmatic components that would be implemented to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public-health related to I-710 travel and goods movement. Projects falling into three broad categories would be eligible and considered for funding under the program: (1) air quality improvement and/or noise reduction measures at local schools and other sensitive receptors or related sites, (2) health education, outreach, and screening, and (3) greenhouse gas (GHG) reduction through projects such as renewable power, energy efficiency, and tree-planting, etc. However, as stated in Response to Comment L-24-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no mitigation is necessary to minimize exposure to sensitive receptors affected by near roadway air quality impacts as a result of the Preferred Alternative.

L-24-4

As stated in Response to Comment L-24-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure AQ-2, will not be necessary and will not be implemented. However, it should be noted that the RDEIR/SDEIS and this Final EIR/EIS does not assume or rely upon any specific reduction effectiveness standard or on non-PM reductions. Moreover, this measure specifically refers to schools as sensitive facilities.

L-24-5

As stated in Measure AQ-3, should a build alternative be selected as the Preferred Alternative, solid barriers and vegetation could reduce PM emissions by up to 50 percent, but the RDEIR/SDEIS does not quantify emission reductions associated with these. As stated in Response to Comment L-24-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure AQ-3 will not be necessary and will not be implemented.

L-24-6

Section 3.13.3.4, Public Health Considerations, of the RDEIR/SDEIS includes a subsection “Ultrafine Particulates – Qualitative Analysis” which discusses the health impacts of ultrafine particles (UFP) and the potential health impacts due to UFPs for the build alternatives. The analysis found that the public’s exposure to ultrafine particles in the vicinity of the I-710 freeway would reduce in 2035 as compared to 2012 for the build alternatives and for the No Build

Alternative. Further, the implementation of either build alternative (Alternative 5C or 7) would result in lower UFP exposure (near the I-710 freeway) as compared to the No Build Alternative. As stated in Section 3.13.4 of the RDEIS/SDEIS, should a build alternative be selected as the Preferred Alternative, Mitigation Measure AQ-2 would provide for the installation of high-efficiency filters in schools located within 0.25 mile of the I-710 freeway that currently lack such filtration systems. However, as stated in Response to Comment L-24-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure AQ-2 will not be implemented.

L-24-7

Section 3.3, Community Impacts, of the RDEIR/SDEIS took into account the displacement of vital community facilities in determining the effect on community cohesion from the build alternatives. Due in part to community feedback, the No Build Alternative has been selected as the Preferred Alternative and the DaVita Doctors Dialysis Center would not be displaced. It should be noted that a Health Impact Assessment (HIA) was not prepared for the I-710 Corridor Project; however, each resource section of Chapter 3.0 of the RDEIR/SDEIS and this Final EIR/EIS includes a "Public Health Considerations" subsection in which public health pathways are identified and discussed.

L-24-8

Section 3.4.2.2 of the RDEIR/SDEIS includes information on the major underground oil and gas pipelines, and other utility facilities, that could be affected by the build alternatives. With implementation of Measure HW-6 in Section 3.12.4, should a build alternative be selected as the Preferred Alternative, a Construction Contingency Plan would be developed and implemented in the event that unidentified hazardous wastes are discovered during construction. However, as stated in Response to Comment L-24-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will not be a potential for the accidental release of crude oil or other chemicals present at oil and gas facilities during construction.

L-24-9

It should be clarified that the EPA noise guidance referenced in the comment "represent averages of acoustic energy over periods of time such as 8 hours or 24 hours, and over long periods of time such as years"[4] [emphasis added]. As construction of the build alternatives

[4] U.S. Environmental Protection Agency. EPA Identifies Noise Levels Affecting Health and Welfare, press release April 2, 1974. Website: https://archive.epa.gov/epa/aboutepa/epa-identifies-noise-levels-affecting-health-and-welfare.html (accessed July 18, 2018).

would be temporary, and Caltrans would require the construction contractor to comply with the 86 dBA threshold (as well as any other applicable local ordinances and identified avoidance, minimization, and/or mitigation measures), hearing loss would not occur. However, as stated in Response to Comment L-24-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, hearing loss will not occur at sensitive receptors.

L-24-10

As stated in Response to Comment L-24-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a more specific analysis of construction noise impacts and identification of mitigation measures is not necessary.

L-24-11

Caltrans' Noise Study Reports are based entirely on state and Federal policies as set forth in the Caltrans Traffic Noise Analysis Protocol (codified at 23 CFR 772). Funding mechanisms not addressed in 23 CFR 772 are beyond the scope of the Noise Study Report. Noise abatement measures such as rubberized asphalt concrete are not federally approved and were therefore not considered in the Noise Study Report or Noise Abatement Decision Report.

A tolling element as part of Alternative 6C was evaluated in the Draft EIR/EIS circulated for public review in 2012; however, that alternative has since been withdrawn from consideration. Changing of Port gate hours is solely the jurisdiction of the Ports of Los Angeles and Long Beach, not Metro or Caltrans.

While a health risk assessment was performed as part of the air quality analysis for the I-710 Project, the preparation of an HIA is beyond the scope of this EIR/EIS and was not considered at the time this document was prepared. However although the No Build Alternative has been selected as the Preferred Alternative, Metro has embarked on the I-710 Soundwall Program, which is currently implementing the construction of soundwalls along I-710 as early action projects. In addition, should a build alternative be selected as the Preferred Alternative, air quality improvement projects selected for funding under the I-710 Community Health Benefit Program, such as replacement and sealing of windows and doors, could also have a beneficial effect with regard to noise reduction. Please note that the No Build Alternative has been selected as the Preferred Alternative and therefore, the programmatic elements of the build alternatives, such as the Community Health Benefit Program, will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Prior to selection of the No Build Alternative, the description of the Community Health Benefit Program was being further defined including information regarding administration of the program, eligible projects, and project selection criteria.

L-24-12

It is important to note that the RDEIR/SDEIS analyzed the noise impacts that would occur as a result of the proposed project, in accordance with CEQA guidelines 15002(a)(1), which states that the basic purpose of CEQA is to inform decisionmakers and the public about the potential, significant environmental effects of proposed activities. In this case, the activity being analyzed is the proposed project as described in Chapter 2.0, Project Alternatives, of this Final EIR/EIS. Caltrans and Metro agree with the commenter's statement that the expanded noise study or HIA would be beyond the scope of CEQA; moreover, this type of analysis is not something that should be undertaken by a transportation agency. However, as stated in the Response to Comment L-24-11, Metro has been implementing the construction of soundwalls along I-710 as part of the I-710 Soundwall Program.

L-24-13

Per the Caltrans Technical Noise Supplement (September 2013), vehicle noise consists of four primary subsources: mechanical noise, exhaust noise (stack exhaust on heavy trucks), tire/pavement noise, and aerodynamic noise (at high speeds). Stricter EPA standards initiated in the 1970s have lowered mechanical and exhaust noise subsources. At highway speeds, tire/pavement noise affects total vehicle noise to a greater extent than all the other subsources combined. Whereas zero-emission trucks would emit less mechanical and exhaust noise, the predominant noise source, tire/pavement noise, would remain. Therefore, noise levels would not be substantially reduced if ZE/NZE trucks exclusively traveled on I-710. Additionally, there is currently no traffic noise prediction model that can separate or filter the different subsources to clearly determine the contributions of each noise subsource.

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COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

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IN REPLY PLEASE
REFER TO FILE: LD-4

October 23, 2017

Mr. Ronald Kosinski
Division of Environmental Planning
Department of Transportation, District 7
100 South Main Street, MS-16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT (RDEIR)/ SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT (SDEIS) INTERSTATE 710 (I-710) CORRIDOR PROJECT (PROJECT)

Thank you for the opportunity to review and respond to the RDEIR/SDEIS for the proposed project. The project's Draft EIR/EIS was previously circulated in June 2012. Based on additional information and public comments, a new set of build alternatives includes Alternative 1 (No Build), Alternative 5C (Modernization of I-710) and Alternative 7 (Modernization and Addition of a Clean-Emission Freight Corridor) were analyzed and included in the project's RDEIR/SDEIS.

The following comments are for your consideration:

1. Traffic

1.1. The following general comments apply to the RDEIR and the Traffic Impact Analysis (TIA):

1.1.1. Intersections with shared or 100 percent jurisdiction within unincorporated County will need to be analyzed with Intersection Capacity Utilization methodology and determine and mitigate impacts based on County of Los Angeles Department of Public Works (Public Works) guidelines for traffic impacts. L-25-1

1.1.2. Include language in the programmatic improvements in the RDEIR and TIA that any parking restrictions along Atlantic Boulevard, Garfield Avenue, and Eastern Avenue, within the unincorporated County area, will need to be reviewed and approved by Public Works and the residents/property owners on the affected roadways. L-25-2

1.1.3. Include language in the programmatic improvements in the RDEIR and TIA that any changes to timing and equipment on unincorporated County traffic signal infrastructure will need to be reviewed and approved by the Public Works. L-25-3

1.1.4. Provide Intersection Control Evaluation reports for all non-signalized study intersections or proposed local interchanges within the unincorporated County area. L-25-4

1.1.5. Incorporate the revised land uses from the East Los Angeles 3rd Street Specific Plan for the unincorporated East Los Angeles area into the traffic models for the affected unincorporated County areas. L-25-5

1.1.6. Provide conceptual plans for all mitigations within the unincorporated County area. L-25-6

1.1.7. The following unincorporated County intersection mitigations are not feasible within existing road right of way per Public Works design practices; provide alternative mitigations: L-25-7

- Third Street at Gage Avenue
- Ford Boulevard at Third Street

1.2 The following comments relate to the RDEIR:

1.2.1 Page 29 - The Traffic Management Plan to mitigate construction impacts will need to be reviewed and approved by Public Works if the Traffic Management Plan would affect unincorporated County roadways. L-25-8

1.2.2. Table 3.5-7 should be updated to reflect the following intersections as shared jurisdiction with the County of Los Angeles:

- Intersection 33 – Del Amo Boulevard at Alameda Street
- Intersection 34 – Del Amo Boulevard at Santa Fe Avenue
- Intersection 50 – Rosecrans and Atlantic Avenue
- Intersection 63/631 – Florence Avenue at Alameda Street
- Intersection 111 – I-710 southbound on/off ramp at Del Amo Boulevard
- Intersection 149 – Pacific Avenue at Florence Avenue
- Intersection 161 – Del Amo Boulevard at Susana Road
- Intersection 178 – Bandini Boulevard at Downey Road
- Intersection 210 – I-710 southbound Del Amo Boulevard and Susana Road
- Intersection 513 – SR 91 eastbound on/off ramp at Santa Fe Avenue

L-25-9

1.2.3. Table 3.5-7 should be updated to reflect the following intersections as not being shared jurisdiction with the County of Los Angeles:

- Intersection 68/681 – Slauson Avenue at Alameda Street
- Intersection 76 – Alameda Street at Washington Boulevard

L-25-10

1.3. The following comments relate to the TIA dated March 2017:

1.3.1. Figure 2-1 - Provide average daily traffic volumes and impact evaluation for the following roadway segments:

- Santa Fe Avenue between Del Amo Boulevard and Artesia Boulevard
- Alameda Street between Del Amo Boulevard and Artesia Boulevard
- Atlantic Avenue between Florence Avenue and Firestone Boulevard
- Ford Boulevard, Arizona Avenue between Whittier and Cesar Chavez Avenue
- 3rd Street between Indiana Street and Atlantic Avenue
- Indiana Street between Cesar Chavez Avenue and Olympic Boulevard

L-25-11

- Cesar Chavez between Eastern Avenue and Atlantic Avenue
- Eastern Avenue between Olympic Boulevard and Cesar Chavez Avenue
- Atlantic Avenue between Pomona Boulevard and Whittier Boulevard

L-25-11

1.3.2. Figure 2.2b – Add the following intersections to the study:

- Atlantic Avenue at Pomona Boulevard
- Atlantic Avenue at Whittier Boulevard
- Atlantic Avenue at Olympic Boulevard
- Indiana Street at Cesar E Chavez Avenue
- Downey Road at the 60 Freeway on/off ramps
- Third Street at Mednik Avenue
- Third Street at the 60 westbound on/off ramp
- Atlantic Boulevard at the 60 eastbound on/off ramp
- Atlantic Boulevard at the 60 westbound on/off ramp

L-25-12

1.3.3. Section 2.2.2.1 – Study Intersections – Signalized Intersections

Revise average cycle lengths within the unincorporated County area to be 120 seconds. L-25-13

1.4. The following comments relate to Design Options 3A/3B:

1.4.1. Provide Intersection Control Evaluation reports for all local interchanges within the unincorporated County areas directly affected by these design options. L-25-14

1.4.2. Due to the increased traffic at the Ford Boulevard at I-710 northbound on/off ramp, provide a study to determine if exclusive left- and right-turn lanes are required for the intersection. L-25-15

1.4.3. Determine left-turn queue length requirements for the new Whittier Boulevard at I-710 southbound on/off ramp and the Whittier Boulevard at Eastern Avenue left-turn queue length requirements to ensure left-turn queues do not spill over onto through movement lanes to the adjacent intersection. L-25-16

1.4.4. Determine left-turn queue length requirements for the new Olympic Boulevard at I-710 southbound on/off ramp and the Ford Boulevard at Eastern Avenue left-turn queue length requirements to ensure left-turn queues do not spill over onto through movement lanes to the adjacent intersection. L-25-17

If you have any questions regarding the traffic comments, please contact Mr. Kent Tsujii of Public Works' Land Development Division at (626) 300-4776 or ktsujii@dpw.lacounty.gov.

2. General

2.1. Alternative 7 of the REIR should include any impacts and mitigations required for the Los Angeles River Bike Trail. L-25-18

2.2. The REIR should include any impacts and mitigations required for the loss of street parking capacity along Atlantic Boulevard for any alternative that includes bus rapid transit service along Atlantic Boulevard. L-25-19

3. Please refer to the enclosed letters that outline additional project impacts to Public Works and the Los Angeles County Flood Control District at the Dominguez Gap and Deforest Treatment Wetlands and Los Angeles River and Rio Hondo Trail locations. The RDEIR/SDEIS must reflect design changes as a result of these comments.

If you have any other questions or require additional information, please contact Mr. Toan Duong of Public Works' Land Development Division at (626) 458-4910 or duong@dpw.lacounty.gov.

Very truly yours,

MARK PESTRELLA
Director of Public Works

ANTHONY E. NYIVIH
Assistant Deputy Director
Land Development Division

TD:tb
I-710 CORRIDOR RDEIR-SDEIS DPW Comments.docx

Enc.

COUNTY OF LOS ANGELES

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October 5, 2017

IN REPLY PLEASE
REFER TO FILE: LD-4

Mr. Ronald Kosinski
Division of Environmental Planning
Department of Transportation, District 7
100 South Main Street, MS-16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

DOMINGUEZ GAP AND DEFOREST TREATMENT WETLANDS IMPACTS (DGDTW) INTERSTATE 710 CORRIDOR PROJECT

Thank you for reaching out to the Los Angeles County Department of Public Works (Public Works) regarding possible impacts to improvements within the County's jurisdiction. This is in response to your letter dated July 19, 2017 (copy enclosed), outlining the I-710 project impacts on the DGDTW.

The following Public Works comments are for your consideration:

1. General Permits:

    1.1. Work within the Los Angeles County Flood Control District (LACFCD) right of way or County road right of way may require a LACFCD or County road permit, respectively.

    1.2. Storage of construction materials within LACFCD right of way or County road right of way is prohibited unless explicitly permitted.

    1.3. Any proposed alternative routes or detours for the trails that are anticipated to be closed for the implementation of the proposed project may require a LACFCD or County road permit depending on the proposal. A preliminary site plan depicting the proposed alternative routes or detours shall be submitted to Public Works' Land Development Division, Encroachment Permits

and Inspection Section, to assess if a permit and corresponding traffic/pedestrian/detour control plans will be required. If so, an approved traffic/pedestrian/detour control plan will be required prior to any permit issuance. Review and approval of traffic/pedestrian/detour control plans will be coordinated through Land Development Division's Encroachment Permits and Inspection Section. Permit fees may be required.

For County road permit information or if you have any questions, please contact Mr. Juan Sarda at (626) 458-4921 or jsarda@dpw.lacounty.gov.

2. Dominguez Gap West Basin

2.1. General

2.1.1. For RDEIR/SDEIS Alternative 7, the basin will be reduced from 13.3 acres to 9.54 acres. Given the proposed reduction of size of the west basin and the lower percolation rates as a result of the retaining wall foundation, it is very likely that the basin will no longer serve as an effective groundwater recharge facility. Caltrans/Metro should provide land of equal or greater value that provides effective groundwater recharge to replace the net loss of 3.76 acres to the LACFCD and replace any additional loss of groundwater recharge capability due to the proposed basin design features such as the retaining wall foundation. This shall be included as a mitigation in the RDEIR/SDEIS for Alternative 7.

2.1.2. The southern basin belongs to the City of Long Beach and is not considered part of the Dominguez West Basin.

2.2. Basin Design Considerations for Alternative 7

2.2.1. Provide an access road to the bottom of the basin.

2.2.2. Vandalism (graffiti) will be a concern with a 40-foot-high retaining wall. Mitigations and maintenance should be addressed in the environmental documents.

2.2.3. Replace any basin level recorder and accompanying flow recorder impacted by construction.

2.2.4. Existing storm drain outflow pipes connected to the Long Beach basin would need to be relocated to outfall elsewhere. Direct storm drain flows are generally not permitted into spreading grounds.

2.2.5. For the proposed basin, the relative narrowness of the southern portion and the proposed retaining wall for the proposed freight corridor and LA River channel would make the facility difficult to maintain. Caltrans/Metro should provide an alternative to provide adequate maintenance access for the water conservation basin.

3. DeForest Market Street Basin

3.1. There is an existing conduit connection under North Long Beach Boulevard that connects the northern and southern DeForest basins. Storm flows are ultimately directed to the Market Street Pump Station, which discharges to the Los Angeles River. The proposed reconstruction and construction staging should ensure that storm flows can still pass from the north basin to the south basin. If storm flows are restricted from passing, the northern basins have no other outlet and could potentially flood the adjacent neighborhoods to the east. Additionally, the area taken up by the staging could potentially reduce the available storage provided by the existing basins.

Please provide more detailed plans and/or drawings to define the Temporary Construction Easement (TCE) for reconstructing North Long Beach Boulevard. The TCE plan should avoid the impacts stated above and/or provide analysis showing the flood capacity of the basin is maintained during storms.

3.2. Public Works needs vehicular access to the Market Street Pump Station at all times via the Los Angeles River east side maintenance access road between Long Beach Boulevard and Del Amo Boulevard. The RDEIR/SDEIS should disclose how access will be maintained.

If you have any questions regarding comments 2 and 3 above, please contact Mr. Ryan Butler at (626) 458-4331 or rbutler@dpw.lacounty.gov.

If you have any other questions or require additional information, please contact Mr. Toan Duong of Land Development Division at (626) 458-4910 or duong@dpw.lacounty.gov.

Very truly yours,

MARK PESTRELLA
Director of Public Works

ANTHONY E. NYIVIH
Assistant Deputy Director
Land Development Division

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I-710 Dominguez Gap Deforest Treatment Comments.docx

Enc.

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Making Conservation a California Way of Life.

July 19, 2017

Mark Pestrella, Director
Los Angeles County Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803

Dear Mr. Pestrella,

This letter is regarding the proposed impacts on the Dominguez Gap and DeForest Treatment Wetlands as a result of the Interstate 710 (I-710) Corridor Project (project). Under Section 4(f) of the United States Department of Transportation Act of 1966, these properties are considered a Section 4(f) resource. The project would require the permanent incorporation and temporary removal of land from the West Basin, and an expanded aerial easement and a temporary construction easement (TCE) on the DeForest Market Street Basin.

The project proposes to construct improvements from Ocean Boulevard in the City of Long Beach to State Route 60 (SR-60) in the City of Los Angeles. A Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was prepared for the project in 2012, which included the analysis of four build alternatives. Subsequent to public circulation of the Draft EIR/EIS, in response to new information and comments received from the public, a revised set of build alternatives were developed. The revised build alternatives under consideration include Alternative 5C (Modernize the I-710 Freeway) and Alternative 7 (Add Clean-Emission Freight Corridor [Truck-Only Lanes] Along I-710). A No Build Alternative is also under consideration.

As shown on **Figure 1**, Alternative 7 would require the removal of the entire West Basin (13.3 acres). However, only 5.4 acres along the western edge of the existing basin would be permanently incorporated into the transportation facility. The remaining 7.9 acres of the basin would be restored in the same location following construction. The temporary removal and restoration of this 7.9-acre area would constitute a temporary occupancy of this portion of the basin.

An additional 1.64 acres outside of the existing basin would also be added to the restored basin area, for a total basin area of 9.54 acres. Therefore, Alternative 7 would result in an overall net loss of 3.76 acres of the existing basin area, which would constitute a permanent use of this portion of the basin. Recreational trails around the basin would be restored following construction.

While the basin would be reduced in size from 13.3 acres to 9.54 acres, the new basin would serve a similar function as the existing basin, and recreational activities would still be available on the property. Temporary closures of the recreational trails around the basin would be required during construction. However, because the recreational trails around the basin would be restored following construction, the permanent use and temporary occupancy of a portion of the basin is not expected to adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

The build alternatives would require the construction of a wider bridge over the DeForest Market Street Basin at North Long Beach Boulevard, requiring an expanded bridge and aerial easement that is 0.95 acre wider than the existing bridge and easement. The proposed bridge and aerial easement would not be substantially wider than the existing bridge and easement, and would therefore not be expected to result in substantial visual impacts. The wider aerial easement would not interfere with any of the activities, features, or attributes of any recreational activities beneath the bridge, and would not result in any proximity impacts that would substantially impair the resource. Therefore, the wider aerial easement would not constitute a use under Section 4(f).

The build alternatives would require 0.95 acre of the DeForest Market Street Basin for a TCE during project construction, which would constitute a temporary occupancy of a portion of the basin. The TCE area would be required to construct the wider bridge over the basin at North Long Beach Boulevard, and to restore a maintenance access road to Del Amo Boulevard. The basin would be used for construction staging, materials storage, parking of construction equipment and worker vehicles, light grading, and other similar activities. The construction activities in the TCE area would not result in any permanent adverse physical impacts in that area, and the temporary occupancy would not interfere with the protected activities, features, or attributes of that portion of the basin on a temporary or permanent basis. The area used for the TCE would be returned to the Los Angeles County Department of Public Works (LACDPW) in a condition which as at least as good as that which existed prior to the project. Because impacts in the basin would be temporary, the temporary occupancy of a portion of the basin is not expected to adversely affect the activities, features, and attributes that qualify the basin for protection under Section 4(f).

With implementation of mitigation measures, the permanent use and temporary occupancy of a portion of the Dominguez Gap and DeForest Treatment Wetlands would not adversely affect the activities, features, and attributes of the 4(f) resource. Therefore, Caltrans intends to make a *de minimis* determination for the permanent use and temporary occupancy of a portion of the Dominguez Gap and DeForest Treatment Wetlands.

Caltrans is initiating consultation and coordination with your agency to determine use and ensure that all reasonable measures to minimize harm have been considered. In addition, because Caltrans intends to make a *de minimis* determination for the permanent use and temporary occupancy of a portion of the Dominguez Gap and DeForest Treatment Wetlands, Caltrans is seeking your written concurrence that the project would not adversely affect the activities, features, and attributes that qualify the properties for protection under Section 4(f).

The revised build alternatives, Alternative 5C and Alternative 7, have been evaluated in a joint Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). The RDEIR/SDEIS, which includes the Section 4(f) evaluation, will be circulated for a 60-day public review period. The United States Department of Transportation Act mandates a minimum of 45 days for receipt of comments regarding Section 4(f) impacts. If comments are not received from your agency by October 9, 2017, a lack of objection may be assumed and the process may proceed to a final evaluation.

The Section 4(f) Evaluation is found in Appendix B of the RDEIR/SDEIS and may be viewed on July 21, 2017 at the following website:

http://www.dot.ca.gov/d7/env-docs/

If you should have any questions or would like to arrange a meeting to discuss further, please contact Jason Roach of my staff at (213) 897-0357 or jason.roach@dot.ca.gov.

Sincerely,

RON KOSINSKI
Deputy District Director, Division of Environmental Planning
Caltrans District 7

enclosures

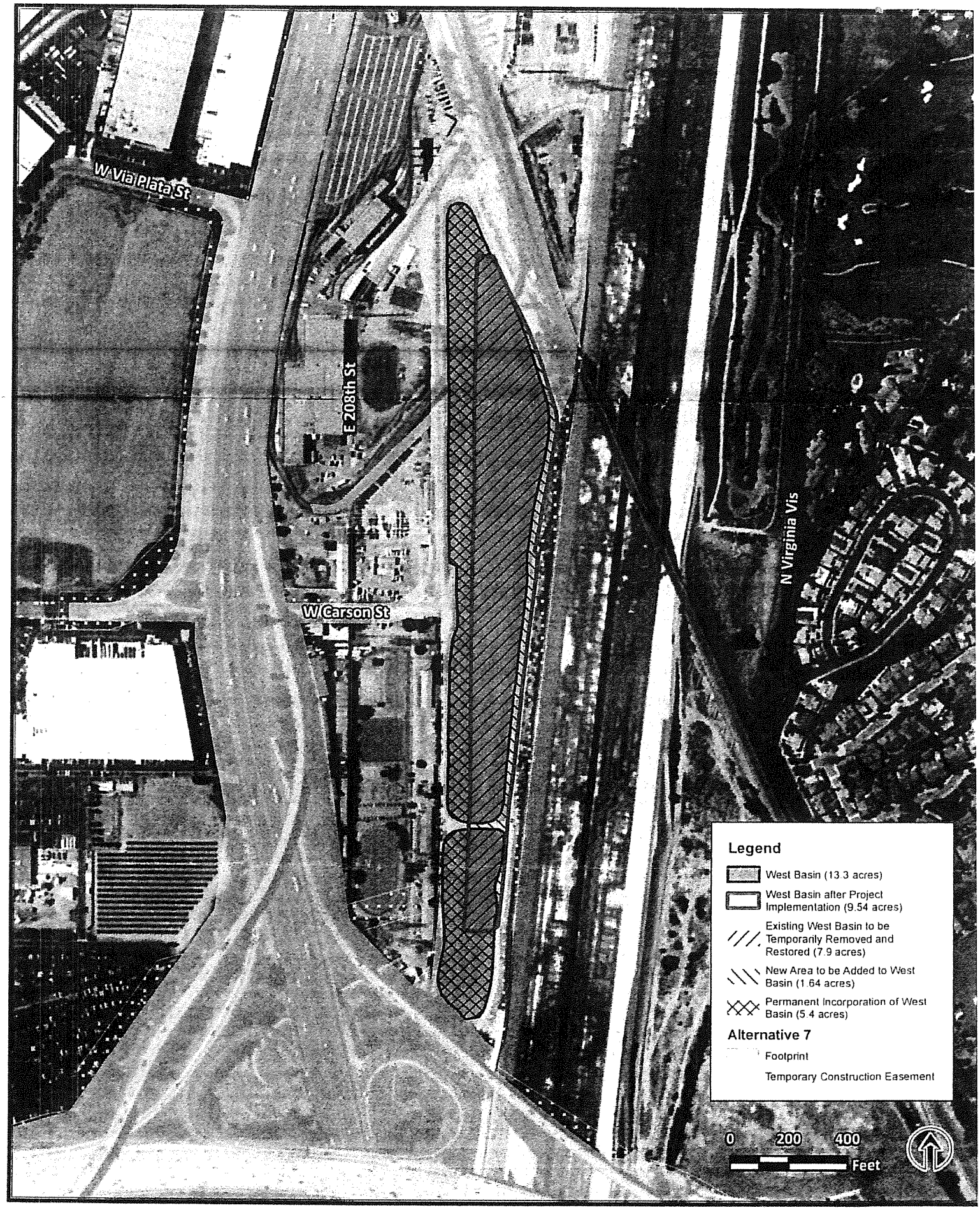


FIGURE 1. Impacts on the Dominguez Gap Wetlands West Basin (ALTERNATIVE 7)

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

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October 5, 2017

IN REPLY PLEASE
REFER TO FILE: LD-4

Mr. Ronald Kosinski
Division of Environmental Planning
Department of Transportation, District 7
100 South Main Street, MS-16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

LOS ANGELES RIVER AND RIO HONDO (LARIO) TRAILS
INTERSTATE 710 CORRIDOR PROJECT

Thank you for reaching out to the Los Angeles County Department of Public Works (Public Works) regarding possible impacts to improvements within the County's jurisdiction. This is in response to your letter dated July 19, 2017 (copy enclosed), outlining the I-710 project impacts on LARIO trails.

The following Public Works comments are for your consideration:

1. General Permits:

    1.1. Work within the Los Angeles County Flood Control District (LACFCD) right of way or County road right of way may require a LACFCD or Public Works Road permit, respectively.

    1.2. Storage of construction materials within LACFCD right of way or County road right of way is prohibited unless explicitly permitted.

    1.3. Any proposed alternative routes or detours for the trails that are anticipated to be closed for the implementation of the proposed project may require a LACFCD or County road permit depending on the proposal. A preliminary site plan depicting the proposed alternative routes or detours shall be submitted to Public Works' Land Development Division, Encroachment Permits

and Inspection Section, to assess if a permit and corresponding traffic/pedestrian/detour control plans will be required. If so, an approved traffic/pedestrian/detour control plan will be required prior to any permit issuance. Review and approval of traffic/pedestrian/detour control plans will also be coordinated through Land Development Division's Encroachment Permits and Inspection Section. Permit fees may be required.

For County road permit information or if you have any questions, please contact Mr. Juan Sarda at (626) 458-4921 or jsarda@dpw.lacounty.gov.

2. LARIO Trails

2.1. During construction, all trails along LARIO Channel shall remain open to Public Works maintenance personnel and provide necessary vehicular access to the channels for flood control operation and maintenance. Please provide a detailed access plan to Public Works and include construction alternatives that provide access along these trails in the Recirculated Environmental Impact Report.

If you have any questions regarding comment 2 above, please contact Mr. Ryan Butler at (626) 458-4331 or rbutler@dpw.lacounty.gov.

If you have any other questions or require additional information, please contact Mr. Toan Duong of Land Development Division at (626) 458-4910 or duong@dpw.lacounty.gov.

Very truly yours,

MARK PESTRELLA
Director of Public Works

ANTHONY E. NYIVIH
Assistant Deputy Director
Land Development Division

TD:la
I-710 LARIO Comments.docx

Enc.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 S. MAIN STREET, SUITE 100
LOS ANGELES, CA 90012
PHONE (213) 897-0703
FAX (213) 897-0685
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

July 19, 2017

Mark Pestrella, Director
Los Angeles County Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803

Dear Mr. Pestrella,

This letter is regarding the proposed impacts on the Los Angeles River and Rio Hondo Trails (LARIO Trail) as a result of the Interstate 710 (I-710) Corridor Project (project). Under Section 4(f) of the United States Department of Transportation Act of 1966, this park property is considered a Section 4(f) resource. The project would require temporary closures of portions of the trails during construction.

The project proposes to construct improvements from Ocean Boulevard in the City of Long Beach to State Route 60 (SR-60) in the City of Los Angeles. A Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was prepared for the project in 2012, which included the analysis of four build alternatives. Subsequent to public circulation of the Draft EIR/EIS, in response to new information and comments received from the public, a revised set of build alternatives were developed. The revised build alternatives under consideration include Alternative 5C (Modernize the I-710 Freeway) and Alternative 7 (Add Clean-Emission Freight Corridor [Truck-Only Lanes] Along I-710). A No Build Alternative is also under consideration.

As shown in **Figure 1**, the build alternatives would be constructed in proximity to the LARIO Trail, and would require short-term, temporary closures of trail crossings at I-710 and local streets during construction, which would constitute the temporary occupancy of a portion of the trail. There are numerous trail crossings in the study area, starting from East Ocean Boulevard in the south to Slauson Avenue in the north, and the temporary closures would occur along several local streets in between these southern and northern limits. These closures would be temporary and may range from a few days to several months in duration, depending on the project construction activities at a given trail crossing. Alternative/detour routes for the trails would be provided whenever a closure is needed.

The segments of the LARIO Trail at the affected crossings of I-710 and the local streets would be returned to their original condition and/or incorporate enhancements at the completion of construction, and would be reopened to public use. Because impacts on the trails would be temporary during construction, and measures

to minimize harm to the trail would be implemented, the temporary occupancy of a portion of the trail is not expected to adversely affect the activities, features, and attributes that qualify the trail for protection under Section 4(f).

With implementation of mitigation measures, the temporary occupancy of a portion of the LARIO Trail would not adversely affect the activities, features, and attributes of the 4(f) resource. Therefore, Caltrans intends to make a *de minimis* determination for the temporary occupancy of a portion of the LARIO Trail.

Caltrans is initiating consultation and coordination with your agency to determine use and ensure that all reasonable measures to minimize harm have been considered. In addition, because Caltrans intends to make a *de minimis* determination for the temporary occupancy of a portion of the LARIO Trail, Caltrans is seeking your written concurrence that the project would not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f).

The revised build alternatives, Alternative 5C and Alternative 7, have been evaluated in a joint Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). The RDEIR/SDEIS, which includes the Section 4(f) evaluation, will be circulated for a 60-day public review period. The United States Department of Transportation Act mandates a minimum of 45 days for receipt of comments regarding Section 4(f) impacts. If comments are not received from your agency by October 9, 2017, a lack of objection may be assumed and the process may proceed to a final evaluation.

The Section 4(f) Evaluation is found in Appendix B of the RDEIR/SDEIS and may be viewed on July 21, 2017 at the following website:

http://www.dot.ca.gov/d7/env-docs/

If you should have any questions or would like to arrange a meeting to discuss further, please contact Jason Roach of my staff at (213) 897-0357 or jason.roach@dot.ca.gov.

Sincerely,

RON KOSINSKI

Deputy District Director, Division of Environmental Planning

Caltrans District 7

enclosure

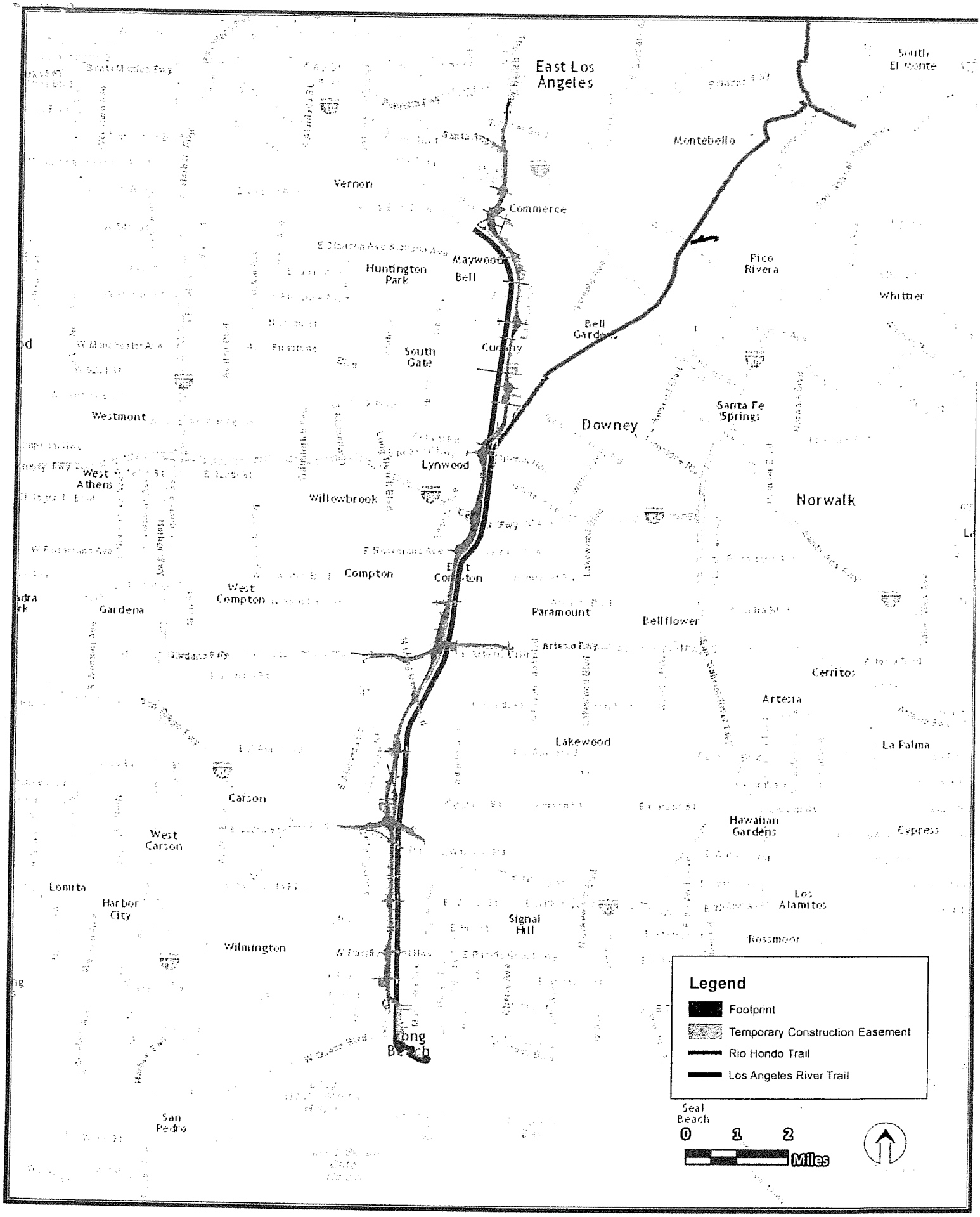


FIGURE 1. Temporary Closures of LARIO Trail
ALTERNATIVE 5C AND ALTERNATIVE 7

L-25-1

As the CEQA and NEPA lead agency, it is Caltrans' standard practice to utilize the Highway Capacity Manual (HCM) methodology as described in Chapter 11 through Chapter 13 of the Transportation Research Board's HCM 2010 to assess intersection performance. Intersection Level of Service (LOS) was calculated according to analysis methodologies described in the HCM. Section 3.5.3 of the RDEIR/SDEIS and Section 7, Project Impacts and Mitigation Measures, of the *Intersection Traffic Impact Analysis Report* (March 2017), described the criteria for determining impacts to arterial intersections. As lead agency, Caltrans is responsible for establishing the traffic impact determinations for the I-710 Corridor Project. With respect to the intersection impact analysis, the same methodology was uniformly applied for the intersections of all local jurisdictions that make up the I-710 Study Area for the purpose of determining project impacts and for identifying mitigation. This is appropriate given that each city has their own thresholds for their own local projects, which vary from city to city. The criteria established for the project, as described in Section 3.5.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, were identified based on an examination of future (congested) travel conditions of the arterial network within the I-710 Study Area and Caltrans' project experience with other major freeway projects in Los Angeles County that are similar in scope and magnitude to the I-710 Corridor Project.

L-25-2

Please refer to Section 1.6, Arterial Parking Restrictions, for further discussion of parking details. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, these restrictions have been eliminated from further consideration. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

L-25-3

It is acknowledged that improvements or projects pursued under the I-710 Congestion Relief Program would be subject to the discretion of the local entity that has jurisdiction over these local roadway facilities. However, as stated in Response to Comment L-25-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the I-710 Congestion Relief Program is no longer an element of the I-710 Corridor Project.

L-25-4

The Intersection Control Evaluation (ICE) process was conducted for all proposed local interchanges, including those within unincorporated County areas, and was part of the

geometric design development process and supporting technical documents. This information can be made available upon request.

L-25-5

The travel forecasts performed in support of the RDEIR/SDEIS were informed by the I-710 travel demand forecasting model, which was derived from the SCAG 2012 RTP/SCS regional travel demand forecasting model, and calibrated and validated for traffic in the I-710 Corridor. SCAG's 2012 RTP/SCS model utilizes population, employment, and housing socio-economic forecast data provided by the County of Los Angeles for the East Los Angeles area. Please refer to the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017) for additional detail. The I-710 travel demand forecasting model is a focused corridor-level traffic forecasting tool, and as such, at the appropriate level of detail to assess the traffic impacts at a corridor level for the environmental analyses. The development of the I-710 travel demand forecast model precedes the adoption of the East Los Angeles 3rd Street Specific Plan, which was finalized in November 2014. As stated in Response to Comment L-25-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the traffic analyses conducted for the project does not need to be refined and the East Los Angeles 3rd Street Specific Plan, including specifics on land uses, will not be utilized as a reference document during final design.

L-25-6

Conceptual sketches illustrating the proposed mitigation measures at the impacted intersections were included as Appendix E to the *Intersection Traffic Impact Analysis Report* (March 2017). As stated in Response to Comment L-25-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, design plans for the proposed mitigation do not need to be provided to the County of Los Angeles.

L-25-7

The analyses presented in the RDEIR/SDEIS strived to develop and present the most appropriate mitigation taking into consideration right-of-way constraints, safety, and feasibility in implementing any proposed mitigations. As a key stakeholder, the Los Angeles County Department of Public Works is an important partner in the development of the overall I-710 Corridor Project. However, as stated in Response to Comment L-25-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no need for the proposed mitigation presented in the RDEIR/SDEIS.

L-25-8

Caltrans' development of a TMP document is inclusive, with the active participation of stakeholders as well as reviewing agencies such as the LACDPW. However, as stated in Response to Comment L-25-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, development of a TMP is not necessary.

L-25-9

Table 3.5-7 has been updated to reflect the referenced intersections as shared jurisdiction with the County of Los Angeles.

L-25-10

Table 3.5-7 has been updated to reflect the referenced intersections as not being shared jurisdiction with the County of Los Angeles.

L-25-11

The selection of the arterial roadway segments to include in the traffic analyses presented in the *Intersection Traffic Impact Analysis Report* (March 2017) was determined based upon the role that these major arterial roadways perform with regard to I-710 as well as the regional arterial network. Generally, contiguous north-south arterials of sufficient length that run parallel to the 19-mile I-710 Corridor, and the east-west arterials that have an interchange with I-710, were identified for evaluation as these regionally significant facilities would be most likely to show shifts in traffic volumes related to circulation changes on I-710 generated by the build alternatives.

However, the traffic impact thresholds focus on the study intersections, as that is where the delay to motorists using the arterial network typically occurs, and where the quantitative traffic analysis is most sensitive to changes in traffic flows and traffic movements associated with the build alternatives. A detailed discussion of intersection impact thresholds and methodologies can be found in Section 2.2 and Section 7 of the *Intersection Traffic Impact Analysis Report*, and was summarized in Section 3.5.3.1 of the RDEIR/SDEIS and this Final EIR/EIS. Nearly 200 intersections were evaluated throughout the I-710 Study Area in the RDEIR/SDEIS. The selected intersections were originally identified with the consent and approval of the I-710 TAC in 2009. This list of selected intersections was increased based on comments received on the Draft EIR/EIS circulated for public review in 2012, including comments from LADPW, and the list was reaffirmed by the I-710 TAC prior to initiating updated traffic forecasting and analysis work for the RDEIR/SDEIS.

L-25-12

The list of intersections that were analyzed was updated based on the findings of the Draft EIR/EIS circulated for public review in 2012, and was reaffirmed by the I-710 TAC prior to initiating work on the RDEIR/SDEIS. The main purpose of the proposed freeway improvements included in the build alternatives are to address congestion, design deficiencies, traffic operations, and safety concerns on I-710 as well as related air quality issues associated with the I-710 freeway, as discussed in detail in Section 1.2 of the RDEIR/SDEIS. Over 185 intersections were evaluated as part of this process to determine if the proposed freeway project improvements of the build alternatives would result in traffic impacts to the arterial system, and if so, to identify measures to address those impacts. Approximately 24 of these analyzed intersections are located within East Los Angeles, more than any other local jurisdiction in the I-710 Study Area, with the exception of the City of Long Beach. Nearly half of the I-710 Corridor is located in the City of Long Beach.

L-25-13

For arterial intersections, a cycle length of 100 seconds was used in the analysis. For the traffic analysis conducted in support of the RDEIR/SDEIS, different assumptions were not utilized for different local jurisdictions so as to not bias the results. The intersections were assumed to be actuated and coordinated with the adjacent intersections, and therefore a uniform cycle length of 100 seconds was used throughout the network, with the exceptions of ramp intersections.

L-25-14

As stated in Section 1.1 of this appendix, Identification of a Preferred Alternative, Design Options 3A and 3B are no longer under consideration; however, the Intersection Control Evaluation (ICE) process was conducted for all proposed local interchanges, including those within unincorporated County areas and was part of the geometric design development process and supporting documents for the build alternatives and the design options. This information can be made available upon request.

L-25-15

Please refer to Response to Comment L-25-14. In addition, based on the Synchro analysis conducted for Intersection no. 129 (I-710 northbound on- and off-ramps at Ford Boulevard), the implementation of a traffic signal and related traffic controls that are included in the build alternatives for this intersection are sufficient to raise the LOS for this intersection from LOS F (under the No Build Alternative) to an acceptable level of service (LOS D) under Alternative 5C. These detailed Synchro worksheets can be found in the Appendices of the *Intersection Traffic Impact Analysis Report* (March 2017). It should be noted that, since the No Build Alternative has

been selected as the Preferred Alternative, Intersection No. 29 would operate at LOS F and no mitigation would be provided.

L-25-16

Please refer to Response to Comment L-25-14. In addition, detailed ramp intersection queuing analysis was provided in the *I-710 Corridor Project Traffic Operations Analysis Report* (Traffic Operations Analysis Report) (March 2017). Table 7-47 of the Traffic Operations Analysis Report summarizes the queue lengths at the I-710 southbound ramps and Whittier Boulevard intersection.

L-25-17

Please refer to Response to Comment L-25-14. In addition, detailed ramp intersection queuing analysis was provided in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017). Table 7-47 of the Traffic Operations Analysis Report summarizes the queue lengths at the I-710 southbound ramps and Olympic Boulevard/Eastern Avenue intersection.

L-25-18

Impacts and mitigation to the Los Angeles River Trail was discussed for both Alternatives 5C and 7 in Sections 3.1, Land Use, Section 3.24, Construction Impacts, and Appendix B, Section 4(f) Evaluation, of the RDEIR/SDEIS.

L-25-19

As stated in Response to Comment L-25-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no elimination of existing on-street parking on Atlantic Boulevard to implement bus rapid transit service. Further, as discussed in Response to Comment L-25-2, arterial peak period parking restrictions are no longer proposed for the I-710 Corridor Project.

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COUNTY OF LOS ANGELES
DEPARTMENT OF PARKS AND RECREATION
"Parks Make Life Better!"
John Wicker, Director Norma E. Garcia, Chief Deputy Director

October 23, 2017

Mr. Ronald J. Kosinski
Deputy District Director
California Department of Transportation
Division of Environmental Planning, Caltrans District 7
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)/ SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) AND SECTION 4(f) EVALUATION FOR THE INTERSTATE 710 CORRIDOR IMPROVEMENT PROJECT

The Department of Parks and Recreation (Department) has reviewed the I-710 Corridor Project Recirculated DEIR/Supplemental DEIS for potential impacts to the Departmental facilities including County multi-use trails. Please find below the Department's comments:

Build Alternative 5C:

- Based on the Department's review of the two build alternatives' impacts to Departmental facilities and County multi-use trails, Alternative 5C best accommodates current and future need for increased east-west connectivity in order to link communities located on either side of the I-710 Corridor and Los Angeles River. Build Alternative 5C includes five additional bike/pedestrian bridges, whereas only three are proposed for Alternative 7. While the Department recognizes the I-710 Freeway Corridor Project seeks a solution to current and future increases in vehicular and freight traffic volumes, Alternative 5C best balances these needs with demand for alternate modes of transportation and neighborhood interconnectivity. L-26-1

LA County Trails Website:

- Where most relevant/applicable in the DEIR/DEIS, include LA County Department of Parks and Recreation's Trails Website URL for reference: **www.trails.lacounty.gov**. L-26-2

Page 10, S.5.1.3 – Parks and Recreation Facilities

- Revise the second to last sentence as follows: The build alternatives would improve regional or local bikeways as well as multi-use trails (hiking, biking, equestrian) with the addition of three pedestrian/bicycle-only overcrossings under both build alternatives, and five total proposed overcrossings under Alternative 5C. L-26-3

Page 27, Traffic Circulation, Pedestrians, and Bicyclists

- Revise the last sentence as follows: In addition, construction of the build alternatives would result in temporary impacts to pedestrian and bicyclist access points to regional and local multi-use trails and bikeways (including the Los Angeles River and Rio Hondo Trails), and short-term closures of segments of bikeways in the vicinity of new and/or modified interchanges. L-26-4

Page 2-18, Pedestrian and Bike-only Bridges

- Please provide accommodations for equestrian users, in addition to pedestrian and bicyclists, on the bridges proposed to span the Los Angeles River and connect to the Los Angeles River Trail under Alternatives 5C & 7. L-26-5

Page 3.1-63, Local Multi-Use Trails

- Revise the approximate length of the Los Angeles River Trail from 9.9 miles to 9.57 miles. L-26-6

- Include the Rio Hondo River Trail (15.61 miles) in this section. L-26-7

Page 3.1-64,Table 3.1-3: Existing Parks and Recreation Facilities within 0.5 Miles of the I-710 Corridor Project Improvements

- Revise the Department's facilities as follows: L-26-8

Resource	Address	Amenities
East Rancho Dominguez ~~County~~ Park	15116 S. Atlantic Ave., City of Compton (County of Los Angeles)	East Rancho Dominguez ~~County~~ Park is a five-acre park owned and operated by the County of Los Angeles that offers a gymnasium, a large community building, tennis courts, lighted basketball courts, a picnic area with barbeque grills, and restrooms.
Los Amigos ~~Country Club~~ Golf Course	7295 Quill Dr., City of Downey (County of Los Angeles)	Los Amigos ~~Country Club~~ Golf Course is a public 18-hole golf course owned and operated by the County of Los Angeles that features 5,937 yards of golf from the longest tees for a par of 70. The facility includes a clubhouse.
Ruben F. Salazar Park	3864 Whittier Boulevard, County of Los Angeles (unincorporated East Los Angeles)	Ruben F. Salazar Park provides a baseball field, basketball courts, play area, community room, computer center, gymnasium, outdoor fitness station, picnic shelters, senior center, swimming pool, and a tennis court.
Eugene A. Obregon ~~County~~ Park	4021 East First Street, County of Los Angeles (unincorporated East Los Angeles)	Eugene A. Obregon Park provides basketball courts, ceramic rooms, community room, computer center, fitness zone, gymnasium, multi-purpose field, swimming pool and a walking path.
72nd Street Staging Area	550 72nd Street, City of Long Beach (County of Los Angeles)	The 72nd Street Arena and Park is a three acre hidden gem, adjacent to the Los Angeles River Trail that runs north to Santa Fe Dam Regional Park and south to Long Beach, ending at Lakewood boulevard near Carson Street. This multi-purpose facility includes a two-story announcer building used for viewing and judging of special events.

L-26-8

- Revise Hollydale Park as follows: Hollydale Park is a 56-acre community park built in 1976. The park is partially developed with a playground, lighted tennis courts, handball courts, softball fields with a backstop, an equestrian center, a volleyball court, open turf areas for soccer, one large picnic shelter, a parking lot, stair access to the bike path, and an ~~equestrian~~ multi-use trail along Los Angeles River. L-26-9

Page 3.1-78, Table 3.1-5: Permanent Direct and Indirect Impacts to Parks and Recreation Facilities

- Evaluate the 72nd Street Staging Area for potential direct and indirect impacts from the I-710 Corridor Project. L-26-10

Page 3.1-87, Paragraph 2

- Revise the sentence as follows: The build alternatives would not result in permanent adverse impacts to regional or local multi-use trails or bikeways. Beneficial impacts associated with the creation of bike overcrossings would be expected due to the creation of connectivity and access to local parks. L-26-11

Page 3.1-88, Park Access

- Please provide accommodations for equestrian users (in addition to pedestrian and bicyclists) on the overcrossings proposed to span the Los Angeles River and connect to the Los Angeles River Trail under Alternatives 5C & 7. L-26-12

Page 3.1-94, PR-17, PR-18, PR-19, & PR-20

- Please clarify that each measure will address impacts to both the Los Angeles River and Rio Hondo River multi-use trails and bikeways. It is important to note conditions currently exist along the Los Angeles River and Rio Hondo River Trails where the Department's multi-use trails run directly adjacent to the bikeways; where multi-use trails diverge and run parallel but separate to the bikeways; and conditions where the multi-use trails converge and combine with the bikeways, typically at undercrossings. L-26-13

Page 3.3-53, Motion 22.1

- Please provide accommodations for equestrian users (in addition to pedestrian and bicyclists) on the bridges proposed to span the Los Angeles River and connect to the Los Angeles River Trail under Alternatives 5C & 7. L-26-14

Page 3.5-50, Bicycle and Pedestrian Facilities

- Please include clarification that the Los Angeles River and Rio Hondo River multi-use trails exist independent of the Los Angeles River and Rio Hondo River bikeways. These two corridors may appear as though they are one combined trail corridor, but they are actually different and support different user groups. L-26-15

Page 3.5-106, Bicycle and Pedestrian Facilities

- Incorporate language that specifically mentions the equestrian community who utilize the Los Angeles River and Rio Hondo River multi-use trails, in addition to pedestrians and bicyclists. L-26-16

Page 3.5-107, Paragraph 3

- Revise the second sentence as follows: Bikeways and multi-use trails along the Los Angeles River will be maintained with the I-710 Corridor Project. L-26-17

Page 3.5-108

- Under the last bullet point, please provide accommodations for equestrian users (in addition to pedestrian and bicyclists) on the bridges/overcrossings. L-26-18

Page 3.17-12, Paragraph 2

- Revise the second sentence as follows: There is a multi-use ~~paved~~ recreational trail along the top of the east bank ~~both sides~~ of the Los Angeles River channel throughout the BSA. L-26-19

Page 3.24-5, Paragraph 4

- Revise the first sentence as follows: In addition, construction of either of the build alternatives would result in temporary impacts to equestrian, pedestrian and bicyclist access points to regional and local trails and bikeways (including the Los Angeles River Trail and the Rio Hondo Trail). L-26-20

Page 3.24-45, CON-PR-1, CON-PR-2, CON-PR-3, & CON-PR-4

- Please clarify that each measure will address impacts to both the Los Angeles River and Rio Hondo River multi-use trails and bikeways. There are conditions where the Department's multi-use trails run directly adjacent to the bikeways; conditions where the multi-use trails diverge and run parallel but separate to the L-26-21

bikeways; and conditions where the multi-use trails converge with the bikeways, typically at undercrossings. L-26-21

Page 3.24-48, CON-TR-1, Transportation Management Plan

- Revise the fourth bullet point as follows: Minimize detours and impacts to, and maintain connectivity for equestrians, pedestrians and bicyclists. L-26-22

Page 4-10

- Revise f) as follows: Would the project conflict with adopted policies, plans or programs regarding public transit, bicycle, equestrian or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? L-26-23

In addition, a list of County multi-use trails and trail-related facilities that may be impacted by the project is provided below:

County facilities and trails potentially impacted by Alternative 5C or Alternative 7:

- Los Angeles River Trail at or near Willow Street
- Los Angeles River Trail at or near Wardlow Road
- Los Angeles River Trail at or near 405 Freeway and Pacific Place
- Los Angeles River Trail at or near West Del Amo Boulevard
- Los Angeles River Trail at or near Long Beach Boulevard
- Los Angeles River Trail at or near 91 Freeway
- Los Angeles River Trail at or near Alondra Boulevard
- Los Angeles River Trail at or near Imperial Highway
- Rio Hondo River Trail at or near Imperial Highway
- Rio Hondo River Trail at or near Garfield Avenue
- 72nd Street Staging Area

L-26-24

The Department requests that the project proponent notify the Department's Trail Planning Section a minimum of 60 days in advance of any work that may affect County multi-use trails including temporary trail closures. Construction activities affecting existing County multi-use trails may require a right-of-entry permit from this Department. At the conclusion of construction activities, County multi-use trails shall be restored to existing conditions consistent with the County of Los Angeles Trails Manual (http://file.lacounty.gov/SDSInter/dpr/208899_TrailsManual.pdf).

Thank you for including this Department in the review of this document. For further details regarding County multi-use trail requirements, please contact Ms. Michelle O'Connor, Section Head of Trails Planning Section, at (213) 351-5136 or by email at moconnor@parks.lacounty.gov, or Mr. Gabe Mason at (213) 351-5141 or by

email at gmason@parks.lacounty.gov. For inquiries on the right-of-entry permit from the Department, please contact Ms. Diane Thorne at (213) 351-5128 or by email at dthorne@parks.lacounty.gov.

Sincerely,

FOR Kathline J. King
Chief of Planning

KK:GM:JY:nr

c: Parks and Recreation (A. Bokde, M. O'Connor, C. Lau, J. Yom, D. Thorne, G. Mason, N. Krakowiak)

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L-26-1

Caltrans and Metro thank you for your comment. Your support for Alternative 5C is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

L-26-2

The Los Angeles County Department of Parks and Recreation's Trails website URL has been added as a footnote reference in Section 3.1.3.1 of this Final EIR/EIS.

L-26-3

As suggested in the comment, the cited text was revised to state that the build alternatives would improve regional or local bikeways as well as multi-use trails (hiking, biking, and equestrian) with the addition five total proposed overcrossings under Alternative 5C.

L-26-4

As suggested in the comment, the cited text was revised to state that construction of the build alternatives would result in temporary impacts to pedestrian and bicyclist access points to regional and local multi-use trails and bikeways (including the Los Angeles River and Rio Hondo Trails), and short-term closures of segments of bikeways in the vicinity of new and/or modified interchanges.

L-26-5

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways are affected by construction of the build alternatives. Should a build alternative be selected as the Preferred Alternative, these facilities would be designed consistent with the local General Plan Circulation Element and would comply with ADA requirements. Equestrian use is allowed on roadways under the California Vehicle Code 21050, which states "Every person riding or driving an animal upon a highway has all of the rights and is subject to all of the duties applicable to the driver of a vehicle by this division and Division 10 (commencing with Section 20000), except those provisions which by their very nature can have no application." In general, the build alternatives would not preclude the use of roadways for equestrian use. However, it is important to note that the proposed bicycle/pedestrian-only bridges would employ enclosed, switchback ramp structures which would descend into neighborhoods on the west side of I-710 and which would be prohibitive for equestrian use, as they would not provide for separation of bicycle and equestrian use. It should also be noted that pavement requirements for bicycle travel are not

suitable for horses, as softer surfaces are required to avoid leg injuries.[5] However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the bicycle/pedestrian-only bridges will not be constructed and accommodations for equestrian users on the bridges that span the Los Angeles River and connect to the Los Angeles River Trail will not be included as part of the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

L-26-6

As suggested in the comment, the approximate length of the Los Angeles River Trail was revised from 9.9 to 9.57 miles in Section 3.1 of the Final EIR/EIS.

L-26-7

As suggested in the comment, a discussion of Rio Hondo Trail was added to the Local Multi-Use Trails subsection of Section 3.1.3.1 of this Final EIR/EIS.

L-26-8

The parks and recreation facilities within Table 3.1-3 of this Final EIR/EIS have been revised as requested.

L-26-9

The description of Hollydale Park in Table 3.1-3 of this Final EIR/EIS has been revised as requested.

L-26-10

Section 3.1.3 of the Final EIR/EIS has been revised to include the 72nd Street Staging Area, as follows:

Table 3.1-3 has been revised to include the following text:

Resource	Address	Amenities
72nd Street Staging Area	550 72nd Street, City of Long Beach	The 72nd Street Staging Area is a 3-acre arena and park with a corral pen and bleacher area.

[5] Caltrans. *Highway Design Manual*, Section 1003.4.

Figure 3.1-3 has been revised to show the location of the 72nd Street Staging Area within the I-710 Focus Area. Improvements to the I-710 mainline and local arterials under the build alternatives would not result in direct impacts to the Staging Area, and the Staging Area would be separated from the I-710 mainline by the Los Angeles River and industrial land uses, which serve as a buffer that prevents indirect visual, noise, or air quality impacts on the resource. For these reasons, the 72nd Street Staging Area has not been included in Table 3.1-5 of this Final EIR/EIS.

L-26-11

As suggested in the comment, the cited text was revised to state that the build alternatives would not result in permanent adverse impacts to regional or local multi-use trails or bikeways.

L-26-12

Please refer to Response to Comment L-26-5 regarding the provision of accommodations for equestrian users (in addition to pedestrians and bicyclists).

L-26-13

As suggested in the comment, Measures PR-17 through PR-20 in Section 3.1 of this Final EIR/EIS were revised to clarify that they are applicable to the Los Angeles River and Rio Hondo River multi-use trails and bikeways (should a build alternative be selected as the Preferred Alternative).

L-26-14

Please refer to Response to Comment L-26-5 regarding the provision of accommodations for equestrian users (in addition to pedestrians and bicyclists).

L-26-15

As suggested in the comment, the Bicycle and Pedestrian Facilities section, the last subsection in Section 3.5.2.2 of this Final EIR/EIS was revised to clarify that the Los Angeles River and Rio Hondo River multi-use trails are independent of the Los Angeles River and Rio Hondo River bikeways.

L-26-16

As suggested in the comment, the Bicycle and Pedestrian Facilities subsection of Section 3.5.3.1 of this Final EIR/EIS was revised to discuss the equestrian community who utilize the Los Angeles and Rio Hondo River multi-use trails.

L-26-17

As suggested in the comment, the cited text was revised to state that bikeways and multi-use trails along the Los Angeles River would be maintained with the I-710 Corridor Project build alternatives.

L-26-18

Please refer to Response to Comment L-26-5 regarding the provision of accommodations for equestrian users (in addition to pedestrians and bicyclists).

L-26-19

As suggested in the comment, the cited text was revised to state there is a multi-use recreational trail along the top of the east bank of the Los Angeles River channel throughout the Biological Study Area (BSA).

L-26-20

As suggested in the comment, the cited text was revised to state construction of either of the build alternatives would result in temporary impacts to equestrian, pedestrian and bicyclist access points to regional and local trails and bikeways (including the Los Angeles River Trail and the Rio Hondo Trail).

L-26-21

As suggested in the comment, Measures CON-PR-1 through CON-PR-4 in Section 3.24 of this Final EIR/EIS were revised to clarify that they are applicable to the Los Angeles River and Rio Hondo River multi-use trails and bikeways (should a build alternative be selected as the Preferred Alternative).

L-26-22

As suggested in the comment, Measure CON-TR-1 in Section 3.24 of this Final EIR/EIS was revised to state that one of the objectives of the TMP would be to minimize detours and impacts to, and maintain connectivity for equestrians, pedestrians, and bicyclists (should a build alternative be selected as the Preferred Alternative).

L-26-23

Appendix G of the State CEQA Guidelines contains a checklist that is intended to encourage thoughtful assessment of impacts for each resource. CEQA allows lead agencies to use different formats; Caltrans has statewide jurisdiction and has determined that the CEQA

Checklist included as Appendix G is the State CEQA Guidelines is to be used on all Caltrans projects statewide. This checklist is also included on Caltrans' Standard Environmental Reference; the guide that is used for all Caltrans projects throughout the State. Therefore, checklist question XVI.F was not revised to add a reference to equestrians as suggested in the comment.

L-26-24

The County of Los Angeles Department of Parks and Recreation's request to be notified a minimum of 60 days in advance of any work or closures that may affect County multi-use trails, including the Los Angeles River Trail and Rio Hondo River Trail, is acknowledged and noted in the project record. However, as stated in Response to Comment L-26-5, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no construction as a part of the I-710 Corridor Project and no need to notify the Department of Parks and Recreation as requested.

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CITY OF LONG BEACH

DEPARTMENT OF PUBLIC WORKS

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October 23, 2017

Mr. Ronald Kosinski
Deputy District Director
California Department of Transportation
District 7, Division of Environmental Planning
100 South Main Street, Mail Stop 16A
Los Angeles, CA 90012

Subject: I-710 Corridor Re-Circulated Draft Environmental Impact Report/ Environmental Impact Study Review Comments

Dear Mr. Kosinski:

The City of Long Beach (City) appreciates the opportunity to provide comments on the re-circulation of the Draft Environmental Impact Report/Environmental Impact Study (EIR/EIS) for the I-710 Corridor Project (Project).

The City continues to be in support of the project's primary goals of reducing congestion along the corridor, increasing safety and improving air quality while minimizing potential impacts. However, based on our review of the document, we are concerned that many goals of our existing and proposed community plans continue to not be adequately addressed. These includes the I-710 Community Livability Plan, Long Beach RiverLink, the General Plan Mobility Element and the Municipal Urban Stormwater Treatment facility (LB-MUST) which provide a framework for improvements in West Long Beach. Combined, these plans respond to the impacts of developments occurring throughout the City, especially the expansions at the Ports and related uses with the I-710 Freeway expansion, while taking into account environmental justice issues. Part of the City's engagement process with Caltrans and Metro over the last 5-years (since the last circulation in 2012) included identifying the following list of programs: L-27-1

1) Assemble, repurpose and reconfigure rights of way and utility easements for additional green space;
2) Revitalize the Los Angeles River and improve connectivity between the river and the surrounding neighborhoods;
3) Cap portions of the I-710 freeway for additional park space;
4) Improve Willow Street to accommodate a connection between the Green Line and the Blue Line at the Willow Station thereby completing the South Bay light rail loop;
5) Construct pedestrian/bicycle-only bridges across I-710 and the LA River; L-27-2
6) Deploy a "zero emission corridor" on Alameda Street;
7) Develop green infrastructure and water quality improvements; and
8) Plant more trees along the corridor, streets, and in open spaces.

These documents consist of projects that aim to expand and enhance open space, improve and protect the environment, increase mobility, implement complete street principles, improve public safety, improve stromwater runoff, promote urban forestry and encourage sustainable developments.

Herein, we have prepared comments on issues that are not satisfactorily addressed in the revised document, and continues to not meet the mark of balancing the goals of the project and the needs of the community.

- The proposed project includes permanent impacts to the existing Cesar E. Chavez Park along the eastern side of the Los Angeles River in Long Beach. It is essential that the I-710 project be consistent with the City's Cesar E. Chavez Park Integration Plan, which proposes substantial enhancements to the existing park and builds upon other proposed facilities, which include the Long Beach Municipal Urban Stormwater Treatment (MUST) Project and Shoemaker Bridge Replacement Project. The Shoemaker Bridge Replacement Project is identified as an Early Action Project within the RDEIR/SDEIS. The bridge replacement project would consist of the replacement of the Shoemaker Bridge over the Los Angeles River. Under both Build Alternatives 5C and 7, the existing Shoemaker Bridge would be demolished after construction of the new bridge. However, the build alternatives should consider leaving the existing bridge in place, to serve as beneficial use for recreational purposes and a key component of the Integration Plan. L-27-3 L-27-4

- The proposed arterial parking restrictions included under both build alternatives are unacceptable to the City of Long Beach. The proposed build alternatives would include restrictions on arterial parking along three roadways within the City of Long Beach: Atlantic Boulevard, Cherry Avenue, and Long Beach Boulevard. Little to no detail is provided regarding how such restrictions would be implemented, aside from the statement that, "The project funding partners will work collaboratively with the local jurisdictions to implement these parking restrictions as described." As noted in other areas of the RDEIR/SDEIS, the control of parking restrictions along arterial roadways outside of Caltrans right-of-way is under the jurisdiction of the City of Long Beach. Thus, the RDEIR/SDEIS makes an assumption that these restrictions could be feasibly implemented. This represents a substantial concern to the viability of the project, since this restriction of parking would result in substantial impacts to a number of communities within Long Beach. L-27-5

- The proposed project would have a substantial effect on local businesses in the City and associated impacts on the communities they serve. Within the City of Long Beach, it is estimated that between 31 to 62 nonresidential relocations would be required (depending on the build alternative). The City is concerned with the effects related to the relocation of businesses, and the impacts such relocations would have on the communities that surround them. To maintain the economic vitality and range of services provided to the communities in which they reside, every effort should be made to relocate the affected business near their existing locations, within the City of Long Beach. L-27-6

- The diverging diamond interchanges proposed for Anaheim Street, Pacific Coast Highway, Willow Street, and Del Amo Street provide features that are challenging for bicycling and pedestirans, especially the uncontrolled turn lanes and merge L-27-7

lanes that create or increase merging between bicyclists and vehicles. The RDEIR/DEIS analyzes the various interchanges in Long Beach based upon existing and future traffic volumes, but it does not analyze alternative interchange configurations and does not consider substantial differences between interchange designs in meeting the needs for bicycling in consideration of the goals of the City and the State. Interchanges must be designed with greater care at ramp terminals to provide more effective traffic controls. L-27-7

- The reconstruction of I-710 provides an opportunity to provide a shared use trail facility to meet the needs of the City's westerly neighborhoods that have been severed from the rest of the City by the 710 corridor and river channelization. A key feature is the opportunity to provide for a north/south bikeway along the west levee of the river adjacent to the freeway. This facility should be included in the project design through the Anaheim Street interchange and north to Artesia Boulevard. The facility would be comparable to the design treatments that exist along the east bank, including dip undercrossings where needed at arterial or freeway crossings and connecting roadways to both sides of the arterial. L-27-8

- The analysis of visual impacts and changes in community character as a result of the build alternatives are not adequately analyzed within the RDEIR/SDEIS. The methodology for section of the various key view locations and associated photosimulations is unclear, and key areas of visual sensitivity within the City are not accounted for. Potential impacts to recreational trail and park users was not adequately considered, in addition to key areas within the coastal portions of the City (including Ocean Boulevard). L-27-9

- The proposed Long Beach Municipal Urban Stormwater Treatment (MUST) Project is a stormwater treatment project proposed by the City that provides substantial regional water quality benefits. The MUST facility could potentially be utilized as a means of mitigating potential water quality impacts of the I-710 corridor project, and the Long Beach MUST should be considered an Early Action Project. Modernization of the storm drain system should include integrating BMPs to comply with Total Maximum Daily Loads (TMDLs), and the MUST project could assist the project in achieving these water quality mandates. L-27-10

- The analysis of potential impacts related to hazardous waste and materials has not been conducted in accordance with accepted environmental standards and does not adequately disclose potential impacts under CEQA and NEPA. The RDEIR/SDEIS notes that, "Based on a mutual agreement between the Los Angeles County Metropolitan Transportation Authority (Metro) and the California Department of Transportation (Caltrans), the ISA prepared for the project was not required to identify impacts related to site conditions." This approach is not consistent with Caltrans or ASTM standards, and deprives the City and public of the opportunity to review readily available public information pertaining to existing hazardous materials present in soils, soil gas, and groundwater within the boundaries of the project site. The hazardous materials analysis should be updated to reflect current database information, a current site visit, and appropriate L-27-11

file reviews for all on-site properties, all adjoining off-site properties (those properties that bound the project boundaries, including those separated by roads or waterways), and other adjacent off-site properties of concern. L-27-11

- The air quality analysis prepared for the project does not provide a comprehensive analysis of impacts sufficient to substantiate conclusions related to particulate matter and regional transportation conformity. Although FHWA will make the conformity determinations after the preferred alternative is identified and prior to completion of the final environmental document (FED), demonstration of regional conformity should still be conducted and included in the Draft Environmental Document (DED) for full disclosure. The lead agency should disclose to the public any new information relative to the project's conformity analysis. Therefore, the RDEIR/SDEIS must be recirculated after completion of the quantitative analysis. L-27-12

- The RDEIR/SDEIS does not properly analyze and identify funding sources for the long-term maintenance costs associated with some of the new proposed features, including but not limited to water treatment best management practices, new traffic signals, parks, new traffic ramp meters and sound wall landscaping. L-27-13

- The RDEIR/SDEIS is not clear on addressing parcels bordering the project particularly at freeway interchanges. Further analysis needs to be funded for the interchanges with the I-91 and I-405 to insure that reminant parcels are allowed to more forward with their highest and best use. L-27-14

- Caltrans is encouraged to consider a local-hiring preference on its construction workforce. While we understand this is not necessarily a CEQA/NEPA issue or mitigation, it would provide a positive economic impact in the form of jobs to the local economy. L-27-15

In addition to the overarching concerns identified above, the City provides you with specific and detailed comments regarding the RDEIR/SDEIS in the context of NEPA and CEQA. These comments have been organized by RDEIR/SDEIS section, and address the need for additional analysis or correction of numerous inadequacies.

Respectfully submitted,

Sean Crumby
Deputy Director of Public Works/City Engineer

Cc: Pat West, City Manager
Tom Modica, Assistant City Manager
Craig Beck, Director of Public Works
Amy J. Bodek, Director of Development Services Sean Crumby, PE – City Engineer
Eric Widstrand, PE – City Traffic Engineer
Ernesto Chavez - Metro

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Attachments

A. City of Long Beach Department of Parks, Recreation, and Marine Comments on RDEIR/SDEIS dated October 9, 2017
B. PUC General Order 131-D
C. Visual Impact Assessment Questionnaire

Chapter 1.0 – Proposed Project

Chapter 1.0 sets forth SCAG data from both the 2012 RTP/SCS as well as the 2016 RTP/SCS, resulting in inconsistencies in data across the chapter. Data for the study area appears to be extracted from the 2012 RTP/SCS, while data for the County as a whole comes from the 2016 RTP/SCS. Since the 2016 SCAG RTP/SCS is the most recent and the projections between the two documents vary, the most recent 2016 projections should be used. L-27-16

Page 1-8, Paragraph 2. The discussion notes, "Although the full scope of the project is not currently in the FTIP and the Project Description as noted in the RTP/SCS does not match either of the currently proposed build alternatives, both the RTP and RTIP will be amended to be consistent with the preferred alternative prior to the approval of the Final EIR/EIS." The project's consistency with the FTIP and RTP/SCS is critical to demonstrating consistency with regional planning goals and policies, including the achievement of air quality conformity within the air basin. Without demonstration that the project is consistent with the FTIP and RTP/SCS, and associated consideration by the Transportation Conformity Working Group (TCWG), it is not possible to determine if the project is capable of achieving conformity. This lack of information within the public review RDEIR/SDEIS deprives the City of an opportunity to comment on the project's potential impacts, particularly the results of any air quality conformity determination by TCWG. The results of the project's conformity determination should be disclosed to the public, and the City of Long Beach and other affected agencies should have the opportunity to comment prior to any decision on the environmental document. L-27-17

Page 1-8, Paragraph 4. Section 1.2.1, Need for the I-710 Corridor Project, includes a description of factors requiring implementation of the project related to population growth, traffic, and goods movement. The writeup makes references to a number of source documents for regional demographics forecasts. The RDEIR/SDEIS notes, "According to the growth projections in the 2012 RTP/SCS, the population in the Study Area is expected to grow from 1,155,000 in 2012 to 1,272,000 in 2035, an increase of approximately 10 percent. These projections have been updated and according to growth projections adopted by SCAG in the 2016 RTP/SCS, the population of Los Angeles County is anticipated to increase from 10.2 million in 2015 to 11.5 million in 2040, an increase of approximately 13 percent. Employment in the Study Area is expected to grow from 470,000 in 2012 to 523,000 in 2035, an increase of approximately 11 percent (SCAG, 2012 RTP)." This information provides information for the study area that is based solely upon the 2012 RTP/SCS, without updated information from the 2016 RTP/SCS. While demographic information for the entirety of Los Angeles County is helpful, the latest data specific to the study area (i.e., 2016 RTP/SCS) should be provided since it is most relevant to the project area, including Long Beach. L-27-18

Page 1-13, Paragraph 2. The discussion of heavy-duty trucks notes, "Caltrans 2013 Annual Average Daily Truck Traffic on the California State Highway System (September 2014) indicates that five-axle trucks comprise at least half of all trucks on all segments of I-710, with the greatest concentrations of five-axle trucks (nearly 75 percent of all trucks) occurring at the southern end, near the Ports." The discussion should include the most current data available, to reflect existing conditions since they are subject to variability due to market and economic conditions associated with the Ports. Caltrans 2015 Average Annual Truck Traffic data is available and should be reflected in the analysis. L-27-19

Page 1-13, Paragraph 5. The description of transportation demand and growth for the study area is based upon the 2012 RTP. The 2016 RTP/SCS was adopted by SCAG in April 2016, and represents the latest and most accurate representation of demographics and future projections for growth and population for Southern California. Demographic information should be updated to reflect the 2016 RTP/SCS to reflect current statistics and projections for Long Beach. L-27-20

Page 1-18, Table 1.2-3. See comment directly above. The 2016 RTP/SCS was adopted by SCAG in April 2016, and represents the latest and most accurate representation of demographics and future projections for growth and population for Southern California. Demographic information should be updated to reflect the 2016 RTP/SCS to reflect current statistics and projections for Long Beach. L-27-21

Page 1-21, Paragraph 4. This paragraph notes, "According to data collected and reported by Caltrans over a three-year period (January 1, 2009, to December 31, 2011), the I-710 mainline experiences a fatal accident rate that is above the statewide average for freeways of this type." The beginning of this reporting period is over eight years old; updated accident data should be provided to represent current conditions along the project corridor. L-27-22

Page 1-23, Paragraph 5. The paragraph notes, "Previous data collection efforts have indicated that during late 2004 to late 2007 a high level of accidents on I-710 (ranging from 29 to 36 percent, depending on the segment) involved trucks." See comment directly above. This information was carried over from the 2012 DEIR/DEIS and is no longer current since it is over 10 years old. Updated accident data should be provided to represent current conditions along the project corridor. L-27-23 In addition, the RDEIR/SDEIS should substantiate how the causal factors of roadway geometrics, traffic volumes, and vehicle mix were determined. Mitigation should be provided for hazards, particularly under Alternative 5C (e.g., provision of a dedicated truck lane to reduce conflicts). L-27-24

Page 1-26, Paragraph 2. This section is intended to demonstrate the need for the project, and a description of pavement rehabilitation projects has been provided. However, this discussion does not discuss how pavement rehabilitation activities provide for a need for the proposed project. This should be revised and discussed. L-27-25

Page 1-32, Paragraph 3. Section 1.2.1.5, Modal Interrelationships and System Linkages, notes related planned facilities and linkages, including the I-5 Corridor Improvement Project and the Gerald Desmond Bridge Project. Although the Shoemaker Bridge Replacement Project is identified later in Chapter 1.0 as an Early Action Project, it should also be acknowledged in this section given its importance as an arterial corridor within the City of Long Beach and adjacency to the project corridor. L-27-26

Page 1-40, Section 1.2.2.1, Project Purpose. The project can also serve to provide a significant positive impact on water quality of the Los Angeles River, Compton Creek, Rio Hondo Channel. The project purpose should be expanded to implement stormwater BMPs to comply with Total Maximum Daily Loads. L-27-27

Page 1-41, Section 1.2.3, Early Action Projects. Pump stations located within the LB-MUST footprint should provide pumping of dry weather and partial stormwater flows to the LB-MUST system. This should be part of the Early Action Projects. Pump stations include: L-27-28

- 6th St. Pump Station
- Cowles Pump Station
- 19th St. Pump Station
- Willow St. Pump Station
- 27th St. Pump Station
- Dominguez Pump Station
- Caltrans Pump Station @ UP Railroad Crossing
- Caltrans Pump Station @ Long Beach Blvd.
- Gordon St. Pump Station
- North Boundary Pump Station
- Caltrans Pump Station @ SR-91 Freeway - Southbound Ramp
- Artesia Blvd. Pump Station

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

Table 1.2-1 from the 2012 DEIR/DEIS on page 1-10 should also include design capacity for the I-710 Corridor as described in the text. The reader must be quantitatively shown how traffic exceeds design capacity. L-27-29

Page 1-16 of the 2012 Draft EIR/EIS is not clear relative to the amount of container demand that is expected to be accommodated by the railroad system. This is a key data point for the assumptions in the DEIR/DEIS and should be readily available to the public within this chapter of the Draft EIR/EIS. L-27-30

The blanket statement on page 1-35 of the 2012 Draft EIR/EIS that the "I-710 Corridor will be implemented in a manner that is consistent with the programmed and planned improvements described above" (e.g., the I-5 improvements, the Gerald Desmond Bridge Project, and the I-5 Corridor Project) must be supported. L-27-31

Primary studies used to support the need for the Project and the bases for key assumptions of existing conditions are outdated. These include the I-710 Corridor Project Initial Feasibility Analysis (IFA) and the I-710 Railroad Goods Movement Study. Overall, use of these outdated studies may not provide an accurate reflection of the current and future need for the Project. L-27-32

Additional evidence is needed to show how the on-dock capacity of 23.5 percent in 2007 will reach capacity in 2035. This chapter should also provide the current capacity of the on-dock data, which is likely to have been influenced by the recent recession. The percentage of use of on-dock, near dock and off-dock intermodal facilities should also be provided along with data regarding off-dock facilities and a demonstration of how the capacities of the near dock and off-dock facilities are expected to be reached in 2035. L-27-33

Chapter 2.0 – Project Alternatives

The City of Long Beach supports the selection of Alternative 5C with Design Option 2A as the preferred alternative within the RDEIR/SDEIS. While the City is fully supportive of ZE/NZE heavy-duty truck implementation, the construction of a freight-corridor on viaduct or retaining wall structure as part of Alternative 7 would result in substantial adverse effects on the communities of Long Beach. The elevated freight corridor would become the primary visual/aesthetic feature along the I-710 corridor within Long Beach, and would result in substantial adverse visual change affecting vast portions of the City. The City of Long Beach urges Caltrans to select Alternative 5C/Design Option 2A as the preferred alternative. As noted below within the City's comments on Chapter 2.0, the scope of Alternative 5C should be enhanced to provide for funding of implementation of ZE/NZE trucks, equivalent to that proposed under Alternative 7. In addition, Design Option 2A is highly preferred since it would enhance connectivity within the southern portion of the project area between I-710, Shoreline Drive and Pacific Coast Highway. Moreover, Design Option 2A would be consistent with the City's proposed replacement of Shoemaker Drive, Long Beach Municipal Urban Stormwater Treatment (MUST) project, and other elements of the Cesar Chavez Park Integration Plan that would provide substantial benefits to the surrounding community. L-27-34

The revised document does not analyze any alternative interchange concepts. The City continues to be especially concerned that the document does not consider any interchange alternatives to diverging diamond interchanges for most Long Beach interchanges and eliminates ramp connections to Pacific Avenue at I-405 and to Wardlow Road at I-710. L-27-35

The document does not recognize the existence of Class IV Bikeways, which were recognized formally by Caltrans recently. These facilities are necessary in support of the State's goals to increase walking L-27-36

and biking as alternatives to motor vehicle travel. Also, the Long Beach Bicycle Master Plan was updated since the preparation of the original draft EIR/EIS to reflect Class IV bikeways through various interchanges. Interchange configurations that show planned Class IV bikeways need to be developed and included in the project alternatives. The provision of high quality infrastructure for pedestrians and bicycles is an essential goal for the city. L-27-36

Section 2.2.1 Revised Alternatives Development and Refinements

Page 2-6, Section 2.2.2.1, Community Alternative, Paragraph 2. The discussion describes Community Alternative 7. The discussion notes that some elements of the alternative are not appropriate for inclusion in the environmental document, one reason being that, "As the approving agency for the I-710 Corridor Project, the California Department of Transportation's (Caltrans) jurisdiction is limited to the State highway system." This perspective is inconsistent with the proposed project, since the build alternatives include components that are outside of the jurisdiction of the State highway system. For instance, the build alternatives include arterial parking restrictions on roadways outside of Caltrans' control, including Atlantic Boulevard, Cherry Avenue, and Long Beach Boulevard within the City of Long Beach. According to the RDEIR/SDEIS, "…these restrictions would result in a reduction of up to 640 parking spaces along northbound and southbound Atlantic Blvd., up to 595 parking spaces along northbound and southbound Cherry Ave., and up to 451 parking spaces along northbound and southbound Long Beach Blvd. during the peak period." The document should be consistent in its approach to facilities outside of Caltrans' jurisdiction, since the current approach is contradictory. L-27-37

Section 2.3.1 No Build Alternative (Alternative 1)

Page 2-10. The language notes, "Alternative 1 would maintain the current configuration of the existing I-710 Corridor. There would be no capacity-increasing improvements to the I-710 mainline; only approved and planned projects included in SCAG's 2012-2035 Regional Transportation Plan Sustainable Communities Strategy (RTP/SCS) and Federal Transportation Improvement Program (FTIP) are considered part of the Alternative 1." Why is the No Build Alternative based upon an outdated version of the FTP/SCS? The No Build Alternative should be based upon the current/latest forecast for regional and/or local improvements that may work towards accomplishment of the project purpose and need, in the absence of the build alternatives. L-27-38

Page 2-10, No Build Alternative. The document should include an analysis of the effect upon existing traffic conditions based upon implementation of future build alternatives. Such analysis should precede any analysis of 2035 for the build alternatives. L-27-39

Section 2.3.2 Build Alternatives

Page 2-18, Section 2.3.2.1, Pedestrian and Bike-Only Bridges. The Shoemaker Bridge Replacement Project is identified as an Early Action Project within the RDEIR/SDEIS. The bridge replacement project would consist of the replacement of the Shoemaker Bridge over the Los Angeles River. Under both Build Alternatives 5C and 7, the existing Shoemaker Bridge would be demolished after construction of the new bridge. However, the build alternatives should consider leaving the existing bridge in place, to serve as beneficial use for recreational purposes and assisting the project's compliance with the City's Park in Perpetuity Ordinance, which requires a 2:1 replacement for loss of parkland. Reuse of the existing bridge would provide a unique opportunity to create a pedestrian destination with wonderful views to the downtown, the L.A. River and the new iconic Shoemaker Bridge. It could become an extension of the park space over the river, with overlooks, seating, garden paths, educational/interpretive opportunities about the River, History of Long Beach, and Shoemaker Bridge namesake. L-27-40

Page 2-22, Section 2.3.2.1, Zero Emission/Near Zero Emission Truck Technology Deployment Program. As noted in the discussion, the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program is a programmatic component of the build alternatives and would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty (Class 8) ZE/NZE trucks for use within the I-710 corridor. The City of Long Beach is highly supportive of zero emissions technology being utilized by heavy trucks along the project corridor. The funding provisions outlined within this discussion are highly geared towards Alternative 7 (i.e., $100 million of funding under Alternative 5C, $460 million under Alternative 7, and $1.05 billion under Alternative 7ZE). Funding for implementation of zero emissions trucks should be substantially enhanced under Alternative 5C. Although Alternative 5C would not include the separated freight corridor that is proposed under Alternative 7, the need for ZE/NZE improvements should not be diminished. The City of Long Beach's communities bear a significant environmental burden related to air quality pollutants along the stretch of I-710 included under the project. Funding for Alternative 5C should be increased to be equivalent to what has been identified under Alternative 7 to demonstrate the project's commitment to minimizing air quality impacts to residents within the City. L-27-41

Page 2-26, Section 2.3.2.1, Arterial Parking Restriction Program. The proposed build alternatives would include restrictions on arterial parking along three roadways within the City of Long Beach: Atlantic Boulevard, Cherry Avenue, and Long Beach Boulevard. Little to no detail is provided regarding how such restrictions would be implemented, aside from the statement that, "The project funding partners will work collaboratively with the local jurisdictions to implement these parking restrictions as described." As noted in other areas of the RDEIR/SDEIS, the control of parking restrictions along arterial roadways outside of Caltrans right-of-way is under the jurisdiction of the City of Long Beach. Thus, the RDEIR/SDEIS makes an assumption that these restrictions could be feasibly implemented. This represents a substantial concern to the viability of the project, since this restriction of parking would result in significant impacts to a number of communities within Long Beach. The RDEIR/SDEIS notes that these restrictions would result in a reduction of up to 640 parking spaces along northbound and southbound Atlantic Blvd., up to 595 parking spaces along northbound and southbound Cherry Ave., and up to 451 parking spaces along northbound and southbound Long Beach Blvd. during the peak period. The assessment of community impacts within the RDEIR/SDEIS notes "field observations have verified that the observed parking demand could be adequately absorbed in off-street parking areas for uses that generate the demand (e.g., parking lots) as well as in on-street parking areas directly off of these main arterials." This conclusion regarding parking demand and replacement parking is completely unsubstantiated. No detail or specifics regarding "field observations" is provided (e.g., were observations conducted during daytime or evening hours?). The RDEIR/SDEIS and CIA note "off-street parking", but no details of any kind are provided (quantification, location, peak hours of demand). Until this information is provided, it is impossible to determine the basis for the conclusion that adverse impacts would not occur. The loss of 1,686 parking spaces along key arterials of the City would be a significant adverse impact to business and residents in the Long Beach community. Additional detail regarding the proposed restrictions, consultation with the City of Long Beach, and measures to offset any resultant community effects is required. L-27-42

Page 2-96, Table 2.5-1. The table should include the following permits:

> CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, ORDER 2012-0011-DWQ, AS AMENDED BY ORDER WQ 2014-0006-EXEC, ORDER WQ 2014-0077-DWQ, AND ORDER WQ 2015-0036-EXEC, NPDES NO. CAS000003, NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STATEWIDE STORM WATER PERMIT, WASTE DISCHARGE REQUIREMENTS (WDRS), FOR STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION L-27-43

If portable asphalt/cement batch plants are used, then include the NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES, ORDER NPDES NO. CAS000001 L-27-43

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

While the City strongly supports alternatives that include zero-emissions technology, the analysis presented includes only a brief description of various zero-emission technologies for heavy-duty trucks that are in the research and development phase and assumes that this technology would be feasible and could be economically implemented as part of the project. The City is concerned that the analysis shortchanges the concept of zero emissions technology, which would potentially diminish the perceived viability of this alternative to the decision makers and the public. The analysis should be revised to more fully describe the technology available for zero emissions technology and support the viability of zero emissions in all design alternatives as the primarily method of achieving legitimate air quality improvements. L-27-44

CEQA Guidelines Section 15126.6 also requires that the lead agency must develop and discuss alternatives to a proposed project and, from those alternatives, identify the "environmentally superior alternative." The Draft EIR/EIS does not identify an environmentally superior alternative that would minimize the significant environmental effects of the project. L-27-45

SECTION 3.1 – LAND USE

Section 3.1.1.21 – Environmental Consequences

Page 3.1-11, the discussion identifies the acreage of existing land uses by Alternative and Option that would be converted to transportation land uses. Although Table 3.1-1 provides the acreage by jurisdiction there should be a corresponding figure that identifies the properties for reference. The discussion summarizes the total land use conversions for the entire study area, but does not address the conversions by jurisdiction. A significant percentage of the overall acreage that would be impacted is located within the City of Long Beach and requires jurisdiction-specific analysis of the potential impacts. Section 3.1.1.22 merely states that amendment of each jurisdictions' General Plan would reduce long-term adverse impacts. L-27-46

In addition, since a General Plan Amendment would be required, the discussion should also address the land uses anticipated by the cities' General Plan land use designations and the impact of transitioning these land use designations to transportation land uses. Although a significant portion of the lands identified for conversion are currently vacant, some of these lands have been anticipated for development in accordance with their General Plan designations and the analysis is deficient in not identifying these planned land uses that would no longer occur if the proposed project is implemented. L-27-47

The discussion concludes "…because I-710 has been considered in the local General Plans since its construction as a freeway…the build alternatives are generally compatible with adjacent land uses." This statement is very broad and not entirely accurate. Although I-710 has been considered in local General Plans, the build alternatives would require land acquisitions that would place transportation land uses in closer proximity to land uses that may not be compatible with transportation land uses. Analysis should be provided to address this potential. L-27-48

Page 3.1-14, Table 3.1-1, under the "Grand Total for Alternative or Option" column and "Alternative 7, Option 3B" row, the total is not accurate. L-27-49

Section 3.1.2.2 – Affected Environment

Page 3.1-36, under "City of Long Beach" heading, goals and policies from the Long Beach General Plan Mobility Element, Air Quality Element, and Noise Elements are identified. The City is in the process of updating its Land Use Element, which was made available for public review in February 2017. Although this Element has not been adopted, the Land Use section should acknowledge the update and identify applicable goals and policies that would be relevant to the proposed project. L-27-50

Section 3.1.2.3 – Environmental Consequences

Page 3.1-58, first full paragraph under the "City of Long Beach General Plan" heading, provides a brief summary of the build alternatives' consistency with the Long Beach General Plan. The analysis is insufficient and the determination of consistency is unsupported. A detailed goal- and policy-specific consistency analysis is needed to support the overall conclusions. Similar to the California Coastal Act Consistency provided in Table 3.1-2, a table listing each goal and policy (previously identified on pages 3.1-36 through 3.1-40), with a corresponding analysis is needed to provide a full understanding of the build alternatives' consistency, or inconsistency, with the Long Beach General Plan. This should also include a consistency analysis with the Draft Land Use Element's applicable goals and policies, currently out for public review. L-27-51

Page 3.1-58, first full paragraph, last sentence states "The build alternatives would also result in relocation of businesses and residents in the city, which would be inconsistent with the General Plan". There is no additional discussion or analysis of this inconsistency and whether it would result in an impact. Page 3.1-62, Section 3.1.2.4, Avoidance, Minimization, and/or Mitigation Measures, states amendments to the affected cities' General Plans would be required and provides mitigation to address amendments to the General Plans to reflect the final alignment, interchange locations, and modification of land use designations for properties that would be acquired for the project. However, there is no discussion regarding the inconsistency resulting from the relocation of businesses and residents in the city. The consistency analysis is insufficient, completely ignoring the inconsistency. A detailed analysis of this inconsistency is needed as well as a determination of impacts and identification of feasible mitigation measures to reduce the potential impact. L-27-52

Page 3.1-61, second to last paragraph, the City of Long Beach LCP analysis is insufficient and the determination of consistency is unsupported. The discussion states the I-710 Corridor Project would improve an existing local arterial and therefore is a permitted use. However, the proposed improvements and their consistency with the City of Long Beach LCP are not identified or discussed. L-27-53

Page 3.1-61, last paragraph, the City of Long Beach Community Livability Plan analysis needs to include a side-by-side consistency analysis to support the conclusions, similar to the California Coastal Act Consistency provided in Table 3.1-2. L-27-54

Section 3.1.2.4 – Avoidance, Minimization, and/or Mitigation Measures

This section needs to be updated to respond to the comments identified above and resulting conclusions.

Section 3.1.3 – Parks and Recreation Facilities

The City of Long Beach Department of Parks, Recreation, and Marine has prepared comments on the RDEIR/SDEIS under separate cover. These comments relate to project impacts to parks and recreational facilities within the City, including Cesar E. Chavez Park, Drake/Chavez Greenbelt, Coolidge Park, Los Cerritos Park, Cressa Park and Wrigley Greenbelt. Refer to Attachment A, City L-27-55

of Long Beach Department of Parks, Recreation, and Marine Comments on RDEIR/SDEIS dated October 9, 2017. L-27-55

Page 3.1-81, Table 3.1-5, Permanent and Indirect Impacts to Parks and Recreation Facilities. The analysis acknowledges permanent impacts to the existing Cesar E. Chavez Park along the eastern side of the Los Angeles River in Long Beach. It is essential that the I-710 project be consistent with the City's Cesar E. Chavez Park Integration Plan, which proposes substantial enhancements to the existing park and builds upon other proposed facilities, which include the Long Beach Municipal Urban Stormwater Treatment (MUST) Project and Shoemaker Bridge Replacement Project. The concept of the Integration Plan is the contrast between historic Long Beach and the new progressive movement of the City, i.e. Willmore Historic Neighborhood and Downtown; Shoemaker Bridge Re-Use and the new iconic Shoemaker City Gateway Bridge. The Integration Plan provides for a network of bike and pedestrian trails that provide connectivity between the open space, connection to the L.A. River trail, and links to the downtown and adjacent neighborhoods. The Plan components will be compatible with the surrounding neighborhood character; create a unique and attractive destination; provide recreation opportunities; create a sense of pride and image for the International City and the most "Bike Friendly City"; refer to Figure 3.1a, *Illustrative Master Plan*, and Figure 3.1b, *Connectivity Plan*.

The Integration Plan provides a visual and physical connection between the different use areas and to the surrounding neighborhoods and downtown. The Plan identifies elements to be consistent with past project master planning efforts, and adds opportunities for other types of uses and circulation.

- The Boardwalk / Promenade are a major spine that links the downtown through Cesar Chavez Park to the Shoemaker Bridge Re-use and the LBMUST Facility.
- The relationship between Shoemaker Bridge; LBMUST Facility; and Bio-Retention Basin Area become the center of the plan with linkage to the other uses. L-27-56
- Community Gardens; Drake / Chavez Soccer Fields and Greenbelt; Drake Park; and De Forest Avenue provide for recreation amenities, venues for community activities and connection to the neighborhood.

The Integration Plan provides bicycle and pedestrian connectivity between the park areas and open space, downtown Long Beach, Los Angeles River regional trail, west side of the L.A. River and adjacent neighborhoods. The plan minimizes conflicts with significant roadways and provides for safe uninterrupted crossing and access. The plan creates a continuous green belt along the L.A. River as part of the chain of park lands to include Cesar Chavez Park; Santa Cruz Park; Golden Shore Marine Biological Reserve Park; Shoreline Aquatic Park; and Marina Greens.

- Boardwalk / Promenade
  - Pavement materials that resemble a contemporary boardwalk;
  - Flowering "botanic" gardens;
  - Palm skyline planting;
  - Architectural lighting
- Expanded Cesar E. Chavez Park
  - Sculptured earth forms;
  - Outdoor sculpture gardens;
  - Garden mazes;
  - Water wise gardens;
  - Picnic areas;
  - Open Play

- Long Beach Municipal Urban Stormwater Treatment Facility- LBMUST Facility
  - Urban Runoff Treatment Facility;
  - Education opportunities;
  - Facility to function in conjunction with the bio-retention basins systems
  - Bio-Retention Basins and Bio-Swales open channel
  - Urban runoff natural treatment systems;
  - Boardwalk access to the basins;
  - Observation and viewing areas;
- Community Gardens
  - Willmore Heritage Gardens and Gate;
  - Tower re-use for windmill;
  - Community gardens;
  - Theme playground;
  - Picnic areas
- Drake / Chavez Soccer Fields and Greenbelt
  - Soccer fields;
  - Basketball courts;
  - Handball courts;
  - Picnic areas
- Drake Park
  - Picnic shelters, arbors and gazebos architecture to be compatible with the neighborhood;
  - Splash and playground;
  - Open play;
  - Picnic areas
- Shoemaker Bridge Re-Use
  - The Shoemaker Bridge re-use provides a unique opportunity to create a pedestrian destination with wonderful views to the downtown, L.A. River and the new iconic Shoemaker Bridge.
  - Shoemaker Bridge is an example of engineering achievements of its time. It becomes an extension of the park space over the river, with overlooks, seating, garden paths, educational / interpretive opportunities about the River, History of Long Beach, and Shoemaker Bridge namesake.

L-27-56

It should be noted that this description of proposed components of the Integration Plan is considered conceptual and subject to change as the plan moves through the City's review process. It is imperative that consultation and coordination between Caltrans and the City be maintained to ensure that the Integration Plan is accommodated as the I-710 improvements move forward.

Page 3.1-81, Table 3.1-5, Permanent and Indirect Impacts to Parks and Recreation Facilities. The analysis should also consider potential impacts to grant-funded parks and recreational facilities. Grants carry requirements for park improvements that exist for 20 years to perpetuity, and can require the City to either mitigated changes or pay back the grant-administering agency (or a range of options in between). Grant agencies should be included as stakeholders and decision makers related to changes required as part of the project. L-27-57

The Section 4(f) evaluation notes that 2.9 acres of Cesar Chavez Park would be permanently incorporated into the I-710 Corridor Project, but that 5.89 acres of parkland would be added. The 5.89 acres proposed to be added by Caltrans is existing City right-of-way. As previously advised, this conflicts with the City's Park in Perpetuity Ordinance, which requires a 2:1 replacement for loss of L-27-58

parkland. This would require 5.8 acres of parkland, separate from the City right-of-way proposed to be incorporated. L-27-58

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

The Section 4(f) evaluation should also include a review of all City properties purchased for park purposes that are within the 0.5-mile study area. These include Del Amo Park. L-27-59

Parks within 0.5-mile of the I-710 Corridor Project will have direct air quality impacts and the inclusion of additional trees at these locations should be addressed as mitigation. In addition, sound walls should be included to mitigate increased noise wherever possible, especially at parks adjacent to the Project, such as at Coolidge Park and Baker Park. Coolidge Park will be heavily impacted with aesthetics, noise, and air quality impacts. It is therefore suggested that this park also receive additional landscape buffering to address these impacts. L-27-60



ILLUSTRATIVE MASTER PLAN

CITY OF LONG BEACH

DATE 10/05/17

FIGURE 3.1a

Mobility. Environment. Community. Economy. Technology

I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

INTERSTATE CALIFORNIA 710

Mobility. Environment. Community. Economy. Technology

I-710 Corridor Project EIR/EIS

BIKE CONNECTIVITY PLAN

CITY OF LONG BEACH

DATE
10/05/17

FIGURE
3.1b

SECTION 3.2 – GROWTH

Section 3.2.3.1 – Permanent Impacts

Page 3.2-14, first paragraph, the discussion states "[t]he build alternatives are also consistent with growth-related goals and policies of the regional and local agencies in the I-710 Corridor". However, there is no analysis or evidence to support this conclusion; nor is this analysis provided in Chapter No. 3.1, Land Use. This section further acknowledges that "[t]he improved mobility expected to be achieved as a result of the build alternatives could have a slight influence on demand for residential and nonresidential uses in the cities and communities in the Gateway Cities subregion; however, it would not be expected to be sufficient to result in the need to modify adopted General Plans to allow for greater levels of development…" Again, there is no analysis or evidence to support this conclusion. The section acknowledges that demand for residential and nonresidential uses could occur, which can influence growth in the communities. However, it then continues to claim that the build alternatives are expected to accommodate existing, approved, and planned uses and not influence the amount, timing, or location of growth in the study area. This statement is unsubstantiated. It is reasonably foreseeable that increased capacity and arterial improvements associated with the build alternatives would influence growth in the study area by making the communities more accessible. L-27-61

Page 3.2-15, first full paragraph, similar to the discussion above, the conclusion that "[t]he I-710 Corridor Project building alternatives are not expected to influence the amount, timing, or location of growth in the project area" is unsubstantiated. The analysis claims that the study area is highly developed and because of limited land there is no reasonably foreseeable project-related growth expected to result from the build alternatives. It is reasonably foreseeable that increased capacity and improved access within the study area could influence people's choices of where to work and live in the County. The lack of currently available vacant land does not preclude infill development or redevelopment of an area. L-27-62

Since the conclusion that there are no reasonably foreseeable project-related growth impacts is not accurate or substantiated, the conclusion that there would be no impacts to resources of concern is also inaccurate. Analysis is needed to address potential impacts to resources of concern associated with reasonably foreseeable growth.

Section 3.2.4 – Avoidance, Minimization, and/or Mitigation Measures

The conclusion of no adverse growth-related effects of the I-710 Corridor Project build alternatives need to be reassessed based on the comments identified above.

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

This section concludes that "there are no reasonably foreseeable project-related growth impacts under any of the I-710 Corridor Project build alternatives." However, sufficient evidence to support this conclusion is not provided within the analysis. Specifically, this section notes that "[d]ue to the lack of vacant or less developed land within the I-710 Corridor, the build alternatives would not facilitate new development by opening up access to previously undeveloped or less developed area." In addition, this section states that the Project would not induce population growth or change the pattern of land use or population density because the "build alternatives are consistent with the Regional Transportation Plan (RTP) and the goals and policies of the regional and local agencies within the I-710 Corridor." Furthermore, this section does not analyze the potential for growth as a result of the increased access and improved vehicle travel times the project proposes as it is reasonably foreseeable that these improvements would have some effect on where residents in Los Angeles County live and work, which could introduce growth. Additionally, it is reasonably foreseeable that L-27-63

increasing capacity along the I-710 Corridor would result in a corresponding increase in the amount of goods at the Ports compared to the no-build alternative. However, this section concludes that "the I-710 Corridor Project build alternatives are not expected to have a substantial effect on the demand for port cargo growth or expansion of marine terminal facilities" in part because "'[r]oadway capacity is one of numerous infrastructure considerations that can influence the level of demand for a particular port." Yet it is not reasonable to state that since the ability to move goods on the I-710 freeway is only one of the factors that can lead to growth of the goods movement system in Los Angeles that increasing the capacity would not have a growth-inducing effect. As such, this analysis does not adequately convey the potential for growth impacts associated with the project. L-27-63

Avoidance, Minimization, and/or Mitigation Measures

The conclusion of no adverse growth-related effects of the I-710 Corridor Project build alternatives need to be reassessed based on the comments above and specific to Chapter No. 3.2, Growth. Portions of the project-level analysis and conclusions are insufficient and unsupported. L-27-64

SECTION 3.3 – COMMUNITY IMPACTS

Page 3.3-1, Paragraph 4. The study area for community impacts is identified as approximately 0.5-mile from the project corridor improvements. There is no substantiation provided within the RDEIR/SDEIS regarding the methodology or rationale behind the establishment of a 0.5-mile study area. The direct and indirect effects related to the proposed project within the City of Long Beach are far-reaching, and depending on the environmental issue of concern, can reach much further than 0.5-mile from the project site. An explanation regarding the study area should be provided, including a substantiation explaining how community impacts would not extend beyond 0.5-mile from the project site. L-27-65

Page 3.3-30, Paragraph 3. The discussion of homeless facilities focuses on homeless shelters and service providers within the study area. This description does not acknowledge the substantial homeless population in the City of Long Beach, and associated encampments which are prevalent within the study area and along the I-710 corridor. Disruption of existing encampments would displace homeless populations and could create homelessness in other areas of the City. Interchange configurations should consider issues related to the homeless, such as the provision of adequate lighting and limitations on access. A detailed description related to existing conditions in this regard should be provided. In addition, the RDEIR/SDEIS should include a plan to deter homeless from camping and congregating at the constructions sites during the construction process. L-27-66

Page 3.3-45, Table 3.3-9, Parking Impacts by Jurisdiction. Table 3.3-9 notes that the project would result in the loss of 1,686 on-street parking spaces as a result of the proposed restriction of on-street parking during peak periods. The Community Impact Assessment (CIA), page 5.12-52 notes, "Under the I-710 Corridor Project build alternatives, parking restrictions during peak periods (6:00 a.m.–9:00 a.m. and 4:00 p.m.–7:00 p.m.) would be implemented on Atlantic Blvd., Cherry Ave., and Long Beach Blvd. through the City of Long Beach. These restrictions would result in a reduction of up to 640 parking spaces along northbound and southbound Atlantic Blvd., up to 595 parking spaces along northbound and southbound Cherry Ave., and up to 451 parking spaces along northbound and southbound Long Beach Blvd. during the peak period." The RDEIR/SDEIS notes "field observations have verified that the observed parking demand could be adequately absorbed in off-street parking areas for uses that generate the demand (e.g., parking lots) as well as in on-street parking areas directly off of these main arterials." The CIA notes, "sufficient off-street parking exists to adequately absorb observed demand; therefore, no adverse impacts with regards to parking would occur." This conclusion regarding community impacts related to parking demand are completely unsubstantiated. No detail or specifics regarding "field observations" is provided (e.g., were observations conducted L-27-67

during daytime or evening hours?). The RDEIR/SDEIS and CIA note "off-street parking", but no details of any kind are provided (quantification, location, peak hours of demand). Until this information is provided, it is impossible to determine the basis for the conclusion that adverse impacts would not occur. The loss of 1,686 parking spaces along key arterials of the City would be a significant adverse impact to business and residents in the Long Beach community. L-27-67

Page 3.3-65, Table 3.3-12. Table 3.3-12 of the RDEIR/SDEIS provides an overview of the number of relocations required for the project, by City. Within the City of Long Beach, it is estimated that between 31 to 62 nonresidential relocations would be required (depending on the build alternative). The relocation of nonresidential facilities is estimated to result in the relocation of anywhere between 270 to 431 employees, with a loss of up to approximately $237,130 in sales tax revenue. The City is concerned with the effects related to the relocation of businesses, and the impacts such relocations would have on the communities that surround them. While it is acknowledged that any relocations required under the project would be conducted under the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, the City remains critically concerned with where these businesses would be relocated. To maintain the economic vitality and range of services provided to the communities in which they reside, every effort should be made to relocate the affected business near their existing locations, within the City of Long Beach. Many of the affected facilities within Long Beach are small business with long-standing, strong ties to the community, and their relocation to a site outside of the City would represent an adverse effect to the populations they serve. L-27-68

Page 3.3-74, Paragraph 5. Measure C-5 requires Caltrans to negotiate with the City of Long Beach to relocate the City's Multi-Service Center for Homelessness (MSC), a key homeless assistance facility within the City. The City is appreciative that Caltrans has acknowledged this concern that was noted in the City's 2012 comment letter on the DEIR/DEIS. However, the RDEIR/SDEIS lacks any analysis or mitigation related to impacts to the City's substantial homeless population, which is highly prevalent within the boundaries of the study area. Based on the results of a recent census of its homeless population in January 2017, there were 1,863 homeless people counted within the City. Implementation of the proposed project would result in the displacement of numerous homeless populations and associated encampments, placing additional burden on the City's ability to provide assistance in this regard. The RDEIR/SDEIS should consider this financial burden and consider additional facilities and services that would be required to minimize these impacts to the City's homeless population. L-27-69

Page 3.3-75, Section 3.3.3, Environmental Justice. This section lack discussion and analysis of water quality impacts as it relates to the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. L-27-70

Page 3.3-144, Paragraph 3. The methodology for selecting the Key View locations within the Visual Impact Assessment (VIA) is unclear, and does not adequately analyze potential disproportionate adverse impacts on minority and low-income populations within Long Beach. Potential impacts to recreational trail and park users throughout the I-710 corridor were not adequately considered. For example, impacts to recreation users at Santa Cruz Park, Golden Park, Cesar Chavez Park, were not addressed. Community impacts from neighborhood modifications along Fashion Avenue in Long Beach are not reflected. Based on the selected Key Views, an overall visual response score was low throughout the City of Long Beach. However, much of the project involves full takes of properties, demolition activities, and construction of new transportation facilities, which would substantially change the character of Long Beach communities. These impacts overall are underscored and, as a result, the analysis does not fully disclose the visual impacts. The City of Long Beach should be consulted on which Key View locations should be considered in the City of Long Beach to adequately analyze impacts to its sensitive communities. L-27-71

SECTION 3.4 – UTILITY/EMERGENCY SERVICES

Section 3.4.2.2, Utilities, Permanent Impacts. Overall, references to relocations of existing petroleum pipelines and oil wells should cross reference the hazardous materials section, which omits these specific improvements. These proposed improvements should also specifically be identified in Section 3.12, Hazardous Waste/Materials, and Section 3.24.3.12, Hazardous Waste/Materials as well. All utility and right-of-way research will be performed by Caltrans, and records should be provided to the City. Any abandoned lines left within the limits of the project should be removed, rather than left in place. L-27-72

Section 3.4.1.2, Utility Companies and Types of Facilities. This list is missing City Light & Power, Inc. and Covanta Long Beach Renewable Energy Corp. L-27-73

Page 3.4-38, Paragraph 2. Per the Public Utilities Commission (PUC) General Order 131-D (refer to Attachment B to this comment letter), this analysis is missing identification of significant effects as a result of relocation of existing power lines 50KV or greater. Per this General Order, there is a need for Caltrans to carefully address potential concerns when those lines might be moved closer to residences, schools, and other sensitive areas. This analysis does not disclose those sensitive areas being exposed to relocation of these lines, nor the resultant effects. L-27-74

Page 3.4-38, NEW MEASURE. A new measure should be added to public services to ensure that emergency response times are not disrupted during construction to the extent feasible; the Project Engineer shall ensure that the City of Long Beach Fire Department (LBFD) be informed of the project construction schedule, lane closures (if any), and detour plans (if any) at least 2 weeks in advance of any detour plan or lane closure being implemented throughout the construction period. L-27-75

U&ES-2. This measure should include language that clarifies that all public utility lines, pipes, and cables that are disturbed or removed to accommodate the project must be replaced or relocated within the project limits to continue to meet the needs of residents and businesses in the community. In addition, arrangements must be made to avoid disruption in utility services. If interruption in service is unavoidable, then notice must be given and proper arrangements shall be made with residents and businesses. Further, this measure should incorporate the requirements of PUC General Order 131-D. L-27-76

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

Utilities

The relocation of the oil operating area includes approximately 21 wells and associated facility equipment. The cost of the relocation will require detailed engineering to determine the exact cost, but an order of magnitude estimate is $60 million. It will take approximately three years to drill replacement wells, abandon existing wells, install associated facilities and remediate the current oil operating area. The relocation is contingent on the acquisition of property by Metro/Caltrans and the securing of the appropriate permits. It is assumed that these efforts will be the responsibility of the Project. L-27-77

If construction plans will prevent future access to abandoned wells within the current oil operating area, LBGO will request Metro/Caltrans take ownership of the wells. The transfer of ownership is a common practice when a surface owner builds a structure that prevents future access to abandoned wells. L-27-78

Caltrans must provide funding for all utilities that would need to be relocated as a result of Project construction. L-27-79

Emergency Services

The City is concerned about public safety in the event of a freeway accident. The Project should be designed to ensure there is enough room to the left of Lane #1 and to the right of Lane #5 for emergency vehicles to travel to the accident. Similar access will also need to be provided for the freight corridor. L-27-80

It is not clear whether any of the proposed options discussed will allow emergency access for first responders. All public safety agencies would need access to any incident that is unimpeded by stopped traffic in normal lanes of travel. If any of the options are chosen that create a second tier, the City of Long Beach Fire Department would need the same access on both levels. L-27-81

Access to water is also a concern. The City suggests the following depending on the ultimate freeway configuration:

1) If there were only one tier, Long Beach Fire Department would require hydrants running down the center of the freeway area that could be accessed by either northbound or southbound lanes. This would allow access to a water supply for larger incidents (e.g., truck fires) without requiring complete freeway closure in one direction in order to access a hydrant.

2) If a separated roadway or upper tier were built for larger truck traffic, the Long Beach Fire Department would need a water source (risers) on the upper tier. The Long Beach Fire Department suggests a 3" waterline and riser with a 2½" National Standard thread. They can be placed every 750 feet on the upper tier only. If a water source is not provided on the upper tier, Long Beach Fire Department would need to shut down the freeway in one direction on both levels to run a hose line across the freeway to the hydrant on the nearest residential street. For the lower tier, the Fire Department would need to ensure that use of nearby residential hydrants, if necessary, could be accommodated via access through the adjacent sound wall, with appropriate openings and signage designating the access locations. L-27-82

It is stated on page 17 of the Draft EIR/EIS that the build alternatives "would not result in increased population or demand for public services in the Study Area because they would not construct new housing or business." The City disagrees with this statement as it relates to the demand for public services. Increased lanes lead to increased traffic, and increased traffic means a larger call volume for all public safety agencies, including the Fire Department. Also, some of the alternatives create a second tier which would complicate emergency response and the ability of the Long Beach Fire Department to handle emergency situations. Some of the alternatives also offer an electrical light catenary system to support truck traffic. This high voltage electrical system would also complicate the City of Long Beach's response profile and needs further analysis. L-27-83

On page 7, under the TSM/TDM, Transit and ITS improvements, the second bullet lists peak period parking restrictions on four arterial roadways. Three of the four appear to be in Long Beach. Thus, both the Long Beach Police Department and Public Works will likely have a coordination/enforcement role. L-27-84

On page 8, under the same section, reference is made to improvements to 42 local arterial intersections, which were not listed. It is anticipated that some of these locations would be in Long Beach and will require the same coordination/enforcement actions. L-27-85

On page 14, under S.5.1.3 Parks and Recreation Facilities, the Cesar E. Chavez Park impacts are described. These modifications will potentially impact traffic and public access to the park. This same L-27-86

section describes restrictions to the Los Angeles River Trail (and Bike Path) access, which may necessitate some enforcement actions. L-27-86

Although not specifically addressed, the displacement of homeless encampments along the I-710 Corridor and Los Angeles River could result in additional calls for service as the homeless relocate to other locations in the City, or additional demands at the City's Multi-Service Center. This needs more analysis. L-27-87

Construction Impacts

Section 3.24.3.4, Utilities/Emergency Services, page 3.24-11: impacts to the numerous utilities in the Study Area are not provided. This analysis must be provided here to ensure that accurate information is disclosed to the public and decisionmakers. L-27-88

Construction of the Project will require temporary closures of freeway ramps and arterial streets. As a result, traffic will be diverted to detour routes within City limits and will create traffic impacts along the detour routes. The increase in traffic along the detour routes and coordination of ramp, freeway lanes, and arterial street closures will require additional services to be provided by the Department of Public Works, the Police Department, and the Fire Department. Capital improvements to the traffic signal system in the City will be required. In addition, such detours may potentially affect the ability of the Police Department and Fire Department to meet response time goals. As such, the City requests that Caltrans provide funding in an amount to be determined to provide City staff support and capital improvements necessary to mitigate traffic impacts along detour routes. L-27-89

SECTION 3.5 - TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

Section 3.5.2.2, Bicycle and Pedestrian Facilities, page 3.5-50. The discussion on Pedestrian and Bicycle Facilities does not reflect State and City policies to increase walking and bicycling in California. The City of Long Beach completed a full update of its Bicycle Master Plan and has incorporated the update into its general plan. The updated plan shows planned bicycle facilities that will be safer and more attractive than the improvements proposed in the RDEIR/SDEIS. These facilities include provision for Class IV bikeways on many of the roadways proposed for replacement interchanges. L-27-90

The physical requirements for a Class IV facility may be greater than for a Class II facility; however, the enhanced service provided for bicyclists and the separation provided between bicyclist and pedestrians are essential to achieve the goals of both the City and the State. The City deems that a significant impact would be unmitigated if designs to facilitate active transportation are compromised in order to serve motor vehicle volumes.

On new overpasses and structures, bikeways, and pedestrian facilities must be physically separated from roadways by a barrier rail (Type K or equivalent) or other measure that effectively prevents motor vehicles from entering the bikeway area. The width of the bikeway must be wide enough to allow a street sweeper to maintain the area, and approaches should also be planned to facilitate sweeping. Where Class IV Bikeways are planned, the sidewalk should be a separate facility and provide at least 8 feet from the edge of the bikeway to the bridge rail, and it should provide unimpeded width within the walkway that allow pedestrians to pass around posts or utility pedestals on a generally straight line. The City's Bicycle Master Plan shows Class IV Bikeways on Anaheim Street, on Pacific Coast Highway, and on Artesia Boulevard. Furthermore, other communities along the corridor may elect to upgrade bicycle infrastructure if proper amenities are provided for replacement structures. L-27-91

It should be noted that most of the existing structures that cross the freeway provide no facilities for bicycling and poorly designed narrow sidewalks that cross free flow merge ramps, creating a undesirable environment, yet persons can be seen walking and riding on all non-freeway structures. L-27-92

Section 3.5.2.2, Existing and Future No Build Traffic Conditions. This section identifies 23 intersections that are analyzed within the Shoemaker Bridge project limits (downtown Long Beach). The No Build traffic volumes are similar but not exactly the same. These discrepancies should be justified or corrected during the preparation of the final environmental document. L-27-93

Section 3.5.3, Environmental Consequences, Page 3.5-51. Freeways: This section defines the Freeway level of service for the two build alternatives in 2035. The analysis clearly shows that Alternative 5C is the best alternative from a traffic operations standpoint. While both alternatives provide benefits to the overall corridor, Alternative 5C provides the most operational improvements to the City of Long Beach and appears to be the superior alternative. L-27-94

Page 3.5-91 – Intersections: This section identifies the traffic impacts of the two build alternatives on the intersections studies in the document in 2035. The analysis indicates that there are significant impacts (as defined in earlier sections) under Alternative 5C and 7 at is the best alternative from a traffic operations standpoint. While both alternatives provide benefits to the overall corridor, Alternative 5C and 7 in the Shoemaker Bridge study area. These impacts intersections include Anaheim/Santa Fe, Anaheim/Canal and Magnolia/Third. The Shoemaker Bridge TOAR agrees with this assessment and provides mitigation as well as modified traffic circulation at Magnolia/Third to provide operational improvements to the City of Long Beach. The FEIR should address the mitigation at these locations including the impacts of a DDI on Anaheim Street in the City of Long Beach. The proposed circulation improvements in downtown Long Beach will require coordination with the final environmental document in order to properly determine impacts. L-27-95

Page 3.5-107 – Motion 22.1 was approved by the Metro board to provide additional mitigation to I-710 improvements in the form of traffic management and pedestrian/bike improvements. The analysis should more clearly state the improvements proposed in the City of Long Beach and provide for Neighborhood Traffic Management along Anaheim Street as well as improvements to the bike and pedestrian facilities. It should also address the deficiencies of the proposed DDI interchange at Anaheim and I-710. L-27-96

Page 3.5-109 – Mitigation identified in the document includes improvements at the intersection of Anaheim Street/Santa Fe Avenue. The Shoemaker Bridge draft TOAR also identifies the need for mitigation at this intersection but we believe the improvements need to be more extensive with additional capacity to address the demand created by the closure/disconnect of 9th/10th Streets to the bridge under both the I-710 and Shoemaker Bridge project scenarios. L-27-97

General Comments Related to Traffic and Transportation/Pedestrian and Bicycle Facilities

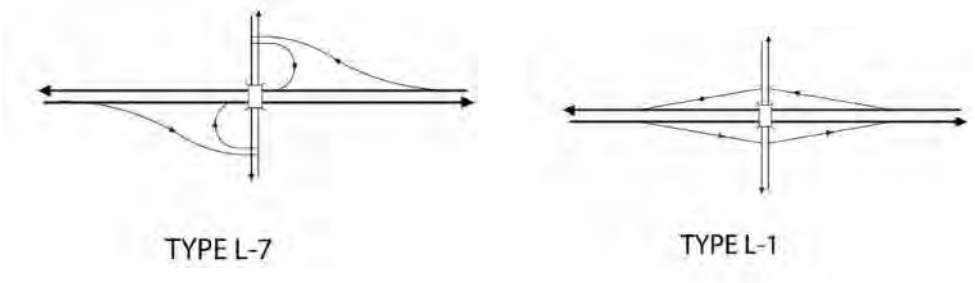
Diverging Diamond Interchanges

The RDEIR/DEIS analyzes the various interchanges in Long Beach based upon existing and future traffic volumes, but it does not analyze alternative interchange configurations and does not consider significant differences between interchange designs in meeting the needs for bicycling in consideration of the goals of the City and the State. In particular, the diverging diamond interchanges proposed for Anaheim Street, Pacific Coast Highway, Willow Street, and Del Amo Street provide features that are challenging for bicycling, especially the uncontrolled turn lanes and merge lanes that create or increase merging between bicyclists and vehicles. The City suggests that Caltrans explore other design options that promote mobility and safety for bicyclists, as depicted in Figure 3.5a, *Pacific Coast* L-27-98

Highway Interchange Bike Trail Alternative. While the existing interchanges pose greater and more challenging merging conditions, the proposed interchanges do not address many of the conditions that will be encountered as pedestrians and bicyclists walk or ride through the interchange areas. The Caltrans Highway Design Manual, Section 502.2, recognizes these limitations and discourages high speed merges at ramps and local streets, yet features that would be created by the diverging diamond design concepts proposed.

The diverging diamond interchanges also require the provision of more through lanes on the arterial to allow for the opposing travel directions to cross each other with adequate capacity. This results in the need for six lane arterial cross sections on roadways such as Anaheim Street and Pacific Coast Highway, which currently provide four lanes as they travel across the City. There are no plans to increase these roadways to six lanes within the City, but the bikeway plan does presume that the cross sections can be repurposed to provide friendlier cross sections for pedestrians and bicyclists. Any need to provide more than the existing number of lanes on any City roadway would be considered a significant impact that can be mitigated by using a design that does not result in severe impact to private properties and businesses due to constructing the additional lanes.

We have reviewed the travel demand forecasts for both the Anaheim Street and the Pacific Coast Highway interchanges and have concluded that a much more bicycle friendly interchange design is quite feasible. The northwest and southwest quadrants for each interchange would provide a Type L-7 configuration, eliminating the need for any ramps to cross a sidewalk or bikeway located on the south side of the arterial. The northeast and southeast quadrants would provide a Type L-1 (traditional diamond) configuration that can be modified to achieve low speeds, separation of motor vehicles from pedestrians and bicyclists via traffic signal design; refer to Figure 3.5b, *Traditional Diamond Interchange*.



L-27-98

Low forecast turning movements from both interchanges to and from the south make these geometrics very feasible, while minimizing traffic across a sidewalk or bikeway along the south side of each arterial. In addition, the need to reconstruct the river overcrossings provides an opportunity to raise the elevation of the crossing roadway over the west river levee and create a full grade separation between bicyclists and traffic at or near the west levee. Finally, this recommended interchange configuration will not require six lanes east from either interchange, as these roadways enter the center city area.

The Willow Street and Del Amo interchanges have higher forecast turn volumes as indicated in the RDEIR/DEIS, including greater volumes to and from the south. The interchange configurations above may not be adequate to meet the forecast. However, the indicated volumes could likely be well served by a traditional L-9 partial-cloverleaf interchange, potentially at lower cost than the diverging diamonds proposed. These interchange configurations should be examined closely to determine their feasibility. Since arterial through volumes are not required to cross over each other, the L-9 interchange may be better suited to meet changes in through volumes from the values forecast.







***Proposed Pump Station located to the south**

Soundwall

Maintain Undercrossing

P-5

BMP BASIN

COLB PUMP STATION P5 NEW/RELOCATED/UPGRADED

BEGIN STREET MODIFICATION STA 90+95

END STREET MODIFICATION STA 116+34

ROUTE 1 (PCH) NB

LA RIVER

LARIO TR

ROUTE 1 BR BR 141

RW 126

RW 127

19th St

ESTHER St

HARBOR Ave

CITY OF LONG BEACH

Legend:

- Proposed Open/Green Space
- Proposed Water Quality (LB-MUST)

I-710 Corridor Project EIR/EIS

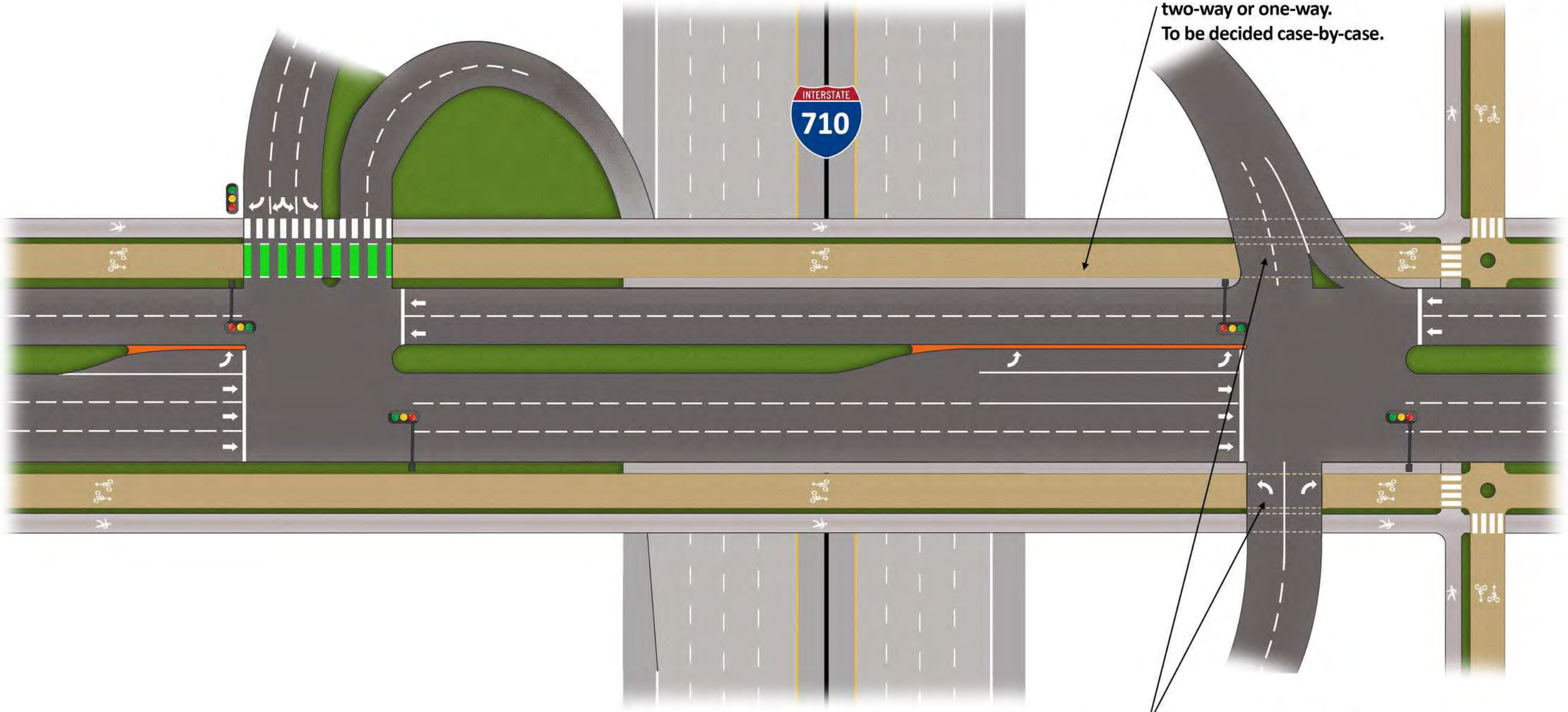
Mobility. Environment. Community. Economy. Technology

PCH Bike Trail Alternative

CITY OF LONG BEACH

DATE 10/10/17

FIGURE 3.5a



INTERSTATE CALIFORNIA 710

Mobility. Environment. Community. Economy. Technology

I-710 Corridor Project EIR/EIS

TRADITIONAL DIAMOND INTERCHANGE

CITY OF LONG BEACH

DATE 10/10/17

FIGURE 3.5b

Regardless of the final interchange type, interchanges must be designed with greater care at ramp terminals to provide more effective traffic controls. This includes traffic signal control that includes provisions for pedestrian signals across sidewalks and signalized bicycle crossings that serve Class IV bikeways, when they are located between the sidewalk and the roadway. Figure 3.5c, *Diverging Diamond Interchange*, shows a conceptual drawing for a diverging diamond that provides detail on provisions for walking and cycling that eliminates the need to look for gaps in traffic. These treatments are very common in European countries that are noted for their high-quality bicycle infrastructure and excellent traffic safety records. Long Beach has successfully emulated these strategies in our downtown area and is strongly in support of comparable facilities to link the communities west of the Los Angeles River with the rest of the city. These refinements of the diverging diamond design should be considered for each reconstructed interchange to the length of the project to minimize the need for pedestrians and bicyclists to cross freeway ramps that do not have traffic controls that create adequate gaps. L-27-98

West Bank LARIO Bikeway

The reconstruction of the 710 Freeway provides an opportunity to provide a shared use trail facility to meet the needs of the City's westerly neighborhoods that have been severed from the rest of the city by the 710 corridor and river channelization. A key feature is the opportunity to provide for a north/south bikeway along the west levee of the river adjacent to the freeway. This facility should be included in the project design through the Anaheim Street interchange and north to Artesia Boulevard. The facility would be comparable to the design treatments that exist along the east bank, including dip undercrossings where needed at arterial or freeway crossings and connecting roadways to both sides of the arterial. L-27-99

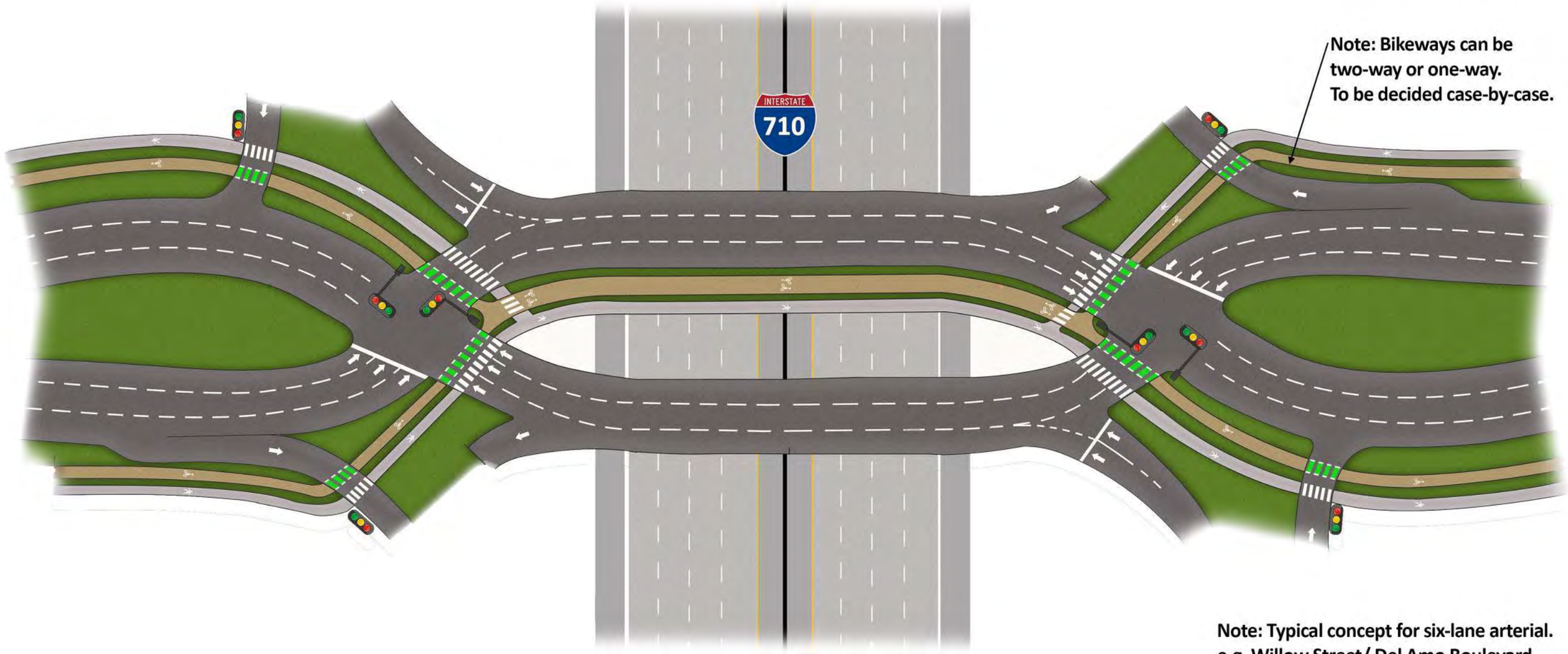
The proposed configuration for the Anaheim Street and Pacific Coast Highway interchanges would elevate these arterials above the west bank high enough to allow for the north/south bikeway to remain on the top of the levee and intersect with the east west bikeways at the elevation of the levee, grade separated from the roadway and ramps.

Pedestrian and Bicycle Overcrossings

Overcrossings have been proposed at Hill and Spring Streets. The City is in support of these valuable facilities that will unite its neighborhoods. However, the designs show structures needed to elevate the pathways over the freeway and may require acquisition of private property as they may cause shadow and privacy issues. Designs should be considered that do not require private property. Also, L-27-100
the precise crossing locations may be better suited if they are shifted to allow shallow grades from Hill Street and Spring Street to climb the levees. Grades should not exceed 5%. L-27-101

Wardlow Road Area

There is currently no connection from the LARIO to Wardlow Road since the roadway is higher than the trail and provides a grade separation. No connections are proposed in the project concept drawings. Connections should be provided on both the north and south sides of Wardlow Road so that users are not required to cross Wardlow at uncontrolled locations. L-27-102



Note: Typical concept for six-lane arterial.
e.g. Willow Street/ Del Amo Boulevard

INTERSTATE CALIFORNIA 710

Mobility. Environment. Community. Economy. Technology

I-710 Corridor Project EIR/EIS

DIVERGING DIAMOND INTERCHANGE

CITY OF LONG BEACH

DATE 10/10/17

FIGURE 3.5c

Los Cerritos Park (Bixby Knolls) Area

There are no proper connections to the LARIO between I-405 and Del Amo Street. A connection is strongly desired in the vicinity of Pacific Avenue north of I-405. Project concept plans show a connection from Los Cerritos Park over the LRT to connect Pacific Avenue with 39th Street, but it omits a direct connection to LARIO. This connection should be provided. An additional connection should also be considered further to the north, since the next connection is at Del Amo Street, over a mile away and separated by a railway corridor. L-27-103

Del Amo/Compton Creek Area

The City has previously considered a high-quality bicycle connection from the Los Angeles River Trail to the Del Amo Blue Line Station. The current connection requires users to travel along Del Amo Street across the river and through the interchange area on sidewalks of minimal width. In addition, the Compton Creek bikeway terminates at Del Amo Street on the east side of the creek, while the LRT stop is located on the west side, requiring bicyclists to travel out of the way and backtrack to reach the station.

The Compton Creek Bikeway should be extended under Del Amo Street and south to the confluence with the LA River. A new bridge would be provided over the river to connect with the east bank trail. This connection would eliminate any needed at-grade street crossings for the Compton Creek Bikeway in the vicinity. In addition, a new bridge for pedestrians and bicyclists would be provided at the LRT station north of the LRT platform, providing a direct connection from the trail to the LRT stop. This would produce a high quality low-stress pedestrian and bicycle connection to the LRT stop from the LA river that will not require any crossing of any roadway in the interchange vicinity. L-27-104

This improvement would not eliminate the need to ensure that a more bicycle friendly interchange is provided for Del Amo at I-710 using the measures described above. Del Amo Street is a highly-desired gateway to the City neighborhoods to the east, and the bicycle plan shows upgraded facilities along Del Amo to the west.

Market Street Connection to LARIO

There is currently no connection to LARIO from Del Amo to Artesia. Market Street terminates near the river levee and a connection to LARIO is feasible. Market Street is an important east/west bicycle route across the city and should be connected to the river trail on the east bank. L-27-105

Long Beach Boulevard Interchange

The existing interchange does not provide any connection to LARIO or nearby neighborhoods. The proposed interchange configuration features an L-7 configuration on the northwest and southwest quadrants. This configuration is especially well suited to provide a Class IV bicycle facility along the east side of Long Beach Boulevard that should be provided to assure utility from Victoria Street to the LARIO on the opposite side of the River. L-27-106

The west side of Long Beach Boulevard should be modified to provide for a separated Class IV bikeway to serve southbound from Victoria Street to LARIO, and the signals required for the interchange should provide control for pedestrians and bicyclists crossing the freeway ramps, as discussed previously. The City would extend this facility further to the north and south and has already established higher quality Class IV bikeways to the north.

Harding Street Connection

There is no existing connection from LARIO to Harding Street through DeForest Park. Harding Street is an important east west route for bicycling and includes a segment of the Daisy Bicycle Boulevard that is now under construction. Jordan High School is also nearby. A direct connection from the end of Harding Street to LARIO is needed. L-27-107

Artesia Boulevard Connection to LARIO

Artesia Boulevard is an important east west bicycle route. It provides post protected Class IV facilities in the interchange vicinity and over the LA River. There is no direct connection to LARIO. The project should provide direct connections to LARIO on both sides of the river via ramp structures that rise from the levees to both sides of Artesia Boulevard. L-27-108

Greenleaf Connection to LARIO

Greenleaf terminates at a local street that is separated from I-710 by a single residential home. An SCE greenbelt is located south of Greenleaf Boulevard and extends for miles to the west. A connector across I-710 would connect with the LARIO and provide an opportunity for a high-quality connection to a potential trail within the greenbelt. Early construction of the connector to LARIO would provide a connection with independent utility and further the opportunity for a major trail to the west across Compton. L-27-109

Atlantic at 710

There are no existing connectors to LARIO and none are proposed. Likewise, no direct connection to bikeway. There is an existing but unimproved connection to 72nd Street. A high-quality connection from LARIO to 72nd Street should be included in the project. L-27-110

Alondra at 710 Interchange

Bicycle lanes exist on Alondra west of Atlantic, and the roadway provides only four lanes beyond the interchange area. The proposed plan suggests the need for six lanes across the interchange because of the diverging diamond crossover design. This would likely result in elimination of the existing bicycle lanes, which is an unacceptable impact. The forecast volumes are not high enough to require 6 lanes, so the diverging diamond proposed has resulted in the impact of requiring additional travel lanes here. An alternate interchange configuration should be developed. A partial-cloverleaf would appear to meet forecast traffic volumes without requiring additional through lanes. L-27-111

Potential Improvements North of the City of Long Beach

The City of Long Beach has conducted a cursory analysis of conditions and opportunities along the 710 corridor to the north. We have identified potential improvements that would benefit pedestrians and bicyclists in these neighborhoods. Potential improvements are offered as helpful suggestions to allow the cities and communities to the north. We would defer to the judgment of the cities to the north regarding need or support for specific projects. L-27-112

Somerset Overcrossing

The existing overcrossing provides four lanes with no shoulders plus narrow sidewalks and low guardrails. It is not shown for replacement. Bicycle lanes may be feasible with a road diet treatment to the east and west. The overcrossing should be modified to provide a friendlier configuration for L-27-113

pedestrians and bicyclist. Provision of shoulders that meet Caltrans standards would be a minimum treatment and could be striped to provide bicycle lanes. L-27-113

Rosecrans at 710

The existing partial-cloverleaf configuration meets the needs of the future forecast (just as it may for many of the other interchanges). The bridge does not provide shoulders that can be used as bikeways. The proposed bridge should be adequate to provide bicycle lanes and adequate width sidewalks. The ramp configurations should be tightened so that ramp traffic is slowed while turning through signalized intersections. Also, the signals for the ramps should be modified to control traffic as it crosses the bike lanes. L-27-114

Bellflower Bikeway Greenbelt

A green belt extends for miles to the southeast from I-710 near I-105. A regional trail has already been constructed to the east, known and the Bellflower Bikeway. The project presents an opportunity to connect LARIO to Orange Avenue where it can be extended to connect with the Bellflower Bikeway. This is an important gap in regional bikeway infrastructure. L-27-115

M.L. King at 710 Freeway

There is no connection across I-710 at this time. A connection across I-710 would connect to LARIO and to Century Boulevard and the Hollydale Regional Park. Marco Antonio Firebaugh High School is nearby. This connection would likely consist of a bridge for pedestrians and bicyclists. L-27-116

Imperial Highway at I-710

The LA River Trail crosses along the south side of Imperial Hwy and doubles back to the south to go under Imperial. Another trail continues along the east levee to connect to the Rio Hondo trail. A bridge should be provided south of Imperial Highway to eliminate the need to double back to continue along the LA River Trail.

A DDI is proposed and the LA River bridge is shown to be replaced. Alternative interchange designs need to be considered, and proper connections to nearby neighborhoods should be included. L-27-117

Abbott Road

There is an existing off ramp from 710 at Abbot Road that is planned for removal. The corridor should be maintained as a bike trail to provide a direct connection from the neighborhood to the LART. L-27-118

Southern Avenue at 710

There is no existing crossing of the river or I-710. A new overcrossing and partial interchange are proposed. The crossing site should also provide a strong and friendly walk/bike connection. Southern Avenue has bike lanes to the west and a trail is located within the SCE easement to the north of Southern Avenue, beginning at Burke Ave and extending to Alameda Street (3 mi). L-27-119

Plans show a road connection from Southern to Stewart and Gray with a new loop on ramp for SB. Insure that the new road includes a bikeway with connection to the river trail, or provide a bikeway if the roadway falls out of the plan. L-27-120

Firestone at 710

This location is an existing partial-cloverleaf that was retrofitted from a full cloverleaf in the past. It is proposed to be rebuilt as a partial-cloverleaf to include the squaring of the ramps to reduce speeds. The general approach is appropriate, but consideration of physical separation between motor vehicles, bicycles and pedestrians should be considered. L-27-121

LAR at Fostoria

The project should provide a local connection to LART at Fostoria to connect to River Road so that the neighborhood can access the trail readily. L-27-122

Florence at 710

A DDI is proposed at this existing cloverleaf interchange. A partial-cloverleaf would likely meet the traffic forecast and should be evaluated closely. If a DDI is optimal, it should be modified to provide bicycle and pedestrian friendly features. L-27-123

Gage at 710

This location requires accessible connections to LART. Access is currently via non-ADA compliant stairways. L-27-124

Randolph at LART 710

LA Metro is expected to adopt an important east/west trail that will intersect with LART at Randolph and extend to the west. The wide railroad easement continues on the east side of the trail. A pedestrian/bike bridge should be provided across the river and 710 along the Randolph corridor, so that the trail can be extended further to the east in the future. L-27-125

Slauson at 710

There is no direct connection to LART from Slauson. There is a connection through Riverfront (Maywood) Park. The design should insure that this connection continues as a high-quality connection from the trail to local neighborhoods. L-27-126

710 North of Slauson

710 diverges from the LART north of Slauson. There is no parallel bikeway connection and vehicle connections are remote, due to the configuration of the arterial network and the rail yards. There is a significant existing demand for bicycle commuting from East Los Angeles to employment in Vernon and nearby areas. For many other reasons, the 710 project provides an opportunity to build a bikeway adjacent to mainline with proper treatment to achieve grade separation around ramps or appropriate intersection traffic control north to the Triggs St vicinity. Upon reaching Triggs Street, cyclists and pedestrians can connect to Arizona Ave and/or Eastern Avenue to proceed north. Both of these streets present opportunities to improve bicycle infrastructure based upon their pavement width and traffic volumes. There is an existing pedestrian overcrossing of I-5 at Arizona Street that must be replaced to meet ADA standards. Its replacement structure would be incorporated via Triggs Street. This connection would ultimately extend to connect with East Side stations along the Gold Line, and it would connect and help to serve LA Metro's LART Gap Closure project that will extend the LART to and beyond downtown Los Angeles. The potential regional significance of this connection will be substantial. L-27-127

Existing plus Project Analysis scenarios are not provided, contrary to Sunnyvale West Neighborhood Association v. City of Sunnyvale. Such analysis should precede Section 6.1.3 in the Traffic Operations Report and the results should be included in the main document. L-27-128

Section 2 no longer includes any discussion of LOS methodology. It has been relocated to Appendices summarizing traffic conditions. (Traffic Operations Report [TOR] page 2-37. L-27-129

Signalized intersections in Long Beach continue to be analyzed only using the HCM methodology, not the City LOS methodology (TOR 2-37). L-27-130

Default saturation flow rates are indicated to be reduced to 1600 vehicles per hour, however the actual analysis calculations are not provided. Only the turning movements and calculation results are provided (TOR 2-37). L-27-131

The operations report now indicate that signalized intersections have been optimized to between 60 seconds and 100 seconds. Signals should be optimized based upon actual constraints based upon the presence and length of crosswalks, provision of adequate crossing time based upon crossing width, requirements for bicyclists and other users, and adequate time to assure that left turn lanes do not block through lanes (TOR 2-37). L-27-132

Minimum pedestrian clearance intervals are not indicated in the operations report. However, the text does not acknowledge that this has been considered properly (TOR 2-37). L-27-133

It is not clear whether a peak hour factor of 1.0 was used for future year analysis. The text does not acknowledge this requirement that is contained in the Los Angeles County Congestion Management Plan (TOR2-37). L-27-134

The impacts of implementing parking restrictions or other measures to accommodate additional peak hour travel lanes has not been included. Also, in some cases this may require street reconstruction and loss of bicycle lanes. This measure should not be assumed unless it is based upon a clear city commitment, which does not exist in Long Beach (TOR 4-11). L-27-135

The questions about improvements to city intersections not committed or included in project funding has not been addressed. Improvements to city intersections must be included in project funding and impact assessment (including concurrence in project appropriateness), or they should not be assumed to be provided. It would be more appropriate to not make these assumptions and show forecasted conditions if the improvements are not made (TOR 4.11). L-27-136

The impact assessment continues to not be based upon the City's adopted criteria for city intersections (TOR 2-37). L-27-137

The provision that the City of Long Beach review, concur, and approve of City intersection improvements, in compliance with City design standards has been omitted. L-27-138

The study text indicates that the existing peak hour factor was used for exiting level of service calculations. It is not clear what factor was used for future analyses. The use of a 1.0 factor for forecasts more than 5-years into the future is acceptable (TOR 2.37). L-27-139

The operations report is not clear and conclusive about ramp metering issues. It should be clear whether on ramp lanes and storage requirements are adequate to store ramp queues for all freeway on ramps. L-27-140

It is not clear whether on ramp queues will be allowed to overflow based upon a statement of overriding consideration or how many locations may be affected. It is important to know where ramp queues may be a factor. L-27-140

The continuing existence of on and off ramps for Pacific Avenue at I-405 was noted as uncertain. The geometric drawings clearly indicate that these ramps are proposed for elimination. In addition, the ramps for Wardlow Road at I-710 are also clearly shown for elimination. The City is very concerned about the elimination of these ramps, resulting changes in local circulation, and its effect upon city intersections that will see increased traffic due to the elimination of these ramps. The impacts of these changes should be clearly noted. In addition, geometrics that preserve these connections would be strongly preferred now. L-27-141

The traffic analysis does not appear to adequately consider benefits to shifting port operations to lower traffic periods. L-27-142

The City has reviewed level of service calculations for more bicycle friendly interchanges at Pacific Coast Highway and Anaheim Street and noted that more traditional interchanges can meet existing and future needs adequately, while providing better facilities for walking and biking. L-27-143

The document does not discuss “complete streets’ type improvements for nearby arterials to reduce dependence upon motorized traffic. The City has had great success in seeing increases in walking and biking in nearby neighborhoods. These improvements should be considered for the neighborhoods along Santa Fe and along the connectors from I-710 to the neighborhoods to the east. L-27-144

The City’s concerns about loss of ramp connections to Wardlow Road and Pacific Avenue require much greater and clearer discussion. Loss of these connections will likely create or aggravate conditions at nearby interchanges and may result in backups into freeway lanes. L-27-145

The City continues to be greatly concerned about provisions for pedestrians and bicyclists on interchanges. The exiting cloverleaf interchanges and high speed turn lanes are very poorly suited for walking or biking across the ramp terminals. Proposed interchanges, and especially diverging diamonds, continue to show high speed on and off ramps, especially to serve right turns onto or from freeway off ramps. If alternative interchange configurations are not provided, it is essential that all ramps have suitable control that will not require pedestrians to cross uncontrolled ramps or require bicyclists to merge across free turn lanes that do not require motorists to slow down. Experience with walk/bike friendly diverging diamond interchanges is not widespread due to their lack of precedent. Diverging Diamond interchanges with attempts toward walk/bike friendliness have been completed in Utah and in Alberta. Lessons learned from these examples should be applied to locations in California. L-27-146

Interchanges should reflect the philosophy noted in Caltrans publications, Deputy Directives, and Traffic Operations Policy Directives. The I-710 project reflects an opportunity to show greater sensitivity to these needs in a dense urban area that currently must use very poor facilities that discourage travel across I-710 except by motor vehicle. L-27-147

The project description is not clear or generous in the location of pedestrian and bicycle crossings and facilities. There should be a clear focus upon how these needs will be met, with consideration of Class IV facilities through interchanges. L-27-148

The City previously commented that there should be a clear and strong focus upon providing for pedestrians and bicycles, as represented by a pedestrian and bicycle master plan for the corridor. The project continues to focus upon satisfying auto and truck traffic, with brief discussion of provision of bicycle lanes and sidewalks. This token level of commitment is highly unlikely to achieve the City’s L-27-149

goal of an integrated transportation and mobility network that allows users to circulate readily and easily through and between neighborhoods along I-710 without reliance upon private motor vehicles. A specific and glaring omission is the provision of a bikeway along the west levee in Long Beach, including access to interchanges and well-suited neighborhoods, plus Class I or Class IV facilities at reconstructed interchanges that minimize or suitably control conflicts between travel modes. We have made specific comments where features of existing or planned interchanges have not been sensitive to this goal. L-27-149

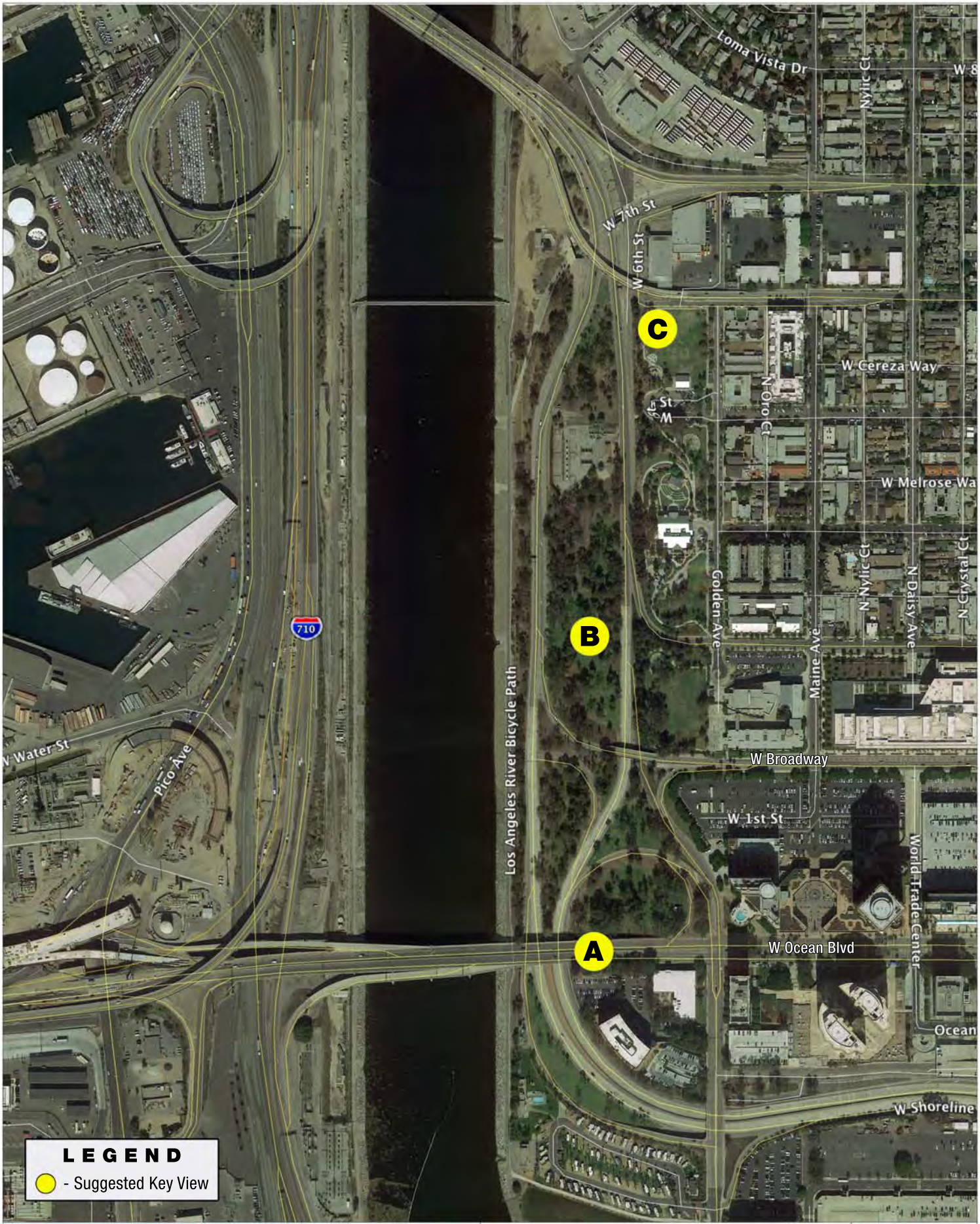
SECTION 3.6 – VISUAL/AESTHETICS

Page 3.6-1, Regulatory Setting. For visual analysis, the regulatory setting is very important for understanding potential visual resources and viewer sensitivity in each local jurisdiction. This discussion should be updated to include the City of Long Beach General Plan, Local Coastal Plan Policies, as well as the State's Scenic Highways Program. L-27-150

Page 3.6-1, Section 3.6.2, Affected Environment. Refer to comments below on the Visual Impact Assessment, Section VI. Visual Environment of the Project.

Page 3.6-2, Section 3.6.2.4, Methodology. Refer to comments below on the Visual Impact Assessment, and Visual Impact Assessment, Section IV. Visual Assessment Methodology. In general, no information pertaining to the public outreach conducted to date, nor the committee input received as part of the *I-710 Corridor Aesthetic Master Plan* (CMP) process is discussed. It is important to include this information in order to properly disclose the anticipated viewer response to visual change, which would substantially affect the overall visual response scores. L-27-151

Page 3.6-2, Section 3.6.2.5, Key Views. Methodology for selecting the Key View locations was not clear. No Key View to represent potential impacts in the coastal zone, which have specific identified visual resources, was not considered. Potential impacts to recreational trail and park users was not adequately considered. For example, impacts to recreation users at Santa Cruz Park, Golden Park, Cesar Chavez Park, were not addressed. Community impacts from neighborhood modifications along Fashion Avenue in Long Beach are not reflected. Based on the selected Key Views, an overall visual response score was low throughout the City of Long Beach. However, much of the project involves full takes of properties, demolition activities, and construction of new transportation facilities, which would substantially change the character of Long Beach communities. These impacts overall are underscored and, as a result, the analysis does not fully disclose the visual impacts. The City of Long Beach should be consulted on which Key View locations should be considered in the City of Long Beach. Although it is difficult to understand the proposed project features based on the site plans provided, based on the visual sensitivity of the City of Long Beach, and proposed areas of change, the City of Long Beach recommends further Key View consideration at an additional seven locations (Key Views A through G), which are mapped on Figures 3.6a through 3.6c, *Suggested Key View Locations*, provided herein. Key Views A through C encompass proposed changes at multiple recreation facilities located in the City, as well as potential view impacts from Ocean Boulevard. Key View D reflects potential visual changes from the future City Scenic Corridor along Pacific Coast Highway. Key Views E and F represent potential visual changes from residential communities in the City. Key View G represents potential visual changes in character/quality that may be experienced by recreational users in the City (in this case, Tanaka Park). L-27-152



Mobility. Environment. Community. Economy. Technology

I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

SUGGESTED KEY VIEW LOCATIONS

CITY OF LONG BEACH

DATE 10/10/17

FIGURE 3.6a



Mobility. Environment. Community. Economy. Technology

INTERSTATE CALIFORNIA 710

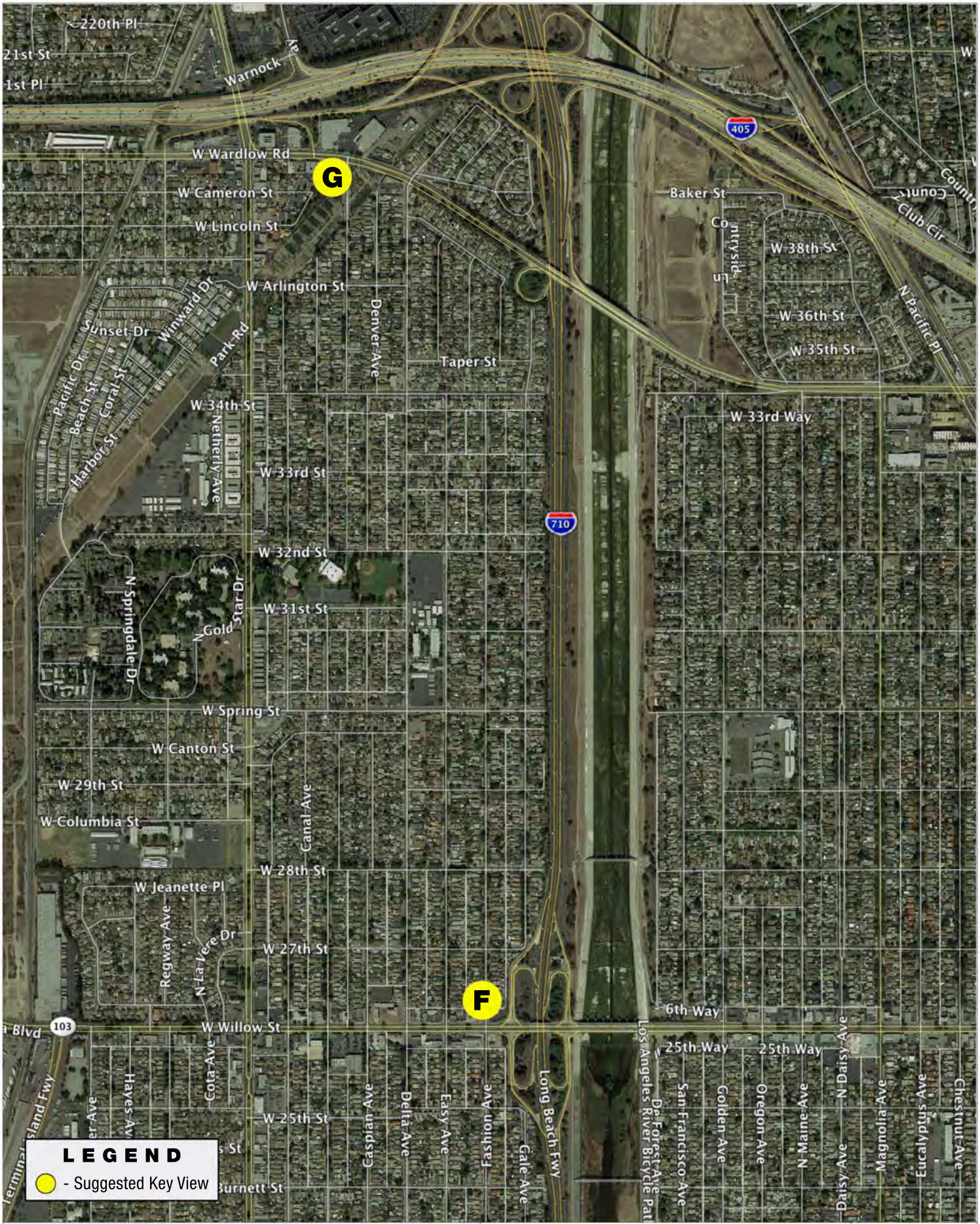
I-710 Corridor Project EIR/EIS

SUGGESTED KEY VIEW LOCATIONS

CITY OF LONG BEACH

DATE 10/10/17

FIGURE 3.6b



Mobility. Environment. Community. Economy. Technology

INTERSTATE CALIFORNIA 710

I-710 Corridor Project EIR/EIS

SUGGESTED KEY VIEW LOCATIONS

CITY OF LONG BEACH

DATE 10/10/17

FIGURE 3.6c

Overall Visual Impact Analysis. It is not clear what the major project components are that would result in the greatest visual change. No discussion of how sensitive viewers are specifically impacted by vegetation removal, increased views to hardscape features, or modification of the character of the existing communities is identified. The analysis should also discuss the project features associated with the CMP if further detail. The design guidelines should be identified, how these guidelines would reduce the resultant impacts, as well as the overall regulatory framework for enforcement. L-27-153

Page 3.6-114, Other Visual Impacts - Light, Glare, Shade, and Shadow. Refer to comments below on the Visual Impact Assessment, Section IX. Visual Impact Assessment. Light and glare considerations should also include new roadway alignments and new cul de sac features proposed in residential communities. These project features would result in new lighting from vehicle headlights that did not previously exist. These new lighting features can severely impact residential communities, depending on the configuration proposed. No mention of this is considered in the analysis. L-27-154

Page 3.6-116, Paragraph 1. It is not sufficient to compare all bridge impacts from the ratings received at just Key View 1. Consideration of existing public views toward visual resources should be considered. Whether or not new or modified bridge structures block existing views to visual resources should be considered and disclosed. L-27-155

Page 3.6-117, VIS-1, Last Paragraph. The measure VIS-1 cites the CMP as 2014, but the first paragraph of Section 3.6 cites the CMP as February 2012, and as February 2015 on pages 3.24-17 and 3.25-70. Please verify which version of the CMP document should be referenced and make consistent throughout. L-27-156

Page 3.6-117, VIS-2. This measure should also reference the tree/vegetation replacement guidelines presented in the CMP. L-27-157

Page 3.6-118, VIS-5. This measure should also reference the retaining wall design guidelines presented in the CMP. L-27-158

Page 3.6-118, VIS-6. This measure should also reference the wall design guidelines presented in the CMP. L-27-159

Page 3.6-118, VIS-7. This measure should also reference the design guidelines for lighting features presented in the CMP. L-27-160

Pages 3.6-118 and -119, VIS-8. This measure should also reference the vegetation replacement guidelines presented in the CMP. L-27-161

Visual Impact Assessment

The *Revised Draft Visual Impact Assessment Interstate 710 Corridor Project Ocean Boulevard to State Route 60* (VIA), prepared by AECOM Orange and Tatsumi Partners, Inc., dated February 2017, generally follows the guidelines outlined in the Federal Highway Administration's (FHWA) January 2015 publication *Guidelines for the Visual Impact Assessment for Highway Projects*. In this methodology, 3 main criteria were used: visual vividness, intactness and unity. All visual impact assessment work has been performed under the direction of a California-licensed landscape architect.

The VIA should also follow the California Department of Transportation (Caltrans) Standard Environmental Reference (SER) Chapter 27, *Visual & Aesthetic Review*. Per the SER Chapter 27, the level of VIA is determined using the VIA Questionnaire. The City of Long Beach has prepared a L-27-162

VIA Questionnaire for the proposed project (Attachment C, *VIA Questionnaire*, of this Comment Letter). Per the VIA Questionnaire, the VIA should follow the *Advanced/Complex VIA Annotated Outline*. The VIA Annotated Outlines have been developed to ensure that visual analyses are thorough, concise, objective, and consistent with statewide practices. L-27-162

Section III. Project Description

Prior to discussion of the Project Alternatives, a succinct description of what will be built, emphasizing the visible changes to the transportation system such as added or widened lanes, sidewalks, bike trails, or pathways; bridges removed, replaced, added, or widened; added or reconfigured intersections or interchanges; major grading; changes to access; added or removed retaining walls, noise barriers, concrete barriers, signals, signs, lighting, drainage facilities, vegetation (specific area or acres), trees (specific numbers), etc.] should be included.

Descriptions of aesthetic features that are planned for the project that the Project Development Team (PDT) has agreed are appropriate for the project scope and budget, and/or serve as contextual elements that help retain the unique character of the community and will help generate public acceptance of a project. These elements constitute "good design" and would include items such as textured noise barriers, retaining walls or paving; colored concrete or asphalt; "see-through" bridge rail; highway planting, etc. Also, this section should highlight both the beneficial features of the project as well as any measures to avoid or minimize visual impacts that were adopted early in the project development process. L-27-163

It is the understanding of the City of Long Beach, that the PDT has formed a committee of community stakeholders (including local cities, Los Angeles County, Gateway Cities Council of Governments, and Metro) and Caltrans staff to plan the visual quality of the I-710 transportation corridor. As part of this process, the Committee drafted the CMP, to be included as part of the proposed project. The CMP incorporates Caltrans policies of Context Sensitive Design Solutions; to plan, design, maintain, and operate its transportation system in a way that reflects and enhances the surrounding environment, while meeting Caltrans transportation goals and policies. A description of the CMP, including the intent, guidelines for proposed design features, and regulatory requirements associated with the CMP, should be discussed in the Project Description. L-27-164

Section IV. Visual Assessment Methodology

Preparation of the Visual Simulations. Existing condition photographs, used for the basis of the photosimulations, were taken using a Nikon D70 digital camera with a lens with the focal length of 30mm. However, in order to capture the 30mm view on the Nikon D70 digital camera, the lens must have a length of 50mm, in order to properly mimic the human eye. L-27-165

Digital Modeling. The methodology states that the specific view point for each digital model uses the architectural standard eye height of 5'7" for reference. However, the wireframe should in fact be adjusted to match the elevation of the photograph, such that it can be seemed in properly. L-27-166

Section V. Environmental Laws and Policies

This discussion should fully disclose scenic views, scenic corridors, and visual resources identified in each respective local plan that may be located in the viewshed of the project site. L-27-167

Page 21, City of Long Beach. This discussion includes the October 2002 General Plan. However, no mention of the Scenic Routes Element is discussed. Specific routes and visual resources identified in this element, that which are in the project's viewshed, should be included in this discussion. Goals L-27-168

and policies must be pulled into this discussion, as this information is important to visual resource considerations, and specifically those involving the coastal zone. L-27-168

Further, the General Plan Land Use and Urban Design Elements have since been updated in draft form February 2017. These documents, although not adopted, should be considered. Per the 2017 Urban Design Element, Ocean Boulevard remains a designated scenic route within Long Beach and is also situated within the project's viewshed. In addition, the system will be expanded to include the Los Angeles River corridor and the entire stretch of Pacific Coast Highway. These corridors are, or will become by 2030, scenic highways. To that end, these corridors and visual sensitive and should be considered specifically for architectural contributions to the overall aesthetic value of these important corridors. L-27-169

Per the 2017 Urban Design Element, vistas from high points, open locations, long corridors, and other similar places within the City include high grounds in mid-City and near Signal Hill looking toward Downtown and the coast, along rivers and channels, and natural areas among others. Consideration of these potential areas located within the project's viewshed should be considered. Per this element, wide, tree-lined streets through older neighborhoods would be considered visual resources, and also add to the visual character of a neighborhood. Other important vistas include views to the distant San Gabriel Mountains, and dramatic views from the City of Signal Hill out and over Long Beach. The policies in the 2017 Urban Design Element related to scenic routes should be included. L-27-170

Section VI. Visual Environment of the Project

The VIA is missing a description of the project location/setting in order to provide a context for determining the type and severity of changes to the existing visual environment. The project setting should discuss the project corridor, which is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way, and is determined by topography, vegetation, and viewing distance. A description of the general biogeographical or ecological region should be described. A description of the overall landscape should be included. L-27-171

The areas of the City of Long Beach are characterized as just highly industrialized/port-related industrial uses. However, in addition to these areas of the City, the project traverses through the communities of Westside and Wrigley, Bixby Knolls, and North Long Beach. Each of these communities have distinct characters, separate than that experienced near the port. L-27-172

A description as to whether or not scenic resources have been identified within the corridor should be included. The VIA should include a discussion of the project's local scenic highway designation along Ocean Boulevard, per the City of Long Beach General Plan, and if this segment includes scenic resources that which also include views to project features. L-27-173

Landscape Units. The landscape units have been divided by land use types, whereas, the first sentence of this discussion states "A landscape unit is a portion of the regional landscape and can be thought of as outdoor room that exhibits a distinct visual character. A landscape unit will often correspond to a place or district that is commonly known among local viewers." As all residential uses throughout the corridor would experience different "outdoor rooms", each with a distinct visual character, it is not reasonable to analyze the visual impacts to all residential uses together. As with residential uses, freeway users would experience different landscapes throughout the corridor and it does not seem appropriate to lump them all together. The City of Long Beach would like to be considered a distinct Landscape Unit from the rest of the project corridor, as the City has very specific visual resources that need to be considered separately from the remainder of the project corridor. L-27-174

Section VII. Visual Resources and Resource Change

This section should follow the *Advanced/Complex VIA Annotated Outline*. The concepts of form, line, color, etc., should be used to describe the visual character in the project corridor for each landscape unit (outdoor room). As discussed above, the use of land use types to describe landscape units is incorrect. The City of Long Beach should be considered its own landscape unit and the visual character should be described, including a description of the visual character of each alternative.

This section is missing the resource change discussion. The change (in terms of compatibility) of the visual character of each alternative with the existing visual character must be disclosed. Typically, for an advanced/complex level project, the visual character of the proposed project will have at least some incompatibility with the existing corridor.

L-27-175

A discussion of the changes to the visual quality of the corridor must be disclosed. Similarly, describe the visual quality of each alternative (if there are noteworthy differences between alternatives). Evaluate the change in the visual quality of each alternative (if appropriate) with the existing visual quality. Typically, for an advanced/complex level project, the visual quality of the proposed project will have a moderate to high detrimental effect to the existing corridor.

This section must summarize the changes in the visual resources for each alternative, noting in particular the changes to visual character and visual quality. Include a statement regarding overall resource change for each alternative using one of the following five levels: low, moderate-low, moderate, moderate-high, or high.

Section VIII. Viewers and Viewer Response

No viewer response rating was described for Highway Neighbors. These viewers should be rated as a high viewer response to the project. Viewer sensitivity should also consider local values of the community as a whole, based on the City of Long Beach General Plan and identified visual resources. Further, a discussion of the project's community outreach meetings, public input received, and the draft CMP should be discussed.

L-27-176

Section IX. Visual Impact Assessment

This section should follow the Advanced/Complex VIA Annotated Outline for visual impact. No discussion of impacts by visual impact assessment unit and by Alternative is provided. No description of Key View locations and which areas of the corridor they apply to are provided. Overall, the ratings need to be updated with the new guidelines. Further, the visual sensitivity needs to be re-evaluated. The Los Angeles River trail is widely used regionally and is not considered minimally traveled. Further, the sensitivity to improvements within and near the trail would be high, elevating the visual response and requiring further mitigation. Overall, the descriptions of proposed project features and resource change need to be fully developed. Consideration of new project features in each Key View need to be disclosed. Proposed project features, including the CMP, need to be disclosed. Impacts to visual resources, if applicable, need to be included. Impacts to community residents, recreational users, and institutional users as a result of removal of existing vegetation and exposure to new, relocated, or larger wall features or new bridge structures are underscored. The anticipated viewer response to these changes should be rated higher and mitigation should be deemed necessary, or otherwise explained why not.

L-27-177

A Project Impact Summary should be provided at the end of the analysis summarizing impacts per landscape unit per alternative. This section should characterize the overall visual impact of the project as low, moderate-low, moderate, moderate-high, or high. This summary should also address each of

L-27-178

the CEQA-required issue areas (scenic vistas, visual character, scenic resources along scenic highways, and light and glare) plus any potentially controversial project features such as noise barriers, tree removal, etc. A discussion of shade/shadow impacts should include a discussion of all shadow-sensitive uses that would be affected by the project should be disclosed. In addition to the narrative, consider including a table if necessary to convey the information to the reader. L-27-178

Temporary Impacts. A description of any visual impacts (by alternative if different) due to construction impacts such as night lighting, dust, temporary structures, staging areas, hauling materials, contractor yards, or detours should be included. The expected duration of construction should also be provided. L-27-179

Cumulative Impacts. The cumulative impacts, detailing if they will affect visual resources or viewers; if the visual impacts are beneficial or detrimental; and when the impacts would likely occur should be included in the VIA. The VIA should explain if the cumulative impacts would occur under all or just some of the alternatives. Specific consideration of the Shoemaker Bridge Replacement Project and the Long Beach MUST Facility, both in the City of Long Beach, within and along the I-710 Corridor, must be made. Cumulatively considerable impacts must be disclosed and whether the I-710 Corridor contributes to this impact must be disclosed. It should also be acknowledged that the proposed Long Beach MUST Facility will result in increased open space/public recreational area along the I-710 Corridor. The analysis must consider potential impacts to these facilities and whether or not the I-710 will negatively impact the future character of these areas in the City of Long Beach. L-27-180

Section X. Visual Avoidance, Minimization, and/or Mitigation Measures

The performance criteria identified as part of the CMP should be included in all applicable measures in the VIA. L-27-181

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

This section of the Draft EIR/EIS should describe any designated scenic corridors and the Project's impacts on such scenic corridors. For example, Ocean Boulevard within the City of Long Beach is designated as a scenic route by the City of Long Beach General Plan. L-27-182

This section focuses on views of the Project from specific locations adjacent to the freeway. The analysis should be supplemented with a discussion of all of the visual resources within the area (e.g., prominent landforms, historic resources, etc.) and should include an analysis of whether views of these visual resources would be obstructed by the Project. L-27-183

The public must be provided with more specificity regarding the aesthetics characteristics of the Project. In addition, the attractiveness of the new and modified sound walls must be ensured, as stated at the beginning of our letter. L-27-184

The conclusions with regard to views are highly subjective, inaccurate and/or conclusory. Reevaluation of the views should occur based on the following examples:

- The Project is a new prominent feature in key views 2 and 3. In fact, the Project is the most visible contrasting feature in key view 2 that will be viewed by residents in the vicinity of Gale Avenue and West Hill Street. Thus, the Project will result in substantial adverse visual change. In addition, the view of the enhanced conditions accentuates the visibility of the elevated freight corridor. The visual quality of view 2 is reduced by a value greater than 1.0. Similarly, the visual quality of view 3 is reduced by a value of more than 0.2. L-27-185

- As illustrated by key view 4, the Project, and the elevated freight corridor in particular, become the primary features in this view and result in substantial adverse visual change. The visual quality is reduced by more than the value of 0.7 cited in the text. L-27-186

- The Project introduces a new sound wall and elevated connector in key view 6, which will be viewed by many residents. These contrasting features do not result in a neutral impact on visual quality. L-27-187

- The removal of substantial landscaping, and the introduction of the interchange, utility poles and transmission lines in key view 7 results in much more than the 1.3 reduction in visual quality from this location cited in the text. L-27-188

- With regard to key views 11 and 12, the Project is a new highly visible feature. In addition, the introduction of the "enhanced condition" of the elevated freight corridor accentuates the visibility and contrast of the Project. The reduction in visual quality is much greater than the values of 0.4 and 0.3 provided in the text. L-27-189

The analysis of nighttime lighting is inadequate. New lighting will be introduced closer to light sensitive uses such as residential uses and lighting will also be introduced at a higher elevation along the freight corridor. No quantitative analysis is provided and the mitigation measure regarding lighting merely refers to a future lighting plan to be provided. This is inadequate to determine the impact of these new light source. L-27-190

The elevated lanes south of Willow Street would create impacts on visual blight that cannot be mitigated. The Project should be reworked to eliminate elevated lanes south of Willow Street to avoid impacts on visual blight. L-27-191

Section 2.24.3.6, Visual/Aesthetics, page 3.24-13. The analysis presented here notes that impacts to sensitive viewers would be expected. However, this analysis does not provide who or what these sensitive viewers are. This information must be provided to accurately reflect and mitigate potential impacts. L-27-192

The analysis of effects on a scenic vista provided on page 4-12 dismisses this issue by stating that there are no officially designated scenic vistas in the Project area. However, an impact of a scenic vista can occur even when a scenic vista is not officially designated. Visual resources within the project area include prominent landforms and historic resources. This section of the Draft EIR/EIS should address whether views of such resources would be affected. L-27-193

Like the analysis in Section 3.6, the analysis of potential light and glare impacts on page 4-13 is strictly qualitative with no demonstration of what potential impacts might be or how mitigation measures would reduce such impacts to less than significant levels. The proposed elevated freight corridor that will be visible to many residents may indeed result in significant light or glare impacts. L-27-194

The analysis of visual character and quality on page 4-30 is conclusory. As with the analysis provided in Section 3.6, there is no demonstration of how the introduction of a highly visible and overwhelmingly contrasting elevated freight corridor would be mitigated by the proposed mitigation measures. L-27-195

Section 4.2.4.6, Mandatory Findings of Significance, page 4-69. Based on the analysis provided in Section 3.25, cumulative Impacts, the build alternatives would also contribute to cumulative adverse impacts related to aesthetics and biological resources. As such, the conclusion presented here contradicts what is presented in the analysis of cumulative impacts. L-27-196

SECTION 3.7 – CULTURAL RESOURCES

Section 3.7.2.2 – Area of Potential Effects

Page 3.7-9, Due to the scale of the graphic, the extent of the Supplemental Area of Potential Effects is difficult to discern. Please break up the graphic onto multiple pages with match lines so the extents can be more readily identified. L-27-197

Section 3.7.2.4 – Native American Consultation

Page 3.7-15, Although the section discusses the consultation process that was undertaken with Native American contacts, no discussion was provided regarding whether the Assembly Bill (AB) 52 Tribal Consultation Procedural Requirements were met. Please provide a discussion regarding how the AB 52 process was fulfilled. L-27-198

Section 3.7.3.2 – Section 4(f) Resources

Page 3.7-27, In a letter dated November 12, 2009 from Lynette Ferenczy of the City of Long Beach to Casey Tibbet of LSA Associates, information was provided regarding potential historic resources near the proposed project. Specifically, the letter identifies the Masonic Hall at 5351-5353 Long Beach Boulevard and the Pressburg Residence located at 167 East South Street as both being landmark buildings. However, it appears that any study of these buildings has been omitted. Please identify why these structures were not evaluated. A copy of this letter can be found in Attachment F, Historical Consultation, of the *Supplemental Historic Property Survey Report* dated April 2017. L-27-199

Section 3.7.4 – Avoidance, Minimization, and/or Mitigation Measures

Page 3.7-29, the preparation of a Historic Properties Treatment Plan (HPTP) is discussed, it should be memorialized as an actual standalone measure. Furthermore, this measure should specifically identify consultation should be undertaken with the City of Long Beach Public Works Director regarding the improvements that will be required for the temporary vehicle detour in the Drake Park Historic District. L-27-200

SECTION 3.8 – HYDROLOGY AND FLOODPLAIN

Section 3.8.3.1 Permanent Impacts

Page 3.8-5, Paragraph 2. This section states that "localized channel modifications would be required to maintain the existing channel hydraulic capacity"; however, other paragraphs reference the proposed project would not change the capacity of the existing channels (see Page 3.8-17, Paragraph 3). Please clarify. L-27-201

Page 3.8-5, Paragraph 4. This section, as well as others throughout the document, references a "floodway", which is a term that is typically limited to the area within a special flood hazard area that depicts no encroachment is allowed. Unless there is a designated floodway on the FIRM, "floodway" should be replaced with "floodplain". L-27-202

Page 3.8-16, Paragraph 2 (Risk to Life and Property). This section, as well as others in the document, states it is anticipated that a CLOMR would be required. This should be expanded to describe under what conditions a CLOMR might be required. For example, FEMA would only require a CLOMR under one of two conditions: if there was a detailed study area with no floodway and there was a potential rise of greater than 1-foot associated with the proposed project; or if there was a detailed study area L-27-203

with a designated floodway and the proposed project would result in a rise greater than 0.00 feet. The LACFCD could also require a CLOMR should they feel one was warranted. This section should also be expanded to discuss the role of the U.S. Army Corps of Engineers (USACE) in this process. USACE has jurisdiction over the reaches of the LA River that were built as part of a Federal project. As such, any improvements to these reaches would require a 408 Permit. Due to the hydraulic sensitivity of the LA River, any impacts to the water surface could be considered significant by the USACE and could require mitigation. L-27-203

Page 3.8-17, Section 3.8.3.1, Permanent Impacts. A jurisdictional determination of the receiving waters (Los Angeles River, Rio Hondo and Compton Creek) listed needs be made. L-27-204

Page 3.8-18, Paragraph 1. Same comment as on Page 3.8-5, Paragraph 2. L-27-205

Page 3.8-21, Paragraph 1. This section states the levee encroachments" would not result in significant impact to the performance of levees impacted by the project." This should be expanded to reference the appropriate levee design standards and guidelines and would require a Section 408 permit from the U.S. Army Corps of Engineers. L-27-206

Page 3.8-22, Table 3.8-3. Pump stations located within the LB-MUST footprint should provide pumping of dry weather and partial stormwater flows to the LB-MUST system. These facilities should be included within Table 3.8-3 of the RDEIR/SDEIS. This should be part of the Early Action Projects. Pump stations include: L-27-207

- 6th St. Pump Station
- Cowles Pump Station
- 19th St. Pump Station
- Willow St. Pump Station
- 27th St. Pump Station
- Dominguez Pump Station
- Caltrans Pump Station @ UP Railroad Crossing
- Caltrans Pump Station @ Long Beach Blvd.
- Gordon St. Pump Station
- North Boundary Pump Station
- Caltrans Pump Station @ SR-91 Freeway - Southbound Ramp
- Artesia Blvd. Pump Station

Section 3.8.4 – Avoidance, Minimization, and/or Mitigation Measures

Page 3.8-26, Paragraph 1. This section references no work will be done within the floodplain until the Letter of Map Revision is approved. This should be changed to Conditional Letter of Map Revision and only if required. L-27-208

Page 3.8-26, Measure FP-2. There are several other TMDLs that need to be referenced including the following: L-27-209

- LA River Nitrogen and Related Effects TMDL
- LA River Watershed Bacteria TMDL
- LA River Watershed Trash TMDL
- TMDL for Toxic Pollutants in Dominguez Channel and Greater LA and Long Beach Harbors

Additionally, any replacement of the Lynwood Retention Basin and the Dominguez Gap Spreading Grounds shall meet the LARWQCB Basin Plan water quality standards. L-27-210

Preliminary On-Site Hydrology Report

Page 4, 1.0 Executive Summary of the Preliminary On-Site Hydrology Report states, "Many of the existing drainage systems also handle off-site flows (inflows to the Project) and outlet to the LA River directly or through several pump stations. Most of the pump stations have significant off-site tributary drainage areas and efforts should be made to maintain or augment the existing pump stations and associated outlets where possible." Also on Page 4 – "Offsite hydrology within the City of Long Beach was developed by referencing their storm drain master plan information. Most of the existing outlets do not require hydraulic upgrade due to the relatively minor increase in peak flow from the Project." Earlier this year (January 22 and 23, 2017), storm runoff flooded the I-710 Freeway in several locations causing the partial, if not complete, shutdown of the freeway. The storms appeared to indicate that the existing storm drain system (at least for these portions of the freeway) are deficient and in need of upgrading or replacement if future freeway shutdowns are to be avoided. The RDEIR/SDEIS appears to indicate that deficient storm drain systems may not be improved unless the project improvements conflict with their physical location or runoff from proposed improvements increase runoff significantly. The freeway acts as a barrier or dam causing ponding of storm runoff either on or off site when runoff exceeds the capacity of the facility that conveys the runoff from one side of the freeway to the other. Although the runoff from the proposed improvements may be minor, *if* the existing system is already deficient, proposed improvements may create difficulties for future upgrades of these drainage facilities. A coordinated effort should be initiated with each City to determine where existing deficient drainage systems currently exist and if proposed improvements could hinder their future upgrades. In addition, Caltrans should establish an agreement with the City so that any pump stations would capture, pretreat, and divert low flows to the Long Beach MUST facility, and include storage during rain events, where feasible. L-27-211

Page 32, Section 4.6 – Methodology and Computation Procedures of the Preliminary On-Site Hydrology Report states, "When the information was available, off-site flows were included in the evaluation at historical confluence points and pump stations." It is difficult to determine within the RDEIR/SDEIS when off-site flow information was available and utilized or not. L-27-212

Page 34, Section 5.2 – Methodology and Computation Procedures of the Preliminary On-Site Hydrology Report states, "Pump stations that are proposed to be protected in place will require evaluation for hydraulic capacity sufficient to accommodate the proposed 50-year peak Project flows. For the purpose of developing a disposition of the existing facilities, this evaluation was completed by comparing the existing on-site 50-year peak flow with the proposed onsite 50-year peak flows for the Project. *A pump station was recommended for hydraulic upgrade if there was a substantial increase in on-site peak flows*. During final design, a detailed hydraulic analysis for each pump station will be completed to address the combination of the existing off-site 50-year peak flows and the revised on-site peak flows contributing to each pump station." If the existing pump station is deficient, and no *substantial* increase in proposed improvement runoff is expected, the facility will likely be left deficient. In addition, the design occurrence frequency is a 50-year storm event; however, the Federal requirement for inclusion in the NFIP is 100-year. Each pump station facility should be checked to determine that the 100-year storm event does not cause ponding that could flood habitable structures or commercial structures. L-27-213

Page 37, 6.1 - Impacts On Existing Drainage Systems of the Preliminary On-Site Hydrology Report states, "Most off-site drainage systems that convey flows from the adjacent neighborhoods, cross the I-710 corridor, and receive on-site flows, will be replaced within the Caltrans right-of-way. *Off-site systems crossing the corridor that do not receive on-site runoff will be protected in place where possible."*

- Existing drainage systems that could be considered deficient will be protected in place and may not be improved. The I-710 Corridor Project may be the only opportunity for decades to improve some of these facilities. Caltrans should investigate the existing condition of on-site drainage pipes (via CCTV) and should line pipes that are cracked and taking on infiltration. L-27-214

- Each facility that transports runoff under the freeway or into the leveed LA River within the project area should be checked for adequacy to deliver the design discharge ultimately to the LA River. Further, an additional check should be provided to ensure that I-710 Freeway does not cause ponding during a 100-year storm event that may exceed the finished floor elevation of nearby adjacent habitable and commercial structures creating the need to delineate additional floodplains. L-27-215

- FEMA has recently undertaken the California Coastal Analysis and Mapping Project (CCAMP) to delineate new flood zones as a result of potential 100-year coastal flooding. New FIRMs are being generated as a result of the study and are just recently being made available (sometimes in preliminary form) to the public. The new FIRMs should be examined as part of the final EIR/EIS to ensure that proposed improvements are designed accounting for the new 100-year coastal floodplains if any. L-27-216

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

Section 3.8.3, Environmental Consequences: This analysis notes "construction of the improvements discussed above within the 100-year floodplain is not anticipated to substantially increase the base flood elevation. At this time, it is anticipated that a Conditional Letter of Map Revision (CLOMR) would be required. No revisions to the FEMA FIRM maps (Letter of Map Revision [LOMR]) are anticipated" with no explanation as to why a Conditional Letter of Map Revision would be required or what a Conditional Letter of Map Revision is or how it would minimize hydrology and floodplain impacts. This analysis also states "the change in floodplain elevation would be evaluated based on final design plans of the bridges and other structures where they encroach on the 100-year floodplain. The modeling results would be included in the application for a CLOMR and LOMR, if required, which would be processed through the Los Angeles County Flood Control District and FEMA." Yet this section concludes "construction of the improvements discussed above within the 100-year floodplain is not anticipated to substantially increase the base flood elevation." Such determination is not supported as the necessary studies have yet to be completed. L-27-217

There will be some loss of park space for all proposed alternatives. The Draft EIR/EIS specifically states, "the impervious increases would be minimal." This does not take into account that municipalities must actively reduce pollutants in runoff from current levels. This can be accomplished, in part, by increasing pervious areas. Maintaining pollutant discharge levels at current levels is not an acceptable option. The Draft EIR/EIS should describe mitigation measures for any existing pervious areas being converted to impervious areas. L-27-218

The Draft EIR/EIS should also show existing and proposed ground elevations contours, invert elevation, size and type of all drainage facilities. L-27-219

The structural integrity of the existing levees along the Los Angeles River should be confirmed, and potential impacts to the integrity of these levees resulting from the Project should be evaluated. L-27-220

The impact of the sound walls on the existing flood zones should be addressed. L-27-221

The City of Long Beach Department of Public Works must review the final Hydrology Study. L-27-222

The Los Angeles River Impact Study must be reviewed by the County and the USACOE. L-27-223

SECTION 3.9 – WATER QUALITY AND STORMWATER RUNOFF

Section 3.9.1.3, State Water Resources Control Board and Regional Water Quality Control Boards, page 3.9-3. Caltrans' MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012, and became effective on July 1. The Caltrans MS4 Permit has also been amended as follows: ORDER WQ 2014-0006-EXEC; ORDER WQ 2014-0077-DWQ; and ORDER WQ 2015-0036-EXEC. These amendments should also be referenced. L-27-224

Section 3.9.3, Environmental Consequences, page 3.9-16: This section notes, "several parcels have been identified adjacent to I-710 and the Los Angeles River for relocation of the Dominguez Gap Basin." However, this section does not identify where these areas are located. This section should fully disclose all of the information and potential environmental effects as a result of the relocation of the Dominguez Gap Basin associated with the Project. L-27-225

Section No. 3.9.3.1, Permanent Impacts, Page 3.9-18, All available open space should be used to capture and detain or infiltrate stormwater. L-27-226

Section No. 3.9.3.1, Permanent Impacts, Page 3.9-18. A ten-year peak flow even is not equivalent to the 85th percentile storm. Please correct. L-27-227

Section No. 3.9.3.1, Permanent Impacts, Page 3.9-20, 2nd paragraph: Pump stations located within the LB MUST footprint should provide pumping of dry weather and partial stormwater flows to the LB MUST system. This should be part of the Early Action Projects; refer to Figure 3.9a, *Basin and Pump Station Modifications – Alternative 5C*, and Figure 3.9b, *Basin and Pump Station Modifications, Alternative 7*. L-27-228

Section No. 3.9.3.1, Permanent Impacts, Page 3.9-20, 3rd paragraph. Removing the Dominguez Gap Basin will have an effect on water quality of the LA River. Explain what will happen with the stormwater that currently enters the basin. Will it be discharged directly to the LA River? Will it be treated? L-27-229

Section No. 3.9.3.1, Permanent Impacts, Page 3.9-21, 3rd paragraph. Regarding the build alternatives, all available open space should be used to capture and detain or infiltrate stormwater; refer to Figures 3.9a and 3.9b. In addition, pump stations located within the LB-MUST footprint should provide pumping of dry weather and partial stormwater flows to the LB-MUST system. This should be part of the Early Action Projects. L-27-230

Section No. 3.9.3.1, Permanent Impacts, Page 3.9-21, last paragraph. Regarding BMPs to be utilized for both build alternatives, the stated information on its face is true but presumes the BMPs are being used as a treatment train. The current plans do not indicate treatment trains are being used everywhere. This statement is misleading and should be reworded. L-27-231

Section No. 3.9.3.2, Public Health Considerations, Page 3.9-22. The analysis notes that the build alternatives would not pose risks to public health related to hydrology and water quality. As stated previously, the receiving waters are impaired for a variety of constituents. The statement above informs the reader that the receiving waters will not be degraded. However, Caltrans is obligated to comply with its Municipal Stormwater Permit, which states the following: The effect of the Department's storm water discharges on receiving water quality is highly variable. For this reason, this Order requires the Department to implement a storm water program designed to achieve compliance with water quality standards, over time through an iterative approach. If discharges are found to be causing or contributing to an exceedance of an applicable Water Quality Standard, the Department is required to revise its BMPs (including use of additional and more effective BMPs). Additionally, the Department is obligated to comply with the Total Maximum Daily Load Requirements specified in L-27-232

Attachment IV of its Municipal Stormwater Permit. Please inform the reader of the BMPs planned for this project will result in the discharges not causing or contributing to an exceedance of an applicable Water Quality Standard and if the project will be compliant with TMDL requirements. L-27-232

Section No. 3.9.3.3, MOTION 22.1, Page 3.9-22. The BMPs noted in this section are obligatory to complying with Caltrans MS4 Permit. What additional storm water BMPs will be implemented to enhance the water quality for the Los Angeles River and its tributaries in accordance with Motion 22.1? L-27-233

Section No. 3.9.4, Avoidance, Minimization, and/or Mitigation Measures, Page 3.9-23, Measure WQ-1. All available open space should be used to capture and detain or infiltrate stormwater. Pump stations located within the LB-MUST footprint should provide pumping of dry weather and partial stormwater flows to the LB-MUST system. This should be part of the Early Action Projects. In addition, the RDEIR/SDEIS needs to add compliance with the CGP; IGP; 401 WQ Certification, 404 Permit, and any other Agency permits that will be achieved. There also needs to include a mitigation measure for removing the Dominguez Gap Basin. L-27-234

Proposed Detention/ Infiltration Basin

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION
- PROPOSED PUMP RELOCATION
- GROSS SOLIDS REMOVAL DEVICE
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K DRAINAGE AREA DESIGNATION
- P1 PUMP STATION DESIGNATION
- O2 DRAINAGE SYSTEM

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

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INTERSTATE CALIFORNIA 710

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OCEAN Blvd
HARBOR SCENIC Dr
BEGIN WORK
1-C
PICO Ave
ROUTE 710
1-D
1-B
LA RIVER
T-1
SHORELINE Dr
GOLDEN SHORE RV PARK
MF
GOLDEN SHORE
BROADWAY
OCEAN Blvd
I1
I2
W 3rd St
W 4th St
W 5th St
W 6th St
W 7th St
GOLDEN Ave
MAINE Ave
I3
BA Wet
PARK
P1
P2
P2A
P3
P3A
1-E
1-F
01
O2
BS
1-H
W 9th St
W 10th St
W 11th St
PIER B St
SHOEMAKER Br
I4
1-G
DEFOREST Ave
DRAKE PARK
HP
LP

MATCH LINE SEE SHEET 2

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 5C
DRAINAGE / BMP CONCEPT PLAN

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9a - Basin & Pump Station Modifications (Alternative 5C)

DGN FILE => 001-A5C_001.dgn

DATE PLOTTED => 27-OCT-2016

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Proposed Detention/ Infiltration Basin

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION
- PROPOSED PUMP RELOCATION
- GROSS SOLIDS REMOVAL DEVICE
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K DRAINAGE AREA DESIGNATION
- P1 PUMP STATION DESIGNATION
- 02 DRAINAGE SYSTEM

03

RELOCATE LOS ANGELES COUNTY SANITATION DISTRICT FACILITY

I8

HARBOR Ave

FASHION Ave

GALE Ave

ROUTE 710

W 14th St

W COWLES St

W 15th St

W GAYLORD St

W 16th St

W 17th St

W ESTHER St

W PARADE St

W 19th St

W 20th St

W 21st St

HILL St

I5

I6

I7

I9

1-H

1-I

1-M

BA

P4

1-K

1-J

BS

1-L

LA RIVER

P5

1-O

1-N

04

05

PACIFIC COAST HIGHWAY

W 12th St

ANAHEIM St

SAN FRANCISCO Ave

GOLDEN Ave

OREGON Ave

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

MATCH LINE SEE SHEET 1

MATCH LINE SEE SHEET 3

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 5C
DRAINAGE / BMP CONCEPT PLAN

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9a - Basin & Pump Station Modifications (Alternative 5C)

DATE PLOTTED => 27-OCT-2016

DGN FILE => 002-A5C_002.dgn

Proposed Detention/ Infiltration Basin

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION (PS)
- PROPOSED PUMP RELOCATION (PS)
- GROSS SOLIDS REMOVAL DEVICE (GSRD)
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K — DRAINAGE AREA DESIGNATION
- P1 — PUMP STATION DESIGNATION
- 02 — DRAINAGE SYSTEM

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MATCH LINE SEE SHEET 2

MATCH LINE SEE SHEET 4

EASY Ave

FASHION Ave

GALE Ave

1-Q

1-S

1-O

1-T

2-A

1-P

1-R

BS

MF

I10

P7

P6

BURNETT St

23rd St

W 25th St

W 27th St

W 28th St

W 29th St

W SPRING St

W 31st St

W 32nd St

W WILLOW St

HP

LP

LA RIVER

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 5C

DRAINAGE / BMP CONCEPT PLAN

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9a - Basin & Pump Station Modifications (Alternative 5C)

DATE PLOTTED => 27-OCT-2016

DGN FILE => 003-A5C_003.dgn

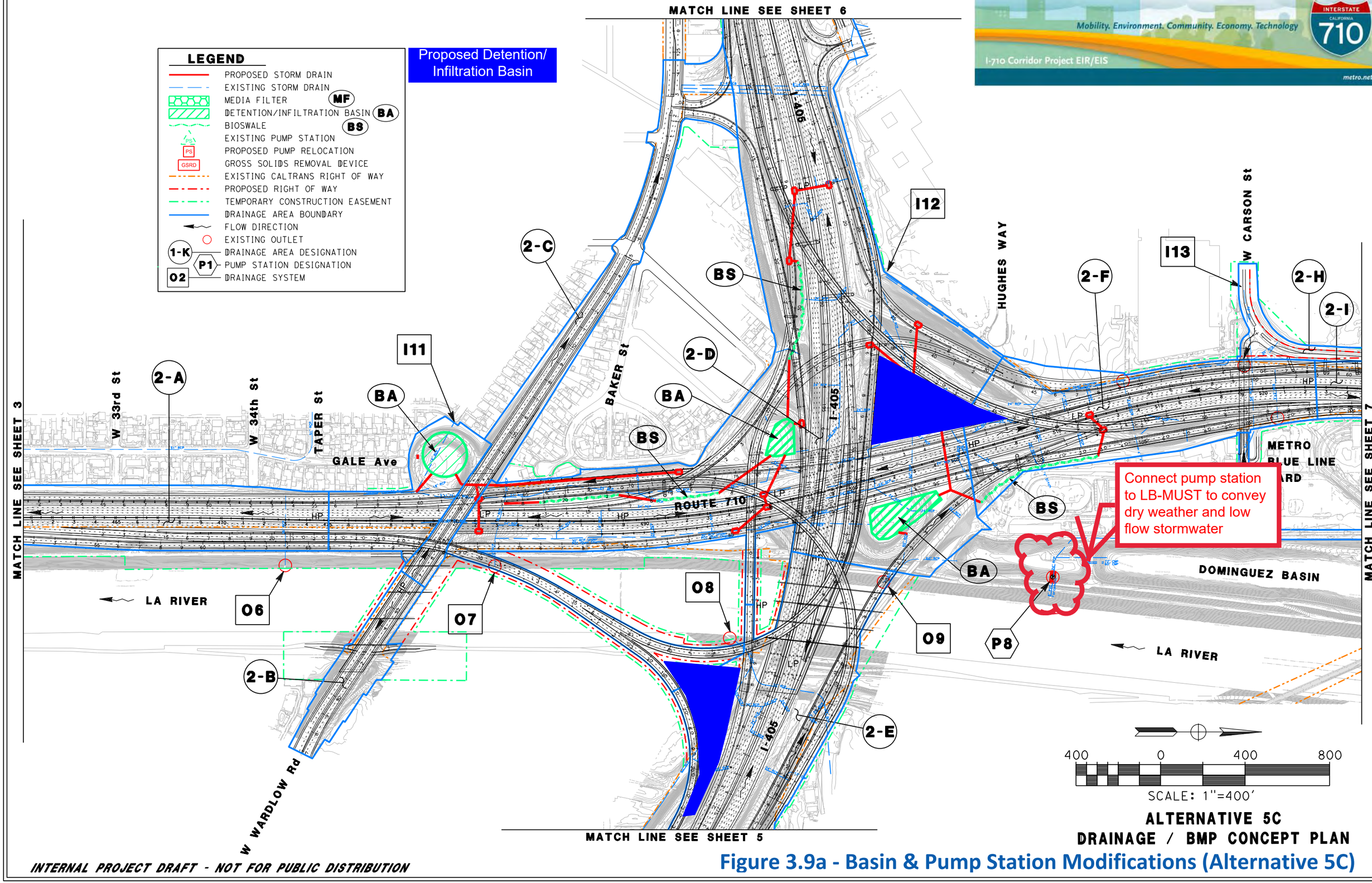


Figure 3.9a - Basin & Pump Station Modifications (Alternative 5C)

Proposed Detention/ Infiltration Basin

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION
- PROPOSED PUMP RELOCATION
- GROSS SOLIDS REMOVAL DEVICE
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K — DRAINAGE AREA DESIGNATION
- P1 — PUMP STATION DESIGNATION
- 02 — DRAINAGE SYSTEM

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208th St

METRO BLUE LINE

COMPTON CREEK

SUSANA Rd

ROUTE 710

DEL AMO Blvd

LA RIVER

W VIA PLATA St

MATCH LINE SEE SHEET 4

MATCH LINE SEE SHEET 8

2-H

2-G

2-I

2-J

2-K

2-L

2-M

2-N

MF

P9

BA

BS

014

015

013

011

012

010

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 5C
DRAINAGE / BMP CONCEPT PLAN

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9a - Basin & Pump Station Modifications (Alternative 5C)

DGN FILE => 007-A5C_007.dgn

DATE PLOTTED => 27-OCT-2016

Proposed Detention/ Infiltration Basin

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION (PS)
- PROPOSED PUMP RELOCATION (PS)
- GROSS SOLIDS REMOVAL DEVICE (GSRD)
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K — DRAINAGE AREA DESIGNATION
- P1 — PUMP STATION DESIGNATION
- 02 — DRAINAGE SYSTEM

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MATCH LINE SEE SHEET 7

MATCH LINE SEE SHEET 9

ROUTE 710

VICTORIA St

GORDON St

CAMBRIDGE St

ALLINGTON St

WHITE Ave

LONG BEACH Blvd

BS

2-N

O16

3-A

BA

3-C

P11

P10

3-B

T2

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 5C
DRAINAGE / BMP CONCEPT PLAN

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9a - Basin & Pump Station Modifications (Alternative 5C)

DGN FILE => 008-A5C_008.dgn

DATE PLOTTED => 27-OCT-2016

MATCH LINE SEE SHEET 10

MATCH LINE SEE SHEET 8

Proposed Detention/ Infiltration Basin

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION
- PROPOSED PUMP RELOCATION
- GROSS SOLIDS REMOVAL DEVICE
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K DRAINAGE AREA DESIGNATION
- P1 PUMP STATION DESIGNATION
- 02 DRAINAGE SYSTEM

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 5C
DRAINAGE / BMP CONCEPT PLAN

MATCH LINE SEE SHEET 11

DATE PLOTTED => 27-OCT-2016

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9a - Basin & Pump Station Modifications (Alternative 5C)

DGN FILE => 009-A5C_009.dgn

Proposed Detention/ Infiltration Basin

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION (PS)
- PROPOSED PUMP RELOCATION (PS)
- GROSS SOLIDS REMOVAL DEVICE (GSRD)
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K DRAINAGE AREA DESIGNATION
- P1 PUMP STATION DESIGNATION
- 02 DRAINAGE SYSTEM

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

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OCEAN Blvd

HARBOR SCENIC Dr

ROUTE 710

PICO Ave

SHORELINE Dr

GOLDEN SHORE RV PARK

GOLDEN SHORE

CESAR E. CHAVEZ PARK

GOLDEN Ave

MAINE Ave

BROADWAY

W 3rd St

W 4th St

W 5th St

W 6th St

W 7th St

PIER E St

W 9th St

W 10th St

W 11th St

SHOEMAKER Br

DRAKE PARK

P1 P2 P2A P3 P3A

MF

BA Wet

01 02 BA

1-A 1-B 1-C 1-D 1-E 1-F 1-G 1-H 1-I

T-1

I1 I2 I3 I4

MATCH LINE SEE SHEET 2

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 7
DRAINAGE / BMP CONCEPT PLAN

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9b - Basin & Pump Station Modifications (Alternative 7)

DGN FILE => 028-A7_001.dgn

DATE PLOTTED => 27-OCT-2016

Proposed Detention/ Infiltration Basin

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION (PS)
- PROPOSED PUMP RELOCATION (PS)
- GROSS SOLIDS REMOVAL DEVICE (GSRD)
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K DRAINAGE AREA DESIGNATION
- P1 PUMP STATION DESIGNATION
- 02 DRAINAGE SYSTEM

RELOCATE LOS ANGELES COUNTY SANITATION DISTRICT FACILITY

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

MATCH LINE SEE SHEET 1

MATCH LINE SEE SHEET 3

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 7
DRAINAGE / BMP CONCEPT PLAN

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9b - Basin & Pump Station Modifications (Alternative 7)

DGN FILE => 029-A7_002.dgn

DATE PLOTTED => 27-OCT-2016

Proposed Detention/ Infiltration Basin

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION
- PROPOSED PUMP RELOCATION (PS)
- GROSS SOLIDS REMOVAL DEVICE (GSRD)
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K — DRAINAGE AREA DESIGNATION
- P1 — PUMP STATION DESIGNATION
- 02 — DRAINAGE SYSTEM

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INTERSTATE CALIFORNIA 710

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MATCH LINE SEE SHEET 2

MATCH LINE SEE SHEET 4

W WILLOW St

EASY Ave

FASHION Ave

GALE Ave

LA RIVER

1-O 1-P 1-Q 1-R 1-S 1-T 2-A

BS MF I10 BA

23rd St W 25th St BURNETT St W 27th St W 28th St W 29th St W SPRING St W 31st St W 32nd St

P7 P6

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 7
DRAINAGE / BMP CONCEPT PLAN

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9b - Basin & Pump Station Modifications (Alternative 7)

DGN FILE => 030-A7_003.dgn

DATE PLOTTED => 27-OCT-2016

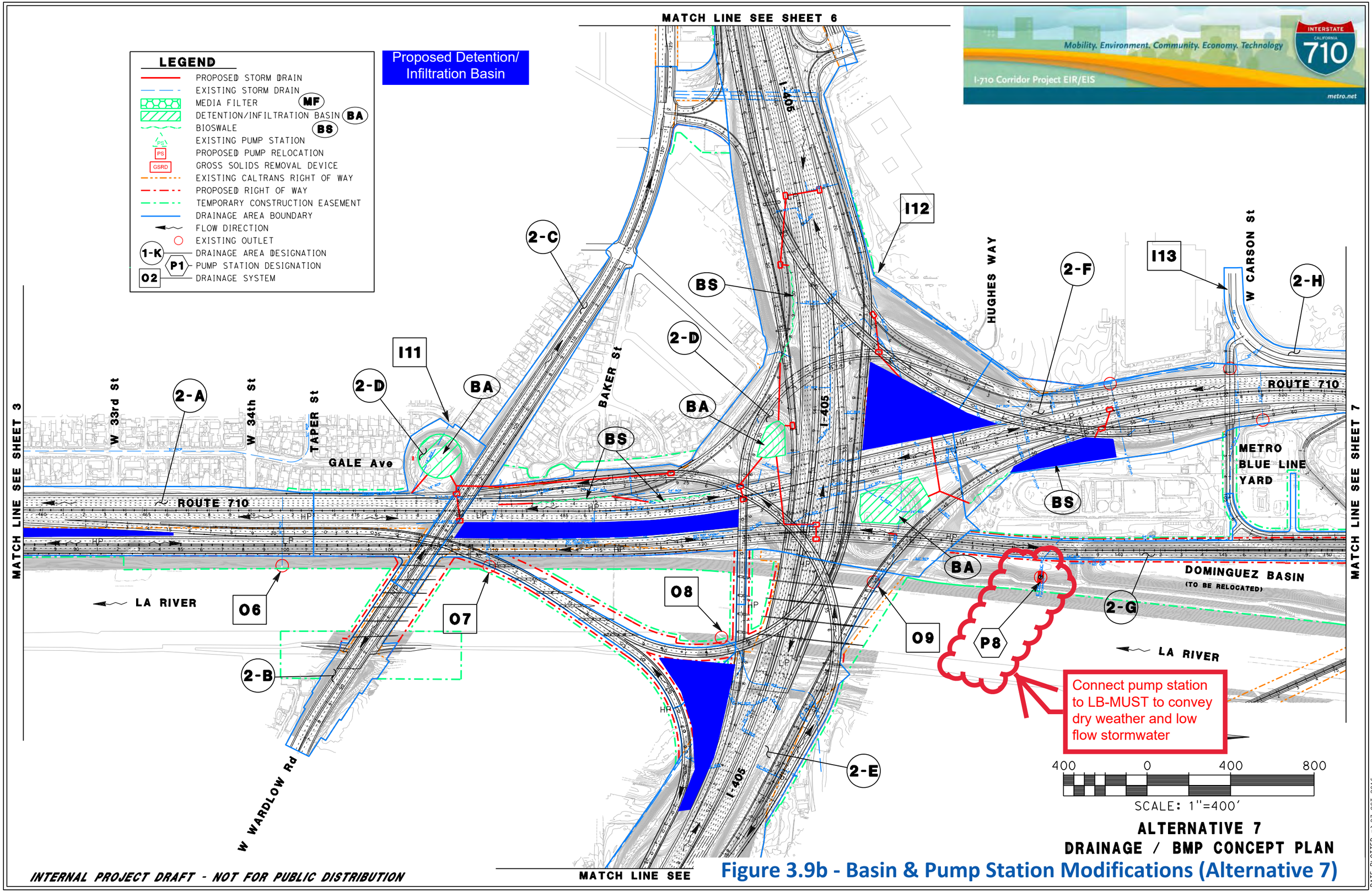


Figure 3.9b - Basin & Pump Station Modifications (Alternative 7)

Proposed Detention/ Infiltration Basin

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION
- PROPOSED PUMP RELOCATION
- GROSS SOLIDS REMOVAL DEVICE
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K — DRAINAGE AREA DESIGNATION
- P1 — PUMP STATION DESIGNATION
- 02 — DRAINAGE SYSTEM

Mobility. Environment. Community. Economy. Technology

INTERSTATE CALIFORNIA 710

I-710 Corridor Project EIR/EIS

metro.net

ROUTE 710

COMPTON CREEK

METRO BLUE LINE

208th St

SUSANA Rd

W VIA PLATA St

DEL AMO Blvd

LA RIVER

2-H

2-I

2-J

2-K

2-L

2-M

2-N

2-G

014

015

013

011

012

010

BA

BS

MF

P9

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

MATCH LINE SEE SHEET 4

MATCH LINE SEE SHEET 8

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 7

DRAINAGE / BMP CONCEPT PLAN

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9b - Basin & Pump Station Modifications (Alternative 7)

DATE PLOTTED => 27-OCT-2016

DGN FILE => 034-A7_007.dgn

Proposed Detention/ Infiltration Basin

LEGEND

- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- MEDIA FILTER (MF)
- DETENTION/INFILTRATION BASIN (BA)
- BIOSWALE (BS)
- EXISTING PUMP STATION
- PROPOSED PUMP RELOCATION
- GROSS SOLIDS REMOVAL DEVICE
- EXISTING CALTRANS RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- DRAINAGE AREA BOUNDARY
- FLOW DIRECTION
- EXISTING OUTLET
- 1-K — DRAINAGE AREA DESIGNATION
- P1 — PUMP STATION DESIGNATION
- 02 — DRAINAGE SYSTEM

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INTERSTATE CALIFORNIA 710

I-710 Corridor Project EIR/EIS

metro.net

MATCH LINE SEE SHEET 7

MATCH LINE SEE SHEET 9

ROUTE 710

LA RIVER

VICTORIA St

GORDON St

CAMBRIDGE St

ALLINGTON St

WHITE Ave

LONG BEACH Blvd

3-A

3-B

BA

P11

P10

2-N

O16

T2

GSRD

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

Connect pump station to LB-MUST to convey dry weather and low flow stormwater

400 0 400 800

SCALE: 1"=400'

ALTERNATIVE 7

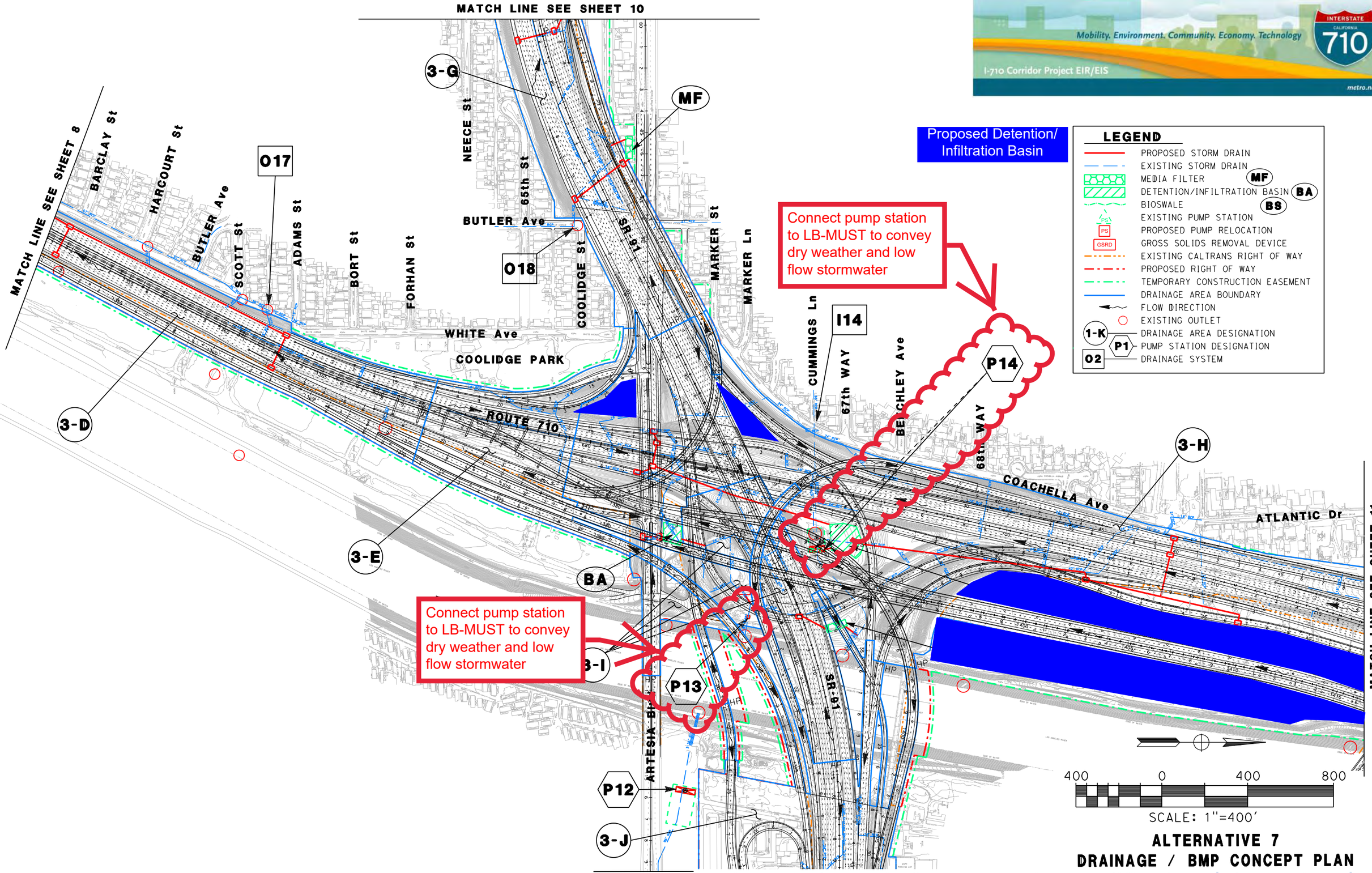
DRAINAGE / BMP CONCEPT PLAN

INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9b - Basin & Pump Station Modifications (Alternative 7)

DATE PLOTTED => 27-OCT-2016

DGN FILE => 035-A7_008.dgn



INTERNAL PROJECT DRAFT - NOT FOR PUBLIC DISTRIBUTION

Figure 3.9b - Basin & Pump Station Modifications (Alternative 7)

DGN FILE => 036-A7_009.dgn

DATE PLOTTED => 27-OCT-2016

Stormwater Data Report

Page 13, 2nd paragraph. The Dominguez Gap Spreading Grounds basin has a primary purpose of providing for enhanced groundwater recharge. However, it is also effective in treating stormwater. This section should be revised accordingly. L-27-235

Page 14, 10th paragraph. Caltrans intends to install landscape along the I-710. Landscape and associated maintenance is a potential source of nutrients. Additionally, the Los Angeles River is impaired for nutrients. The TDCs should be revised to include nutrients. L-27-236

Page 16, paragraph below the table. It is recommended to provide the data that supports The Department's monitoring data depicts Caltrans discharges to be below the TMDL limits, thus no additional measures are needed to be considered for meeting the conditions of the Nitrogen TMDL. L-27-237

Page 21, 2nd bullet. When did the Department last check for dry weather flows? What frequency are dry weather flows being investigated. Do pump stations show evidence of dry weather flows? L-27-238

Page 23. A number of other BMPs should be included such as: NS-10 Vehicle and Equipment Maintenance; NS-13 Material and Equipment Use Over Water; WM-2 Material Use; WM-5 Solid Waste Management. L-27-239

Page 23, last paragraph. The Construction General Permit requires calculation of Risk Level for each Planning Watershed. The risk level determination in the SWDR identified sediment toxicity as a reason for the receiving water to be identified as high risk. Sediment toxicity is not a characteristic for the high risk receiving water (i.e., 303(d) listed as being impaired for sediment/siltation or turbidity). Accordingly, unless the receiving water has a beneficial use of cold, spawn, or migratory, the receiving water risk level is Low. This is the case for Segment 1a as defined in the SWDR. It is noted that the sediment risk factor for each segment is calculated as Low or Medium. The R-factor is the main driver, which could cause this factor to increase to High. R-factor is sensitive to the construction duration. The anticipated construction duration for each segment (which is based on project start through final stabilization), should be verified. Note that if the end date of the project is extended beyond what was originally planned, then the risk calculation must be redone. If the Risk Level changes from Risk Level 2 to 3, then the associated Construction General Permit provisions must be complied with. L-27-240

Page 24, 3rd bullet. It is noted that the sediment risk factor for each segment is calculated as Low or Medium. The R-factor is the main driver, which could cause this factor to increase to High. R-factor is sensitive to the construction duration. The anticipated construction duration for each segment (which is based on project start through final stabilization), should be verified. Note that if the end date of the project is extended beyond what was originally planned, then the risk calculation must be redone. If the Risk Level changes from Risk Level 2 to 3, then the associated Construction General Permit provisions must be complied with. L-27-241

Page 25, City of Long Beach. The section should be revised to include discussion of the City's Watershed Management Plan and the Long Beach Municipal Urban Stormwater Treatment Master Plan. L-27-242

Page 28, last paragraph Pump stations located within the LB-MUST footprint should provide pumping of dry weather and partial stormwater flows to the LB-MUST system. L-27-243

Page 32, 1st bullet. This evaluation should be conducted now and prior to the finalization of the EIR/EIS. The receiving waters are impaired for a variety of constituents. Caltrans is obligated to comply with its Municipal Stormwater Permit, which states the following:

The effect of the Department's storm water discharges on receiving water quality is highly variable. For this reason, this Order requires the Department to implement a storm water program designed to achieve compliance with water quality standards, over time through an iterative approach. If discharges are found to be causing or contributing to an exceedance of an applicable Water Quality Standard, the Department is required to revise its BMPs (including use of additional and more effective BMPs). L-27-244

Additionally, the Department is obligated to comply with the Total Maximum Daily Load Requirements specified in Attachment IV of its Municipal Stormwater Permit. Please inform the reader of the BMPs planned for this project will result in the discharges not causing or contributing to an exceedance of an applicable Water Quality Standard and if the project will be compliant with TMDL requirements.

It is critically important that Caltrans conduct this evaluation now. If the combination of biofiltration and DPP infiltration does not achieve the above-stated requirements, Caltrans will need to identify alternative solutions.

Page 32, 3rd bullet. As stated above, the TDCs should include nutrients. L-27-245

Page 32, 6th bullet. The statement provided needs to be revised to reflect the LB-MUST project. L-27-246

Attachment C - Risk Level Determination, Alternative 5C - The Construction General Permit requires calculation of Risk Level for each Planning Watershed. The risk level determination in the SWDR identified sediment toxicity as a reason for the receiving water to be identified as high risk. Sediment toxicity is not a characteristic for the high risk receiving water (i.e., 303(d) listed as being impaired for sediment/siltation or turbidity). Accordingly, unless the receiving water has a beneficial use of cold, spawn, or migratory, the receiving water risk level is Low. This is the case for Segment 1a as defined in the SWDR. It is noted that the sediment risk factor for each segment is calculated as Low or Medium. The R-factor is the main driver, which could cause this factor to increase to High. R-factor is sensitive to the construction duration. The anticipated construction duration for each segment (which is based on project start through final stabilization), should be verified. Note that if the end date of the project is extended beyond what was originally planned, then the risk calculation must be redone. If the Risk Level changes from Risk Level 2 to 3, then the associated Construction General Permit provisions must be complied with. L-27-247

Attachment D - Risk Level Determination, Alternative 7 - The Construction General Permit requires calculation of Risk Level for each Planning Watershed. The risk level determination in the SWDR identified sediment toxicity as a reason for the receiving water to be identified as high risk. Sediment toxicity is not a characteristic for the high risk receiving water (i.e., 303(d) listed as being impaired for sediment/siltation or turbidity). Accordingly, unless the receiving water has a beneficial use of cold, spawn, or migratory, the receiving water risk level is Low. This is the case for Segment 1a as defined in the SWDR. It is noted that the sediment risk factor for each segment is calculated as Low or Medium. The R-factor is the main driver, which could cause this factor to increase to High. R-factor is sensitive to the construction duration. The anticipated construction duration for each segment (which is based on project start through final stabilization), should be verified. Note that if the end date of the project is extended beyond what was originally planned, then the risk calculation must be redone. If the Risk Level changes from Risk Level 2 to 3, then the associated Construction General Permit provisions must be complied with. L-27-248

Attachment F, Checklist SW-1, Site Data Sources. The table should include the Long Beach MUST Project. L-27-249

Attachment F, Checklist SW-3, Measures for Avoiding or Reducing Potential Stormwater Impacts.

Explain why the project cannot be scheduled or phased to minimize soil-disturbing work during the rainy season? This is important and should be feasible. L-27-250

Attachment F, Treatment BMPs Checklist T-1, Part 1, Page 6. Nitrogen should be checked off as a TDC (refer to prior comments). Questions 4d and 4e should be checked "Yes". L-27-251

Attachment F, Treatment BMPs Checklist T-1, Part 1, Page 9. Dry Weather Diversion: Checklist T-1, Part 6 should be checked and included in the Storm Water Data Report. L-27-252

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

Section 3.9.3, Environmental Consequences, page 3.9-16: This section notes, "several parcels have been identified adjacent to I-710 and the Los Angeles River for relocation of the Dominguez Gap Basin." However, this section does not identify where these areas are located. This section should fully disclose all of the information and potential environmental effects as a result of the relocation of the Dominguez Gap Basin associated with the Project. L-27-253

Section 3.9.3, Environmental Consequences: This section also notes that "with the L-27-254

Table 7 on page 3-10 –The Draft EIR/EIS does not adequately discuss how the runoff from the Project will be treated and controlled in order to achieve both the interim and final targets. L-27-255

Table 7 incorrectly lists the dates of the USEPA approval for several TMDLs. These include, but are not limited to, the TMDLs for: Cadmium, Copper, Lead and Zinc which were re-approved and reaffirmed by the EPA for Reaches 1 and 2 the Los Angeles River on October 29, 2008; for Reach 1 of the San Gabriel on March 26, 2007; for Los Cerritos Channel on March 17, 2010; and the estuary (Harbor Toxics TMDL) on March 23, 2012. L-27-256

This section indicates, "the potential operational impacts (pollutants) would be addressed through the incorporation of design development BMPs, treatment BMPs, and adherence to the necessary operation and maintenance protocols identified in the Caltrans SWMP. The proposed treatment BMPs include 24 biofiltration swales, 8 infiltration basins, 22 media filters, 1 detention basin, 7 gross solids removal devices, and 1 wet basin." The City has a wide variety of concerns associated with these proposed BMPs, including the following:

Long-term effectiveness of many of these proposed BMPs has not been proven based on scientific data. Please cite specific examples associated with major transportation projects in California, or in the United States, where these proposed BMPs have been shown to remain effective in the long term. These examples should include water quality testing data (influent and effluent) for trash, heavy metals, phosphates, hydrocarbons, pathogenic bacteria and other pollutants. L-27-257

The long term funding for the maintenance of these proposed BMPs has not been properly analyzed and discussed. Funding sources should be analyzed as they relate to the ability to maintain water quality improvements.

Reuse of the "treated" urban runoff has not been properly analyzed. The State should consider a BMP to treat and reuse these flows for irrigation along the I-710 Corridor landscaping.

The cost effectiveness of low flow urban runoff treatment at the City's stormwater pump stations should be considered as an alternative, or supplement, to the proposed treatment BMPs. L-27-257

The post-construction increase in traffic that will be using local arterial streets (7th Street, 9th Street, Anaheim) will be subject to increased stop and go traffic until entering the I-710 itself. The Draft EIR/EIS should include the provisions that would be included in the Project to mitigate the increased pollutants from brake dust, tire wear and hydrocarbons that will be deposited on City-owned and operated streets. L-27-258

The City is concerned that particulates from concrete batch plants that may be located near the L.A. River, even if meeting current SCAQMD criteria, will still contribute to exceedances in the L.A. River. L-27-259

Electrical transmission lines will be relocated directly over portions of the Los Angeles River. The recirculated Draft EIR/EIS should identify if rain and condensate water dripping on the wires will significantly contribute to copper and other metal pollutants in the river. L-27-260

The Statewide Highway Characterization indicates that there are several pollutants categories (i.e. conventional, hydrocarbons, metals, microbiological, semi-volatile organics) that exceed current non-TMDL Water Quality Standards. These Water Quality Standards need to be met on a current and ongoing basis and are likely to be detected (at unknown levels) once outfall monitoring begins. The Draft EIR/EIS mentions these pollutants but does not specify immediate or long-term pollutant reduction measures. L-27-261

Several treatment BMPs are proposed (biofiltration strips and swales, infiltration basins, detention basins, media filters, etc.). The recirculated Draft EIR/EIS should contain preliminary estimates of the efficiency of each of the proposed treatment BMPs for removal of each of the anticipated pollutants and provide an analysis of how each BMP will meet TMDL compliance. L-27-262

The Draft EIR/EIS states that 83 percent of runoff from the new impervious surfaces would be treated. This implies that 17 percent of new surfaces and 100 percent of all remaining impervious surfaces will be untreated. The Draft EIR/EIS must propose mitigation measures that will result in a net decrease of (post-construction) pollutants in runoff. L-27-263

The City has been informed that 80 to 90 percent of runoff from the Project area will be treated. The Draft EIR/EIS needs to clarify if this is 80-90 percent of the total flow that will occur or does this mean that 80-90 percent of the project area will have treatment systems that may or may not have treatment capability for the larger storms. L-27-264

The City has been informed that the treatment BMPs are designed for 2 year and 10 year storms at a minimum. Municipalities are being required to treat the runoff from 85th percentile storms. The Draft EIR/EIS needs to evaluate if these two standards are equivalent. L-27-265

The Draft EIR/EIS needs to specify the operations and maintenance practices that Caltrans will follow once the treatment BMPs are installed. Under the anticipated (next) MS4 permit, municipalities are expected to be required to conduct post-construction effectiveness assessments of their treatment BMPs. The Draft EIR/EIS needs to include similar assessments to be performed by Caltrans to assure continued treatment BMP effectiveness. L-27-266

The alternatives will require significant modifications to the Dominguez Gap. The discharge point of the Dominguez Gap has been assigned to Jurisdictional Group 1, which includes the City of Long Beach and Caltrans, under the existing Los Angeles River Metals TMDL. Jurisdictional Group 1 (JG1) previously submitted a Metals TMDL implementation plan to the Regional Board on October 10, 2010. L-27-267

Under this plan, JG1, has been working with the Los Angeles County Flood Control District and is using the current assimilative capacity of Dominguez Gap as an integral part of the overall strategy to meet the first TMDL compliance point of January 2011. Any changes to Dominguez Gap have the potential for negating the current compliance of JG1 cities and Caltrans. The Draft EIR/EIS indicates, "the Dominguez Gap will retain its original recharge capacity." This statement is not equivalent to maintaining the original metals reduction capacity. The Draft EIR/EIS must contain mitigation measures for ensuring the continuous metals reduction by Dominguez Gap. L-27-267

The City has been informed that as part of this Project, numerous (22) storm water pump stations, all located along the east side of the L.A. River will be impacted. Nineteen (19) of these stations will be upgraded to accommodate the projected increased flow. These pump stations may be an integral part of the various Los Angeles River TMDL subcommittees' efforts to minimize pollutant levels in storm water dischargers to the L.A. River. The recirculated Draft EIR/EIS needs to specify how this Project will work with those entities to avoid any increased in pollutant discharges that may result from changes in the pump stations. L-27-268

The Los Angeles River Metals TMDL specifies that the wet weather sampling under the Coordinated Monitoring Plan (CMP) be initiated once a threshold of 500 cfs occurs at the Willow monitoring station. The proposed increase of 96 cfs under alternative 5A and 771 cfs under alternatives 6A/B/C could dramatically increase the number of wet-weather storms. The Draft EIR/EIS needs to address whether any of the alternatives will impact both dry-weather and wet-weather sampling procedures required under the CMP. L-27-269

Sampling stations have already been established along the embankments at locations approved by the Regional Board. The recirculated Draft EIR/EIS must indicate if these sampling stations would need to be relocated and whether the relocation would be funded by Caltrans. In addition, the Draft EIR/EIS must note if the sampling would be impacted during construction. L-27-270

The Draft EIR/EIS does not address if there will be any impact to the existing outfall monitoring that the City is required to conduct under the MS4 permit. In addition, it is likely the outfall monitoring requirements will be expanded under the next MS4 permit. The recirculated Draft EIR/EIS needs to contain provisions for working with the City to minimize impacts to the city's monitoring programs and Caltrans should provide or participate with Municipalities in water quality monitoring to show compliance with applicable TMDLs. L-27-271

It is unclear if the proposed channel structures (roadway bridges) – 24 channel structures for Alternative 5A and 33 channel structures for Alternative 6A/B/C – will discharge directly to the rivers/waterways or will be collected and directed to a treatment system. The recirculated Draft EIR/EIS needs to adequately address this issue. L-27-272

The bridges directly over the Los Angeles River are being significantly widened (Alternative 5A would create approximately 13,500 square feet of new structure within the roadway and Alternative 6A/B/C would create approximately 24,000 square feet of new structure within the roadway). The Los Angeles River, through the entire length of the proposed corridor is impaired. Alteration to or removal of any portion of the existing wetlands (regardless of the size) will have a negative impact on water quality. The recirculated Draft EIR/EIS should detail what mitigation measures are proposed for any lost wetland areas. L-27-273

The recirculated Draft EIR/EIS should include an evaluation of storm water characteristics and potential impacts prior to construction. In addition, the Draft EIR/EIS should include calculations of water quality flows and identify the discharge points. L-27-274

As part of the Project, Caltrans should develop and implement programs addressing storm water pollution issues. These programs shall comply with the latest code requirements (i.e., the latest TMDL, Clean Water Act, Coastal Zone Act and California Water Code) at the time of construction. L-27-275

Treatment BMPs should be designed such that groundwater will not be affected. L-27-276

The City requests that Caltrans develop, construct and maintain treatment control devices and BMPs within Caltrans right-of-way. In addition, all storm drain pump stations that need to be upgraded or replaced should be reviewed by the City of Long Beach. L-27-277

SECTION 3.10 – GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

Page 3.10-7, This section notes that "since no laboratory data is available regarding the collapsibility of soils in the area, it is not known if collapsible soils are present; however, the area is not known from existing mapping to have collapsible soils." Although the sources of this mapping are noted in Section 7.0 of the 2010 Geotechnical Final Report, they should be summarized in Section 3.10.2.1 to allow the reader to easily understand the sources of the referenced data. L-27-278

Geotechnical Final Report (January 2010)

Figures. The figures for the report are missing. Verification of the references that would be supplied in the figures could not be made. L-27-279

Appendix A. The data for Appendix A (Logs of Test Borings for Bridges Along I-710 Corridor) is missing. Verification of the references for this data could not be made without the logs. L-27-280

Per the Caltrans Standard Environmental Reference (Volume 1, Chapter 7), the qualifications of the report preparer should be noted and the report must be prepared by a California Registered Professional Geologist (PG), or a Registered Professional Engineer (PE). Please identify the qualifications of the preparer. L-27-281

SECTION. 3.12 – HAZARDOUS WASTE/MATERIALS

Page 3.12-1, Paragraph 1. This section states that "Based on a mutual agreement between the Los Angeles County Metropolitan Transportation Authority (Metro) and the California Department of Transportation (Caltrans), the ISA prepared for the project was not required to identify impacts related to site conditions." However, per Chapter 10 of the *Caltrans Standard Environmental Reference* (SER), the Phase I ISA is necessary in order to determine what activities the project would include, such as excavation, acquisition of new right of way, structure demolition or modification, etc. The remainder of this discussion goes on to state that a Preliminary Phase I ISA approach has been taken for the purposes of this analysis. However, as detailed in the comments below regarding the Phase I ISA document, this approach is not consistent with the SER, Caltrans' *Project Development Procedures Manual* (PDPM), nor the ASTM International (ASTM) E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process.* This approach leaves out readily available public information pertaining to existing hazardous materials present in soils, soil gas, and groundwater within the boundaries of the project site. The Phase I ISA should be updated to reflect current database information, a current site visit, and appropriate file reviews for all on-site properties, all adjoining off-site properties (those properties that bound the project boundaries, including those separated by roads or waterways), and other adjacent off-site properties of concern. Upon update of L-27-282

the Phase I ISA, this substantial new information pertaining to hazardous materials conditions at the project site should be recirculated for public review pursuant to CEQA Guidelines Section 15088.5. L-27-282

Page 3.12-3, Section 3.12.2, Paragraph 2, Last Sentence. This sentence states that only "high" risk sites are listed in Tables 3.12-1 through 3.12-3. These tables should include "moderate" risk sites as well, since not all of the file review information, building records, other historical resources, or interviews (as bulleted on page 3.12-4) have been conducted. L-27-283

Page 3.12-4, Paragraph 1. This discussion defers future analysis of a full Phase I ISA to after selection of a preferred alternative. No specific avoidance, minimization, or mitigation measure is listed regarding this requirement, nor are there any regulatory references to what would require this additional investigation. Last, this deferral of additional research to a later date is not allowed pursuant to CEQA Guidelines Section 15126.4(a)(1)(B), which states "Formulation of mitigation measures should not be deferred until some future time. However, measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way." Should additional research be conducted as a result of an updated Phase I ISA, new recommendations would be included, which would constitute new mitigation. This new report and associated new recommendations would be required to be recirculated for public review pursuant to CEQA Guidelines Section 15073.5(b)(1). If this information is not disclosed, the potential environmental impacts pertaining to hazards and hazardous materials are not being fully disclosed to the public. L-27-284

Page 3.12-6, Section 3.12.2.7. This discussion does not fully analyze potential impacts to the project site, including proposed properties for acquisition that which have potential contaminated groundwater from off-site properties. This information should be included in the analysis and a discussion of potential improvements that may involve groundwater should be fully disclosed. Measure CON-HW-3 is to general, has no performance criteria outlined, and is considered deferral of mitigation pursuant to CEQA Guidelines Section 15126.4(a)(1)(B). L-27-285

Page 3.12-7, Paragraph 5. Caltrans and the Department of Toxic Substances Control (DTSC) have entered into a Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils (Agreement) effective July 1, 2016, that supersedes the prior ADL Variance. A discussion of the recent Agreement should be disclosed in the Environmental Document. L-27-286

Page 3.12-11, Section 3.12.2.8. This analysis of potential on-site landfills is insufficient. Full disclosure of potential impacts of project improvements that would disturb existing landfills should be included. Any necessary avoidance, minimization, or mitigation measures must be disclosed. L-27-287

Page 3.12-15, Section 3.12.3.1, Permanent Impacts. No discussion of the proposed hydrogen fueling station(s), discussed on page 2-21 of Section 2.3.2, has been provided. This project feature needs to be included and potential hazardous materials impacts to the surrounding area needs to be considered. L-27-288

Page 3.12-16, Paragraph 1. It is unrealistic to assume that properties proposed for right-of-way acquisition would be required to be "free of hazardous waste prior to the start of construction." At this time, no project-specific information regarding potential soils, soil gas, or groundwater contamination has been discussed. Until the existing levels of contamination can be documented, it is not yet understood what levels of cleanup can reasonably be accomplished prior to the start of construction. Further, this discussion goes on to state that project level analysis will be required later. However, no implementation mechanism for this requirement is given and, as discussed above, this type of deferral is not permitted pursuant to CEQA Guidelines Section 15126.4(a)(1)(B). L-27-289

Page 3.12-16, Paragraph 1. No discussion of potential PCB-contaminated soils from the Seabright Substation, the former release from the Santa Fe Pacific Pipeline that has resulted in soil contamination, groundwater contamination from the Former Bulk Terminal Company located at 960 De Forest Avenue and Rocket Oil Inc. located at 1701 West Anaheim Street, or known or anticipated UST locations and past dry cleaner sites that may have impacted soil, soil gas, and/or groundwater are discussed in the document. L-27-290

Page 3.12-17, Paragraph 4. This discussion references an "HW-8"; however, no HW-8 is listed on page 3.12-19. Further, in general, the Executive Summary lists measures HW-1 through HW-11, but only HW-1 through HW-7 are listed in this section. L-27-291

Page 3.12-17, Last Paragraph, Last Sentence. This discussion states that "… implementation of the build alternatives would not increase public health risks related to hazardous waste and materials in the short term and would decrease these risks in the long term as a result of the cleanup and remediation of any hazardous waste contamination on properties that would be acquired for the project." This discussed excludes consideration of proposed fueling stations. Potential long term impacts to public health should be disclosed as a result of this project feature. L-27-292

Page 3.12-18, Section 3.12.4. The following avoidance, minimization, and/or mitigation measures for the following potential impacts are not included:

The Phase I ISA suggests that there may be hazardous materials contamination at the project site and suggests the need for future Phase I ISA and sampling Site Investigation activities, yet no avoidance, minimization, or mitigation measures are recommended. The document should be revised in include appropriate minimization measures that include specific performance criteria that must be met in order to ensure that less than significant impacts result. L-27-293

The Phase I ISA discusses potential on-site oil fields and DOGGR wells; however, no mention of minimization measures required to handle potentially contaminated soils are discussed. Specific impacts from these facilities, including the Wilmington Oil Field and known DOGGR wells known to be present on-site, should be disclosed. The document should be revised in include appropriate minimization measures that include specific performance criteria that must be met in order to ensure that less than significant impacts result. L-27-294

Page 3.12-19, HW-6. There should already be an understanding of which properties potentially include underground storage tanks (USTs). There should be minimization measures included in the document that discuss known USTs that need to be removed, in addition to the potential for unknown USTs that may be encountered. The document should be revised in include appropriate minimization measures that include specific performance criteria that must be met in order to ensure that less than significant impacts result. L-27-295

Preliminary Phase I Initial Site Assessment

Section 3.12, *Hazardous Waste/Materials*, relies upon the *Preliminary Phase I Initial Site Assessment* (Phase I ISA), prepared by AECOM, dated February 2017. The Phase I ISA states that the analysis was prepared in general accordance with Chapter 10 of the SER Online Handbook and the procedures described in Caltrans' PDPM, Chapter 18, *Environmental Contamination*, of Article 3, *Policies*, dated February 28, 2006 for Initial Site Assessments. In addition, this ISA report was prepared in general accordance with Caltrans internal guidance document on ISAs, which is intended to be consistent with ASTM *Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process*.

SER Chapter 10. Per Chapter 10 of the SER, the Phase I ISA should determine what activities the project would include, such as excavation, acquisition of new right of way, structure demolition or modification, etc. However, the Phase I ISA does not include a discussion of the nature of proposed excavation and what portions of the project site would require more excavation, such that groundwater may be encountered. L-27-296

Per these guidelines, the ISA should identify the potential or known hazardous materials, hazardous waste, and contamination in the project area as well as the party(ies) responsible, or potentially responsible, for hazardous waste and contamination. This information is used to evaluate alternatives, make decisions about project design, cost, scope and schedule, and used as a baseline against future claims. Although the Phase I ISA generally states that there is a potential for hazardous materials in the project site boundaries, the specific concerns are not identified. L-27-297

Per Chapter 10 of the SER, when there is regulatory oversight of a contaminated property or site, property owners and/or the entities responsible for possible contamination are required to prepare several types of documents. Also, facilities that store and use hazardous materials and those that generate, treat, store, or dispose of hazardous waste are periodically inspected and the regulatory agencies prepare inspection reports. These documents are found in the public files of the regulatory agencies and provide critical information for a project's development and delivery process. The Phase I ISA excluded review of this information, although it would provide substantial information pertaining to the likelihood of contamination within the boundaries of the subject site and is readily available for review. L-27-298

Per Chapter 10 of the SER, the ISA should be performed during the Project Initiation Documents (PID) phase of the project development process. The greater the potential risks are to the project and Caltrans the earlier the ISA should be performed. All activities must be scheduled to ensure that adequate information is available to provide remediation cost estimates and project impacts at the time of the preparation of the environmental document. As the Phase I ISA excluded multiple scope items that should have been included before publication of the public review draft Environmental Document, this requirement was clearly omitted. L-27-299

Last, property conditions can change quickly. Underground storage tanks that were intact a year ago can begin to leak. An industrial facility can have a chemical spill at any time. Previously unused properties can be sold or rented. Unused properties can attract squatters or dumping. As a result, any ISA over one (1) year old is considered out of date and must be re-evaluated and updated as needed. The Phase I ISA did not meet this SER requirement, as the Environmental Database Search was conducted in January of 2016 and the site reconnaissance was conducted in May and June of 2016. This SER requirement for the Phase I ISA was not met. The Phase I ISA should be updated accordingly and recirculated for public review. L-27-300

PDPM, Chapter 18. Per Chapter 18 of the PDPM, properties that may be obtained or utilized for a transportation project must be evaluated early in the project development process so that property conditions do not cause project delays. This conforms to Caltrans policy regarding change control, because identifying serious problems early reduces the need for project modifications later in the process. It is the project manager's responsibility to involve hazardous waste staff in the project development process as early as possible to ensure that contamination identification and remediation is addressed and completed. Every project that includes excavation, structure demolition or modification, or the purchase of new right-of-way will require a full ISA to determine if known or potential contamination (hazardous waste and or hazardous material) is present within the project limits. As discussed above, a Preliminary Phase I ISA was conducted, rather than a full Phase I ISA. This preliminary analysis does not provide the public with readily available information discussing the project's potential impacts pertaining to hazardous materials. This Phase I ISA does not fully disclose L-27-301

the project's potential impacts. Should a full Phase I ISA be prepared as part of the final Environmental Document prior to certification, this information constitutes new substantial information under CEQA, and would be required to be recirculated to the public prior to certification. L-27-301

Caltrans Internal Guidance Document on ISAs. The Phase I ISA also states that it complies with Caltrans internal guidance document on ISAs. However, since this guidance is only for projects prepared by Caltrans staff, this document is only accessible by Caltrans and is not for public distribution. Caltrans states that all others should follow the ASTM E1527 Standard Practice. L-27-302

ASTM International (ASTM) Standard Practice E 1527-13 (Standard Practice). Per the ASTM Standard Practice Section 1.1.1, *Recognized Environmental Conditions*, in defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions (RECs). The term REC means "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions." The Phase I ISA does not identify the professionals' opinions relative to the findings discussed in Section 6 of the Phase I ISA nor does the professional identify whether or not RECs (including conditional recognized environmental conditions [CRECs]) are present. This is a major flaw in the analysis and should be included. L-27-303

Per Section 8.2.2.1 of the ASTM Standard Practice, if the property or any of the adjoining properties is identified on one or more of the standard environmental record sources in Section 8.2.1 of the ASTM Standard Practice, pertinent regulatory files and/or records associated with the listing should be reviewed in accordance with Sections 8.1.1 through 8.1.8. The purpose of the regulatory file review is to obtain sufficient information to assist the environmental professional in determining if a REC, historical recognized environmental condition (HREC), CREC, or a de minimis condition exists at the property in connection with the listing. If, in the environmental professional 's opinion, such a review is not warranted, the environmental professional must explain within the report the justification for not conducting the regulatory file review. The Phase I ISA identifies both on-site and adjoining properties listed pursuant to ASTM Standard Practice Section 8.2.1, yet additional review of files at appropriate agencies was not conducted. This is a major flaw in the analysis. Additional review of publicly available files, including those for adjoining properties that have received case closure, would provide substantial information pertaining to the likelihood of hazardous materials within the boundaries of the project site, yet this information was not provided. L-27-304

Pursuant to ASTM Standard Practice Section 10.5.1, no Key Site Manager was identified for the Phase I ISA and pursuant to Section 11, no state and/or local government officials were interviewed to obtain information indicating RECs in connection with the project site. L-27-305

Per ASTM Standard Practice Section 12.5, the Phase I ISA should include findings for off-site properties, other than just adjoining properties. The Phase I ISA analyzed listed databases per Environmental Data Resources, Inc. (EDR) for the project site and adjoining properties. However, potential RECs as a result of adjacent off-site uses (that which are not adjoining the project site) were not specifically considered. Any off-site properties that could potentially impact groundwater underlying the project site must be included in the analysis. For example, current and past dry cleaner sites and other industrial uses that handle/store solvents, other than petroleum-related products, are known to be of high risk and can impact large areas of groundwater. The Phase I ISA should include findings regarding these off-site properties of concern, which APNs or areas of the project site that could be impacted by these plumes, and whether or not the project may involve groundwater within these areas. Should potentially contaminated groundwater be impacted by the project, L-27-306

recommendations should be included to minimize impacts to construction workers during construction of the project. Also, potential impacts to existing operating groundwater remediation/monitoring wells should be discussed, if applicable. L-27-306

Per ASTM Standard Practice Section 12.6, the Phase I ISA shall include the environmental professionals opinion(s) of the impact on the property of conditions identified in the findings section. The logic and reasoning used by the environmental professional in evaluating information collected during the course of the investigation related to such conditions shall be discussed. Frequently, items initially suspected to be a REC are subsequently determined, upon further evaluation, to not be considered a REC. The opinion shall specifically include the environmental professional's rationale for concluding that a condition is or is not currently a REC. Conditions identified by the environmental professional as RECs currently shall be listed in the conclusions section of the report. No opinions or conclusions relative to RECs have been made in the Phase I ISA. This information should be added. Per ASTM Standard Practice Section 12.8, the report shall include a conclusions section that summarizes all RECs (including controlled RECs) connected with the property. The report shall include a statement relative to whether or not RECs are present and, if present, a listing of all RECs (including CRECs) that have resulted. L-27-307

Recommendations. Recommendations for the following findings should be added: on-site oil operations/oil wells, soil sampling of potential on-site PCB-containing equipment and soil contamination from the Seabright Substation located on-site, possible encountering of on-site USTs during construction, and handling of on-site landfills. Recommendations involving further Phase I ISA analysis prior to project approval is not sufficient, as this information should already be disclosed in the Phase I ISA pursuant to SER Chapter 10, Caltrans' PDPM Chapter 18, and the ASTM Standard Practice E 1527-13. L-27-308

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

Section 3.12.3, Environmental Consequences, page 3.12-85. The analysis of temporary impacts refers the reader to Section 3.24, Construction, for a discussion of hazardous waste risks related to construction. However, Section 3.24 provides an incomplete analysis of the potential hazardous waste risks during construction. Specifically, throughout the analysis, it is noted that online agency databases did not provide complete information regarding the total sites that pose environmental concerns and as such only the sites for which information was provided were described. This analysis does not fully disclose all of the potential effects that could result during construction. Additionally, as part of the extensive consultation/coordination process required of Caltrans' projects, consultation should have been undertaken with the appropriate agencies prior to and during preparation of the Draft EIR/EIS to provide adequate information and ensure that all of the potential environmental impacts are disclosed to the public and decision makers. L-27-309

Section 3.24.3.12, Hazardous Waste/Materials. Throughout this section, it is noted that online agency databases did not provide complete information regarding the sites that pose environmental concerns and as such only the sites for which information was provided were described. As part of the preparation of this Draft EIR/EIS, consultation should have been undertaken with the appropriate agencies to provide adequate information to ensure that all of the potential environmental impacts are disclosed to the public and decision makers. This analysis must include the complete list of sites with the appropriate description and potential effects resulting from these sites. In addition, this section indicates several potential impacts resulting from contaminated groundwater, elevated levels of aerially deposited lead, asbestos, etc., and notes that further evaluations and investigations need to be conducted. However, this section does not describe what these evaluations and investigations would entail, how such investigations would minimize potential impacts to construction workers, or L-27-310

even include them as part of the mitigation measures provided in this section to reduce impacts from hazardous waste/materials. L-27-310

Prior to the removal or relocation of gas pipelines across bridge structures, testing for asbestos must be conducted and asbestos abatement provided, as necessary. These procedures must be outlined in a minimization measure to ensure adequate procedures are implemented. L-27-311

SECTION 3.13 – AIR QUALITY

The analyses contained within this section only address the Existing (2012) and horizon year (2035) traffic conditions. Hot-spot analysis in general must cover the expected highest-emission year. Normally, that is either the opening year or the horizon/design year (at least 20 years after opening). The opening year will have the highest emission factors, and the design year will have the most traffic (though lower emission factors). As emissions are on a declining trend and VMT/traffic is on an increasing trend, the highest emission year may not necessarily be in the opening year or horizon year. Therefore, it is necessary to analyze both scenarios. The Caltrans Standard Environmental Reference (SER) also states: "A basic project description documenting project design assumptions-such as future (design-year) traffic and an interim year such as open-to-traffic that are relevant to the air quality analysis". Both opening and horizon years must be included in any traffic or air quality analysis that supports the conformity determination (and the CEQA/NEPA documents as well). L-27-312

Page 3.5-2 of the RDEIR/SDEIS explains that 2035 is used as the horizon year for analysis of future conditions to maintain consistency with the date of the socioeconomic data used in the SCAG 2012–2035 RTP/SCS. However, page 3.13-14, of the RDEIR/SDEIS states that the full scope of the project is not currently in the RTP/SCS. As the project description in the RTP/SCS does not match either of the currently proposed build alternatives, the rationale for the horizon year lacks validity. Furthermore, SCAG's most recent plan is the 2016 RTP/SCS. L-27-313

Section 3.13.3 – Environmental Consequences

Page 3.13-14, Section 3.13.3.1, Regional Air Quality Conformity. This section notes that the full scope of the project is not currently in the FTIP and the Project Description as noted in the RTP/SCS does not match either of the currently proposed build alternatives. Both documents must be amended prior to FHWA approving the project. L-27-314

Page 3.13-15, Section 3.13.3.3, Permanent Impacts. The PM Hot-spot analysis included in the RDEIR/SDEIS follows the out of date qualitative guidance. All PM hot-spot analyses necessary for meeting the requirements of transportation conformity now must be quantitative. The latest guidance, *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*, was released by the U.S. EPA in November 2015 and must be used in the RDEIR/SDEIS. In addition, the PM conformity determination has been postponed until a preferred alternative has been selected. This approach prevents the public from reviewing and commenting on the modeling and results during the public review period. In addition, the results of the qualitative analysis show a substantial increase in PM emissions along the I-710 corridor when compared to the no build conditions. Therefore, there could be impacts to the public that have not been disclosed in the RDEIR/SDEIS. L-27-315

Page 3.13-40, Table 3.13-14. Both alternatives show a large increase in PM emissions when compared to the no build conditions. Total PM_{10} emissions from Alternative 5C are projected to increase by 0.1 percent in the Basin, 0.6 percent in the Area of Interest (AOI), and 8.2 to 9.2 percent in the I-710 Area (depending on modelled and traffic data, respectively) when compared to Alternative 1. Total PM_{10} emissions from Alternative 7 are projected to increase by 0.2 percent in the Basin, 1.4 L-27-316

percent in the AOI, and 32.7 to 33.3 percent in the I-710 Area (depending on modelled and traffic data, respectively) when compared to Alternative 1. Section 176(c)(1)(B) of the Clean Air Act states that federally-supported transportation projects must not "cause or contribute to any new violation of any standard [NAAQS] in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area." As discussed above, increases in PM_{10} emissions could prevent the project from demonstrating conformity. L-27-316

Although FHWA will make the conformity determinations after the preferred alternative is identified and prior to completion of the final environmental document (FED), demonstration of regional conformity should still be conducted and included in the Draft Environmental Document (DED) for full disclosure. The lead agency should disclose to the public any new information relative to the projects conformity analysis. Therefore, the RDEIR/SDEIS must be recirculated after completion of the quantitative analysis. L-27-317

Page 3.13-50, Section 3.13.3.4, Public Health Considerations. The PM mortality/morbidity analysis compares the 2035 build conditions to the 2012 existing conditions. As discussed above, the project results in a large increase in PM emissions when compared to the no build conditions. The comparison among alternatives in 2035 is made in the Executive Summary and the Air Quality, Greenhouse Gas, and Health Risk Assessment, and should be disclosed in this section of the RDEIR/SDEIS. L-27-318

Page 3.13-52, Section 3.13.3.4, Public Health Considerations. The ultrafine particulate analysis compares the 2035 build conditions to the 2012 existing conditions. As discussed above, the project results in a large increase in PM emissions when compared to the no build conditions. The comparison among alternatives in 2035 is made in the Executive Summary and the Air Quality, Greenhouse Gas, and Health Risk Assessment, and should be disclosed in this section of the RDEIR/SDEIS. L-27-319

Section 3.13.4 – Avoidance, Minimization, and/or Mitigation Measures

Mitigation Measure AQ-2 requires air filtrations systems to schools within 0.25-mile of I-710. However, Mitigation Measure AQ-2 does not address on-going maintenance and replacement of filtration systems. High-efficiency filters in ventilation systems need to be replaced on a regular basis in order to remain effective. As currently written, Mitigation Measure AQ-2 is inadequate as it does not provide for the replacement of the high-efficiency filters, maintenance of the ventilation system, or the cost of the replacement of the filters. L-27-320

Mitigation Measure AQ-3 is vague and unenforceable. The mitigation measure does not identify the location or the height of the barriers and just relies on the statement: "[P]rovide solid barriers (walls) in areas where soundwalls are not currently proposed". Additionally, the second bullet of Mitigation Measure AQ-3 requires dense vegetation for pollution barriers. However, the measure does not indicate the location or type of this vegetation and does not define "dense". The California Air Resources Board Technical Advisory mentioned in the mitigation measure notes that conifers and silver birch were found to have the highest potential to improve air quality while several deciduous tree species such as oak and poplar had the greatest potential to worsen air quality when planted in large numbers. Additionally, the trees in the studies were approximately 10 meters high. It should be noted that most studies supporting the Technical Advisory were conducted on the East Coast and in Europe where vegetation types and densities differ from what is found in California. Mitigation Measure AQ-3 has no requirement for tree species, height, or density. As indicated in the Technical Advisory, the wrong tree species could actually worsen impacts and unless the trees are a certain height, the mitigation would be ineffective. Specificity, performances standards, and verification/enforcement mechanisms need to be provided for all mitigation measures. L-27-321

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

While the Project overall provides for a decrease in air emissions in the project area, "near road" emissions remain a concern. The City supports those alternatives with a "Zero Emissions" component and does not believe any design alternative is valid without a zero emissions component. L-27-322

One of the primary deficiencies in the analysis of construction air quality impacts is the lack of any analysis of localized impacts within the City of Long Beach related to criteria impacts. The SCAQMD critiqued the underlying technical methodology after participating in the Air Agency Technical Working Group. In its comments on the protocol for the Air Quality and Health Risk Assessment ("AQ/HRA Technical Study"), the SCAQMD stated that it was concerned the protocol "would not sufficiently quantify air quality impacts." SCAQMD Comments on AQHRA Protocol, at 1. Indeed, the SCAQMD stated that the AQHRA protocol should be revised to include an analysis of local criteria pollutant concentrations consistent with the SCAQMD's local significance thresholds (LSTs). Instead, the Draft EIR/EIS provided the following unsubstantiated conclusion regarding localized impacts on page 3.24-24. L-27-323

According to the SCAQMD's MATES III Study, diesel particulate matter (DPM) represents approximately 84 percent of the Basinwide cancer risk. However, the Draft EIR/EIS ignores the fact that project will emit large amounts of DPM from use of heavy-duty construction equipment and diesel haul trucks during the eight to 15 year construction duration. OEHHA recommends calculation of health risk impacts for a minimum of a 9-year exposure duration (OEHHA, 2003: The Air Toxics Hot Spots Program Guidance Manual for Preparation of Heath Risk Assessments). As proposed construction is anticipated to occur for between eight and 15 years, a health risk assessment should be conducted to evaluate potential health risk impacts during construction at sensitive land uses within the City of Long Beach. In addition, the analysis should include a calculation of risks to children in accordance with OEHHA guidelines. L-27-324

Concurrent/Interim Construction and Operational Air Quality Impacts

The Draft EIR/EIS omits consideration of emissions due to traffic disruptions caused by construction. Caltrans' Model EIR/EIS states that carbon monoxide ("CO") and PM_{10} hot spot analysis should be included if construction will last more than two years "and/or will substantially affect traffic due to detours, road closures, and temporary terminations…." Model EIR/EIS, at page 92. However, as page 3.24-23 of the Draft EIR/EIS's construction analysis states, "If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic will increase slightly while those vehicles are delayed." Rather than guessing as to whether traffic disruptions will result in increased emissions during construction, the Draft EIR/EIS should perform the technical analysis to determine whether CO and other pollutant emissions will increase as a result of traffic disruptions. A review of CARB's vehicle emission factors for a light-duty gasoline automobile in Year 2012 within Los Angeles County shows a decrease from 65 miles per hour to 10 miles per hour would result in 3.6 times more ROG, 2.0 times more CO, and 1.3 times more NO_X (www.arb.ca.gov/jpub/webapp/EMFAC2011WebApp/rateSelectionPage_1.jsp). L-27-325

No interim year traffic analyses have been conducted to determine whether an interim year (increase in traffic combined with construction impacts, traffic disruptions, and vehicle emission factors that are not as favorable for the project) could potentially result in emissions that exceed 2035 emissions. The Draft EIR/EIS must provide enough information to inform the decision to remove construction impacts from the transportation conformity hot spot analysis and evaluate whether 2035 has the maximum expected emissions. L-27-326

Due to the nature of the Project and the potential for disturbed traffic flow due to detours, closures, and temporary terminations, it is also important to model the air toxics emissions along the detour routes within the City of Long Beach, as those routes might impact sensitive receptors. L-27-327

The construction analysis is deficient in that, among other things, it does not account for the following direct and indirect sources of GHG emissions: (1) Electricity to power nighttime lighting, traffic signals, etc.; (2) Vegetation changes and associated changes in carbon sequestration; (3) Water use during construction for, inter alia, dust suppression; (4) Demolition debris and construction waste disposed of in landfills; and (5) Emissions from stormwater pumps, whether direct if powered by liquid fuels or indirect if powered by electricity. L-27-328

SECTION 3.14 – NOISE

Section 3.14.2 – Affected Environment

Page 3.14-4. The calibration noise level measurements were conducted using a Type 2 sound level meter. Although permitted by Caltrans, this type of meter is less accurate than the Type 1 meters typically used. This lower accuracy can translate to the results of the noise model. L-27-329

Page 3.14-7, Table 3.14-2. Several sensitive receptors are exposed to traffic noise level increases exceeded 10 dBA when compared to the no build conditions. Section 3.14 does not show that these large increases have been abated to a more acceptable level. L-27-330

Page 3.14-7, Table 3.14-2. Large calibration factors (K-factors) were used when setting up the existing condition noise model. Section 4.4 of the Caltrans Technical Noise Supplement (TeNS) states:

> *If modeled sound levels do not match measured sound levels within ±3 dB the model parameters should be reviewed and adjusted if necessary to ensure that they accurately represent actual site conditions.*

L-27-331

K-factors exceeding 5 dBA were used. Section 3.14 does not clarify if extra noise measurements were conducted to confirm that such large correction factors are warranted.

Section 3.14.4 – Environmental Consequences

Page 3.14-17, Permanent Impacts (Groundborne Noise and Vibration impacts). The analysis states: As the proposed project will use new asphalt pavement followed with proper maintenance, there will be no potholes, bumps, expansion joints, or other discontinuities in the road surface that would generate groundborne vibration or direct or indirect noise impacts from vehicular traffic traveling on I-710." This statement may be true once the project is initially constructed. However, it does not address what the impacts would be as the roadway surface wears. I-710 serves a substantial number vehicles per day (and a relatively higher proportion of trucks when compared to other highways), which would take a toll on the roadway surface. Page 25 of the Noise Study Report also notes that due to demand and growth in the area, the future 2035 truck percentages were significantly higher than the current truck percentages. The roadway surface will not remain in its initial condition over the project lifetime and will develop potholes, bumps, and other discontinuities over time that would result in vibration impacts. The analysis does not adequately address vibration impacts. L-27-332

Traffic Noise Study Report, I-710 South (Corridor Project/Truck Lane Project), Chapter 5 (Study Methods and Procedures). The modeled future traffic volumes are provided in Appendix A, but are not disclosed or discussed in the body of the report. Section 5.3 (Traffic Noise Levels Prediction Methods) L-27-333

simply refers to schematics provided by AECOM. Traffic noise modeling typically utilize the projected traffic volumes or worst-case noise impacts that correspond to level of service (LOS) C/D for the freeway mainline. As I-710 has a higher proportion of trucks, it is assumed future projected traffic volumes were used instead. However, due to the absence of discussion in the analysis, it is not clear what assumptions were used. L-27-333

Section 3.14.5 – Noise Abatement Consideration

Page 3.14-40, Table 3.14-3. The Noise Abatement Decision Report (NADR) was prepared in 2017 but uses the 2016 reasonable allowance of $80,000 per benefitted receptor. In 2017 this allowance was increased to $92,000. This increase may result in changes to the walls determined to be reasonable. L-27-334

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

The evaluation and discussion of potential construction noise impacts is inadequate for a project of this magnitude. The discussion of construction noise impacts is limited to three pages in Section 3.24, Construction, of the Draft EIR/EIS and no supporting calculations are provided in any appendices. Specific comments are provided below.

- Construction Vibration: Page 3.24-26 of Section 3.24 of the Draft EIR/EIS states that pile driving activities may be located as close as 50 feet from existing residences and would be subject to a vibration level of 0.3 PPV. This vibration level is considered to be strongly perceptible and will have the potential to damage the older residential structures. The Draft EIR/EIS concludes no adverse temporary groundborne vibration impacts would occur with implementation of avoidance and minimization measures described in Section 3.24.4.14. Mitigation Measure CON-38 requires "A pre- and postconstruction survey will be conducted for residential structures located within 100 feet of pile driving locations to determine whether any new cracks or other damage have occurred. The proposed project will be responsible for the cost of damage to structures resulting from project construction." It should first be pointed out that the significance conclusion is incorrect as this measure only minimizes the significant and unavoidable impact and it does not result in a less than significant impact. The measure should be expanded to all structures (e.g., commercial, office, religious institutions, and schools). According to the Federal Transit Administration (FTA) Transit Noise and Vibration Assessment (FTA, May 2006), a typical-impact pile driver will generate approximately 0.644 PPV (in/sec) when measured at 25 feet. Therefore, since vibration impacts dissipate at different rates depending on the soil type and the Draft EIR/EIS provides no evidence regarding the soil types or vibration analysis, this mitigation measure must also be expanded to a minimum of 200 feet for pre- and post- surveys. In addition, this measure should be expanded to include damage to personal property. Caltrans should provide advance notice to potentially impacted areas (200 feet from proposed pile driving activities) regarding steps they should take to prevent damage (remove valuable items off shelves, etc.) to personal property. L-27-335

- Construction Noise: Page 3.24-27 of Section 3.24 of the Draft EIR/EIS indicates that equipment involved in construction is expected to generate noise levels ranging from 70 to 90 dBA at a distance of 50 feet and construction levels should not exceed 86 dBA maximum instantaneous noise level at a distance of 50 feet. This discussion needs to discuss pile driver noise levels in which noise levels would be at least 105 dBA. According to the construction noise discussion, it is concluded that construction noise impacts would be less than significant because construction would be conducted in accordance with the Caltrans Standard Specification. No discussion of what this entails is included in the discussion nor does it make it clear how it is going to reduce construction noise levels such that they are less than significant. L-27-336

- According to Section 7-1.01I, Sound Control Requirements, of the Caltrans Standard Specifications, the Contractor shall comply with all local sound control and noise level rules, regulations and ordinances and internal combustion engines shall be equipped with a muffler of a type recommended by the manufacturer. The City of Long Beach Municipal Code provides construction hour limitations (7:00 am to 7:00 pm Monday through Friday and 9:00 am to 6:00 pm on Saturday), but does not specify local sound control noise levels for construction activities. The City of Long Beach does use the following CEQA significance threshold for construction noise: A significant impact would occur if project construction activities cause the exterior ambient noise level to increase by 5 dBA or more at a noise-sensitive use, as measured at the property line of any noise-sensitive use. Therefore, the Draft EIR/EIS should implement mitigation measures to reduce project-related construction noise levels within the City of Long Beach to less than 5 dBA above ambient noise levels to support a conclusion of less than significant construction noise impacts to noise-sensitive land uses within the City of Long Beach. L-27-337

Construction Noise Mitigation Measures: Section 3.24.4.14 on page 3.24-48 of the Draft EIR/EIS provides a list of construction noise mitigation measures. However, many of the measures are not project specific nor do they provide enough specificity to evaluate whether the measures are sufficient.

- Mitigation Measures CON-30 and CON-34 require that equipment noise control be applied such that old and new equipment will meet specified noise levels. The Draft EIR/EIS does not provide any construction noise analysis and it does not specify any required reduction in noise levels. As a result, these measures are meaningless. A construction analysis must be performed that clearly demonstrates the standard in which the equipment must meet and the measures must provide a mechanism for how they will be enforced. L-27-338

- At the very least, a mitigation measure requiring a construction noise plan should be included in which a specific set of measures for certain conditions be included. The plan should also include a noise monitoring program to field verify the effectiveness of the plan to ensure that noise sensitive land uses within the City of Long Beach are not negatively impacted from this 8 to 15 year duration of construction noise. L-27-339

Noise impacts during the construction phase should be mitigated to the greatest extent possible. While there will be noise impacts from the Project, the City recommends use of state-of-the-art noise walls and other dampening/mitigating approaches for the final project.

SECTION 3.15 – ENERGY

Section 3.15.2 – Affected Environment

Page 3.15-3, Section 3.15.2. As of 2012 California only has one operational nuclear power plant. L-27-340

Section 3.15.3 – Environmental Consequences

Page 3.15-8, Table 3.15-6. This table shows that there would be a very large increase in vehicle hours traveled within the region between 2012 and 2035. For autos, the vehicle miles traveled increases by 20 percent while the vehicle miles traveled increases by 373 percent. For this to occur the average speed would have to decrease from 38.2 to 9.7 miles per hour. L-27-341

The data in Table 3.15-6 was used to calculate the results shown in Tables 3.15-8 and 3.15-10. If the data is incorrect the results will also be incorrect. L-27-342

SECTION 3.16 – NATURAL COMMUNITIES

Section 3.16.1 – Regulatory Setting

Page 3.16-1, Paragraph 3, Lines 8-10. Stated is "There are no adopted or proposed Habitat Conservation Plans or Natural Communities Conservation Plans within the I-710 Corridor Project study area; therefore, they are not applicable to the proposed project and are not discussed in this section." However, Page 3.24-43, Paragraph 1, Sentence 1, states that "The I-710 Corridor Project would have a temporary adverse effect on Coastal Pelagic Management Plan Species." Revise Section 3.6.1 accordingly. L-27-343

Section 3.16.2.2 – Land Cover Designations

Developed/Ornamental/Ruderal

Page 3.16-6, Paragraph 1, Line 6. Correct underlined scientific name spelling "tocalote (*Centauria melitensis*)," use *Centaurea*. Line 7. confirm species identification for perennial sow-thistle (*Sonchus arvensis*). Line 9. See California ground squirrel (*Spermophilus beecheyi*) scientific name, use *Otospermophilus*. L-27-344

Freshwater Emergent Marsh

Page 3.16-6, Paragraph 4, Line 2. "…much like the riparian scrub habitat described above" should read "…much like the riparian scrub habitat described below." L-27-345

Page 3.16-7, Paragraph 1, Line 6. First mention of California bulrush and cattails should be followed by scientific name, *Schoenoplectus californicus and Typha* sp., respectively, and to be removed from subsequent mentions (particularly Line 13 of Paragraph 2 under the Riparian Scrub subtitle). L-27-346

Riparian Scrub

Page 3.16-7, Paragraph 2, Last Sentence. Add the underlined to "Nonnative and/or weedy species commonly observed included…" since the common sunflower (*Helianthus annuus*) is native, but weedy. L-27-347

Section 3.16.3.1 – Permanent Impacts

Page 3.16-10, Table 3.16-2, Column 2 from the right, Row 2. Insert "Developed." Fix cell justification in Row 4. L-27-348

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

3.16.3.1 – Permanent Impacts

Page 3.16-10, Table 3.16-2. The last bullet on Page 42 of 61 of the 2012 Comment Letter was not adequately addressed; Table 3.16-2 of the RDEIR/SDEIS does not include impacts associated with Alternative 1 in relation to currently funded projects, albeit no capacity-increasing improvements to the I-710 mainline would occur under Alternative 1. L-27-349

SECTION 3.17 – WETLANDS

Section 3.17.1 – Regulatory Setting

Page 3.17-2, Paragraph 2, Line 3. Define "Department" not previously defined. L-27-350

3.17.2.3 – Jurisdictional Areas in the I-710 Corridor Biological Study Area

Pages 3.17-6 and 3.17-7, Table 3.17-1, Row 2, Column 7. Add an asterisk that lets the reader know that the "Total Section 10 Area (acres)" are inclusive of the "Total Section 404 Area (acres)" as stated on Page 3.17-5, Paragraph 2, Lines 2 and 3. L-27-351

Section 3.17.2.4 – Functions and Values

Wildlife Habitat

Page 3.17-12, Paragraph 4, Lines 6 and 7. Provide full name as provided in all other locations throughout the document, "Joint Dominguez Gap and DeForest Treatment Wetlands," for Drainage Features 3, 23, and 24. L-27-352

Aquatic Habitat

Page 3.17-13, Paragraph 1, Line 7. For consistency within subtitles, replace "provide a moderate amount of wildlife habitat" with "provide a moderate amount of habitat for aquatic species," particularly because Wildlife Habitat is discussed in the preceding subtitle. L-27-353

Section 3.17.3.1 – Permanent Impacts

Sediment Retention

Page 3.17-15, Paragraph 5, Line 6. Identify Drainage Feature 3 as "Dominguez Gap Wetlands" consistent with the rest of the document (e.g., "Features 6 and 22 (Compton Creek)"). Same for subsequent subtitles in this subsection. L-27-354

3.17.4 – Avoidance, Minimization and/or Mitigation Measures

Page 3.17-17, Paragraph 2, Lines 3-5. Add underlined words to the sentence "Compensatory mitigation for impacts to jurisdictional aquatic resources would be required in order to obtain permits from the USACE and CDFW." L-27-355

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

3.17.4 – Avoidance, Minimization, and/or Mitigation Measures

Page 3.17-17. Although the 2017 Caltrans EIR/EIS Annotated Outline (2017 Annotated Outline) Page 124 (updated from Page 112 since 2012), instructs to "…discuss compensatory measures, including location, functions, plants, cost estimates, and success criteria," the RDEIR/SDEIS states that "Final details for compensatory mitigation would be evaluated through coordination between Caltrans and the resource agencies," which would then include location(s), functions, plants, cost estimates, and success criteria. Therefore, the added discussion in this section is adequate. L-27-356

Per Page 124 of the 2017 Annotated Outline, instructions are as follows:

1) For a final environmental document, include the following information under a separate "Only Practicable Finding" subheading if the preferred alternative will impact wetlands:

    a. A reference to E.O. 11990.
    b. An explanation of why there are no practicable alternatives to the proposed action.
    c. An explanation about the inclusion of all practicable measures to minimize harm to wetlands.
    d. A concluding statement (see the sample text below):

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

Per Page 123 of the 2017 Annotated Outline, Section 3.17.4, Avoidance, Minimization and/or Mitigation Measures, Page 3.17-17 should include discussions as follows: L-27-357

1) The alternatives discussion and comparison are the key component of this section of the document. Refer reader to the discussion of alternatives considered but withdrawn in Chapter 2, which describes why alternatives were withdrawn and not carried forward for analysis in the environmental document.
2) Document wetland avoidance alternatives here and in the "Alternatives" section. If the avoidance alternatives are not practicable, justify in detail how the cost, performance, socioeconomic impacts, or other factors would make these alternatives impracticable.
3) Discuss how all practicable measures to minimize harm to the affected wetland have been included in the proposed alternative(s). If a given minimization measure is not practicable, justify in detail how the cost, performance, socioeconomic impacts, or other factors would make the measure impracticable.

Page 42 of 61 of the 2012 Comment Letter mentions [brackets added] that "This section does not provide any analysis of what the impacts from altering the hydrologic regime would be. This mitigation measure [NC-1, and added measures CON-WET-1 through CON-WET-3] does not specify that the habitat replacement would reduce any impacts to the hydrologic regime. Similarly, this section does not include an analysis regarding other environmental impacts associated with alterations to the hydrologic regime or from loss of wetland habitat, such as changes in water quality and impacts to habitat for migratory birds. This section, as well as the entire Draft EIR/EIS, should provide more specificity with regard to the description of the project's effects/impacts. Finally, Section 3.9, Water Quality, page 3.9-2 notes "a discussion of the LEDPA (Least Environmentally Damaging Practicable Alternative) determination, if any, for the document is included in the Wetlands and Other Waters section (Section 3.17)." However, no such discussion is included in this section." This comment was not adequately addressed. L-27-358

Sheet 6 of Appendix R (Biological and Aquatic Resources Maps) shows impacts to the DeForest Wetlands areas within the BSA. Page 43 of 61 of the 2012 Comment Letter mentions that "The City of Long Beach is commencing construction on the DeForest wetlands area. This resource must be included as a wetland, analyzed and protected prior to and after completion of I-710 improvements. Water quality monitoring should be required to ensure that the improvements that the City makes will not be negatively impacts by this project." The first sentence of this comment was not adequately addressed. Although Section 3.24.4.9 – Water Quality mentions "The SWPPP will… develop a water L-27-359

quality monitoring and sampling plan," a specific mention to avoid impacts to the DeForest Wetlands should be incorporated to adequately address the second sentence of this comment. L-27-359

Appendix R - Biological and Aquatic Resources Maps

Several features identified as "Other Drainage Features Within Developed Areas (non-jurisdictional)" are actually "Likely Jurisdictional" to RWQCB as indicated in Table 3.17-1. "Non-jurisdictional" alone implies not jurisdictional to any agency. Revise accordingly, such as "… (RWQCB-jurisdictional only)." L-27-360

Also, for USACE jurisdiction, revise to read "USACE/RWQCB…," including for "Jurisdictional Features (includes L.A. River)." L-27-361

The red lines indicate "Continuation of Drainage Through Non-Jurisdictional Area or Outside BSA;" however, some of these lines appear going through jurisdictional features. Clarify accordingly. L-27-362

Although impacts to jurisdictional resources will be mitigated through the permitting process with the regulatory agencies, an analysis to identify areas within the BSA that could be added features to improve water quality. In Section 3.17.4, add a mitigation measure as follows:

WET-1 Added features such as bioswales, vegetative buffers, and constructed wetlands aimed at removing pollution such as sediment, suspended solids, and microscopic soil particles called colloidal suspension, dissolved solids, and turbidity shall be constructed using native species in areas adjacent to the footprint of the preferred alternative, particularly areas adjacent to off-ramp and interchange improvements designed to convey storm flows off-site. L-27-363

SECTION 3.18 – PLANT SPECIES

Section 3.18.1 – Regulatory Setting

Page 3.18-1, Paragraph 2, Lines 3 and 4. See strikethrough and underlined in the sentence ""Special-status" species are ~~selected for protection~~ given designations because they are rare and/or subject to population and habitat declines." Paragraph 3, Line 2. Remove "…USFWS candidate species…" as candidate species are protected under FESA/CESA along with endangered and threatened designations. L-27-364

Pages 3.18-2 through 3.18-12, Table 3.18-1. Update all species statuses as applicable (updated quarterly by CDFW) when finalizing the EIR/EIS. In General Habitat Description, add Blooming Period and Habit to plants where missing. Because marginally suitable habitat is present in many instances, update "Habitat Present/Absent: Absent (A) - no habitat present and no further work needed. Habitat Present (P) – habitat is, or may be present" accordingly, throughout. Provide rationale to the level provided in Table 3.19-1 for those with habitat present, such as nearest and most recent occurrences recorded by CNDDB and CNPS or otherwise. Perennial species not observed is good rationale; but, not for annuals. L-27-365

Page 3.18-4, Intermediate mariposa lily, Rationale. Stated, "BSA is outside the species'… geographic range." However, the BSA is within Los Angeles County recognized in the General Habitat Description. Cite reference to source(s) identifying specific known geographic range. L-27-366

Page 3.18-9, Davidson's bushmallow, Rationale. Stated, "No…riparian woodland…within the BSA." Should read similar to… "Although marginal riparian habitat is present within the BSA, the BSA is L-27-367

outside the species known elevation range." Same for the next entry, California muhly (i.e., stream banks and other moist sites are marginally present within the BSA). See next entry, mud nama. L-27-367

Page 3.18-10, Parish's gooseberry, Rationale. Remove "No willow swales within the BSA" since riparian scrub is present within the BSA. The rest is adequate rationale. L-27-368

Page 3.18-11, Salt Spring checkerbloom, Rationale. Estuarine habitat transitioning to freshwater marsh is brackish. Stronger rationale is suggested, such as "Believed extirpated from Los Angeles County. Not observed in marsh habitats." Greata's aster. Add "BSA is outside of species known elevation range." L-27-369

Page 3.18-12, Sonoran maiden fern, Rationale. The project site ranges from sea level to 180 feet. Remove, BSA is outside the species' known range." The rest is adequate rationale. L-27-370

Section 3.18.2.1 – Special-Status Plant Species Requiring Surveys

Page 3.18-13, Paragraph 1, Lines 1 and 2. Revise the underlined, "previously known as *Hemizonia parryi* ssp. *australis*…" Also, given additional habitat marginally present for species mentioned above, add brief discussions for those species. L-27-371

Section 3.18.3.1 – Permanent Impacts

Page 3.18-13, Paragraph 4, Lines 1-4. Mentioned are "direct permanent impacts" to southern tarplant; however, as stated on Page 3.17-13, Paragraph 5, Lines 3-5, "Indirect permanent impacts were assumed in areas where shading from a bridge or the elevated freight corridor was identified." L-27-372

Page 3.18-14, Table 3.18-2, Center Heading. Should read "Indirect Permanent Impacts," as indicated below the table in Paragraph 1, Lines 4 and 5. L-27-373

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

Page 43 of 61 of the 2012 Comment Letter mentions that "This section notes that a literature review was conducted but provides no details regarding this review." This portion of the comment was not adequately addressed. Include in Section 3.18 a summary of the discussion in Section 2.2.1 of the NES, as well as for Sections 3.19 (Wildlife) and 3.20 (Threatened and Endangered Species). L-27-374

Page 44 of 61 of the 2012 Comment Letter mentions [brackets added] that "…the mitigation measure included to reduce potential impacts, which is identified in Section 3.24, does not provide the necessary specificity required under CEQA to ensure a reduction of such impacts [from emissions, climate or microclimate changes, and fugitive dust]. Specifically, Mitigation Measure CON-61 [now CON-PS-1] does not define the vicinity or set standards for boundaries to be enforced." This portion of the comment was not adequately addressed. L-27-375

SECTION 3.19 – ANIMAL SPECIES

Section 3.19.1 – Regulatory Setting

Page 3.19-1, Paragraph 2, Lines 7 and 8. Remove "…including CDFW fully protected species…" as they are discussed in Section 3.20. Paragraph 3. Should read (underlined added), "Federal laws and regulations relevant to non-listed wildlife include the following…" Same goes for "State laws…" and include CFGC Sections 3503, 3503.5, and 3513, among others. L-27-376

Pages 3.19-5 through 3.19-25, Table 3.19-1. Update all species statuses as applicable (updated quarterly by CDFW) when finalizing the EIR/EIS. L-27-377

Pages 3.19-5 through 3.19-8. Along with discussions of extirpation, also discuss whether suitable habitat is present, and if so, the nearest and most recent occurrences recorded by CNDDB or otherwise. L-27-378

Page 3.19-12, Mountain plover, Rationale. Add the underlined, "Probably a regular winter visitor historically, but no suitable habitat remains within the BSA." L-27-379

Section 3.19.3.1 – Permanent Impacts

Other Special-Status Animal Species Not Requiring Surveys

Page 3.19-31, Paragraph 4, Line 1. "All of these species have a low to moderate regular occurrence probability…" implies that an occurrence probability analysis (low, moderate, or high) was conducted; however, only habitat presence/absence and rationale (including observations [i.e., present]) are provided in the special-status species tables (Tables 3.18-1 and 3.19-1). Revise sentence if probability of occurrence ratings is not required. L-27-380

SECTION 3.20 – THREATENED AND ENDANGERED SPECIES

Section 3.20.2 – Affected Environment

Page 3.20-2, Paragraph 2, Line 1. Revise the underlined, "On April 16, 2009, May 23, 2012, and again on June 6, 2017 the USFWS provided a list of…" L-27-381

Section 3.20.2.2 – Animal Species

Page 3.20-3, Paragraph 7. Check numbers, "…it was determined that 42 animal species or habitats that are Federally and/or State-listed…" with "Suitable habitat does not exist within the BSA for 40 of these animal species…" and "With the exception of the Southern California steelhead Distinct Population Segment (DPS), green sea turtle, western snowy plover, California least tern (CLT), California sea lion, and EFH…" L-27-382

Pages 3.20-5 through 3.20-21, Table 3.20-1. Update all species statuses as applicable (updated quarterly by CDFW) when finalizing the EIR/EIS. In General Habitat Description, add Blooming Period and Habit to plants where missing. L-27-383

Page 3.20-6, San Fernando Valley spineflower, Rationale. Replace "BSA is outside the species' range" since the BSA is within its known elevation range, with "Presumed extirpated from the Los Angeles Basin." L-27-384

Page 3.20-7, Lyon's pentachaeta, Rationale. Remove "Believed to be extirpated from the area" since it is known to occur in western Los Angeles County, and has been documented from approximately two miles west of the right-of-way north of United States Naval Station Long Beach. L-27-385

Pages 3.20-9 through 3.20-21, Table 3.20-2. Along with discussions of extirpation, also discuss whether suitable habitat is present, and if so, the nearest and most recent occurrences recorded by CNDDB or otherwise. L-27-386

Page 3.20-13, Green sea turtle, Rationale. Revise unclear sentence, "Proposed affect but is not likely to adversely affect this species with implementation project may of the Avoidance, Minimization, and Mitigation Measures." L-27-387

Page 3.20-16, Least Bell's vireo, Habitat Present or Absent. If "marginally suitable habitat for nesting remains…for nesting in the BSA," change to "P" and include in Section 3.20.2.2 a discussion of vireo as "exceptions because they may occur within the BSA" (see Page 3.20-3). Further, Page 45 of 61 of the 2012 Comment Letter mentions a "…U.S. Fish and Wildlife Service... has advised that a known population of Least Bell's vireo resides in De Forest Park…" L-27-388

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

Page 45 of 61 of the 2012 Comment Letter mentions that "Studies and/or other forms of evidence need to be provided to support the discussion in Section 3.20.2.1, Plant Species" and "Section 3.20.2.2, Animal Species..." These comments were not adequately addressed. L-27-389

Page 59 of 61 of the 2012 Comment Letter mentions that "Section 3.24.3.19, Animal Species, page 3.24-36: The essential fish habitat discussion notes that "the I-710 Corridor Project will have a temporary adverse effect on Coastal Pelagic Management Plan Species." This plan protects habitats of certain species yet this plan is not discussed anywhere in Section 3.16, Natural Communities. In fact, Section 3.16, page 3.16-2 notes that "no habitat conservation plans or natural communities conservation plans are within the I-710 Corridor Project study area and are, therefore, not applicable to the proposed project." This must be corrected and the appropriate analysis must be provided in Section 3.16." These comments were not adequately addressed." These comments were not adequately addressed. L-27-390

Page 59 of 61 of the 2012 Comment Letter mentions that "…a mitigation measure to conduct surveys for Caulerpa taxifolia (a nonnative seaweed) is provided but no description or analysis of such species possibly existing or invading the Study Area is provided. Therefore, on Page 3.24-71, add to CON-INV-1 the following: "Although it has not been reported from San Pedro Bay or the Long Beach/Los Angeles Harbor complex, site-specific surveys for this invasive will be required as part of permit conditions for any bridge work or dredging associated with the I-710 Corridor Project" (language gathered from the Estuarine Resources Environmental Assessment [Appendix F of the NES]). L-27-391

SECTION 3.23 – RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE HUMAN ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Chapter 3.23 does not address the loss of short-term and long-term productivity that would occur within the City of Long Beach as a result of impacts to businesses that would be relocated as a result of the project. As noted in Section 3.3, Community Impacts, of the RDEIR/SDEIS, within the City of Long Beach, it is estimated that between 31 to 62 nonresidential relocations would be required (depending on the build alternative). The relocation of nonresidential facilities is estimated to result in the relocation of anywhere between 270 to 431 employees, with a loss of up to approximately $237,130 in sales tax revenue. The City is concerned with the effects related to the relocation of businesses, and the impacts such relocations would have on the communities that surround them. To maintain the economic vitality and range of services provided to the communities in which they reside, every effort should be made to relocate the affected business near their existing locations, within the City of Long Beach. These impacts to long-term productivity should be considered in this chapter. L-27-392

Chapter 3.23 does not address the short-term loss of recreational facilities that would occur as a result of the project. A substantial portion of Cesar E. Chavez park within Long Beach would be affected by L-27-393

the proposed project, and the loss of recreational opportunities during the construction process should be disclosed within this section. L-27-393

Section 3.23.2, No Build Alternative, page 3.23-2: The discussion included here is contradictory. Specifically, the second paragraph states "…Alternative 1 includes additional transportation improvements that are already funded and/or committed to be constructed by or before the planning horizon year of 2035. Therefore, there would be irretrievable commitments of resources resulting from these other transportation improvements, but not as a result of the I-710 Corridor Project." The first paragraph states "Alternative 1 would also not provide the benefits of the reduced travel times and improved efficiency for the movement of vehicles, people, and goods that would result from implementation of the I-710 Corridor Project." If this section is discussing the "irretrievable commitments of resources resulting from these other transportation improvements," why is this section not accounting for the benefits that these transportation improvements would have along the corridor? These other transportation improvements would certainly reduce travel times and result in improved efficiency for the movement of goods. This consideration must be included here. L-27-394

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

This section does not fully address all potential irreversible and irretrievable commitments of resources that would be involved with Project development. For example, this section does not include an analysis regarding consumption of water during construction, which would be consumed for dust control, concrete mixers, etc. In addition, this section also does not include an analysis of irreversible and irretrievable commitments of air quality resulting from "permanent increase in air pollutant concentrations near the I-710 Corridor" (Section 3.22, page 3.22-2), which would occur under Alternative 5A since this Alternative would only widen the freeway and not provide the zero-emission technology. Furthermore, this section does not analyze potential irreversible and irretrievable commitments of energy from electrical consumption during construction and with implementation of a catenary system or other zero-emission technology. L-27-395

SECTION 3.23 – IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES THAT WOULD BE INVOLVED IN THE PROPOSED PROJECT

Page 3.23-1, Paragraph 1. This section states that "Construction of the build alternatives involves a commitment of a range of natural, physical, human, and fiscal resources." The analysis then continues to evaluate paleontological and archaeological resources, estuarine habitat, riparian/riverine habitat, jurisdictional waters, and construction effects. No mention or analysis regarding fiscal resources committed to the project are provided, and no distinction between the build alternatives is made. L-27-396

Page 3.23-3, Paragraph 2. The analysis notes that Alternative 1 includes a range of additional transportation improvements that are already funded and/or committed to prior to the planning horizon year of 2035. The analysis notes that there would be irretrievable commitments of resources as a result of these additional improvements, but provides no supporting analysis. This lack of analysis makes it impossible to adequately compare the impacts of the build alternatives to the no build alternative. L-27-397

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

This section does not fully address all potential irreversible and irretrievable commitments of resources that would be involved with Project development. For example, this section does not include an analysis regarding consumption of water during construction, which would be consumed for dust control, concrete mixers, etc. In addition, this section also does not include an analysis of irreversible and irretrievable commitments of air quality resulting from "permanent increase in air pollutant L-27-398

concentrations near the I-710 Corridor" (Section 3.22, page 3.22-2 of 2012 EIR/EIS), which would occur under Alternative 5A since this Alternative would only widen the freeway and not provide the zero-emission technology. Furthermore, this section does not analyze potential irreversible and irretrievable commitments of energy from electrical consumption during construction and with implementation of a catenary system or other zero emission technology. L-27-398

Section 3.23.2, page 2.32-2 of 2012 EIR/EIS: The discussion included here is contradictory. Specifically, the second paragraph states "…Alternative 1 includes other transportation improvements that are already programmed and/or committed to be constructed by 2035. Therefore, there would be irretrievable commitments of resources resulting from these other transportation improvements, but not as a result of the I-710 Corridor Project." The first paragraph states "Alternative 1 would also not provide the benefits of the reduced travel times and improved efficiency for the movement of vehicles, people, and goods that would result from implementation of the I-710 Corridor Project." If this section is discussing the "irretrievable commitments of resources resulting from these other transportation improvements," why is this section not accounting for the benefits that these transportation improvements would have along the corridor? These other transportation improvements would certainly reduce travel times and result in improved efficiency for the movement of goods. This consideration must be included here. L-27-399

SECTION 3.24 – CONSTRUCTION IMPACTS

Section No. 3.24.1.1 – Highway Improvement Process

Based on Section 3.24.1.1 above construction for many of the bridge structure embankments may extend over two to three storm seasons. As stated in Sections 3.24.1.1 and 3.24.2, typical erosion control measures will be implemented along with extending existing culverts. However, there appears to be no discussion about pre-planning for a moderate or major storm event during construction. As the pictures included above suggest, the I-710 corridor is especially susceptible to flooding. Section 3.24.3.9 states that work within channel will be limited to non-flood season as much as practicable, but the storm season lasts from October to April. It is likely that bridge pier construction, and other drainage related construction, could extend into the storm season. It is recommended that the RDEIR/SDEIS require the contractor to prepare a plan on how he will conduct his construction operations during the storm season. In addition, the contractor should prepare a plan detailing how he will protect adjacent areas from the threat of flooding if he is engaged in active construction within a flood channel during the storm season especially is such activity may temporarily impact the LA River flood control levees or an adjacent pump station. The contractor's construction schedule should ensure that a local or regional drainage or pump station facility is upgraded or reconstructed first prior to the existing facility being removed to reduce the chance of flooding during a storm event. L-27-400

Section 3.24.2 – Typical Construction Impacts

The analysis notes that the construction contractor would use silt fences, hay bales, and other measures to control runoff and erosion. The measures listed are sediment control. Hay bales are not specified and are not recommended. The Storm Water Data Report identifies the minimum BMPs that will be implemented. These includes BMPs to address soil erosion as well as other potential pollutants generated during construction activities. This section should be re-written to be consistent with the Storm Water Data Report. Additionally, there is a significant potential to directly impact receiving waters because of the numerous bridge structures that would be constructed in and directly over waters. This needs to be reflected in this section. L-27-401

Section 3.24.3.9 – Water Quality and Stormwater Runoff

Page 3.24-20, 3rd paragraph. The analysis notes that Alternative 5C would have some construction over and adjacent to the local water bodies and would disturb existing channel bottom sediments. Any construction work within the channel areas would likely result in sediment resuspension and dispersal into the water column of the channels. However, work within any channels would be limited to non-flood season as much as practicable. Additionally, coordination with the National Weather Service and the USACE regarding storm and flood events would occur. A safety plan for flood events would be in place, including plans for evacuation of personnel and equipment in the event of storm flows or an anticipated storm event. Please confirm the specific period(s) in which work will be limited to non-flood season. Our wet season begins in October and ends in May. Is the recommendation to not work within the Los Angeles River in this period? L-27-402

Page 3.24-21, paragraph following the bullets. The Construction General Permit requires calculation of Risk Level for each Planning Watershed. The risk level determination in the SWDR identified sediment toxicity as a reason for the receiving water to be identified as high risk. Sediment toxicity is not a characteristic for the high risk receiving water (i.e., 303(d) listed as being impaired for sediment/siltation or turbidity). Accordingly, unless the receiving water has a beneficial use of cold, spawn, or migratory, the receiving water risk level is Low. This is the case for Segment 1a as defined in the SWDR. It is noted that the sediment risk factor for each segment is calculated as Low or Medium. The R-factor is the main driver, which could cause this factor to increase to High. R-factor is sensitive to the construction duration. The anticipated construction duration for each segment (which is based on project start through final stabilization), should be verified. Note that if the end date of the project is extended beyond what was originally planned, then the risk calculation must be redone. If the Risk Level changes from Risk Level 2 to 3, then the associated Construction General Permit provisions must be complied with. L-27-403

Page 3.24-21, 2nd paragraph following the bullets. The analysis notes that, "During construction, applicable construction site BMPs would be incorporated into the construction documents, including temporary soil stabilization, sediment and tracking control, and waste management. Groundwater removed during dewatering operations would be disposed of off-site at approved locations or treated on site and incorporated into the grading operations. These requirements are specified in the measures provided in Section 3.24.4.9, below." The statement above commits Caltrans to not treat and discharge groundwater to the storm drains and downstream receiving waters. Confirm this is Caltrans' intent. L-27-404

Section 3.24.3.4 – Utility/Emergency Services

Page 3.24-16, Paragraph 1. Specific discussion of anticipated hauling of contaminated soils to permitted landfills as a result of relocation of petroleum pipelines and oil wells should be included. L-27-405

Section No. 3.24.3.6 – Visual/Aesthetics

Page 3.24-18, Alternative 5C. Consideration of specific staging areas and proposed construction haul routes should be considered. Minimization measures ensuring that visibility of staging areas from sensitive uses is minimized to the extent feasible should be included and consideration of haul routes avoiding sensitive areas (such as residential communities) should be provided. The analysis should also clarify if nighttime construction will be necessary and include appropriate minimization measures for nighttime lighting during construction, if applicable. L-27-406

Section No. 3.24.3.8 Hydrology and Floodplain

Section 3.24.3.8, Hydrology and Floodplain. This section, as well as others in the document, states it is anticipated that a CLOMR would be required. This should be expanded to describe under what conditions a CLOMR might be required. For example, FEMA would only require a CLOMR under one of two conditions: if there was a detailed study area with no floodway and there was a potential rise of greater than 1-foot associated with the proposed project; or if there was a detailed study area with a designated floodway and the proposed project would result in a rise greater than 0.00 feet. The LACFCD could also require a CLOMR should they feel one was warranted. This section should also be expanded to discuss the role of the U.S. Army Corps of Engineers (USACE) in this process. USACE has jurisdiction over the reaches of the LA River that were built as part of a Federal project. As such, any improvements to these reaches would require a 408 Permit. Due to the hydraulic sensitivity of the LA River, any impacts to the water surface could be considered significant by the USACE and could require mitigation. L-27-407

Section 3.24.3.8, Hydrology and Floodplain discusses temporary impacts to jurisdictional waters and water quality (which should be discussed in Section 3.24.3.9, not here) and does not discuss temporary construction impacts to channel capacity or other drainage structures. As stated above, this Section should discuss that the contractor working on the project prepare a construction impact plan on drainage structures, pump stations, and channel levees when or if working during the storm season. In addition, the contractor should be directed to prepare an emergency action plan if his construction activity may impact flood control facilities during a significant storm event which includes coordination with local cities, LACFCD, USACOE, and NWS if flood warnings, evacuations, or active flood fighting are required. L-27-408

Section No. 3.24.3.10, Geology/Soils/Seismic/Topography

Page 3.24-23, Section 3.24.3.10, Geology/Soils/Seismic/Topograpy: An adequate analysis for Alternative 7 must be provided. Merely stating that temporary impacts "would be greater under Alternative 7 due to the freight corridor component" is not sufficient. A thorough analysis of potential impacts associated with geology under Alternative 7 must be provided. L-27-409

Section No. 3.24.3.12, Hazardous Waste/Materials

Page 3.24.23, Section 3.24.3.12, Hazardous Waste/Materials: This section notes that online agency file review information was only available for a portion of the identified sites that represent an concern related to hazardous materials. As part of the preparation of this RDEIR/SDEIS, consultation should have been undertaken with the appropriate agencies to provide adequate information to ensure that all of the potential environmental impacts are disclosed to the public and decisionmakers. This analysis must include the complete list of sites with the appropriate description and potential effects resulting from these sites. In addition, this section indicates several potential impacts resulting from contaminated groundwater, elevated levels of aerially deposited lead, asbestos, etc., and notes that further evaluations and investigations need to be conducted. However, this section does not describe what these evaluations and investigations would entail, how such investigations would minimize potential impacts to construction workers, or even include them as part of the mitigation measures provided in this section to reduce impacts from hazardous waste/materials. L-27-410

Section No. 3.24.3.13, Air Quality

The evaluation and discussion of potential construction air quality impacts is inadequate for a project of this magnitude. The entire discussion of construction air quality impacts is limited to approximately three pages in Section 3.24, Construction, of the RDEIR/SDEIS. In order to find any specific L-27-411

information on how these emissions were calculated or to review emissions from a specific segment the reader must uncover it where it is buried in the appendices of the AQ/HRA. The conclusions and supporting data should be discussed in detail within this section. L-27-411

Page 3.24-29, Section 3.24.3.13, Air Quality (Construction Impacts). The analysis notes that construction-related PM2.5 and PM10 emissions due to this project were not included in the hotspot analysis because construction would not occur at any one location for more than five years and construction-related emissions would be considered temporary. Although this statement is correct per 40 CFR 93.123(c)(5), localized emissions from construction should be analyzed in the CEQA analysis and mitigation measures should be identified if necessary. This analysis was also not provided in RDEIR/SDEIS Section 4.0 (CEQA). The localized impact analysis should be conducted in accordance with SCAQMD's *Localized Significance Threshold Methodology* (2008). L-27-412

Additionally, the California Office of Environmental Health Hazards Assessment (OEHHA) document, Air Toxics Hotspots Program Guidance Manual (2015), recommends assessing cancer risk to residential receptors exposed construction emissions lasting more than two months. The exposure assessment should be assumed to start in the third trimester to allow for the use of the age sensitivity factors. L-27-413

Mitigation Measure CON-AQ-15 requires the use of equipment that meets U.S. EPA Tier 4 emissions standards. However, the mitigation measure also includes caveats such as "depending on the responsible agency that administers the construction contracts and the availability of construction equipment compliant with these standards", which renders the mitigation measure unenforceable. Mitigation Measure CON-AQ-15 must be revised to provide a performance standard and enforcement/verification mechanisms. The mitigation measure needs to define how availability of Tier 4 equipment is determined. L-27-414

Section No. 3.24.3.14, Noise

Section 3.24.3.14, Noise (Construction Vibration). Page 3.24-32 notes that pile driving could occur as close as 50 feet away, exposing sensitive receptors and structures to vibration levels of 0.3 PPV, which is a "strongly perceptible" and has the potential to damage buildings and would exceed the distinctively perceptible 0.1 PPV threshold and would approach the 0.4 PPV severe annoyance threshold. L-27-415

Mitigation Measure CON-N-9 requires a pre- and post-construction survey of structures to determine whether any new cracks or other damage have occurred. The analysis does not address or mitigate vibration impacts on people. Mitigation Measure CON-N-9 does nothing to mitigate the vibration levels and only addresses building damage after the fact. If driven plies are used, Mitigation Measure CON-N-9 should include noise monitoring during construction to ensure the vibration limit (0.2 PPV in/sec) is not exceeded. If it is exceeded, construction activities should halt until a remedy is implemented to reduce the vibration levels below the limit. L-27-416

The construction noise analysis mentions that pile driving would be needed, but provides no description on the potential number of piles, duration of pile driving, or alternative methods. These details (or conservative estimates of these details) are necessary in order to adequately analyze and mitigate impacts from project construction. Mitigation measure CON-N-10 mentions the utilization of alternatives to pile driving. However, there are no details or analysis to support where this mitigation should be implemented and how much it would reduce noise and vibration impacts. L-27-417

Section 3.24.3.14, Noise (page 3.24-32). The construction noise analysis does not address whether the 86 dBA Lmax standard can be met. Figure 3.24-1 shows numerous pieces of equipment exceeding 86 dBA (including pile drivers). Also, the typical construction activities include several pieces of equipment operating simultaneously, which would result in overall construction noise levels in excess of the levels that are provided in Figure 3.24-1. The construction analysis in the DED is inadequate, and needs to be revised to identify the highest potential construction noise levels compared to the applicable standard (86 dBA Lmax). L-27-418

Section 3.24.3.14, Noise (page 3.24-60) Mitigation Measure NOI-6 does not include performance standards or timing/enforcement mechanisms. Mitigation Measure NOI-6 requires construction contractors to implement noise control measures to prevent equipment from producing noise levels in excess of "specified limits". However, the "specified limits" are not identified. It is assumed that the mitigation measure is referring to the 87 dBA Lmax limit mentioned in the analysis, but this is not clear. Specific performance standards must be provided in the mitigation measure itself. Furthermore, Mitigation Measure NOI-6 should include noise monitoring during construction to ensure the specified limits are not exceeded. If it is exceeded, construction activities should halt until a remedy is implemented to reduce the noise levels below the limit. L-27-419

Section 3.24.3.14, Noise (page 3.24-59 to page 3.24-61). The current construction noise mitigation measures (CON-N-1 through CON-N-10) are vague and unspecific and therefore, not enforceable. The mitigation measures should be revised to include performance standards and verification and timing mechanisms as required by CEQA. For example, Mitigation Measure CON-N-7 requires construction contractors to apply site restrictions to achieve noise reduction through different methods. However, no performance standard is identified. The mitigation measures must identify performance standards and enforcement/verification mechanisms. The specific measures and performance standards must be required to be written into construction contracts and specifications in order for a lead agency to be able to enforce implementation. L-27-420

Section No. 3.24.3.15 - Energy

Page 3.24-33 (Energy). The analysis identifies that construction energy consumption would represent a "small fraction" of regional energy consumption even though it would take approximately 20 trillion British thermal units (BTUs) to construct Alternative 5C and approximately 40 trillion BTUs to construct Alternative 7. The analysis should identify what increase in energy increase would be considered a significant impact, and provide additional justification that no mitigation is needed. L-27-421

Section No. 3.24.4.6 – Visual/Aesthetics

Refer to comments provided for Section No. 3.24.3.6 above. L-27-422

2012 Comments Not Adequately Addressed in the Recirculated Environmental Document

Section 3.24.1, Construction Method Approach: This section should include construction phasing, schedule and work hours. L-27-423

Section 3.24.1, Construction Method Approach: Given the level of design and known right-of-ways for each of the alternatives, this section must identify the potential locations of staging areas, and the aggregate (pavement) crushing plant. L-27-424

Section 3.24.1, Construction Method Approach: Specific details regarding construction activities must be provided. Providing statements such as "this paving could be done at night, when traffic volumes are reduced, and may take several nights" is inadequate. L-27-425

Section 3.24.3.4, Utilities/Emergency Services, page 3.24-11 of the 2012 Draft EIR/EIS: Impacts to the numerous utilities in the Study Area are also not provided. This analysis must be provided here to ensure that accurate information is disclosed to the public and decisionmakers. L-27-426

Construction of the Project will require temporary closures of freeway ramps and arterial streets. As a result, traffic will be diverted to detour routes within City limits and will create traffic impacts along the detour routes. The increase in traffic along the detour routes and coordination of ramp, freeway lanes, and arterial street closures will require additional services to be provided by the Department of Public Works, the Police Department, and the Fire Department. Capital improvements to the traffic signal system in the City will be required. In addition, such detours may potentially affect the ability of the Police Department and Fire Department to meet response time goals. As such, the City requests that Caltrans provide funding in an amount to be determined to provide City staff support and capital improvements necessary to mitigate traffic impacts along detour routes. L-27-427

Section 3.24.3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, page 3.24-12 of 2012 Draft EIR/EIS: A qualitative analysis of the potential impacts to traffic and transportation and pedestrian and bicycle facilities is not adequate. The analysis must inform the public and decisionmakers of the levels of service expected during construction and provide a specific description of anticipated ramp closures. L-27-428

It is recommended that the Caltrans Traffic Management Plan (TMP) include the necessary traffic signal upgrades/improvements along parallel streets within the City of Long Beach (i.e., Santa Fe Avenue) to help facilitate traffic movement and to ensure that the temporary construction related traffic impacts of the I-710 Corridor Project are minimized. Further yet, these improvements should be installed well in advance of the construction phase of the project. L-27-429

It is recommended that City of Long Beach staff be involved in the development of the Caltrans TMP as it pertains to detours and/or re-routes of traffic onto City of Long Beach roadways during construction of the proposed project.

It is also recommended that a detailed pavement assessment be conducted for all affected City of Long Beach streets to determine each streets pavement condition at the conclusion of project construction. If project construction causes any damage to existing pavement, street, curb, and/or gutter along the identified detour routes, Caltrans will be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City of Long Beach, Department of Public Works. L-27-430

Once all truck routes have been identified during the development of the Caltrans TMP, it is recommended that a detailed pavement assessment be conducted for all affected City of Long Beach streets to determine each streets pavement condition prior to the commencement of construction.

Section 2.34.3.6, Visual/Aesthetics, page 3.24-13 of the 2012 Draft EIR/EIS: The analysis presented here notes that impacts to sensitive viewers would be expected. However, this analysis does not provide who or what these sensitive viewers are. This information must be provided to accurately reflect and mitigate potential impacts. L-27-431

During construction, a number of alternate traffic routes will be proposed. The Draft EIR/EIS does not indicate which mitigation measures will be undertaken for the additional pollutants that will be generated from the increased vehicle trips and increased pollutant loads discharged via runoff from City-operated streets into the storm drain system. This may potentially be detected as elevated L-27-432

pollutant levels in the outfall monitoring program, the ongoing Coordinated Monitoring Plans for L.A. River and Los Cerritos Channel or at the LA County mass emission station located near Wardlow. L-27-432

According to Section 7-1.01I, Sound Control Requirements, of the Caltrans Standard Specifications, the Contractor shall comply with all local sound control and noise level rules, regulations and ordinances and internal combustion engines shall be equipped with a muffler of a type recommended by the manufacturer. The City of Long Beach Municipal Code provides construction hour limitations (7:00 am to 7:00 pm Monday through Friday and 9:00 am to 6:00 pm on Saturday), but does not specify local sound control noise levels for construction activities. The City of Long Beach does use the following CEQA significance threshold for construction noise: A significant impact would occur if project construction activities cause the exterior ambient noise level to increase by 5 dBA or more at a noise-sensitive use, as measured at the property line of any noise-sensitive use. Therefore, the Draft EIR/EIS should implement mitigation measures to reduce project-related construction noise levels within the City of Long Beach to less than 5 dBA above ambient noise levels to support a conclusion of less than significant construction noise impacts to noise-sensitive land uses within the City of Long Beach. L-27-433

During construction, it is expected that a number of local arterial streets and intersections will be heavily impacted by additional traffic congestion. It is expected that the analysis will incorporate mitigation measures throughout to address the increased traffic congestion, wear and tear, and the implementation of temporary intersection improvements to relieve congestion during the construction period. L-27-434

SECTION 3.25 – CUMULATIVE IMPACTS

Table 3.25-2. Neither project (T-80 or LD-89) is listed in Table 3.25-2, "Anticipated Construction Schedule for Major Future Projects in the I-710 Corridor Study Area." These projects should be coordinated with the City of Long Beach and added to the Table. L-27-435

Section 3.25.4.1 – Land Use

Page 3.25-43, under Future and Existing Land Uses, the discussion concludes "Because I-710 has been considered in the local General Plans since its construction as a freeway…the build alternatives are generally compatible with adjacent land uses." This statement is very broad and not entirely accurate. Although I-710 has been considered in local General Plans, the build alternatives would require land acquisitions that would place transportation land uses in closer proximity to land uses that may not be compatible with transportation land uses. Analysis should be provided to address this potential and the potential for cumulative impacts. L-27-436

Page 3.25-43, under Consistency with State, Regional, and Local Plans, the discussion states the "Project is generally consistent with the adopted goals and policies in the General Plans". However, the analysis is insufficient and the determination of consistency is unsupported. A detailed goal- and policy-specific consistency analysis is needed to support the overall conclusions. In addition, there is no discussion of the Long Beach LCP, I-710 Community Livability Plan, Long Beach RiverLink Plan, Pedestrian Master Plan, Parks, Recreation and Marine Strategic Plan, and the General Plan Mobility and Open Space and Recreation Elements. L-27-437

The cumulative analysis need to be reassessed based on the comments above and specific to Chapter No. 3.1, Land Use. Portions of the project-level analysis and conclusions are insufficient and unsupported. L-27-438

Page 3.25-42, Table 3.25-2. The LB MUST Project should be included in the table. L-27-439

Section 3.25.4.2 – Growth

Page 3.25-51, first paragraph, states "…the I-710 Corridor Project build alternatives would not contribute to cumulative adverse impacts related to growth". This statement is based on unsubstantiated conclusions identified in Chapter No. 3.2, Growth. Refer to the comments specific to Chapter No. 3.2, Growth. As previously noted, it is reasonably foreseeable that increased capacity and arterial improvements associated with the build alternatives would influence growth in the study area by making the communities more accessible. This could contribute to cumulative adverse impacts related to growth. Further analysis is needed to adequately substantiate the conclusions regarding potential growth impacts and resulting cumulative impacts. L-27-440

Section 3.25.4.4 – Utility/Emergency Services

Page 3.25-65, Reasonably Foreseeable Actions. This analysis should incorporate the following future City of Long Beach projects: the Shoemaker Bridge Replacement Project and the Long Beach MUST Facility. L-27-441

Page 3.25-66, Cumulative Impacts. Particular cumulative considerations that should be made for the Shoemaker Bridge Replacement Project include potential concurrent construction schedules such that emergency access would be further exacerbated. Particular cumulative considerations that should be made for the Long Beach MUST Facility include potential project impacts on future wastewater treatment facilities that will be cited along the I-710 Corridor. L-27-442

Section 3.25.4.6 – Visual/Aesthetics

Health and Historical Context. It is not reasonable to assume that the overall visual quality of the entire I-710 Corridor is moderately low for residential areas. Further, although no officially designated State scenic roads are present within the I-710 Corridor, Ocean Boulevard is a local scenic highway. This discussion should be updated accordingly. L-27-443

Page 3.25-53, Community Character and Cohesion. It is not reasonable to state that, other than communities in Commerce, the I-710 Corridor Project build alternatives would not result in adverse impacts to community character and cohesion. As discussed throughout this comment letter, the selection of Key Views was not very representative of the communities of Long Beach, including those residential communities along Fashion Avenue in particular. L-27-444

Pages 3.25-55 and 3.25-71, Reasonably Foreseeable Actions. This list of project's should be updated to include Shoemaker Bridge Replacement Project and the Long Beach MUST Facility, both in the City of Long Beach, within and along the I-710 Corridor. Cumulatively considerable impacts must be disclosed and whether the I-710 Corridor contributes to this impact must be disclosed. It should also be acknowledged that the proposed Long Beach MUST Facility will result in increased open space/public recreational area along the I-710 Corridor. The analysis must consider potential impacts to these facilities and whether or not the I-710 will negatively impact the future character of these areas in the City of Long Beach. L-27-445

Section 3.25.4.8 - Hydrology and Floodplain

Section 3.25.4.8, Hydrology and Floodplain. This section, as well as others in the document, states it is anticipated that a CLOMR would be required. This should be expanded to describe under what conditions a CLOMR might be required. For example, FEMA would only require a CLOMR under one of two conditions: if there was a detailed study area with no floodway and there was a potential rise of greater than 1-foot associated with the proposed project; or if there was a detailed study area with a L-27-446

designated floodway and the proposed project would result in a rise greater than 0.00 feet. The LACFCD could also require a CLOMR should they feel one was warranted. This section should also be expanded to discuss the role of the U.S. Army Corps of Engineers (USACE) in this process. USACE has jurisdiction over the reaches of the LA River that were built as part of a Federal project. As such, any improvements to these reaches would require a 408 Permit. Due to the hydraulic sensitivity of the LA River, any impacts to the water surface could be considered significant by the USACE and could require mitigation. L-27-446

Section 3.25.4.8, "Hydrology and Floodplains," of the RDEIR/SDEIS (page 3.25-77) lists impacts to Compton Creek as low and states that no change in capacity by either alternative will impact the 100-year floodplain. This may not necessarily be true. Please refer to comments 15, 16 and 17 herein below. L-27-447

Section 3.25.4.9 – Water Quality and Storm Water Runoff

Page 3.25-80, 1st paragraph. As stated previously, the receiving waters are impaired for a variety of constituents. The analysis informs the reader that the receiving waters will not be degraded. However, Caltrans is obligated to comply with its Municipal Stormwater Permit, which states the following: *The effect of the Department's storm water discharges on receiving water quality is highly variable. For this reason, this Order requires the Department to implement a storm water program designed to achieve compliance with water quality standards, over time through an iterative approach. If discharges are found to be causing or contributing to an exceedance of an applicable Water Quality Standard, the Department is required to revise its BMPs (including use of additional and more effective BMPs).* Additionally, the Department is obligated to comply with the Total Maximum Daily Load Requirements specified in Attachment IV of its Municipal Stormwater Permit. Please inform the reader of the BMPs planned for this project will result in the discharges not causing or contributing to an exceedance of an applicable Water Quality Standard and if the project will be compliant with TMDL requirements. L-27-448

Page 3.25-80, 4th paragraph. The summary of cumulative impacts should be revised to reflect the water quality benefits the LB-MUST project will be providing. L-27-449

Section 3.25.4.12 - Air Quality

Page 3.25-87. The analysis makes the unsubstantiated claim that the project is expected to demonstrate conformity with all California and National Ambient Air Quality Standards. However, this statement is in direct conflict with project analysis that identifies PM_{10} and $PM_{2.5}$ increases associated with the 2035 build alternatives when compared to the 2035 No Build Alternative. Additionally, the qualitative project level particulate matter analysis confirmed that further analysis is required. L-27-450

Section 3.25.4.15 – Natural Communities

Page 3.25.93, Paragraph 5, Lines 2 and 3. Revise the underlined to be consistent with previous mentions, "The BSA is approximately 19 linear miles along the I-710 Corridor, from Ocean Blvd. to SR-60." Same for Sections 3.25.4.16 through 3.25.4.20 under Resource Study Area. L-27-451

Page 3.25.97, Paragraph 2, Lines 1 and 2. Add the underlined, "Compensatory mitigation for estuarine communities would be required to comply with Section 404 of the Clean Water Act (CWA) and Section 1600 of the California Fish and Game Code." L-27-452

Section 3.25.4.17 – Plant Species

Page 3.25-102, Paragraph 2, Lines 6 and 7. Revise "Alternatives 5C and 7 would not result in indirect permanent impacts to southern tarplant from shading" to be consistent with that previously stated on Page 3.16-9, "Alternatives 5C and 7 would result in indirect permanent impacts to southern tarplant from shading." L-27-453

Section 3.25.4.18 – Animal Species

Page 3.25-103, Paragraph 5, Lines 5 and 6. Check total number of wildlife species with the potential to occur within the vicinity of the BSA (Section 3.19.2 has 117, and Section 3.20.2.2 has 42, totaling 159). L-27-454

Section 3.25.4.19 – Threatened and Endangered Species

Page 3.25-108. With mention of critical habitat for western snowy plover, either remove or include similar statements for the other species mentioned under this heading. L-27-455

Section 3.25.4.20 – Invasive Species

Page 3.25-112. Paragraph 5, Lines 2 and 3. Add the underlined, "…and temporarily affected areas would be revegetated with native plant species…" Plantings should also be consistent with the Los Angeles River Master Plan Landscaping Guidelines and Plan Palettes (January 2004). L-27-456

APPENDIX B- SECTION 4(F) EVALUATION

As noted above, the City of Long Beach Department of Parks, Recreation, and Marine has prepared comments on the RDEIR/SDEIS under separate cover. These comments relate to project impacts to parks and recreational facilities within the City, including Cesar E. Chavez Park, Drake/Chavez Greenbelt, Coolidge Park, Los Cerritos Park, Cressa Park and Wrigley Greenbelt. Refer to Attachment A, City of Long Beach Department of Parks, Recreation, and Marine Comments on RDEIR/SDEIS dated October 9, 2017. L-27-457

Page 52, Section 5.2, Cesar E. Chavez Park and Drake/Chavez Greenbelt, Paragraph 4. This analysis documents the de minimis conclusion reached for project impacts to the existing Cesar E. Chavez Park and Drake/Chavez Greenbelt. The project would result in a permanent incorporation and temporary occupancy of the park/greenbelt, resulting in impacts to the local community in relation to recreational opportunities in the project area. It is essential that the I-710 project be consistent with the City's Cesar E. Chavez Park Integration Plan, which proposes substantial enhancements to the existing park and builds upon other proposed facilities, which include elements of the Long Beach Municipal Urban Stormwater Treatment (MUST) Project and Shoemaker Bridge Replacement Project. The concept of the Integration Plan is the contrast between historic Long Beach and the new progressive movement of the City, i.e. Willmore Historic Neighborhood and Downtown; Shoemaker Bridge Re-Use and the new iconic Shoemaker City Gateway Bridge. The Integration Plan provides for a network of bike and pedestrian trails that provide connectivity between the open space, connection to the L.A. River trail, and links to the downtown and adjacent neighborhoods. The Plan components will be compatible with the surrounding neighborhood character; create a unique and attractive destination; provide recreation opportunities; create a sense of pride and image for the International City and the most "Bike Friendly City". L-27-458

The Integration Plan provides a visual and physical connection between the different use areas and to the surrounding neighborhoods and downtown. The Plan identifies elements to be consistent with past project master planning efforts, and adds opportunities for other types of uses and circulation.

- The Boardwalk / Promenade are a major spine that links the downtown through Cesar Chavez Park to the Shoemaker Bridge Re-use and the LB MUST Facility.
- The relationship between Shoemaker Bridge; LB MUST Facility; and Bio-Retention Basin Area become the center of the plan with linkage to the other uses.
- Community Gardens; Drake / Chavez Soccer Fields and Greenbelt; Drake Park; and De Forest Avenue provide for recreation amenities, venues for community activities and connection to the neighborhood.

The Integration Plan provides bicycle and pedestrian connectivity between the park areas and open space, downtown Long Beach, Los Angeles River regional trail, west side of the L.A. River and adjacent neighborhoods. The plan minimizes conflicts with significant roadways and provides for safe uninterrupted crossing and access. The plan creates a continuous green belt along the L.A. River as part of the chain of park lands to include Cesar Chavez Park; Santa Cruz Park; Golden Shore Marine Biological Reserve Park; Shoreline Aquatic Park; and Marina Greens.

- Boardwalk / Promenade
  - Pavement materials that resemble a contemporary boardwalk;
  - Flowering “botanic” gardens;
  - Palm skyline planting;
  - Architectural lighting
- Expanded Cesar E. Chavez Park
  - Sculptured earth forms;
  - Outdoor sculpture gardens;
  - Garden mazes;
  - Water wise gardens;
  - Picnic areas;
  - Open Play
- Long Beach Municipal Urban Stormwater Treatment Facility- LBMUST Facility
  - Urban Runoff Treatment Facility;
  - Education opportunities;
  - Facility to function in conjunction with the bio-retention basins systems
- Bio-Retention Basins and Bio-Swales open channel
  - Urban runoff natural treatment systems;
  - Boardwalk access to the basins;
  - Observation and viewing areas;
- Community Gardens
  - Willmore Heritage Gardens and Gate;
  - Tower re-use for windmill;
  - Community gardens;
  - Theme playground;
  - Picnic areas
- Drake / Chavez Soccer Fields and Greenbelt
  - Soccer fields;
  - Basketball courts;
  - Handball courts;
  - Picnic areas

L-27-458

- Drake Park
  - Picnic shelters, arbors and gazebos architecture to be compatible with the neighborhood;
  - Splash and playground;
  - Open play;
  - Picnic areas
- Shoemaker Bridge Re-Use
  - The Shoemaker Bridge re-use provides a unique opportunity to create a pedestrian destination with wonderful views to the downtown, L.A. River and the new iconic Shoemaker Bridge.
  - Shoemaker Bridge is an example of engineering achievements of its time. It becomes an extension of the park space over the river, with overlooks, seating, garden paths, educational / interpretive opportunities about the River, History of Long Beach, and Shoemaker Bridge namesake.

L-27-458

It should be noted that this description of proposed components of the Integration Plan is considered conceptual and subject to change as the plan moves through the City's review process. It is imperative that consultation and coordination between Caltrans and the City be maintained to ensure that the Integration Plan is accommodated as the I-710 improvements move forward.

Page 53, Section 5.2, Cesar E. Chavez Park and Drake/Chavez Greenbelt, Paragraph 2. The evaluation notes that 2.9 acres of Cesar Chavez Park would be permanently incorporated into the I-710 Corridor Project, but that 5.89 acres of parkland would be added. The 5.89 acres proposed to be added by Caltrans is existing City right-of-way. This conflicts with the City's Park in Perpetuity Ordinance, which requires a 2:1 replacement for loss of parkland. This would require 5.8 acres of parkland, separate from the City right-of-way proposed to be incorporated. This requirement should be added to the list of measures provided on page 56 of the Section 4(f) analysis.

L-27-459

Page 53, Section 5.2, Cesar E. Chavez Park and Drake/Chavez Greenbelt, Paragraph 3. The Shoemaker Bridge Replacement Project is identified as an Early Action Project within the RDEIR/SDEIS. The bridge replacement project would consist of the replacement of the Shoemaker Bridge over the Los Angeles River. Under both Build Alternatives 5C and 7, the existing Shoemaker Bridge would be demolished after construction of the new bridge. However, the build alternatives should consider leaving the existing bridge in place, to serve as beneficial use for recreational purposes. The existing bridge is a key component of the Integration Plan described above.

L-27-460

Page 56, Paragraph 3. The analysis of potential 4(f) impacts to Cesar E. Chavez Park and the Drake/Chavez Greenbelt notes, "Consistent with the requirements of Section 4(f), Caltrans is required to consult with the agencies having jurisdiction over the Section 4(f) properties identified as potentially used by the build alternatives. Therefore, Caltrans has initiated formal consultation with the City of Long Beach, the agency that owns and operates Cesar E. Chavez Park and the Drake/Chavez Greenbelt…" It should be noted that formal written concurrence that the I-710 project will not adversely affect the activities, features, and attributes of the Section 4(f) property has not been provided by the City. As noted in the Caltrans Standard Environmental Reference and Annotated Outline, this written concurrence from the City will be necessary as part of the final environmental document. As such, the City will require that Caltrans conduct further consultation with Parks, Recreation, and Marine staff to ensure that the proposed project will be consistent with the City's Cesar E. Chavez Park Integration Plan and would not conflict with recreational elements associated with any City parks, the LB MUST project, or Shoemaker Bridge replacement.

L-27-461

Page 69, Section 6.1, Temporary Occupancy Exceptions. This section notes numerous resources within the City of Long Beach that were evaluated under the requirements of Section 4(f), but where a "use" did not occur since the project met the five conditions listed in 23 CFR 774.13(d). The resources evaluated within the City of Long Beach include the Wrigley Greenbelt, Coolidge Park, Los Cerritos Park, and Cressa Park. Under the evaluation of each of these facilities, the analysis notes, "There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions. It is anticipated that, as part of Caltrans consultation with the Long Beach Department of Parks, Recreation and Marine, this agency would agree to the use of a portion of the park for a TCE during construction of the build alternatives." The determination of "no use" of Wrigley Greenbelt, Coolidge Park, Los Cerritos Park, and Cressa Park is predicated on the assumption that documented agreement will be provided by the City at a later date. However, no such documented agreement has been provided, and as such, it is premature to determine that "no use" would occur. The City lacks sufficient information to issue documented agreement/concurrence without more detail regarding construction impacts, TCEs, timing, and phasing. In addition, Coolidge and Los Cerritos Parks are home to community programs that would be impacted, as well as potential revenue from these programs. It is not reasonable to assume these programs would be placed on hold, or moved outside of the neighborhood they serve. Future required consultations between Caltrans and the City's Department of Parks, Recreation, and Marine would include conditions that allow services for the community to continue. L-27-462

Page 70, Section 6.1.2, Coolidge Park. The interchange and ramp improvements proposed at and along Coolidge Park would result in substantial impacts to park users. As noted in the analysis, Coolidge Park includes a baseball field, basketball courts, staff office, spray pool, and a picnic area, and is utilized heavily for recreation by the community. The proposed interchange/ramp configurations would substantially alter the visual character of the project area and result in "proximity impacts" that could potentially disrupt and alter the function of the facility as a recreational facility. The RDEIR/RDEIS includes two sentences addressing potential indirect impacts (noise, visual, air quality) effects on Coolidge Park. The impact analysis should be expanded to substantiate its conclusions. L-27-463

The City of Long Beach appreciates the opportunity to review the environmental document for the proposed project. Based on the comments provided above, it is the City's view that the RDEIR/SDEIS has considerable inadequacies that must be corrected. The RDEIR/SDEIS should include additional technical analyses to substantiate conclusions provided under CEQA and NEPA, and to adequately address the range of substantial environmental impacts the project would have upon the City of Long Beach. The City looks forward to further consultation with Caltrans regarding the proposed project.

Attachment A

City of Long Beach Department of Parks, Recreation, and Marine Comments on RDEIR/SDEIS dated October 9, 2017

City of Long Beach *Memorandum*
Working Together to Serve

Date: October 9, 2017

To: Ron Kosinski, Deputy Director, Environmental Planning Division, Caltrans District 7

From: Marie Knight, Director, Department of Parks, Recreation and Marine

Subject: Comments on Proposed Impacts on Cesar E. Chavez Park, Drake/Chavez Greenbelt, Coolidge Park, Los Cerritos Park, Cressa Park and Wrigley Greenbelt from Interstate 710 Corridor Project

On July 27, the City of Long Beach received correspondence from Caltrans, who is currently evaluating alternatives for the Interstate 710 Corridor Project (Project). In this letter, Caltrans identified the Cesar E. Chavez Park and the Drake/Chavez Greenbelt as Section 4(f) resources that are managed by the Department of Parks, Recreation and Marine (PRM) that would be permanently impacted by the proposed 710 Realignment Project alternatives. There are significant land use, operational, and programmatic impacts. The City's comments on these impacts are outlined below.

Overall Comments

1. In 2002, the Long Beach City Council adopted Ordinance No. C-7826, which is incorporated into the City Municipal Code Section 21.35.205, requiring: "*Any conversion of park land must be replaced on amenity for amenity basis on at least a two to one (2:1) ratio. One (1) acre of replacement land shall be located in the park service area where the land was converted and an additional acre of replacement land shall be located in a park service area needing park land as determined by the recreation commission."* This would require a 2:1 replacement of publicly-accessible parkland for the acres lost, with at least 50 percent to be located in the surrounding park service area. This applies to all permanent park impacts resulting from the I710 Project.
2. Removal and addition of park area shall require a design of the entire consistent with adopted City plans and codes, with input from the community, to determine the site layout, park amenities, buffer between the park and freeway, parking, ADA access, fencing, signage, neighborhood connection, etc.
3. Many affected park parcels were acquired or improved using County, State and/or Federal grant funds. These grants carry requirements for a duration (20 years to perpetuity) that improvements or property are available to the community. Replacement of these amenities to the satisfaction of the City and grant agencies shall be required, should affected property or amenities become permanently removed. The proposed realignment impacts these properties. Any resulting replacement or other financial burden required by the grant agencies for the taking of park property for freeway use shall be mitigated at no cost or impact to the City.
4. All permanent impacts shall require approval from the Long Beach Parks and Recreation Commission. Approval must be secured prior to final design.

5. A City maintenance fund shall be established with funding deposited by Caltrans prior to the completion of construction. The account shall be available to the City Department of Parks, Recreation and Marine to address unforeseen maintenance issues at each affected park site due to temporary or permanent construction impacts that become apparent after construction is complete.

Cesar E. Chavez Park Comments

1. Permanent Impacts
   1.1. The proposed realignment would move the freeway so that it is entirely west of Chavez Park. The Department is supportive of the proposed realignment, which would result in neighborhood access to existing acres of parkland not currently accessible to the public. However, in order to achieve the realignment, the freeway would require the permanent reincorporation of 2.90 acres of land from Chavez Park. In this instance, the City's municipal code would apply. In 2002, the City of Long Beach City Council adopted Ordinance No. C-7826, which is incorporated into the City Municipal Code Section 21.35.205, requires: 'Any conversion of park land must be replaced on amenity for amenity basis on at least a two to one (2:1) ratio. One (1) acre of replacement land shall be located in the park service area where the land was converted and an additional acre of replacement land shall be located in a park service area needing park land as determined by the recreation commission.' This would require a 2:1 replacement of publicly-accessible parkland for the acres lost, with at least half in the surrounding park service area of Chavez Park.
   1.2. The proposed realignment would also impact planned linkages between Drake Park and Cesar Chavez Park. These linkage areas are currently impacted by overhead Caltrans structures. The realignment would change the locations of the structures, created impaired visibility into areas under the bridge.
   1.3. The proposed realignment would remove park area where it exists and add park area where today there is none. This shall require a design of the new park consistent with adopted City plans and codes, with input from the community, to determine the layout of park amenities, the buffer between the park and the freeway, parking, ADA access, fencing, signage, connection to the LA River bike trail, etc. The proposed realignment also renders the existing irrigation system (including the existing irrigation lines, valves and controls, and point of connection) unusable. The irrigation system shall be replaced in its entirety, including irrigation controls that connect to the City's central irrigation system, per the required standards to the satisfaction of the Director of the Department of Parks, Recreation and Marine.
   1.4. Many of the park parcels were acquired or improved using County, State and/or Federal grant funds. These grants carry requirements including a designated duration (20 years to perpetuity) that improvements or property are available to the community. Replacement of these amenities to the satisfaction of the City and grant agencies shall be required, should

affected property or amenities become permanently removed. The proposed realignment impacts these properties. Any required replacement or other financial burden required by the grant agencies for the taking of park property for freeway use shall be mitigated by Caltrans, at no cost to the City.

1.5. The realignment proposes to eliminate basketball courts that serve Cesar E. Chavez Elementary School. Any elimination of these courts shall require the replacement of these courts adjacent to the school they serve.

2. Temporary Impacts
   2.1. A construction staging and contractor parking and access plan shall be provided and approved prior to the start of construction at the satisfaction of the Director of Parks, Recreation and Marine.
   2.2. At no time during construction shall construction activities impact park programs, services, or budgeted revenue. If budgeted revenue is lost as a result of construction activities, it shall be provided for by Caltrans.
   2.3. A construction equipment access plan shall be reviewed and approved by the Department of Parks, Recreation and Marine prior to the start of construction activities. Damage to underground irrigation infrastructure shall be mitigated by placement of plywood in all areas of heavy equipment ingress/egress.
   2.4. All areas of construction shall be appropriately secured. The contractor is responsible for monitoring the site, and shall be responsible for any damage to the site caused by vandalism, and shall be responsible for any homeless clean-up and removal costs as a result of homeless activity at the site.
   2.5. The contractor/developer shall notify the Department of Parks, Recreation and Marine 72 hours prior to the start of work. Notification shall be directed to the Superintendent of Park Maintenance.
   2.6. If Department staff are called to the site to respond to a site issue caused by the contractor (i.e. hitting a main line, marking irrigation infrastructure, causing a significant water leak, damaged irrigation infrastructure, etc.), the contractor shall reimburse the Department for all staff time spent addressing the site issues.
   2.7. At the conclusion of construction, the site shall be returned to the same condition in which it was found. This shall include, but is not limited to, replacement of plant material, removal of weeds, removal of trash, regrading and compacting sites.
   2.8. Temporary basketball courts to serve Cesar E. Chavez Elementary School shall be provided adjacent to the school during construction.
   2.9. Irrigation shall be required during construction to ensure the health of all landscaping. A temporary water meter shall be installed and all associated costs shall be paid by the contractor.
   2.10. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply.

Drake/Chavez Greenbelt Comments

1. Permanent Impacts
   1.1. Certain areas shown on the map as remaining parkland are not accurately reflected because 1) it is not parkland; 2) it is not functional as parkland (is the location of a building); or 3) it does not belong to the City and likely serves another purpose for the County. There are also open space areas not listed as parkland that are affected permanently that shall remain. The map shall be revised to reflect accurate acres of remaining parkland.
   1.2. The 3.77 acres depicted as parkland permanently used by Alternative 5C/7 is the location of a grant-required wetland. A previous State acquisition grant requires the City to provide for 4 acres of wetland in this area and thus, is not available for development for another purpose. This is also the location of the Caltrans-funded Long Beach MUST project, which also includes grant funding and associated requirements from the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy.

2. Temporary Impacts
   2.1. A construction staging and contractor parking and access plan shall be provided and approved prior to the start of construction at the satisfaction of the Director of Parks, Recreation and Marine.
   2.2. At no time during construction shall construction activities impact park programs, services, or budgeted revenue. If budgeted revenue is lost as a result of construction activities, it shall be provided for by Caltrans.
   2.3. A construction equipment access plan shall be reviewed and approved by the Department of Parks, Recreation and Marine. Damage to underground irrigation infrastructure shall be mitigated by placement of plywood in all areas of heavy equipment ingress/egress.
   2.4. All areas of construction shall be appropriately secured. The contractor is responsible for monitoring the site, and shall be responsible for any damage to the site caused by vandalism, and shall be responsible for any homeless clean-up and removal costs as a result of homeless activity at the site.
   2.5. The contractor/developer shall notify the Department of Parks, Recreation and Marine 72 hours prior to the start of work. Notification shall be directed to the Superintendent of Park Maintenance.
   2.6. If Department staff are called to the site to respond to a site issue caused by the contractor (i.e. hitting a main line, marking irrigation infrastructure, causing a significant water leak, damaged irrigation infrastructure, etc.), the contractor shall reimburse the Department for all staff time spent addressing the site issues.
   2.7. At the conclusion of construction, the site shall be returned to the same condition in which it was found. This shall include, but is not limited to, replacement of plant material, removal of weeds, removal of trash, regrading and compacting sites.

2.8. Irrigation shall be required during construction to ensure the health of all landscaping. A temporary water meter shall be installed and all associated costs shall be paid by the contractor.
2.9. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply.

Coolidge Park Comments

1. Temporary Impacts
   1.1. Coolidge Park is the only park available to the community in north Long Beach, east of the I710 and shall remain open and operational during construction and shall not have a temporary easement placed on it.
   1.2. The eastern edge of the park shall be protected from any construction impacts and have adequate fencing to separate the park activities from construction activities.
   1.3. The park shall not be available for access to the freeway for construction activities. Any necessary access shall be located elsewhere, away from the park.
   1.4. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply.

Los Cerritos Park Comments

1. Temporary Impacts
   1.1. Los Cerritos Park shall remain open and operational during construction and shall not have a temporary easement placed on it.
   1.2. The western edge of the park shall be protected from any construction impacts and have adequate fencing to separate the park activities from construction activities.
   1.3. The park shall not be available for access to the freeway for construction activities. Any necessary access shall be located elsewhere, away from the park.
   1.4. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply.

Cressa Park Comments

1. Temporary Impacts
   1.1. There are no issues with the proposed temporary easement at the southern end of Cressa Park.
   1.2. The contractor/developer shall notify the Department of Parks, Recreation and Marine 72 hours prior to the start of work. Notification shall be directed to the Superintendent of Park Maintenance.
   1.3. If Department staff are called to the site to respond to a site issue caused by the contractor (i.e. hitting a main line, marking irrigation infrastructure, causing a significant water leak, damaged irrigation infrastructure, etc.), the contractor shall reimburse the Department for all staff time spent addressing the site issues.

1.4. At the conclusion of construction, the site shall be returned to the same condition in which it was found. This shall include, but is not limited to, replacement of plant material, removal of weeds, removal of trash, regrading and compacting sites.
1.5. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply.

Wrigley Greenbelt Comments

1. Temporary Impacts
   1.1. The northern and southern areas in Wrigley Greenbelt depicted as parkland temporarily used by Alternative 5C/7 is the location of a grant-funded greenbelt project to begin construction in 2018. Temporary impacts, trail connections and displacement of these amenities shall not be allowed. Any required replacement or other financial burden required by the grant agencies for the taking of park property for freeway use shall be mitigated by Caltrans, at no cost to the City.
   1.2. The contractor/ shall notify the Department of Parks, Recreation and Marine 72 hours prior to the start of work. Notification shall be directed to the Superintendent of Park Maintenance.
   1.3. If Department staff are called to the site to respond to a site issue caused by the contractor (i.e. hitting a main line, marking irrigation infrastructure, causing a significant water leak, damaged irrigation infrastructure, etc.), the contractor shall reimburse the Department for all staff time spent addressing the site issues.
   1.4. At the conclusion of construction, the site shall be returned to the same condition in which it was found. This shall include, but is not limited to, replacement of plant material, removal of weeds, removal of trash, regrading and compacting sites.
   1.5. All other Department Parks Standard Conditions of Approval/Park Development Requirements shall apply.

Long Beach Parks Standard Conditions of Approval/Park Development Requirements

1. Standard Conditions of Approval: This is not an exhaustive list of all conditions, but a sampling of those that will likely apply in all cases to each park property. The City of Long Beach reserves the right to apply all park standard conditions and park development requirements during design and plan check.
   1.1. All permanent impacts shall require approval from the Long Beach Parks and Recreation Commission. Approval must be secured prior to final design.
   1.2. The Department of Parks, Recreation and Marine shall be routed design and construction plans for plan check. Plans, at each stage of plan check, shall be routed to the Department of Parks, Recreation and Marine. Address plans to Park Development Officer, 2760 Studebaker Road, Long Beach, CA 90815.

1.3. Any park or beach improvements found to be damaged as a result of construction activities related to the project shall be replaced to the satisfaction of the Director of Parks, Recreation and Marine.
1.4. Prior to certificate of completion/occupancy, the following shall be formally submitted to the Department of Parks, Recreation and Marine:
  1.4.1. Final as-built plans (two printed copies, one electronic PDF, and one cad file).
  1.4.2. Property documentation, including but not limited to, site survey, recorded deed, final map, soils report (one electronic PDF).
  1.4.3. Operations and Maintenance Manual and warranty information for all site features (one printed and one electronic PDF).
1.5. Address all documents to Park Development Officer, 2760 Studebaker Road, Long Beach, CA 90815.
1.6. Prior to tree planting, and installation landscaping and irrigation system, the developer shall contact the City Park Landscape Maintenance Superintendent in the Department of Parks, Recreation and Marine, at (562) 570-4879. Department staff will inspect and accept all tree and plant specimens placed prior to planting.

2. Landscaping & Irrigation
  2.1. The irrigation control system shall be designed to City standard and connected to the City's central irrigation control system, and use Department standard irrigation products, values and pumps.
  2.2. The landscaping design sheet shall show specific location of each plant and coverage area, and planting distance from adjacent plants.
  2.3. The irrigation design sheet shall show, in addition to main lines, specific location of each lateral/drip line, valves, wires back to controllers, drip systems, headers, etc.
  2.4. The plant palette shall be subject to Director of Parks, Recreation and Marine's review and approval prior to the issuance of a building permit.
  2.5. Prior to tree planting, and installation landscaping and irrigation system, the developer shall contact the City Park Landscape Maintenance Superintendent in the Department of Parks, Recreation and Marine, at (562) 570-4879. Department staff will inspect and accept all tree and plant specimens placed prior to planting.
  2.6. Prior to final inspection, the developer shall contact the City Park Landscape Maintenance Superintendent in the Department of Parks, Recreation and Marine, at (562) 570-4879, following all tree planting, landscaping, and irrigation system installation. Department staff will perform a final inspection, identify any items for a contractor punch list and will accept all tree planting, landscaping, and irrigation system placed in the park.
  2.7. Irrigation lines shall be located in advance of accessing the area.
  2.8. Selected trees shall not drop fruit or be susceptible to disease. All trees shall comply with State and local water restrictions and water efficiency codes.

2.9. All trees shall have bubblers rings and shall be mulched to diameter of 3-ft from the trunk. Mulch shall not be in contact with the tree trunk or root crown. All dead, diseased and dying trees shall be removed.

2.10. All landscape-related piping under concrete shall be sleeved. Sand bedding of the mainline shall be installed.

Attachments:

1. Chavez Park Caltrans Letter
2. Coolidge, Los Cerritos, and Cressa Parks Caltrans Letter

CC: Jason Roach (Jason.Roach@dot.ca.gov)

P:\Plng-Develadm\CORRESPONDENCE\DIRECTOR\MEM Caltrans 710 Realignment 2017.10.09.Docx

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 S. MAIN STREET, SUITE 100
LOS ANGELES, CA 90012
PHONE (213) 897-0703
FAX (213) 897-0685
TTY 711
www.dot.ca.gov

RECEIVED JUL 2 7 2017

Making Conservation a California Way of Life.

July 19, 2017

Marie Knight
City of Long Beach Department of Parks, Recreation and Marine
2760 Studebaker Road
Long Beach, CA 90815

Dear Ms. Knight,

This letter is regarding the proposed impacts on Cesar E. Chavez Park and the Drake/Chavez Greenbelt as a result of the Interstate 710 (I-710) Corridor Project (project). Under Section 4(f) of the United States Department of Transportation Act of 1966, these park properties are considered Section 4(f) resources. The project would require the permanent incorporation of land and temporary construction easements (TCE) in both of these park properties, as well as removal and replacement of the basketball courts and temporary closures in Cesar E. Chavez Park.

The project proposes to construct improvements from Ocean Boulevard in the City of Long Beach to State Route 60 (SR-60) in the City of Los Angeles. A Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was prepared for the project in 2012, which included the analysis of four build alternatives. Subsequent to public circulation of the Draft EIR/EIS, in response to new information and comments received from the public, a revised set of build alternatives were developed. The revised build alternatives under consideration include Alternative 5C (Modernize the I-710 Freeway) and Alternative 7 (Add Clean-Emission Freight Corridor [Truck-Only Lanes] Along I-710). A No Build Alternative is also under consideration.

As shown in **Figure 1**, the build alternatives would include relocating the existing Shoreline Drive to the west side of the park, requiring the permanent incorporation of 2.90 acres of land from Cesar E. Chavez Park, which would constitute a permanent use of a portion of the park. However, by relocating the existing Shoreline Drive that goes through the park, the build alternatives would result in a net increase of 2.99 acres in available park land, creating a contiguous and more accessible park area. The build alternatives would also require removal of the basketball courts west of Cesar Chavez Elementary School during construction of the project, which would constitute a permanent use of a portion of the park. However, the basketball courts would be replaced following construction. Because the project would result in a net benefit to the park by adding 2.99 acres of park land, and measures to minimize harm to the park would be implemented, the permanent use of a portion of the park is not expected to adversely affect the activities, features, and attributes that qualify this park for protection under Section 4(f).

As shown in **Figure 2**, the build alternatives would require permanent incorporation of a portion (approximately 3.77 acres) of the planned linkage between Drake Park and Cesar E. Chavez Park, which would constitute a permanent use of a portion of the greenbelt. While this portion of the Drake/Chavez Greenbelt would be incorporated into the project, the majority of land in the Draft Master Plan for the Drake/Chavez Greenbelt Project is outside of the limits of the project (approximately 46.23 acres would remain after project implementation). Furthermore, the proposed structures on the property are aerial structures that would not affect the continuity of the planned linkage. Therefore, the permanent use of a portion of the greenbelt is not expected to adversely affect the activities, features, and attributes that qualify the greenbelt for protection under Section 4(f).

As shown in **Figure 3**, a TCE of approximately 21.9 acres in Cesar E. Chavez Park would be required during construction of the build alternatives, which would constitute a temporary occupancy of a portion of the park (only 19 acres would be exclusively required for the TCE because 2.90 acres of the TCE area would be permanently incorporated). In addition, portions of Cesar E. Chavez Park may be temporarily closed to public access to protect the safety of park users and project construction workers, which would constitute a temporary occupancy of a portion of the park. A TCE of approximately 3.26 acres on the Drake/Chavez Greenbelt would also be required during construction of the build alternatives, which would constitute the temporary occupancy of a portion of the park.

The TCE areas in the park and greenbelt would be used for construction staging, materials storage, parking of construction equipment and worker vehicles, and other similar activities. The TCE area in Cesar E. Chavez Park includes a detour road of 0.41 acre, which would be graded and paved to allow temporary access during construction of realigned Broadway.

The temporary occupancy of approximately 19 acres in the southern portion of Cesar E. Chavez Park for a TCE during construction of the build alternatives would likely result in the removal of all or nearly all of the existing vegetation on that parcel, including mature trees and shrubs, and grass. Caltrans policy and practice are to return all areas disturbed temporarily during construction, including areas used for TCEs, to a condition as good as or better than prior to the temporary disturbance of those areas. Therefore, the construction activities in the TCE would not result in any permanent adverse physical impacts in that area, and the temporary occupancy would not interfere with the protected activities, features, or attributes of that portion of the park on a temporary or permanent basis.

With implementation of mitigation measures, the permanent use and temporary occupancy of a portion of Cesar E. Chavez Park and the Drake/Chavez Greenbelt would not adversely affect the activities, features, and attributes of the 4(f) resources. Therefore, Caltrans intends to make a *de minimis* determination for the permanent use and temporary occupancy of a portion of Cesar E. Chavez Park and the Drake/Chavez Greenbelt.

Caltrans is initiating consultation and coordination with your agency to determine use and ensure that all reasonable measures to minimize harm have been considered. In addition, because Caltrans intends to make a *de minimis* determination for the permanent use and temporary occupancy of a portion of Cesar E. Chavez Park and the Drake/Chavez Greenbelt, Caltrans is seeking your written concurrence that the project would

not adversely affect the activities, features, and attributes that qualify the properties for protection under Section 4(f).

The revised build alternatives, Alternative 5C and Alternative 7, have been evaluated in a joint Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). The RDEIR/SDEIS, which includes the Section 4(f) evaluation, will be circulated for a 60-day public review period. The United States Department of Transportation Act mandates a minimum of 45 days for receipt of comments regarding Section 4(f) impacts. If comments are not received from your agency by October 9, 2017, a lack of objection may be assumed and the process may proceed to a final evaluation. A copy of the letter notifying the Long Beach Unified School District of this coordination, as it is relevant to the Joint Use Agreement at Cesar E. Chavez Park, has been enclosed here.

The Section 4(f) Evaluation is found in Appendix B of the RDEIR/SDEIS and may be viewed on July 21, 2017 at the following website:

http://www.dot.ca.gov/d7/env-docs/

If you should have any questions or would like to arrange a meeting to discuss further, please contact Jason Roach of my staff at (213) 897-0357 or jason.roach@dot.ca.gov.

Sincerely,

RON KOSINSKI
Deputy District Director, Division of Environmental Planning
Caltrans District 7

enclosures


6th Street
0.388 ac
Senior Center
1.08 ac
1.35 ac



Cesar E. Chavez
Elementary School
Cesar E.
Chavez Park

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 S. MAIN STREET, SUITE 100
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Making Conservation a California Way of Life.

July 19, 2017

Marie Knight
City of Long Beach Department of Parks, Recreation and Marine
2760 Studebaker Road
Long Beach, CA 90815

Dear Ms. Knight,

This letter is regarding the proposed impacts on Coolidge Park, Los Cerritos Park, Cressa Park, and Wrigley Greenbelt as a result of the Interstate 710 (I-710) Corridor Project (project). Under Section 4(f) of the United States Department of Transportation Act of 1966, these park properties are considered Section 4(f) resources. The project would require temporary construction easements (TCE) on each of these park properties.

The project proposes to construct improvements from Ocean Boulevard in the City of Long Beach to State Route 60 (SR-60) in the City of Los Angeles. A Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was prepared for the project in 2012, which included the analysis of four build alternatives. Subsequent to public circulation of the Draft EIR/EIS, in response to new information and comments received from the public, a revised set of build alternatives were developed. The revised build alternatives under consideration include Alternative 5C (Modernize the I-710 Freeway) and Alternative 7 (Add Clean-Emission Freight Corridor [Truck-Only Lanes] Along I-710). A No Build Alternative is also under consideration.

As shown in **Figure 1**, the build alternatives would require the following TCEs, which would be considered a temporary occupancy of a portion of the parks:

- Approximately 0.60 acre along the eastern edge of Coolidge Park;
- Approximately 0.06 acre along the western edge of the southern portion of Los Cerritos Park; and
- Approximately 0.05 acre in the southern portion of Cressa Park.

In addition, as shown in **Figure 2**, Alternative 5C would require a TCE of 1.23 acre on the Wrigley Greenbelt at West Wardlow Road, 29th Street, and 27th Street during construction; and Alternative 7 would require a TCE on 0.75 acre in these same locations during construction, which would be considered a temporary occupancy of a portion of the greenbelt. Alternative 5C also includes adding a graded path within the greenbelt at Spring Street to connect to a pedestrian/bicycle overcrossing. Under Alternative 5C, the pedestrian/bicycle

connection would be an enhancement to the Wrigley Greenbelt. In addition, because the graded path would be used for recreation purposes and not transportation purposes, no portion of the greenbelt would be permanently incorporated into the transportation facility.

For the purposes of Section 4(f), these types of temporary occupancies would not constitute a use if five conditions listed in 23 Code of Federal Regulation (CFR) 774.13(d) would be met. Those conditions would be met for Coolidge Park, Los Cerritos Park, Cressa Park, and the Wrigley Greenbelt, as follows:

- The duration of construction in the area of the TCEs is temporary (a maximum of two years) and would be less than the total time needed to construct the entire project (approximately 10 years or more). There would be no change in the ownership of the land in the portion of the properties used as TCEs during construction of the build alternatives.
- The scope of work in the portions of the properties used as the TCEs would be minor. The properties would be used for construction staging, materials storage, parking of construction equipment and worker vehicles, and other similar activities. No grading or other substantial construction activities would take place in the portions of the properties to be used for TCEs.
- The construction activities in the TCEs would not result in any permanent adverse physical impacts in that area and would not interfere with the protected activities, features, or attributes of that portion of the properties on a temporary or permanent basis. Recreational uses in the remaining portions of the properties outside the TCE areas would continue to be available during construction. Detours would be provided around the TCE area in the Wrigley Greenbelt to ensure that connectivity along the greenbelt is not substantially affected. Therefore, the protected activities, features, or attributes of the properties would not be substantially affected during construction.
- The areas used for TCEs would be returned to the Long Beach Department of Parks, Recreation, and Marine in condition as good as or better than prior to the use of that area for a TCE.
- There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

The five conditions listed in 23 CFR 774.13(d) would be met for the proposed TCEs for each of these park properties; therefore, these temporary occupancies would not constitute a use.

Caltrans is initiating consultation and coordination with your agency to determine use and ensure that all reasonable measures to minimize harm have been considered. In addition, because Caltrans intends to apply the temporary occupancy exception, Caltrans is seeking your written concurrence that the exception for temporary occupancies in 23 CFR 774.13(d) is applicable to the parks.

The revised build alternatives, Alternative 5C and Alternative 7, have been evaluated in a joint Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). The RDEIR/SDEIS, which includes the Section 4(f) evaluation, will be circulated for a 60-day public review period. The United States Department of Transportation Act mandates a minimum of 45 days for receipt of

comments regarding Section 4(f) impacts. If comments are not received from your agency by October 9, 2017, a lack of objection may be assumed and the process may proceed to a final evaluation.

The Section 4(f) Evaluation is found in Appendix B of the RDEIR/SDEIS and may be viewed on July 21, 2017 at the following website:

http://www.dot.ca.gov/d7/env-docs/

If you should have any questions or would like to arrange a meeting to discuss further, please contact Jason Roach of my staff at (213) 897-0357 or jason.roach@dot.ca.gov.

Sincerely,

RON KOSINSKI

Deputy District Director, Division of Environmental Planning

Caltrans District 7

enclosures

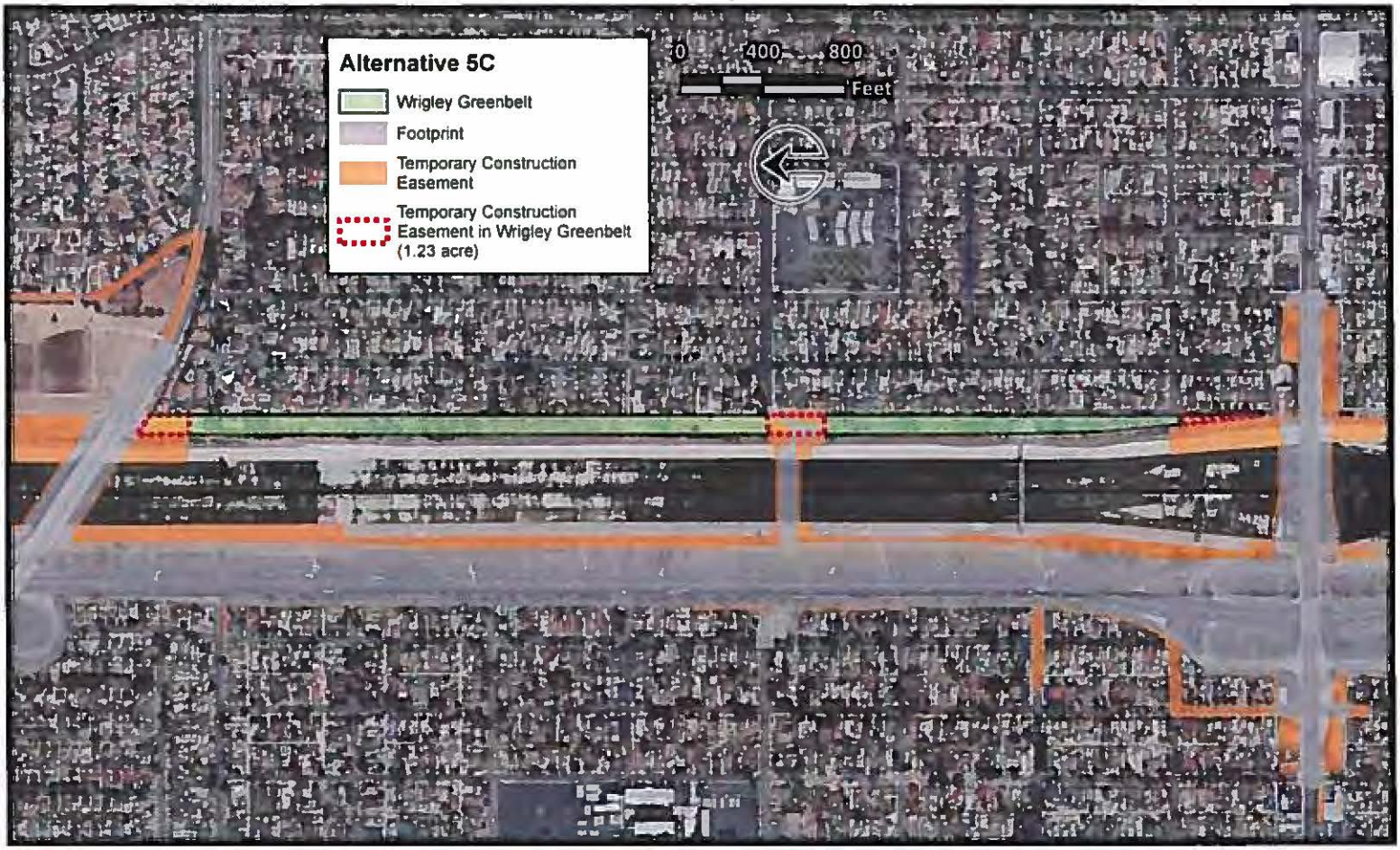


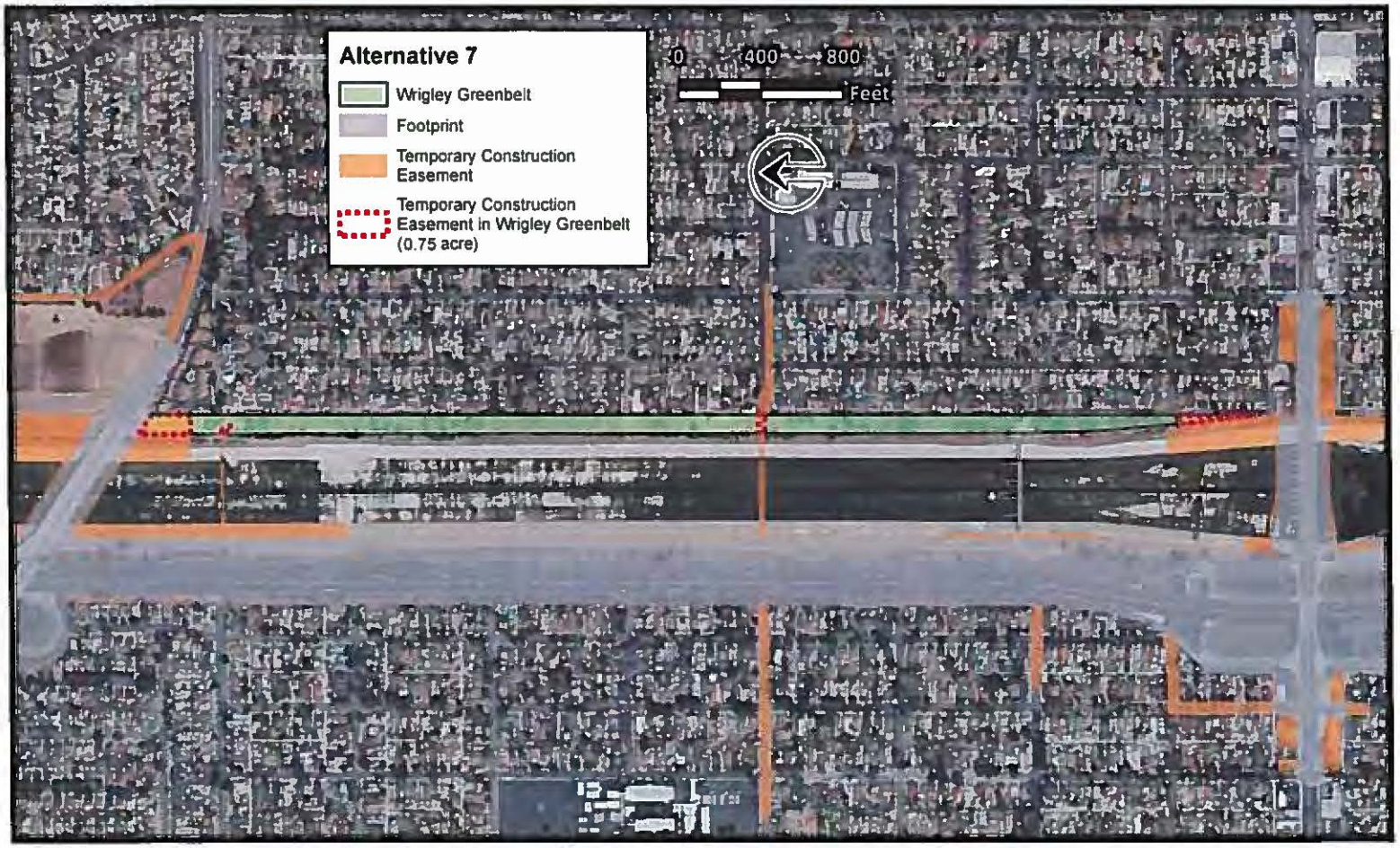




Metro

FIGURE 1. Temporary Occupancies at Coolidge Park, Los Cerritos Park, and Cressa Park
ALTERNATIVE 5C AND ALTERNATIVE 7
I-710 Corridor Project





Metro

FIGURE 2. Temporary Occupancies at Wrigley Greenbelt
ALTERNATIVE 5C AND ALTERNATIVE 7
I-710 Corridor Project

Attachment B

PUC General Order 131-D

State of California Business, Transportation and Housing Agency

Memorandum

To: DISTRICT DIVISION PLANNING CHIEFS Date: December 13, 1995

File No. :

From: **DEPARTMENT OF TRANSPORTATION**
ENVIRONMENTAL PROGRAM

Subject: PUC General Order 131-D

On September 28, 1995, Gene Mattocks, Chief of the Acquisition and Utilities Relocation Branch in the Right of Way and Asset Management Program, sent a memo to the District Division Chiefs for Right of Way informing them of Public Utilities Commission General Order 131-D, dated August 11, 1995. This order addresses the special permitting and environmental review requirements for major relocations of privately-owned (PUC regulated) power lines and substations operating at voltages in excess of 50KV. Relocations of power lines and/or substations operating at 50KV and above must be reviewed under CEQA at both the project planning phase and at the relocation plan approval stage so as to qualify for an exception in compliance with Section IX.B. of the General Order.

The General Order included a period, ending on December 31, 1995, during which projects would be "grandfathered" into compliance. In anticipation of the end of that period, we have developed, in consultation with the PUC, a procedure to insure that utility owners furnish the PUC staff all of the environmental information that the PUC needs for approval of the relocation of electric power and transmission lines that are over 50KV.

It is our understanding that the PUC staff is not overly concerned that transportation projects raise any unusual issues regarding the relocation of power lines, but that there is a need for Caltrans to carefully address potential concerns when those lines might be moved closer to residences, schools, and other sensitive areas.

For all projects from this date forward the environmental review and documentation needs to specifically address the location of existing 50KV, or greater, power lines; the potential relocation impacts; and a conclusion of whether a significant effect will result. As before, this is one additional area that needs to be considered as design progresses and utility relocation plans are completed.

At the time Caltrans receives the utility owner's proposed relocation plan (this follows the submittal of conflict plans to the utility owner by Caltrans District Utility Coordinator at the 65% plan completion stage) the District environmental unit needs to work together with the District Utility Coordinator to review the proposal for potential environmental impacts and to select the exception clause under PUC General Order 131-D Section III. B.1., which the District sends to the utility owner for each power line or substation operating at 50KV or greater. The exception clauses are:

a. power line facilities or substations with an in-service date occurring before January 1, 1996, which have been reported to the [Public Utilities] Commission in accordance with the Commission's decision adopting GO 131-D.

b. the replacement of existing power line facilities or supporting structures with equivalent facilities or structures.

c. the minor relocation of existing power line facilities up to 2,000 feet in length, or the intersetting of additional support structures between existing support structures.

d. the conversion of existing overhead lines to underground.

e. the placing of new or additional conductors, insulators, or their accessories on supporting structures already built.

f. power lines or substations to be relocated or constructed which have undergone environmental review pursuant to CEQA as part of a larger project, and for which the final CEQA document (Environmental Impact Report (EIR) or Negative Declaration) finds no significant unavoidable environmental impacts caused by the proposed line or substation.

g. power line facilities or substations to be located in an existing franchise, road-widening setback, easement, or public utility easement; or in a utility corridor designated, precisely mapped and officially adopted pursuant to law by federal, state, or local agencies for which a final Negative Declaration or EIR finds no significant unavoidable environmental impacts.

h. the construction of projects that are statutorily or categorically exempt pursuant to Section 15260 et seq. of the Guidelines adopted to implement the CEQA, 14 Code of California Regulations Section 15000 et seq. (CEQA Guidelines).

Section III. B. 2 states that the foregoing exemptions shall not apply when any of the conditions specified in CEQA Guidelines Section 15300.2 exist:

> a. there is reasonable possibility that the activity may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped and officially adopted pursuant to law by federal, state, or local agencies; or
>
> b. the cumulative impact of successive projects of the same type in the same place, over time, is significant; or
>
> c. there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

In addition, the District environmental unit will supply to the District Utility Coordinator one of the following:

- If the underlying project is statutorily exempt: a statement of the appropriate PRC section and information specifically supporting that the utility relocation is consistent with a statutory exemption determination that can be made by PUC.

- If the underlying project is categorically exempt: a copy of the Notice of Exemption (NOE) together with a statement specifically identifying the utility relocation being consistent with the C.E. determination.

- If the underlying project resulted in the preparation of an Negative Declaration (ND): a copy of the ND (one page) and specific excerpts from the Initial Study addressing utility relocation; a statement that the specific power line relocation has been reviewed and there are no resulting significant impacts; and a copy of the Notice of Determination (NOD) filed with OPR.

- If the underlying project resulted in an EIR: a copy of the title page; excerpts, statement and NOD as shown for ND above.

Questions on these requirements should be directed to your Headquarters Environmental Coordinator.

Denise O'Connor for
R. W. GIESS, Chief
Environmental Management Office

cc: DGMattocks, R/W
District Division Chiefs, R/W
District Division Chiefs, Project Development

DOC:cp
bcc: RWGiess
JHebner
JScheick,
PLouie,
DO'Connor ✓

Attachment C

VIA Questionnaire

Questionnaire to Determine Visual Impact Assessment (VIA) Level

Use the following questions and subsequent score as a guide to help determine the appropriate level of VIA documentation. This questionnaire assists the VIA preparer (i.e. Landscape Architect) in estimating the probable visual impacts of a proposed project on the environment and in understanding the degree and breadth of the possible visual issues. The goal is to develop a suitable document strategy that is thorough, concise and defensible.

Enter the project name and consider each of the ten questions below. Select the response that most closely applies to the proposed project and corresponding number on the right side of the table. Points are automatically computed at the bottom of the table and the total score should be matched to one of the five groups of scores at the end of the questionnaire that include recommended levels of VIA study and associated annotated outlines (i.e., minor, moderate, advanced/complex).

This scoring system should be used as a preliminary guide and should not be used as a substitute for objective analysis on the part of the preparer. Although the total score may recommend a certain level of VIA document, circumstances associated with any one of the ten question-areas may indicate the need to elevate the VIA to a greater level of detail. For projects done by others on the State Highway System, the District Landscape Architect should be consulted when scoping the VIA level and provide concurrence on the level of analysis used.

Calculate VIA Level Score

PROJECT NAME: I-710 Corridor Project	
CHANGE TO VISUAL ENVIRONMENT	
1. Will the project result in a noticeable change in the physical characteristics of the existing environment? Consider all project components and construction impacts - both permanent and temporary, including landform changes, structures, noise barriers, vegetation removal, railing, signage, and contractor activities.	High Level of Change (3 points) ▼
2. Will the project complement or contrast with the visual character desired by the community? Evaluate the scale and extent of the project features compared to the surrounding scale of the community. Is the project likely to give an urban appearance to an existing rural or suburban community? Do you anticipate that the change will be viewed by the public as positive or negative? Research planning documents, or talk with local planners and community representatives to understand the type of visual environment local residents envision for their community.	Moderate Compatibility (2 points) ▼
3. What level of local concern is there for the types of project features (e.g., bridge structures, large excavations, sound barriers, or median planting removal) and construction impacts that are proposed? Certain project improvements can be of special interest to local citizens, causing a heightened level of public concern, and requiring a more focused visual analysis.	High Concern (3 points) ▼
4. Will the project require redesign or realignment to minimize adverse change or will mitigation, such as landscape or architectural treatment, likely be necessary? Consider the type of changes caused by the project, i.e., can undesirable views be screened or will desirable views be permanently obscured so a redesign should be considered?	Extensive Mitigation Likely (2 points) ▼

5. Will this project, when seen collectively with other projects, result in an aggregate adverse change (cumulative impacts) in overall visual quality or character? Identify any projects (both Caltrans and local) in the area that have been constructed in recent years and those currently planned for future construction. The window of time and the extent of area applicable to possible cumulative impacts should be based on a reasonable anticipation of the viewing public's perception.	Cumulative Impacts Likely to Occur Within 0-5 Years (3 points) ▼
VIEWER SENSITIVITY	
1. What is the potential that the project proposal will be controversial within the community , or opposed by any organized group? This can be researched initially by talking with Caltrans and local agency management and staff familiar with the affected community's sentiments as evidenced by past projects and/or current information.	High Potential (3 points) ▼
2. How sensitive are potential viewer-groups likely to be regarding visible changes proposed by the project? Consider among other factors the number of viewers within the group, probable viewer expectations, activities, viewing duration, and orientation. The expected viewer sensitivity level may be scoped by applying professional judgment, and by soliciting information from other Caltrans staff, local agencies and community representatives familiar with the affected community's sentiments and demonstrated concerns.	High Sensitivity (3 points) ▼
3. To what degree does the project' s aesthetic approach appear to be consistent with applicable laws, ordinances, regulations, policies or standards? Although the State is not always required to comply with local planning ordinances, these documents are critical in understanding the importance that communities place on aesthetic issues. The Caltrans Environmental Planning branch may have copies of the planning documents that pertain to the project. If not, this information can be obtained by contacting the local planning department. Also, many local and state planning documents can be found online at the California Land Use Planning Network.	Moderate Compatibility (2 points) ▼
4. Are permits going to be required by outside regulatory agencies (i.e., Federal, State, or local)? Permit requirements can have an unintended consequence on the visual environment. Anticipated permits, as well as specific permit requirements - which are defined by the permitted, may be determined by talking with the project Environmental Planner and Project Engineer. Note: coordinate with the Caltrans representative responsible for obtaining the permit prior to communicating directly with any permitting agency.	Yes (3 points) ▼
5. Will the project sponsor or public benefit from a more detailed visual analysis in order to help reach consensus on	Yes (3 points) ▼

a course of action to address potential visual impacts? Consider the proposed project features, possible visual impacts, and probable mitigation recommendations.	

Calculate Total

It is recommended that you print a copy of these calculations for the project file.

PROJECT SCORE: 27

Select An Outline Based Upon Project Score

The total score will indicate the recommended VIA level for the project. In addition to considering circumstances relating to any one of the ten questions-areas that would justify elevating the VIA level, also consider any other project factors that would have an effect on level selection.

SCORE 6-9

No noticeable visual changes to the environment are proposed and no further analysis is required. Print out a copy of this completed questionnaire for your project file or Preliminary Environmental Study (PES).

SCORE 10-14

Negligible visual changes to the environment are proposed. A brief Memorandum (see sample) addressing visual issues providing a rationale why a technical study is not required.

SCORE 15-19

Noticeable visual changes to the environment are proposed. An abbreviated VIA is appropriate in this case. The assessment would briefly describe project features, impacts and any avoidance and minimization measures. Visual simulations would be optional. Go to the Directions for using and accessing the Minor VIA Annotated Outline.

SCORE 20-24

Noticeable visual changes to the environment are proposed. A fully developed VIA is appropriate. This technical study will likely receive public review. Go to the Directions for using and accessing the Moderate VIA Annotated Outline.

SCORE 25-30

Noticeable visual changes to the environment are proposed. A fully developed VIA is appropriate that includes photo simulations. It is appropriate to alert the Project Development Team to the potential for highly adverse impacts and to consider project alternatives to avoid those impacts. Go to the Directions for using and accessing the Advanced/Complex VIA Annotated Outline.

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L-27-1

Section 3.1, Land Use, of the RDEIR/SDEIS does address consistency with the City of Long Beach General Plan Mobility Element on page 3.1-36, and the build alternatives were generally determined to be consistent with the City's General Plan except with regard to business and residential relocations. The City of Long Beach Livability Plan is addressed on page 3.1-61 of Section 3.1 in the RDEIR/SDEIS, and the build alternatives were determined to be consistent with the Livability Plan as was described in Section 3.1.2.3 of the RDEIR/SDEIS. The build alternatives intend to address current and future health and traffic-related safety impacts to corridor users and surrounding neighborhoods, as well as provide design solutions to improve the physical environment for residents in the surrounding neighborhoods. This is consistent with the two primary goals of the Community Livability Plan (to work with corridor neighborhoods to identify and develop plans to address impacts resulting from operation of the I-710 and to develop a series of action strategies and design solutions to improve the physical environment for residents in those neighborhoods). While the Long Beach Riverlink report is not called out as a separate land use plan, there are several parks designated as Riverlink parks (refer to Table 3.1-3 in Section 3.1 of this Final EIR/EIS) thereby acknowledging the Riverlink report. The Long Beach Municipal Stormwater Treatment Facility is addressed as a cumulative project in Section 3.25, Cumulative Impacts. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Since under the Preferred Alternative no improvements would be made within the I-710 Corridor other than the projects that are already planned and committed to be constructed by or before 2035, not improving the I-710 Corridor would be inconsistent with the City's existing and proposed community plans.

L-27-2

Caltrans and Metro acknowledge the City's goals to assemble rights-of-way for greenspace, revitalize the Los Angeles River and improve connectivity, cap portions of the freeway for park space, connect the Metro Green and Blue Lines, construct pedestrian bridges across I-710 and Los Angeles River, create a ZE corridor on Alameda Street, implement green infrastructure and water quality improvements, and plant more trees in park areas. Under the Preferred Alternative, no improvements would be made within the I-710 Corridor other than the projects that are already planned and committed to be constructed by or before 2035. Therefore, there would be no impacts to the City's stated goals.

L-27-3

As stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to Cesar E. Chavez Park..

L-27-4

Caltrans and Metro acknowledge that the Shoemaker Bridge project has been identified as an Early Action Project and is currently in the preliminary design phase. Retaining the Shoemaker Bridge was not evaluated in the I-710 Corridor Project RDEIR/SDEIS because the construction of another structure within the Los Angeles River in addition to retaining an existing structure under the build alternatives may have impacts to the hydrology and natural resource habitat within the Los Angeles River.

L-27-5

Please refer to Section 1.6 of this appendix regarding arterial parking restrictions. These proposed parking restrictions have been eliminated from further consideration and are not being carried forward as a part of the No Build Alternative which has been selected as the Preferred Alternative.

L-27-6

The City's concern over the effects of the build alternatives on businesses in Long Beach is acknowledged and included in the project record. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to businesses in the City.

L-27-7

As discussed in Section 3.5.1 of the RDEIR/SDEIS and this Final EIR/EIS, bicyclists and pedestrians are a consideration in the design of all local interchanges under the build alternatives, including diverging diamond interchange (DDI) configuration interchanges. Appropriate treatments were applied to balance vehicle, bicycle, and pedestrian use. As discussed in Section 3.5.3.2 of the RDEIR/SDEIS and this Final EIR/EIS, because sidewalks would be improved, bikeways and trails would be maintained, and bicycle and pedestrian connectivity would be enhanced, the build alternatives would improve conditions for pedestrian and bicycle travel. In addition, as discussed in Section 2.3 of the RDEIR/SDEIS and this Final EIR/EIS, with respect to "Complete Streets" improvements, the inclusion of pedestrian paths (sidewalks, curb ramps, and crosswalks) and sufficient outside shoulder width to accommodate Class II bikeways on local street crossings would be provided as part of local interchange modifications, should a build alternative be selected as the Preferred Alternative.

As compared to existing conditions, DDI interchange designs as part of the build alternatives would greatly reduce the number of unsignalized free right turns at the I-710 ramp termini. Between the two DDI intersections, only two right-turn movements would have unsignalized pedestrian/bike crossings. The crosswalks at these locations would be placed near the beginning of low-speed curves where vehicles must slow and visibility is greatest. Pedestrians would cross a single lane, with traffic approaching from one direction. Buffered bike lanes would be provided between these right-turn lanes and through travel lanes consistent with treatments identified in Caltrans' Complete Intersections Guide, a best practice employed for right-turn lanes. Vehicle speeds are lower on local streets when passing through the ramp intersections of a DDI than through other interchange types. For other interchange types, the cross street is typically designed to accommodate vehicle speeds that are 45mph or greater. For a DDI, the cross street would be designed to promote reduced and consistent speed through the ramp intersections, which are between 25mph and 35mph. Caltrans Design Information Bulletin 90 specifies this design guidance, which differs from guidance for other interchange types. FHWA maintains statistical data demonstrating that collision frequency and fatalities are lower at DDIs than other diamond type interchanges, and that vehicle speed is a significant factor in these reductions.

Challenges to pedestrian channelization and wayfinding are addressed in FHWA's DDI Infoguide (2014), which offers tested solutions implemented by various agencies across the country based on the unique requirements and constraints posed by each interchange site location. In regard to pedestrian expectations for approaching traffic, this guide suggests special pedestrian signage and/or pavement markings at the push-button, as well as a special speech message provided by the Accessible Pedestrian Signal (APS) devices for pedestrians with vision disabilities, be provided at the I-710 crossing locations. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no construction of DDIs as a part of this project.

L-27-8

Caltrans and Metro acknowledge the need for increased connectivity within the City where it is bisected by the I-710 and the Los Angeles River. However, as the build alternatives would make modifications to an existing facility, there would not be substantial connectivity impacts that would occur as a result of the build alternatives, and therefore mitigation is not proposed. Provision of a new shared-use trail facility along the Los Angeles River levee is beyond the purview and jurisdiction of Caltrans and Metro, as the owner-operator of the Los Angeles River is the USACE, and operation of the Los Angeles River Trail falls under the jurisdiction of the Los Angeles County Department of Public Works. Therefore, these types of improvements have not been included in the design of the build alternatives.

L-27-9

Key Views 1, 5, and 9 are located within the City of Long Beach and are views from the Los Angeles River Trail and Key View 8 is located at Coolidge Park, also within the City of Long Beach. These key views are representative of parks and recreation resources. A discussion of the environmental consequences to visual quality as a result of the build alternatives is discussed in Section 3.6.3 of the RDEIR/SDEIS. Please note that the nature of the Visual Impact Assessment prepared in support of Section 3.6 of the RDEIR/SDEIS is not to examine every view to and from the build alternatives, but to select a comprehensive suite of representative key views. Potential impacts to recreational trail and park users are also assessed in Section 3.1.3, Land Use, Section 3.3 Community Impacts, and in Appendix B, Section 4(f)/6(f). Section 3.6, Visual/Aesthetics, of the RDEIR/SDEIS and this Final EIR/EIS and the *Visual Impact Assessment* (February 2017) were prepared consistent with the requirements of FHWA's guidance on visual impact assessments for highway projects; therefore, no revisions to the Visual Impact Assessment were made.

L-27-10

Please refer to Section 1.7 of this appendix for more information on Early Action Projects. Caltrans and Metro acknowledge the importance of the Long Beach MUST project to the City and appreciate that opportunities for coordination do exist between the two infrastructure projects. As stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the Long Beach MUST facility will not need to be used for stormwater treatment and/or storage under the build alternatives.

L-27-11

The ISA was prepared in general accordance with Caltrans' internal guidance document on ISAs, which is intended to be consistent with *American Society of Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process*, which is available to the public through ASTM. Section 3.12 of this Final EIR/EIS has been updated to clarify that additional file reviews have been conducted to supplement the online database reviews and assessments prepared for the project. Adjoining properties of potential concern are included in Table 3.12-3 of the RDEIR/SDEIS and this Final EIR/EIS.

L-27-12

Caltrans respectfully disagrees that the RDEIR/SDEIS requires recirculation once the project-level PM conformity analysis is completed. Please refer to Section 1.4 of this appendix regarding air quality and conformity. Please also refer to Section 1.3 for more information on the I-710 Clean Truck Program.

L-27-13

The purpose of the RDEIR/SDEIS is to evaluate the environmental impacts of the proposed project alternatives and propose mitigation for the build alternatives if necessary. It can be reasonably assumed that, should a build alternative be selected as the Preferred Alternative, the long term operational and maintenance costs associated with the build alternatives would come from any of several sources, including (but not limited to) the State's Highway Maintenance Program, State Highway Operations and Protection Program, and the Road Maintenance and Rehabilitation Account, and the sustained transportation funding secured under Measure M. However, this information is not germane to the assessment of environmental impacts and therefore, even if known, would not be included within a project-level EIR/EIS document. The cost estimates prepared for the build alternatives at this stage are order of magnitude estimates to make informed decisions among the alternatives and to help establish future budget estimates for programming and budgetary purposes. The capital cost estimates include robust contingencies appropriate for the current level of engineering detail. Should a build alternative be selected as the Preferred Alternative, these estimates would be further refined in the design stage of analysis. Operating and maintenance costs have been estimated for the transit elements of the build alternatives as these would be high-cost items relative to capital costs for these elements of the overall cost. On the other hand, maintenance costs for the freeway items related to the build alternatives such as ramp metering, landscaping, and drainage represent smaller, incremental costs to Caltrans's overall operating and maintenance budget. Should a build alternative be selected as the Preferred Alternative, these kinds of costs would be accounted for during Caltrans' review of these project features during the more detailed design phase and in the lifecycle cost estimates produced for during final design. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there are no costs associated with the I-710 Corridor Project.

L-27-14

As stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no right-of-way acquisitions are required.

L-27-15

As stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no construction will occur and a local hire program will not be implemented.

- L-27-16
- When the various analyses for the RDEIR/SDEIS commenced in 2012, the 2012 RTP/SCS was in effect; therefore, the planning assumptions and traffic data associated with the 2012

RTP/SCS were utilized. The 2016 RTP/SCS was approved on April 7, 2016, well after analyses in support of the RDEIR/SDEIS were underway, or in some cases, completed. In addition, the inclusion of 2016 RTP/SCS data in select locations of Chapter 1.0, Proposed Project, are included for comparative purposes, which is explained in the text. Wherever possible, the most recent data has been included where it would not be inconsistent with the underlying traffic model and planning assumptions. For example, 2016 RTP/SCS growth projections were included in Section 1.2.1.4, but it is important to note that the 2016 RTP/SCS growth projections are not materially different from those that were included in the 2012 RTP/SCS, and any conclusions drawn from that data would therefore not be different.

L-27-17

Please refer to responses to comment L-27-12 for a discussion of appropriate timing of the project-level PM conformity analysis. It is important to note that the project description that was included in the FTIP was actually far larger in scope than either of the two build alternatives under consideration in the RDEIR/SDEIS and may have had more substantial impacts related to air quality. The FTIP description of the build alternatives indicated that a ten-lane mainline from the southern terminus to SR-60 as well as four truck lanes from the southern terminus to the rail yards in the northern end of the Study Area was proposed. The RTP/SCS description did not specify the exact scope of the build alternatives. Moreover, a detailed analysis of air quality impacts in accordance with the requirements of CEQA and NEPA was included in Section 3.13 of the RDEIR/SDEIS. Caltrans procedures do not require a demonstration of transportation conformity until the final environmental document. The discussion of project-level conformity has been updated in Section 3.13.3.2 of this Final EIR/EIS, and the updated FTIP and RTP/SCS project listings have been included in Appendix I of this Final EIR/EIS. The Final EIS will be made available to the public for a minimum of 30 days prior to approval of the federal Record of Decision.

L-27-18

As is indicated in the Response to Comment L-27-16, the 2012 RTP/SCS was in effect at the time of commencement of analyses in support of the RDEIR/SDEIS; therefore, the planning assumptions associated with the 2012 RTP/SCS were used. As is stated in the referenced passage, 2016 RTP/SCS growth projections were included for reference and to illustrate that the relative difference between the 2012 and 2016 projections are not substantive. For consistency across analyses, the planning assumptions included in the 2012 RTP/SCS have been retained.

L-27-19

At the time of commencement of traffic studies, the most recent available truck traffic data was utilized. As traffic counts in support of the traffic analysis and modeling were taken in 2013, annual average truck traffic data from a similar timeframe was used, for purposes of internal consistency. Any variability in the cited truck percentages that were derived from traffic data representative of that year would not materially change this aspect of the purpose and need for the project.

L-27-20

Please refer to Response to Comment L-27-16 regarding the 2016 RTP/SCS.

L-27-21

Please refer to Response to Comment L-27-16 regarding the 2016 RTP/SCS.

L-27-22

Accident data has been evaluated and updated several times for the I-710 Corridor Project over the course of the project, using three years of complete accident data, following Caltrans procedures, and using best available information provided by Caltrans at the time the following studies were performed: the I-710 Major Corridor Study (approved in 2003 and developed during the period of 1997 to 1999), for the Draft EIR/EIS (2012) and Draft Project Report (during the period of 2004 to 2007), and for the RDEIR/SDEIS (2017) and Draft Project Report (during the period of 2009 to 2011). While some of the details have changed due to evolving traffic conditions on I-710, the fundamental findings and conclusions have remained the same with regard to the project's Purpose and Need, in that actual accident rates exceed average accident rates on several locations on I-710, particularly at the ramps and interchanges. For that reason, the accident data that was provided in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS has not been updated in this Final EIR/EIS.

L-27-23

Please refer to Response to Comment L-27-22 regarding updates to traffic accident data.

L-27-24

Modernizing the design of I-710 under the build alternatives would be expected to reduce the number of total and fatal accidents, which would result in accident rates on I-710 that are more reflective of the statewide average for a similar facility. This reduction in accidents would reduce risks related to traffic safety. In response to safety concerns and other issues related to high levels of truck movements observed and predicted for the I-710 Corridor described in Section

1.2.1 of the RDEIR/SDEIS, build alternatives developed for the project included specific design features to reduce conflicts and to manage trucks traveling on and off the I-710. Specifically, the build alternatives would include buffered lanes on I-710 leading to and from Shoemaker Bridge and Shoreline Drive, truck bypass lanes on I-710 through the I-405/I-710 interchange, braided local interchange ramps through the Pacific Coast Highway and Anaheim interchanges, and collector-distributor roads through the Atlantic-Bandini, Washington, and I-5 interchanges. As discussed in Section 4.2.1.11 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, the build alternatives would be designed and constructed in compliance with Caltrans *Standard Specifications* and other applicable professional, design, and construction standards. Therefore, the build alternatives presented in the RDEIR/SDEIS did not include hazardous design features. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the Preferred Alternative would not improve I-710, which was designed and constructed in the 1950s, and would not result in a modernized design compared to the existing transportation facility.

L-27-25

The information related to pavement and median barriers that was included in Section 1.2.1.2 of the RDEIR/SDEIS and referenced in this comment is intended to illustrate efforts currently underway to address the non-standard or otherwise problematic features that are present on I-710. However, it is acknowledged that because these features are currently being addressed via other projects, they do not provide a need for the build alternatives, and the discussion of these elements has been updated in this Final EIR/EIS.

L-27-26

Caltrans acknowledges that there are several areas along the I-710 Corridor that provide connections to important arterial corridors for intercity and regional travel and do not intend to downplay the importance of the Shoemaker Bridge to the City; however, the subsection “Highways” is intended to describe key interstate commerce connections. The inclusion of the Gerald Desmond Bridge replacement project is discussed here as it is imperative for maintaining the connectivity of the Ports to SR-47 and I-710.

L-27-27

Caltrans acknowledges that an important component of the build alternatives are to treat runoff and improve water quality, and stormwater BMPs are proposed as part of the build alternatives. However, as a highway project, the inclusion of implementation of stormwater BMPs as a project purpose is not appropriate. Per Caltrans Environmental Management Office, “a Project’s “Need” is an identified transportation deficiency or problem, and its “Purpose” is the set of

objectives that will be met to address the transportation deficiency.[6]" Although important, the improvement of water quality of the Los Angeles River, Compton Creek and Rio Hondo Channel is not an objective that specifically addresses a transportation need. In addition, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there is no nexus to treat runoff and improve water quality by providing BMPs.

L-27-28

Please refer to Section 1.7 of this appendix for more information on the I-710 Corridor Early Action Project selection process and how to submit projects for consideration, should a build alternative be selected as the Preferred Alternative. However, it should be noted that pump stations that would be replaced or upgraded as part of the build alternatives are considered part of the build alternatives and would be constructed concurrently with other project improvements, should a build alternative be selected as the Preferred Alternative. LB MUST, as a stormwater project, wouild likely not eligible for EAP funding, which is primarily focused on transportation improvements.

L-27-29

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 which evaluated alternatives no longer under consideration. However, it should be noted that the previous Response to Comment correctly indicated that design capacity on the mainline is not a static number and is determined by upstream and downstream geometrics, number of lanes, demand flow rates, free flow rates, and other parameters. Attempting to provide one volume to capacity ratio for the entirety of the mainline would be misleading. Figures 1.2-2 and 1.2-3 of the RDEIR/SDEIS display the Level of Service (LOS) by segment by direction and by peak hour for the I-710 along the entire length of the I-710 Corridor for existing condition and future No Build, respectively. The LOS was determined using the *Highway Capacity Manual* (HCM) methodology for freeway LOS analysis which relates demand to design capacity. For more detail on the capacity, refer to Tables 3.5-1 and 3.5-2 of the RDEIR/SDEIS and Appendix B of the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017).

L-27-30

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 which evaluated alternatives no longer under consideration. However, the information that

[6] California Department of Transportation (Caltrans). Division of Environmental Analysis. Environmental Management Office (EMO). Purpose and Need. Website: http://www.dot.ca.gov/ env/emo/purpose-need.html (accessed March 29, 2018).

the commenter is referring to can be found in Section 1.2.1.5, Modal Interrelationships and System Linkages, of the RDEIR/SDEIS and in this Final EIR/EIS. The subheading “Railroads” includes more details regarding the rail network and its interface with the project, and states “taking into consideration the inland origins and destinations of the Port cargo and operational characteristics of the railroads, it was assumed that approximately 34.4 percent of the cargo growth (approximately 14.1 million annual TEUs) in 2035 could be moved directly by rail from either on-dock or off-dock intermodal terminals.” The overall amount of container demand for the San Pedro Bay Ports assumed by the I-710 Corridor Project was described on page 1-18 of the RDEIR/SDEIS. Future cargo mode shares are one of many factors that influence travel on I-710. All of these key factors, along with supporting clarifications and background information that places this information in context, are systematically described in detail in Sections 4 and 6 of the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017).

L-27-31

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 which evaluated alternatives no longer under consideration. However, coordination has continued to occur between Caltrans and Metro with public agencies for other nearby infrastructure projects that are being implemented. For example, the design at the southern terminus of I-710 was revised in the build alternatives evaluated in the RDEIR/SDEIS due to changes to the design of the Gerald Desmond Bridge Project. This statement was revised in Section 1.2.1.5 of the RDEIR/SDEIS to provide more information.

L-27-32

The information provided Chapter 1.0, Proposed Project, of the RDEIR/SDEIS listed numerous traffic and goods movement studies, spanning several years, which have provided historical background and context for activities associated with the San Pedro Bay Ports, cargo forecasting, freight rail, and goods movement in the I-710 Study Area. The *I-710 Corridor Project Initial Feasibility Analysis* and the *I-710 Railroad Goods Movement Study* are just two of the studies listed. All of the existing year (2012/2013) and future year (Year 2035) travel demand forecast data, including the key inputs and assumptions to the I-710 travel demand forecast model, as well as the traffic operational analysis presented in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, all relied on quantitative information that has been updated subsequent to the *I-710 Corridor Project Initial Feasibility Analysis* and the *I-710 Railroad Goods Movement Study*. These inputs and assumptions are described and reported in the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017). In a few isolated cases, where major trends or descriptions of goods movement travel markets have not appreciably changed, information from these two studies were cited.

L-27-33

The percent of on-dock rail capacity utilized in 2007 is incorrectly stated in the RDEIR/SDEIS on page 1-39. This has been revised for clarity in this Final EIR/EIS. The value of 23.5 percent represents the share of containerized cargo that was transported by on-dock rail in 2007, not the percent of the available on-dock rail capacity that was utilized. The projection of 30.5 percent of containers being transported by on-dock rail in 2035 is based on the Ports' determination of the maximum practical capacity of the existing and planned on-dock rail and supporting facilities at each Port as well as the projected total container demand and geographic market destinations of these containers. The capacity of on-dock rail at the Ports is planned to increase from 2.8 million annual container lifts in 2012 to 8.6 million lifts in 2035. Please refer to Section 6.3 of the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017) for more detail.

L-27-34

The City's support for Alternative 5C with Design Option 2A is acknowledged and included in the project record. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a more detailed discussion on the identification of the Preferred Alternative.

L-27-35

As part of the development of the build alternatives, multiple interchange configuration concepts were assessed in accordance with Caltrans' Interchange Design Procedure (Topic 503 of the *Highway Design Manual*) and Caltrans' Traffic Operations Policy Directive 13-02. The assessments examined existing safety and operational deficiencies at each local interchange and followed a two-step screening process in the selection of a replacement configuration. In the first step of the process, configuration types were evaluated based on whether or not they (1) failed to meet the most basic project objectives, (2) were infeasible (per State CEQA Guidelines Section 15126.6(f)(1)), or (3) were unable to avoid significant environmental impacts. Interchange configurations not meeting these criteria were eliminated from further consideration. For instance, because of their larger size, cloverleaf type configurations had significant impacts to adjacent land uses and critical infrastructure at most locations in Long Beach. These were not evaluated in the second step of the process.

Different versions of diamond configurations met the first step criteria and were considered practical at most local interchange locations in Long Beach because of their compact size. At Anaheim Street, Pacific Coast Highway, Willow Street, and Del Amo Boulevard, three types of diamond configurations were evaluated for the build alternatives: a compact diamond (Type L-1), a single point interchange (SPI; Type L-13), and a diverging diamond interchange (DDI). These configuration types were further assessed in the second step of the screening process.

Principal step 2 evaluation factors considered all users (vehicles, bicyclists, pedestrians, and transit) and measured safety, mobility, and cost benefits.

Relative to the SPI and DDI, the compact diamond configuration offered inferior safety and mobility benefits. Users of the facility would have greater exposure to conflicts and collisions, in both frequency and severity. Greater delay and queuing at the Type L-1 ramp intersections would have greater potential to adversely affect safety and operation on the local street, including its adjacent intersections, and the mainline freeway. Both the SPI and DDI would offer superior mobility benefits. Relative to the SPI, the DDI would offer superior safety benefits because of its users reduced exposure to frequent and severe collisions. The DDI would require incrementally less space and less structure than an SPI, would be easier to construct than an SPI, and would ultimately be more cost effective than an SPI. The results of these assessments and the DDI designs were reviewed with the City of Long Beach Department of Public Works during preparation of the RDEIR/SDEIS. City Engineer, Sean Crumby, and City Traffic Engineer, Eric Widstrand, attended the review on June 28, 2016.

Reconfiguration of the ramps at Pacific Avenue and I-405 and Wardlow Road and I-710 under the build alternatives was proposed to meet basic project objectives. The proposed configuration would resolve significant safety and mobility deficiencies associated with the existing configuration. The principal aspect of the proposed configuration would entail replacement of the loop connectors, and its collector-distributor (CD) roads, with direct flyover connectors. The existing CD roads would also connect to ramps servicing Wardlow Road. With the removal of the CD roads, the ramps connecting to Wardlow Road would have to be removed as well. Replacing these ramp connections on the mainline of I-710 would not be feasible due to the proximity of the I-405 connectors. Introducing ramps at these locations would adversely affect mainline safety and operation.

The freeway-to-freeway reconfiguration would also require the build alternatives to reconfigure local ramp connections along I-405 servicing Santa Fe Avenue, via Wardlow Road and Warnock Way, and remove the four ramps connecting to Pacific Place. Replacing the two Pacific Place ramp connections on the mainline of I-405 would not be feasible due to the proximity of the southbound I-405 from I-710 and the northbound exit ramp to Santa Fe Avenue. Introducing these two ramps at these locations would adversely affect mainline safety and operation. Replacing the two Pacific Place ramp connections to/from the I-710 connectors would not be viable due to significant environmental impacts, among other factors.

Service between the two freeways and Wardlow Road and Pacific Place would remain viable via the local arterial system and remaining freeway access points. Although the relatively low volume of ramp users would have to access the freeway at other locations, traffic operations at the remaining access locations would not be significantly affected. Traffic operations evaluated at intersections in the vicinity of the proposal show that level of service would be equivalent to or

better than no-build level of service. The results of these evaluations were reviewed with the City of Long Beach Department of Public Works during preparation of the RDEIR/SDEIS. City Engineer, Sean Crumby, and City Traffic Engineer, Eric Widstrand, attended the review on November 16, 2015.

L-27-36

Caltrans acknowledges that the City has updated their Bicycle Master Plan to reflect Class IV bikeways. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Class IV bikeways will not be integrated into the design along some crossing arterials within the improvement limits.

L-27-37

Although Caltrans and Metro have limited jurisdiction regarding certain elements of Community Alternative 7, as described in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, many of the components of Community Alternative 7 have been integrated into Alternative 5C and Alternative 7. As is stated in Section 2.3.2.1 of the RDEIR/SDEIS, there are programmatic elements included in both build alternatives that have a direct nexus to the I-710 Corridor Project and would help the I-710 Corridor achieve improvements in congestion, air quality, and overall community health. The Arterial Parking Restriction Program falls under this umbrella of programmatic elements. However, based in part on public and agency feedback, the No Build Alternative has been selected as the Preferred Alternative and therefore these features have been removed from further consideration.

L-27-38

The RDEIR/SDEIS used a completely updated and revalidated travel demand forecast model. Technical work in support of the RDEIR/SDEIS was initiated in 2013. The I-710 Corridor Project is a large, complex project, which requires an extensive array of detailed technical studies as well as grass roots public outreach and consensus-building process in order to obtain community feedback at several junctures through the course of the development of the revised build alternatives, design activities, and study approach. This integrated and comprehensive effort was a continuous process that extended from 2013 through to 2017. The forecasts produced for the I-710 RDEIR/RDEIS used the best travel demand forecast information available at the time that work was developed, which was SCAG's 2012–2035 Regional Transportation Plan Sustainable Communities Strategy (RTP/SCS) and FTIP. Please also refer to the Response to Comment L-27-16. The 2016 RTP/SCS was not approved by SCAG until April 2016.

L-27-39

The environmental analyses of the potential effects of the No Build and build alternatives in Chapter 3.0, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures, include detailed descriptions of existing traffic conditions, as well as traffic conditions in the future year (2035) for the No Build and build alternatives. The analysis presented in the discussion of the future No Build Alternative demonstrates how traffic conditions would be expected to worsen in the future year without the build alternatives as compared to existing conditions. The differences between the build alternatives and the No Build Alternative in the future year show the anticipated impacts of the build alternatives. These impacts for traffic are identified and presented in Section 3.5 of the RDEIR/SDEIS and this Final EIR/EIS. For the I-710 Corridor, the build alternatives would generally improve traffic conditions on I-710 relative to No Build Alternative conditions. However, for certain intersections on the arterial roadway network, the build alternatives would result in adverse impacts. The impact analysis for the intersections in the Study Area was summarized in Section 3.5.3.1 of the RDEIR/SDEIS and was based on delay under future year conditions for the build alternatives. A measure to address impacts (Measure TR-1 included in Section 3.5.4 of the RDEIR/SDEIS) was identified for thirty intersections, which would improve these intersections to better than No Build Alternative conditions, and not recommended at two adversely impacted intersections, due to potential adverse impacts related to necessary right-of-way acquisitions.

This impact analysis and how it relates to the CEQA evaluation is addressed in Chapter 4.0, CEQA Evaluation, of the RDEIR/SDEIS. The approach utilized in the CEQA assessment followed Caltrans guidance for evaluating traffic impacts compared to existing baseline conditions, where the difference between the future build alternatives versus future No Build Alternative conditions was used as the measure of the impacts of the build alternatives, which were then compared to existing conditions. These findings and conclusions were presented in Section 4.2.4.4 of the RDEIR/SDEIS and this Final EIR/EIS.

L-27-40

Please refer to Response to Comments L-27-3 and L-27-4 regarding retaining the existing Shoemaker Bridge.

L-27-41

Caltrans and Metro appreciate the City's support of the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program). It should be noted that Metro Board Motion 5.1 adopted on March 1, 2018, changed the ZE/NZE Truck Technology Deployment Program to the phased-in Zero-Emission Truck Technology Deployment Program, which increased the program funding target from $100 million to $200 million, and include in the Program incentives and grants investment in the acceleration of ZE technology both for long-haul trucks and for freeway

infrastructure. In April 2020, the Metro Board of Directors programmed $50 million in Metro-controlled funds to provide funding for the initial deployment of the I-710 Clean Truck Program and to leverage the remaining funds required for full program implementation. However, since the No Build Alternative (Alternative 1) has been selected as the Preferred Alternative, programmatic elements of the build alternatives, such as the I-710 Clean Truck Program will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

L-27-42

Please refer to Section 1.6 of this appendix. These proposed parking restrictions have been eliminated from further consideration and are not being carried forward since the No Build Alternative has been selected as the Preferred Alternative.

L-27-43

Order 2012-0011-DWQ, the Statewide Storm Water Permit for the State of California Department of Transportation regulates the storm water discharges from Caltrans Municipal Separate Storm Sewer System. This permit was issued to Caltrans from the State Water Resources Control Board to cover all of Caltrans operations. Each individual Caltrans project is not required to obtain coverage under this permit. All Caltrans construction activities are required to comply with the Construction General Permit, should a build alternative be selected as the Preferred Alternative. The Industrial General Permit Order 2014-0057-DWQ covers operation of industrial facilities, and is not applicable to construction or operation of the I-710 facility under the build alternatives. Therefore, Order 2012-0011-DWQ or 2014-0057-DWQ would not need to be added to Table 2.5-1 of this Final EIR/EIS. It should be noted that since the No Build Alternative has been selected as the Preferred Alternative and no permits or approvals will be necessary, Table 2.5-1 has been deleted from this Final EIR/EIS.

L-27-44

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 which evaluated alternatives no longer under consideration. Subsequent to the circulation of the 2012 I-710 Draft EIR/EIS, Metro sponsored a study to evaluate zero emissions technologies for the I-710 Corridor in more depth. This study, entitled the *I-710 Project Zero-Emission Truck Commercialization Study*, was prepared by Calstart in 2013. The I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) builds upon this study effort and broadened the program to include additional technologies, such as near-zero emissions trucks, for both of the build alternatives analyzed in the RDEIR/SDEIS. It is important to note that the program is technology neutral in that any technology capable of achieving the ZE and NZE standards established by CARB would be eligible for incentive funding provided by

the program (should a build alternative be selected as the Preferred Alternative). The I-710 Clean Truck Program is an important component of the build alternatives and would be critical to achieving air quality benefits in the I-710 Corridor. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.3 of this appendix for more details on how the I-710 Clean Truck Program may be implemented by others.

L-27-45

Consistent with State CEQA Guidelines Section 15126.6(e)(2), a discussion and identification of the Environmentally Superior Alternative has been added to Chapter 4.0, CEQA Evaluation, in the Final EIR/EIS.

L-27-46

A figure (Figure 3.1-2 in Section 3.1 of the Final EIR/EIS) illustrating the land uses impacted under each build alternative was created that shows the acreage presented in Table 3.1-1. The specific acreage that would be impacted by each build alternative for each jurisdiction or community was already included in Table 3.1-1 of the RDEIR/SDEIS. The discussion summarizes the total land use conversions of the build alternatives for the entire Study Area and references the table to provide a breakdown of the area by jurisdiction to streamline the discussion.

L-27-47

The impacts of each build alternative's proposed acquisitions on the community are analyzed in Community Impacts, Section 3.3, and the impacts of land use conversion to transportation use are briefly discussed in that section. Analysis in the land use section is limited to the present land use of those lands subject to conversion to transportation land use. Additional analysis regarding impacts to planned uses for lands would be speculative and, therefore, not included in the Final EIR/EIS.

L-27-48

Section 3.1 of the RDEIR/SDEIS supports the statement that the build alternatives would be generally compatible with land uses adjacent to the existing freeway. Approximately 68 percent of the existing rights-of-way required for Alternatives 5C and 7 consist of existing transportation, utilities, and vacant land uses. As the build alternatives would make modifications to an existing transportation facility, rather than construct a new facility, any sensitive land uses would not be substantially closer to the transportation facility than they currently are today. It is unclear from the comment what types of land uses the City considers to be incompatible with transportation land uses. Other sections of the RDEIR/SDEIS, including Section 3.13, Air Quality, and 3.14,

Noise, more specifically address impacts under each build alternative on the surrounding areas and identify sensitive receptors that may be impacted by the build alternatives.

L-27-49

The grand total of existing land use impact acreage for Alternative 7, Option 3B, was incorrectly input as 7 at the bottom of Table 3.1-1. The correct value for this area should be 751.04 acres; this has been corrected in Table 3.1-1 of this Final EIR/EIS.

L-27-50

Section 3.1, Land Use, of the RDEIR/SDEIS identified applicable goals and policies that would be relevant to the proposed project at the time the document was written. The requested update to acknowledge the City's update of its General Plan Land Use Element has been made to this Final EIR/EIS.

L-27-51

As discussed in Section 3.1.2.3 of the RDEIR/SDEIS and this Final EIR/EIS, the build alternatives are not consistent with all plans and goals within the Study Area and, should a build alternative be selected as the Preferred Alternative, would require some General Plans to be amended as a result. Since the build alternatives are inconsistent with some General Plans, should a build alternative be selected as the Preferred Alternative, Measure LU-1 would require that the General Plans be amended. Specifically, in the City of Long Beach subsection of Section 3.1.2.3 the report states "The build alternatives would also result in relocation of businesses and residents in the city, which would be inconsistent with the General Plan." However, the build alternatives are consistent with many primary components of several General Plans including community participation, improved air quality, and reduced traffic congestion. The goals and policies provided in a general plan are broad statements, and therefore broad statements of the goals and objectives of the build alternatives are used to support the consistency analysis. Consistency analysis of the City of Long Beach's draft Land Use Element was not included in the RDEIR/SDEIS because it was not finalized during the preparation of the document. In addition, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there would not be a need for a General Plan amendment. However, as stated in the Response to Comment L-27-50, the requested update has been made to the Final EIR/EIS.

L-27-52

In the subsection titled “City of Long Beach General Plan” of Section 3.1.2.3, it is disclosed that “The build alternatives would also result in relocation of businesses and residents in the city, which would be inconsistent with the General Plan.” A more detailed discussion of impacts regarding relocation of businesses and residents occurs in the Section 3.3.2, Relocations and Real Property Acquisition. While the inconsistency with the General Plan is pointed out here in Section 3.1, all measures pertaining to the relocation of businesses and residents as a result of the build alternatives can be found in Section 3.3.2.5. Additional analysis of the inconsistency with the General Plan is not warranted in this section, as the relocations of businesses and residents are addressed in Section 3.3.2, Community Impacts.

L-27-53

Section 3.1.3 of the RDEIR/SDEIS adequately identified the build alternatives as affecting an existing local arterial due to the realignment of Shoemaker Bridge, the local arterial referred to in the comment. Shoemaker Bridge carries West Shoreline Drive off of I-710 and is a major access point to downtown Long Beach from the I-710. Therefore, the discussion is accurate in stating the build alternatives are a permitted use of the arterial. In addition, the document states that “within the West Beach area, permitted uses are the existing uses” (Section 3.1.2.2). Since the existing use of the Shoemaker Bridge arterial is for transportation, then this remains a permitted use.

L-27-54

When preparing an environmental document, it is necessary to analyze only the consistency of the project with the required elements of plans and programs. In preparing the RDEIR/SDEIS, the consistency analysis focused only those plans or policies that are relevant to the I-710 Corridor Project, including the City of Long Beach Community Livability Plan. The approach for analysis of the Livability Plan is consistent with Caltrans methodologies and protocols as documented in Caltrans’ Standard Environmental Reference website (http://www.dot.ca.gov/ser/). The analysis presented in the RDEIR/SDEIS was consistent with Caltrans’ methodology, as the goals of the Livability Plan were listed individually in Section 3.1.2.2 and the potential environmental consequences and consistency analysis were discussed in Section 3.1.2.3. Because the goals in the Livability Plan are stated in broad and general terms, the consistency analysis was similarly presented in broad and general terms.

L-27-55

Caltrans and Metro thank the City for providing comprehensive comments. The letter referenced in this comment and the responses can be found in this appendix and is coded as Comment Letter L-12.

L-27-56

As discussed in the Response to Comment L-12-2, there will be no impacts to the Cesar E. Chavez Park as a result of the Preferred Alternative and input from the community to determine the site layout, park amenities, buffer between the park and freeway, parking, ADA access, fencing, signage, neighborhood connection, etc. would no longer be necessary.

L-27-57

As discussed in the Draft Section 4(f) Evaluation, no land or improvements funded with grants under the Land and Water Conservation Fund (L&WCF) would be permanently used or otherwise adversely affected by the build alternatives. Other grant agencies, such as the Watershed Conservation Authority, are being considered as the official with jurisdiction over parks and recreational facilities protected under Section 4(f) of the United States Department of Transportation Act. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there are no impacts to grant-funded parks and recreational facilities.

L-27-58

As discussed in the Response to Comment L-12-1, while avoidance, minimization, mitigation, or enhancement measures are considered under Section 4(f), compliance with Ordinance No. C-78226 is not required under Section 4(f). Mitigation Measures PR-10 through PR-15 were included in the Draft Section 4(f) Evaluation to ensure that the build alternatives would not adversely affect the activities, features, and attributes of Cesar E. Chavez Park, should a build alternative be selected as the Preferred Alternative. Caltrans and Metro have coordinated with the City regarding mitigation for impacts to Cesar Chavez Park resulting from the build alternatives and the City concurred with this approach June 11, 2020.

L-27-59

Del Amo Park in the City of Carson is discussed in the Draft Section 4(f) Evaluation in Section 6.2 and is listed in Table 5. Other parks in the City of Long Beach are discussed in Section 6.2 and listed in Tables 3 and 5.

Although other properties may have been purchased by the City of Long Beach for park purposes, planned parks and recreational facilities are considered Section 4(f) resources only if there is evidence of formal designation of these properties as recreational resources through inclusion in a City Master Plan. No additional properties, other than those already identified in the Draft Section 4(f) Evaluation, have been formally designated as recreational resources through inclusion in any City Master Plans that were publicly available at the time the Draft Section 4(f) Evaluation was written. Caltrans has coordinated with the City of Long Beach to

determine if additional or updated Master Plans have been made available that formally designate additional properties as recreational resources.

L-27-60

Air quality impacts on users of the parks were not identified in the technical analysis prepared for the RDEIR/SDEIS, as discussed in Section 3.1.3.2 on page 3.1-87 (“Public Health Considerations”). Section 3.1.3.2 also states that soundwalls are proposed at locations throughout the I-710 Corridor where noise levels resulting from the build alternatives would exceed Federal Noise Abatement Criteria (NAC). Should a build alternative be selected as the Preferred Alternative,, a new soundwall would replace an existing soundwall at Coolidge Park, as was discussed in Section 3.6.3.1 under “Key View 8”, as well as in Section 3.14.5.7, Noise, of the RDEIR/SDEIS. Because the new soundwall would address noise impacts at the park, landscape buffering would not be required to address noise impacts on this resource.

Noise levels at Baker Park would not exceed Federal NAC under the build alternatives, and therefore, soundwalls are not proposed in this location. Baker Park is separated from the I-710 mainline by the Los Angeles River and vacant land, which serve as a buffer that prevents indirect noise impacts on the park. Therefore, as discussed in Section 6.2 of the Draft Section 4(f) Evaluation, noise impacts from the build alternatives would not result in substantial impairment of the park because no severe proximity impacts at the park were identified in the RDEIR/SDEIS. Therefore, landscape buffering would not be required at this resource.

Section 3.1.3.2 states that visual impacts on Coolidge Park would be low under Alternative 5C and moderately low under Alternative 7. As stated in Section 3.6.4, should a build alternative be selected as the Preferred Alternative, Mitigation Measure VIS-1 would require either build alternative to incorporate the *I-710 Corridor Aesthetics Master Plan* (Aesthetics Master Plan) (February 2014), which would define aesthetic treatment measures to be incorporated into the final design of either build alternative to minimize or avoid visual impacts. Mitigation Measure VIS-4 would also require aesthetic enhancements for soundwalls in the final design of either build alternative, consistent with the Aesthetics Master Plan. Therefore, potential visual impacts at Coolidge Park, should a build alternative be selected as the Preferred Alternative, would be mitigated through consistency with the Aesthetics Master Plan, and landscape buffering would not be required to address visual impacts on this resource.

Both Baker Park and Coolidge Park are proposed to receive aesthetic treatments to the existing soundwall between the park and the SR-91 ramps as part of various packages of the Early Action Soundwall Project. Metro awarded contracts to complete the Plans, Specifications, and Estimates phase of the project in 2015. Noise abatement and other mitigation for impacts related to the I-710 Corridor Project build alternatives have been proposed commensurate with those impacts, and no further mitigation is proposed. It should be noted that, should a build alternative be selected as the Preferred Alternative, Measure AQ-3 would also provide for solid

barriers in combination with vegetation installation in order to increase dispersion of vehicular emissions and PM, to be determined in more detail during final design of either build alternative. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to Baker or Coolidge Parks.

L-27-61

As shown in Section 3.1.2 of the RDEIR/SDEIS, growth policies for SCAG's RTP/SCS, County of Los Angeles, City of Long Beach, and the City of Los Angeles were taken into consideration. It should be clarified that Section 3.2, Growth, of the RDEIR/SDEIS, indicated that "improved mobility expected to be achieved as a result of the build alternatives could have a slight influence on demand for residential and nonresidential uses in the cities and communities in the Gateway Cities subregion…" This statement should not be interpreted as an acknowledgement that growth would unequivocally occur as a result of improved mobility along I-710 resulting from the build alternatives. It merely states that increased mobility could have a slight influence on demand for various land uses in the subregion. For illustrative purposes, that means that an improved level of service and less queuing at a particular off-ramp may entice motorists to stop at a shopping center at that location more often or during their regular commute, whereas it may have been viewed as a less convenient option before any improvements were made to the I-710 Corridor under the build alternatives. Because the build alternatives would only make improvements to an existing facility, and not provide new access to places that were previously inaccessible, coupled with the fact that the Study Area is generally built out and heavily urbanized with several barriers to growth, it is reasonable to conclude that there are no reasonably foreseeable project-related growth impacts under any of the I-710 Corridor Project build alternatives as stated on page 3.2-15 of the RDEIR/SDEIS.

L-27-62

Caltrans respectfully disagrees that the cited conclusion regarding no growth-related impacts is unsubstantiated; the conclusion takes into account all of the preceding discussion and context presented in Section 3.2.2, Affected Environment, and Section 3.2.3, Environmental Consequences. Caltrans and Metro acknowledge that the lack of currently available vacant land certainly does not preclude infill development or redevelopment, and that clarification was provided in Section 3.1.1.1, Affected Environment, of Section 3.1, Land Use, of the RDEIR/SDEIS: "Development trends among these affected cities and communities are generally similar; there is limited vacant land and new development has taken the form of redevelopment and recycling of uses." It is important to note that nowhere in the RDEIR/SDEIS was it claimed that development could not occur, simply that the lack of available vacant land and generally urbanized and built-out nature of the I-710 Corridor serves as a growth constraint. Growth constraints can take several forms, such as the lack of vacant developable land or a

physical boundary, and do not necessarily halt growth, but are only one of several factors that strongly influences where, when, and what type of development takes place. Therefore, the conclusion that there are no project-related growth impacts as a result of the build alternatives is reasonable given the scope of the I-710 Corridor Project build alternatives, the environmental context, and the constraints on growth that would occur with or without the build alternatives; therefore, no further evaluation of impacts or avoidance, minimization, and mitigation measures is required.

L-27-63

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 which evaluated alternatives no longer under consideration. However, many similar issues are raised in Comment L-27-62 germane to the analysis contained in the RDEIR/SDEIS and to which a response is provided, above. It should be clarified that expanding capacity on I-710 is anticipated to have no effect on Port operations and growth rates. Container growth at the Ports is anticipated, and historically has shown, to occur regardless of improvements made on I-710. The Port of Long Beach has even implemented programs encouraging graveyard shifts and “hoot gates” so that cargo can be transported via truck during off-hours like the “hoot shift” or “owl shift” generally beginning at 3:00 a.m., before the morning rush hour. One of the primary purposes of the project is to accommodate both projected traffic volumes as well as address increased traffic volumes resulting from projected growth in population, and employment and economic activities related to goods movement.

L-27-64

Caltrans respectfully disagrees that the noted conclusion needs to be reassessed and that the analysis and conclusions are insufficient and unsupported. Specific responses are provided for the comments submitted, above.

L-27-65

The Study Area for community impacts should describe the surrounding community that is generally associated with the project within which community impacts could occur. The Study Area for community impacts was deemed to be neighborhood-based in nature, and therefore the Study Area boundary of a 0.5-mile radius was chosen. This 0.5-mile radius was also utilized in the Community Impact Assessment completed in support of the RDEIR/SDEIS. Larger study areas were defined for other resource areas within the RDEIR/SDEIS that were appropriate for different types of resources, such as air quality.

L-27-66

As described in Section 3.24, Construction Impacts, should a build alternative be selected as the Preferred Alternative, installation of fencing around construction and staging areas would occur during the construction mobilization and site preparation phase , which should deter trespassing during construction. Construction sites would be closed to the public. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no construction will occur and sites will not be provided for homeless to camp and congregate.

L-27-67

Please refer to Section 1.6 of this appendix. These proposed parking restrictions have been eliminated from further consideration and are not being carried forward since the No Build Alternative has been identified as the Preferred Alternative.

L-27-68

The City of Long Beach's concern about the community impacts from business displacements is acknowledged and noted in the public record. As noted in the comment, should a build alternative be selected as the Preferred Alternative, Caltrans would make every effort to relocate the affected businesses near their existing locations within the City of Long Beach if at all feasible. As discussed in the Draft Relocation Impact Report, sufficient replacement properties for the displaced businesses are located within the City of Long Beach. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no community impacts from business displacements will occur.

L-27-69

As stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the Multi-Service Center will not be displaced.

L-27-70

While water quality was not specifically discussed in regards to environmental justice in Section 3.3 of the RDEIR/SDEIS, there is a discussion of public health concerns for water quality in Section 3.9, Water Quality. This states that, should a build alternative be selected as the Preferred Alternative, water quality BMPs would be implemented to treat stormwater runoff during construction and operation of the build alternatives. As a result, the build alternatives would not be anticipated to degrade the water quality of any receiving waters. Treatment BMPs would be designed to drain and eliminate standing water; therefore, vectors (such as mosquitoes) would not be of concern. Therefore, the build alternatives would not pose risks to public health related to water quality, including for minority and low-income populations.

L-27-71

Please refer to Response to Comment L-27-9 regarding key views located within the City of Long Beach. An analysis of potential disproportionate visual impacts to minority and low-income populations was included in Section 3.3.3.5 of the RDEIR/SDEIS. It concluded that the build alternatives would have a disproportionate and adverse visual impact to environmental justice communities. However, it is important to note that the selection of Key Views was done in accordance with FHWA guidance and is intended to provide a representative sample of viewsheds for the I-710 Corridor. Additionally, all corridor cities were provided the opportunity to submit input regarding the locations of the Key Views during the development of the Visual Impact Assessment (2011) supporting the Draft EIR/EIS circulated for public review in 2012. This information was presented to the I-710 Technical Advisory Committee in 2010.

L-27-72

As discussed in Section 3.12.2.5 (Hazardous Waste/Materials, Affected Environment), numerous local and regional underground and aboveground utilities parallel and cross the I-710 and the Los Angeles River including power distribution and transmission systems, natural gas distribution and transmission pipelines, petroleum pipelines, telephone systems, cable television (CATV) systems, water distribution mains, water aqueducts, sanitary sewer mains, sewer interceptors, and city telecommunication systems. In addition, two high-voltage electrical transmission corridors (SCE and LADWP) parallel the I-710. Should a build alternative be selected as the Preferred Alternative, Measure US&E-2 in Section 3.4.3 of the RDEIR/SDEIS would require additional coordination with the City of Long Beach regarding existing utilities. Should a build alternative be selected as the Preferred Alternative, Measure HW-6 in Section 3.12.4, Hazardous Waste/Materials in the RDEIR/SDEIS and in this Final EIR/EIS would also provide for the preparation of a Construction Contingency Plan, which would include provisions for emergency response in the event that an unexpected release of hazardous substances is found. This plan would be applicable during all construction activities, including utility relocations. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there would not be an impact to existing petroleum pipelines and oil wells.

L-27-73

Per this comment, City Light & Power, Inc. and Covanta Long Beach Renewable Energy Corp. have been added to the list of service providers contained in Section 3.4.1.2 of this Final EIR/EIS.

L-27-74

Should a build alternative be selected as the Preferred Alternative, Measure US&E-2 in Section 3.4.3 of the RDEIR/SDEIS would require additional coordination regarding utility relocations be coordinated with the California Public Utilities Commission. As is standard Caltrans practice, the engineering plans that inform the technical analyses for the RDEIR/SDEIS are only developed to a status of approximately 25 to 35 percent of final design. It would not be recommended that any type of permit, including those necessary from CPUC for the relocation of utilities, be obtained based upon this level of design. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, it would not be necessary to relocate of existing power lines 50KV or greater.

L-27-75

Caltrans and Metro recognize the importance of avoiding impacts to emergency service providers during construction, and, should a build alternative be selected as the Preferred Alternative, the commitment to avoid and minimize those to the best extent practicable is included in Measure CON-U&ES-1, in Section 3.24.4.4, Construction Impacts of the RDEIR/SDEIS and this Final EIR/EIS. This commitment also relates to Measure CON-TR-1, discussed in Section 3.24.4.5, which would require the preparation of a Transportation Management Plan that would address short-term traffic impacts during construction. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, measures CON-U&ES-1 and CON-TR-1 will not be implemented.

L-27-76

Utilities that require relocation during construction of either build alternative would be performed in accordance with the provisions of Measure CON-U&ES-2, which would include required coordination with the utility provider, local jurisdictions, and the general public/utility customers as necessary. Major utility relocations that are within 500 feet of schools and/or require construction duration of 30 days or more would require a community meeting prior to the issuance of demolition and grading permits. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no impacts to relocation or impacts to utilities are necessary.

L-27-77

Since the circulation of the Draft EIR/EIS in 2012, the project build alternatives have been revised and many of the impacts to oil operating areas within the City of Long Beach have been avoided or minimized to the greatest extent practicable. The details of the responsibility for relocation cost are preliminarily identified in their respective Utilities technical studies; however,

as cost in and of itself is not an environmental impact as defined under CEQA/NEPA, that information is not included in the EIR/EIS. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to oil operating areas within the City of Long Beach.

L-27-78

Please refer to Response to Comment L-27-76 for information regarding utility relocations.

L-27-79

Please refer to Response to Comment L-27-76 for information regarding utility relocations.

L-27-80

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. As discussed in Section 2.3.2.1, both build alternatives would include the modernization of the freeway design, and would include local interchange improvements, auxiliary lane/ramp improvements, and freeway-to-freeway interchange improvements. Modernization of the freeway typically includes widening lanes and shoulders to current Caltrans standards for safety.

L-27-81

Please refer to Response to Comment L-27-80 regarding modernization of the freeway design under the build alternatives.

L-27-82

Please refer to Response to Comment L-27-80. A separate truck-only corridor is not an element of the Preferred Alternative (No Build Alternative).

L-27-83

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Although part of the freight corridor under Alternative 7 would be elevated, Alternative 7 was not identified as the Preferred Alternative. Table 3.5-24 of the RDEIR/SDEIS shows that, under Alternative 5C, Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) would increase 1.8 percent and 0.4 percent, respectively, when compared to the No Build Alternative in 2035. It is important to note that these increases would not be localized to the City of Long Beach; rather, they would be corridor-wide. However, because one of the purposes of the proposed project is to increase safety and modernize aging infrastructure, it would be anticipated that fewer calls for emergency

assistance would actually occur after implementation of Alternative 5C, as existing safety hazards would be corrected. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there would not be an increase in population or demand for public services in the Study Area as a result of the build alternatives.

L-27-84

Please refer to Section 1.6 of this appendix. These proposed parking restrictions have been eliminated from further consideration and are not being carried since the No Build Alternative has been selected as the Preferred Alternative.

L-27-85

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Improvements to the 42 arterial intersections that had previously been included as elements of the 2012 build alternatives are no longer under consideration.

L-27-86

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Impacts to Cesar E. Chavez Park resulting from the revised build alternatives were presented in detail in Section 3.1, Land Use, and Appendix B, Draft Section 4(f) and 6(f) Evaluation, and include an evaluation of access impacts. It is unclear what enforcement actions are specifically referred to here, but as per the requirements set forth in Measure PR-13, should a build alternative be selected as the Preferred Alternative, coordination with the City would occur regarding closures to the Park. Should a build alternative be selected as the Preferred Alternative, closures to the Los Angeles River Trail would be coordinated with the Los Angeles County Department of Public Works, the agency with jurisdiction over the trail, as described in Measure PR-17. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to Cesar E. Chavez Park or the Los Angeles River Trail.

L-27-87

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Although it is acknowledged that the potential displacement of encampments could occur during construction activities of either build alternative, it would not be anticipated that such displacement would result in substantial new calls for service or additional demand at the City's Multi-Service

Center. Construction of either build alternative would occur in stages and would therefore not be occurring simultaneously throughout the I-710 Corridor at once. An analysis of the displacement of homeless encampments was not undertaken because of the temporary nature of those encampments, as well as the fact that the persons in question are trespassing within State right-of-way.

L-27-88

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. The commenter does not indicate what specifically about the response they consider inadequate or what analysis was not provided. Additional information regarding the impacts to area utilities as a result of the revised build alternatives was presented in Section 3.4, Utility and Emergency Services, of the RDEIR/SDEIS. This additional information was provided in three separate utility studies completed by Metro in 2016 (refer to studies listed in Appendix H of this Final EIR/EIS). Although the relocations associated with utility conflicts as a result of either build alternative would occur during construction, they would be permanent impacts and are therefore were not included in Section 3.24, Construction Impacts.

L-27-89

Currently at this point in project development, information regarding specific construction impacts, detour routes, vehicle amounts, and other data are not available to evaluate impacts at the level of detail requested in this comment. As indicated in Measure CON-TR-1 in Section 3.24.4.5 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, a Transportation Management Plan (TMP) would be prepared prior to construction that addresses traffic delays, detour routes, public awareness, and other construction-related traffic and transportation issues. Measure CON-U&ES-1 in Section 3.24.4.4 of the RDEIR/SDEIS and this Final EIR/EIS states that ramp closures and detour routes developed as part of the TMP would be determined in coordination with local jurisdictions. At that time, when more detailed information regarding construction is known, including specific detour routes, further coordination would occur with each jurisdiction. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, implementation of Measure CON-TR-1 and CON-U&ES-1 will not be necessary.

L-27-90

Please refer to Response to Comment L-27-7 for more information on the inclusion of Class IV bikeways within the project design.

L-27-91

The build alternatives include provisions for Class IV bikeways in proposed local street modifications at freeway crossing locations where practical and appropriate for consistency with the City's recently updated Bicycle Master Plan. Bikeway widths would be sufficient for street sweeping. Like many recently modernized intersections throughout the City, and in conformance with current channelization design practice, the vertical elements providing separation along Class IV bikeways would be omitted at approaches to intersections to allow for vehicular turning movements. Entrances and exits to and from the freeway are major movements that would require separate turning lanes to ensure safe and efficient operation of ramp intersections at the local arterial. At these locations, Class II bikeway treatments have been incorporated in the design of the build alternatives. These provisions have been incorporated in the design concepts of the build alternatives for Anaheim Street, Pacific Coast Highway, Willow Street, Del Amo Boulevard, Long Beach Boulevard, and Artesia Boulevard within the City of Long Beach. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no new bikeways or pedestrian facilities will be constructed. Please also refer to Response to Comment L-27-7 regarding DDIs.

L-27-92

This comment notes that the existing structures that cross I-710 do not have suitable facilities for bicyclists or pedestrians. As discussed in Chapter 2.0, Project Alternatives, the build alternatives include widening of existing bridges and overcrossings to accommodate bicycle and pedestrian traffic. Improvements would include ADA-compliant sidewalks and sufficient room for bicycle lanes.

L-27-93

The traffic analysis for the I-710 Corridor Project was completed prior to the analysis for the Shoemaker Bridge Project. Therefore, the Final EIR/EIS was not updated to be consistent with the No Build traffic volumes for the Shoemaker Bridge Project. Additionally, it is important to note that small differences in traffic volumes reported for specific locations are not unusual for studies completed at slightly different times due to variations in underlying data sets or traffic counts. The focus of the I-710 Corridor Project is the examination of traffic and operations on the 19-mile segment of the I-710, as well as analysis of over 190 local intersections distributed across a very large and broad study area, while the Shoemaker Bridge Project provides a much more detailed look at the local street network between Shoemaker Bridge and downtown Long Beach. What would be concerning is significant contradictions in major conclusions or findings between the two projects with regard to Existing and Future No Build travel conditions. While it is always desirable to have exact matches of traffic volume detail across different study efforts, it is not reasonable or practical to "force-fit" results. As long as each project is internally

consistent and follows accepted methods and practices that lead to logical and rational conclusions with sufficient rationale, then each project is able to stand on its own.

L-27-94

The City's support for Alternative 5C is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

L-27-95

The I-710 Corridor Project evaluated the traffic impacts of the proposed project, including the traffic effects of a DDI interchange concept for I-710 at Anaheim Street under the build alternatives. As confirmed by the commenter, the traffic analysis identified impacts at Anaheim Street/Santa Fe Avenue, Anaheim Street/Canal Avenue, and Magnolia Avenue/Third Street based on impact thresholds established for the project. Mitigation for these impacted intersections was identified in Section 3.5.4 of the RDEIR/SDEIS and in the *Intersection Traffic Impact Analysis Report* (March 2017). Refer to Table 7-5 of this report for the detailed analysis results, with and without mitigation. Recommended mitigation consisting of intersection improvements is described in Table 7-12 of the *Intersection Traffic Impact Analysis Report* and diagrams of the proposed mitigation concepts for each intersection are provided in Appendix E of this report. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, these mitigation concepts will not be further refined, in cooperation with the City of Long Beach, during final design.

L-27-96

The element of Motion 22.1 discussed in the comment refers to the programmatic features described in Section 2.3.2.1 of the RDEIR/SDEIS. It is important to note that these features are not considered mitigation, which is required under CEQA/NEPA to reduce, avoid, or minimize significant adverse impacts according to thresholds identified in the various analyses conducted for the EIR/EIS.

For the I-710 Corridor, the Motion 22.1 items include ITS and TSM improvements for the I-710 freeway, such as ramp metering and advanced variable message signing and information systems along the freeway. Within the City of Long Beach, pedestrian and bicycle overcrossings are proposed at selected locations. In addition, several of the DDI interchange concept designs have been modified to incorporate space for Class IV bicycle facilities in response to the City's request, which has been reflected in Chapter 2.0, Project Alternatives, of this Final EIR/EIS.

Lastly, the I-710 Congestion Relief Program was created as a programmatic feature of the project specifically to address issues associated with future congestion on major arterials and

intersections that interface with the I-710 freeway, such as Anaheim Street. The Neighborhood Traffic Management improvement identified by the City of Long Beach for Anaheim Street, as described, would align with the objectives of the I-710 Congestion Relief Program. Metro has pledged to work with the City of Long Beach to consider these types of improvements.

However, since the No Build Alternative (Alternative 1) has been selected as the Preferred Alternative; programmatic elements of the build alternatives will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

L-27-97

As indicated in Section 3.5.4 of the RDEIR/SDEIS and this Final EIR/EIS, the traffic analysis has identified the need for mitigation at Anaheim Street/Santa Fe Avenue within the City of Long Beach. This mitigation is described in Measure TR-1 in Section 3.5.4 of this Final EIR/EIS and in Table 7-12 of the *Intersection Traffic Impact Analysis Report* (March 2017), and mitigation concepts have been diagrammed for this intersection (and included in Appendix E of the *Intersection Traffic Impact Analysis Report*). It is understood that the City of Long Beach may be interested in a higher level of mitigation for this intersection beyond what was identified as necessary in the I-710 Corridor Project impact analysis. The analysis conducted for both the I-710 Corridor Project and the Shoemaker Bridge Project assumes that the local connectors at 9th and 10th Streets would be impacted by either projects build alternatives. However, future traffic conditions continue to evolve at this location. Additionally, in January 2018, the Port of Long Beach finalized the EIR and the Board of Harbor Commissions approved the Pier B On-Dock Rail Support Facility Project, which would impact the 9th and 10th Street connections to Shoemaker Bridge. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the mitigation concepts for Anaheim Street/Santa Fe Avenue and the respective timelines and sequencing of the implementation of the Pier B Project, I-710 Corridor Project, and Shoemaker Bridge Replacement Project will not need to be more clearly developed.

L-27-98

Please refer to Response to Comment L-27-7 regarding DDIs.

L-27-99

Caltrans and Metro acknowledge the unique needs of the neighborhoods west of I-710 and the Los Angeles River within the City of Long Beach. In order to accommodate the need for increased accessibility, three pedestrian and bicycle-only bridges spanning I-710, the Los Angeles River, and/or I-405 are proposed within the City of Long Beach under the build alternatives. As the Los Angeles River levee is under the jurisdiction of the United States Army Corps of Engineers, the shared-use trail facility along the west bank of the River proposed in

this comment is not included in the design of the build alternatives. However, it should be noted that existing bridges and overcrossings that would be modified as part of the build alternatives would also be widened in order to accommodate pedestrian paths and Class II or IV bikeways on local street crossings. Furthermore, the existing Los Angeles River Trail on the eastern bank of the Los Angeles River is only approximately 650 feet from the facility proposed in the comment. In addition, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, these proposed pedestrian and bicycle-only bridges will not be provided. However, separate from the I-710 Corridor Project, Metro is currently studying several bike path projects within the I-710 Corridor, which are in preliminary phases. One, the Western Levee Bike Path, would provide a ten-mile Class 1 bike path from Pacific Coast Highway to Imperial Highway in the City of South Gate, within Los Angeles Flood Control District property on the western side of the Los Angeles River. Please refer to Response to Comment L-27-7 for further details regarding DDI design and bicycle/pedestrian movement.

L-27-100

The City of Long Beach's concern regarding residential displacements is acknowledged and noted in the public record. However, in order to locate these new pedestrian and bicycle overcrossings under the build alternatives in existing, densely populated neighborhoods, while also designing them in conformance with ADA and other standards, would make some right-of-way acquisition unavoidable. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the geometric design of the build alternatives (including grades of the new pedestrian and bicycle overcrossings) will not need to be refined and no right-of-way acquisitions will be necessary.

L-27-101

Please refer to Response to Comment L-27-100 regarding the provision of overcrossings and their potential to require acquisition of private property.

L-27-102

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The City is correct in that the feature proposed in this comment is not included in the current design plans, and, since the No Build Alternative has been selected as the Preferred Alternative, there will be no need to provide facilities for bicycles and pedestrians in locations where local roadways are affected by the construction of the build alternatives.

L-27-103

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The feature proposed in this comment is not included in the current design plans of the build alternatives, and, since the No Build Alternative has been selected as the Preferred Alternative, there will be no need to provide facilities for bicycles and pedestrians in locations where local roadways are affected by the construction of the build alternatives.

L-27-104

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The feature proposed in this comment is not included in the current design plans of the build alternatives, and, since the No Build Alternative has been selected as the Preferred Alternative, there will be no need to provide facilities for bicycles and pedestrians in locations where local roadways are affected by the construction of the build alternatives.

L-27-105

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The feature proposed in this comment is not included in the current design plans of the build alternatives, and, since the No Build Alternative has been selected as the Preferred Alternative, there will be no need to provide facilities for bicycles and pedestrians in locations where local roadways are affected by the construction of the build alternatives.

L-27-106

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The feature proposed in this comment is not included in the current design plans of the build alternatives, and, since the No Build Alternative has been selected as the Preferred Alternative, there will be no need to provide facilities for bicycles and pedestrians in locations where local roadways are affected by the construction of the build alternatives.

L-27-107

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The feature proposed in this comment is not included in the current design plans of the build alternatives, and, since the No Build Alternative has been selected as the Preferred Alternative, there will be no need to provide facilities for bicycles and pedestrians in locations where local roadways are affected by the construction of the build alternatives.

L-27-108

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The feature proposed in this comment is not included in the current design plans of the build alternatives, and, since the No Build Alternative has been selected as the Preferred Alternative, there will be no need to provide facilities for bicycles and pedestrians in locations where local roadways are affected by the construction of the build alternatives.

L-27-109

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The feature proposed in this comment is not included in the current design plans of the build alternatives, and, since the No Build Alternative has been selected as the Preferred Alternative, there will be no need to provide facilities for bicycles and pedestrians in locations where local roadways are affected by the construction of the build alternatives.

L-27-110

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The feature proposed in this comment is not included in the current design plans of the build alternatives, and, since the No Build Alternative has been selected as the Preferred Alternative, there will be no need to provide facilities for bicycles and pedestrians in locations where local roadways are affected by the construction of the build alternatives.

L-27-111

Interchange configuration assessments and the proposed DDI designs proposed as part of the build alternatives were reviewed with the respective Public Works Departments in the Cities of Paramount and Compton during preparation of the RDEIR/SDEIS. A partial cloverleaf interchange would have substantial environmental impacts at this interchange location. Provisions for bikeways along Alondra Boulevard are included in the current design of the build alternatives. Interchanges with controlled ramp intersections like those at Alondra Boulevard would require separate turning lanes for movements to and from the freeway. Partial cloverleaf, diamond, single-point and DDI configurations all would require separate turning lanes in order to accommodate the projected traffic volumes entering and exiting the freeway. The proposed six-lane section would accommodate four through-movements (two in each direction) and two turn lanes (one in each direction).

L-27-112

This comment is introductory and states that the City of Long Beach has reviewed the RDEIR/SDEIS and has identified potential improvements that would benefit pedestrians and bicycles. These suggestions are provided in Responses to Comments L-27-113 through L-27-127. The comment does not include any substantive comments or questions about the RDEIR/SDEIS and no further response is required.

L-27-113

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-114

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-115

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-116

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-117

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-118

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-119

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-120

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-121

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-122

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-123

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-124

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-125

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-126

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-127

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The location referred to in this comment is not within the City of Long Beach and since the No Build Alternative has been selected as the Preferred Alternative, Caltrans and Metro will not need to coordinate with the local jurisdiction responsible for this location during the final design process.

L-27-128

This comment states that the RDEIR/SDEIS should include an "Existing Plus Project Analysis" to comply with CEQA. This is a correct statement for analysis under CEQA, but not NEPA. Chapter 3.0 of the Draft EIR/EIS properly analyzes the future 2035 No Build conditions under Alternative 1 with the two build alternatives. With regard to CEQA, Chapter 4.0, CEQA Evaluation, states "In making determinations of significance under CEQA, the impacts of the build alternatives are analyzed relative to baseline conditions which, for the Interstate 710 (I-710) Corridor Project, were the existing conditions in the I-710 Corridor in 2012. For comparison under NEPA, Alternative 1 provides the basis for comparison of 2035 No Build conditions with the 2035 build alternatives." Therefore, the analysis provided in Chapter 4.0 properly evaluated the build alternatives under CEQA, consistent with the Sunnyvale case. Please also refer to Response to Comment L-27-39 regarding the evaluation of traffic impacts under CEQA.

L-27-129

Section 2.4.2 on p. 2-37 of the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) summarizes the methodology for calculating Level of Service (LOS) at signalized and unsignalized intersections. Due to the volume of pages, the worksheets for the analysis are contained in the Appendices of the report.

L-27-130

While it is true that the I-710 Corridor Project analysis used the Highway Capacity Manual (HCM) 2010 methodology for impact analysis, this is Caltrans' preferred methodology for the evaluation of environmental impacts. Because Caltrans is the Lead Agency for this project, it was determined that the HCM methodology was an appropriate analysis technique. While this is not consistent with the intersection capacity utilization (ICU) method used by most of the Gateway City agencies, it is a more detailed method of performing operational analysis. Intersection Level of Service (LOS) was calculated according to analysis methodologies described in the HCM. Section 7, Project Impacts and Mitigation Measures, of the *Intersection*

Traffic Impact Analysis Report (March 2017), outlined in detail the criteria for determining impacts to arterial intersections. This information was also summarized in Section 3.5.3.1 of the RDEIR/SDEIS. With respect to the intersection impact analysis, the same thresholds and methodology were uniformly applied for the intersections of all local jurisdictions that make up the I-710 Study Area for the purpose of determining project impacts and for identifying mitigation for the build alternatives, as necessary. This is appropriate given that each city has their own thresholds for their own local projects, which vary from city to city. The thresholds established for the project, described in Section 3.5.3.1 of the RDEIR/SDEIS, were identified based on an examination of future (congested) travel conditions of the arterial network within the I-710 Study Area and Caltrans' project experience with other major freeway projects in Los Angeles County similar in scope and magnitude to the I-710 Corridor Project.

L-27-131

The HCM 2010 reports that are provided in the appendices to the *Intersection Traffic Impact Analysis Report* (March 2017) and the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) show the adjusted saturation flow rates for each movement at the intersections. These adjusted saturation flow rates were based on the ideal saturation flow rate of 1,600 vehicles per hour per lane (vphpl).

L-27-132

For arterial intersections, a cycle length of 100 seconds was used in the analysis to provide a consistent comparison between project alternatives across the network. The intersections were assumed to be actuated and coordinated with the adjacent intersections, and therefore a uniform cycle length of 100 seconds was used throughout the network, with the exception of ramp intersections.

L-27-133

A fully actuated and corridor optimized timing scheme was used to provide a consistent comparison between project alternatives across the network. Both a default five seconds of walk time and an 11-second flashing message of Don't Walk were used at all intersections for all scenarios.

L-27-134

For the intersections within the City of Long Beach, existing peak hour factors were carried over to all future scenarios (No Build Alternative and two build alternatives) due to the uncertainty associated with future year travel conditions and to provide a uniform basis of comparison to gauge differences across the analysis scenarios.

L-27-135

Please refer to Response to Comment L-23-2 regarding peak period parking restrictions. These restrictions have been eliminated from further consideration.

L-27-136

The City appears to be referring to the intersection improvements that would be included in the I-710 Corridor Congestion Relief Program, a programmatic feature of the build alternatives, that are described in Section 2.3.2.1 of the RDEIR/SDEIS and on page 4-7 of the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017). At this time the traffic analysis was prepared, the precise nature and specifics of the intersection improvements that would occur was not known, as these improvements were not funded and committed. Accordingly, the traffic analysis conducted for the Existing, Future No Build (Alternative 2035), and Build Alternatives (including the Preferred Alternative) did not presume these intersection improvements were already in place. It is important to note that since the No Build Alternative has been selected as the Preferred Alternative, any programmatic elements of the build alternatives would need to be implemented following a process separate from this Final EIR/EIS.

L-27-137

Please refer to Response to Comment L-27-130 regarding the use of the HCM methodology instead of the City's adopted criteria for City intersections.

L-27-138

It is important to note that there are two separate mechanisms wherein intersection improvements would be implemented within the City of Long Beach that are associated with the I-710 Corridor Project build alternatives: (1) through the I-710 Congestion Relief Program, a programmatic component of the build alternatives, and (2) as mitigation (Measure TR-1) to address impacted intersections that were identified in Section 3.5, Traffic, of the RDEIR/SDEIS (should a build alternative be selected as the Preferred Alternative).

It is acknowledged that improvements or projects pursued under the I-710 Congestion Relief Program would be subject to the discretion of the local agency with jurisdiction over the local roadway facilities. Proposals for improvements on the arterial system in Long Beach would be submitted by the City of Long Beach to Metro for consideration for funding under the program. If program funds were awarded to the City for their project(s), it would be up to the City of Long Beach to develop their project, including any needed environmental clearance, design, permitting, right-of-way acquisition (if applicable), and ultimately construction/implementation, per the guidelines of the I-710 Congestion Relief Program.

Should a build alternative be selected as the Preferred Alternative, intersection improvements implemented as mitigation would undergo a design review process in conjunction with the final design phase of either build alternative. City design standards would be a key consideration during this process. The City of Long Beach, as a project partner and key reviewing agency with jurisdiction over any mitigation improvements proposed for city roadway facilities, would be an active participant in this process and would be afforded several opportunities to review and comment as the design is developed.

However, since the No Build Alternative has been selected as the Preferred Alternative, any programmatic elements of the build alternatives, including the I-710 Congestion Relief Program, would need to be implemented following a process separate from this Final EIR/EIS.

L-27-139

For the intersections within the City of Long Beach, existing peak hour factors were carried over to all future scenarios (the No Build Alternative and two build alternatives) due to the uncertainty associated with future year travel conditions and to provide a uniform basis of comparison to gauge differences across the analysis scenarios. This provides a more conservative approach to the analysis conducted in support of the RDEIR/SDEIS. However, this information provided by the City is appreciated.

L-27-140

The detailed ramp metering analysis presented in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) shows the proposed design storage lengths, minimum storage required, and the required minimum metering rate for the build alternatives. The tables summarizing the results of the ramp metering analysis also disclose whether the proposed storage would be adequate to hold the on-ramp queues. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, queue storage lengths and specifics related to optimizing ramp metering timing will not be examined in further detail during final design of the build alternatives.

L-27-141

Please refer to Response to Comment L-27-35 regarding the various interchange configuration concepts assessed as part of the I-710 Corridor Project build alternatives.

L-27-142

The traffic analysis does consider the benefits of shifting more port operations to lower traffic periods. As described in detail in the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017), the traffic forecasts assumed an expansion of the PierPASS program which the Ports implemented in 2005 to use variable gate

fees to induce more container truck pickups during off-peak hours. The forecasts assumed a tripling of the volume of containers that would be handled during the “Hoot Shift” (3:00 a.m. – 8:00 a.m.) at the Ports.

L-27-143

Please refer to Response to Comment L-27-7 regarding pedestrian and bicycle friendly interchanges.

L-27-144

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Please refer to Response to Comment L-27-7 for further details. The improvements described by the City in this comment are beyond the jurisdiction of Caltrans to implement.

L-27-145

Please refer to Response to Comment L-27-35 regarding the various interchange configuration concepts assessed as part of the I-710 Corridor Project build alternatives.

L-27-146

Please refer to Response to Comment L-27-7 regarding pedestrian and bicycle friendly interchanges.

L-27-147

Please refer to Response to Comment L-27- regarding pedestrian and bicycle friendly interchanges.

L-27-148

Please refer to Response to Comment L-27-7 regarding pedestrian and bicycle friendly interchanges.

L-27-149

The build alternatives would add or widen bicycle and pedestrian facilities through the interchange areas, and in some cases would introduce traffic controls at ramp termini to help improve traffic safety for bicyclists and pedestrians. In key areas, the build alternatives would also provide new, exclusive pedestrian and bicycle overcrossings, so that some bicyclists and pedestrians could avoid using the arterials altogether to cross over I-710 and the Los Angeles

River Channel. The discussion in Section 3.5.3 has been expanded in the Final EIR/EIS to provide more information on how pedestrian and bicycle safety would be improved by the various features included in the build alternatives. Please refer to Response to Comment L-27-8 for information regarding the provision of a shared-use trail along the Los Angeles River levee.

L-27-150

The Regulatory Setting included in Section 3.6.1 of the EIR/EIS is standard text from Caltrans' Annotated Outline for EIR/EIS documents posted on their Standard Environmental Reference. Because this is standard text for all Caltrans' EIR/EIS documents throughout California, this section was not revised in the Final EIR/EIS.

L-27-151

Section 3.6.2.4, Methodology, of this Final EIR/EIS was updated regarding additional information pertaining to the public outreach conducted to date, committee input received as part of the Aesthetics Master Plan process.

L-27-152

Please refer to Response to Comment L-27-9 regarding key views located within the City of Long Beach.

L-27-153

Major project components of the build alternatives that would result in the greatest visual change are summarized for each key view in Section 3.6.3, Environmental Consequences, and visual simulations are provided in Figures 3.6-2 through 3.6-26.

Impacts from the build alternatives to sensitive viewers as a result of vegetation removal, increased views to hardscape features, or modification of the character of the existing communities is summarized for each key view in Section 3.6.3, Environmental Consequences, and illustrated in the visual simulations provided in Figures 3.6-2 through 3.6-26.

The commenter's request that the analysis discuss the project features associated with the Aesthetics Master Plan in further detail is respectfully rejected as the VIA was performed at the appropriate level of detail according to FHWA guidance for Visual Impact Assessments.

The commenter requests that design guidelines be identified, how these guidelines would reduce the resultant impacts, as well as the overall regulatory framework for enforcement. As discussed in Section 3.6.4, Caltrans and the FHWA require that a context-sensitive approach be taken to avoid, minimize, and/or mitigate for visual impacts for highway improvement projects. These measures constitute techniques that would most readily generate public acceptance of

the visual components of the I-710 Corridor Project build alternatives. Should a build alternative be selected as the Preferred Alternative, all visual minimization and/or mitigation would be designed and implemented consistent with the Aesthetics Master Plan per Mitigation Measure VIS-1 and in consultation with the affected local jurisdictions per Mitigation Measure VIS-9. Should a build alternative be selected as the Preferred Alternative, these measures would be enforceable commitments as documented in the Environmental Commitments Record (Appendix F of the RDEIR/SDEIS and this Final EIR/EIS). However, As stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no visual impacts and no mitigation implemented.

L-27-154

Light and glare from headlights near residential neighborhoods are addressed in the Visual Section 3.6.3.1: “Should a build alternative be selected as the Preferred Alternative, glare from vehicle headlights in the general-purpose lanes and the elevated portions of the freight corridor would be minimized by the construction of soundwalls and screen walls. Since soundwalls would be installed whenever the improvements related to the build alternatives are adjacent to residential areas, these walls would block the vehicle headlight glare.” While glare from new roadway alignments and new cul de sac features are not specifically discussed, these represent a relatively small proportion of the impacts of the build alternatives. Generally, because the build alternatives propose to make modifications to an existing highway, “new” roadway alignments are not proposed, and only minor modifications to alignments would occur under the build alternatives. Within the City of Long Beach, proposed culs-de-sac would be located at Willow Street/Fashion Avenue, and several within the commercial and industrial area east of Fashion Avenue and south of Pacific Coast Highway, directly adjacent to I-710. Sensitive viewers would typically not be located at the locations of the new culs-de-sac that would be located in commercial and industrial locations. It is important to note that the majority of new light and glare impacts would have occurred under Alternative 7, which would provide a new elevated freight corridor structure with associated lighting. However, Alternative 7 was not identified as the Preferred Alternative, as it would have had greater visual impacts (among others). In addition, per Measure VIS-7 contained in Section 3.6.4 of this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, “During preparation of PS&E, a lighting plan will be prepared by Caltrans. The lighting fixtures will be designed to minimize glare on adjacent properties and into the night sky. Lighting will be shielded with nonglare hoods and focused within the I-710 Corridor Project right-of-way.”

L-27-155

Caltrans conducts visual studies using FHWA methodology as described in the publication FHWA-HI-88-054, *Visual Impact Assessment for Highway Projects.* Based on this guidance, areas can be defined as having similar visual character and analyzed accordingly. Breaking the views up into visual units is a reasonable way to address a project of this size and scope. The VIA and Section 3.6 of the RDEIR/SDEIS both disclosed pertinent information relating to changes in visual character along the I-710 Corridor. As discussed throughout the VIA and Section 3.6 of the RDEIR/SDEIS, viewer response to changes in views resulting from the build alternatives is a major criterion evaluated in the visual impact assessment.

L-27-156

Section 3.6 of this Final EIR/EIS has been revised where necessary as requested to cite the correct date of February 2014 for the Aesthetics Master Plan.

L-27-157

The Aesthetics Master Plan would not include tree/vegetation replacement guidelines; therefore, no change has been made to Measure VIS-2.

L-27-158

The referenced measure does not require revisions, as adherence to design guidelines of the Aesthetics Master Plan is included as its own measure, Measure VIS-1.

L-27-159

Please refer to Response to Comment L-27-158 regarding adherence to design guidelines of the Aesthetics Master Plan.

L-27-160

Please refer to Response to Comment L-27-158 regarding adherence to design guidelines of the Aesthetics Master Plan.

L-27-161

The Aesthetics Master Plan would not include vegetation placement guidelines; therefore, no change has been made to Measure VIS-2.

L-27-162

The VIA follows the prescribed Caltrans' VIA Annotated Outline that was in effect at the time the VIA was initiated in support of the revised build alternatives evaluated in the RDEIR/SDEIS.

L-27-163

The Visual Impact Assessment (VIA) offered a succinct project description in Section III of the document, which does outline what is proposed to be built, including the arrangement of lanes that would be added. This discussion of general features of the build alternatives is consistent with the VIA guidelines in placement and content. Further, the descriptions of the individual build alternatives within Section III of the document do address visible changes to the transportation system.

The description of each build alternative in Section III of the VIA includes a statement that the build alternatives would incorporate aesthetic enhancements that would include thematic surface treatment of structures and paved surfaces, enhanced roadside landscaping, and irrigation consistent with a corridor-wide aesthetic master plan. In addition to the freeway features described for each build alternative in Section III, the discussion of each build alternative includes a list of the overall project benefits related to transportation, air quality and health and safety. The avoidance, minimization, and/or mitigation measures are summarized in the Executive Summary and discussed in detail in Section XI.

L-27-164

Discussion of both Alternative 5C and Alternative 7 includes a reference to the *I-710 Corridor Aesthetics Master Plan* (February 2014) within Section III of the VIA document. The VIA also references the Aesthetics Master Plan regarding planned aesthetic infrastructure features on the I-710 Corridor, and advises the reader to consult the Aesthetics Master Plan for further details about aesthetic features.

L-27-165

The VIA states that the Nikon D70 digital camera with a lens with the focal length of 30mm would accurately mimic the perspective of the human eye. Caltrans respectfully disagrees that a different camera lens would improve the accuracy of the images; therefore, the key views were not rephotographed. Since the VIA guidelines do not specify which camera to use and merely states that the 50mm equivalent will need to be calculated for the camera, no changes were made to the VIA.

L-27-166

Caltrans respectfully disagrees that the “wireframe” of the digital modeling was not done at the correct height. The VIA followed Caltrans’ and FHWA guidelines, and all photo simulations are within the appropriate parameters.

L-27-167

The VIA adequately discusses regional and local visual policies following FHWA guidelines in Section V. That discussion adequately disclosed visual resources in each respective local plan that is analyzed, and did so in accordance with Caltrans and FHWA guidelines.

L-27-168

The VIA discusses the City of Long Beach General Plan adequately and in accordance with Caltrans and FHWA guidelines. Further, the discussion specifically notes that there are no State or locally designated scenic roads with the I-710 Corridor Project’s viewshed. Goal and policy consistency is included in the RDEIR/SDEIS in Section 3.1.2, Consistency with State, Regional, and Local Plans.

L-27-169

The Notice of Preparation (NOP) for the I-710 Corridor Project EIR/EIS was published in 2008. Therefore, the City of Long Beach’s General Plan Land Use and Urban Design Elements updates are not included in the analysis of this document, as they had not been initiated or were in progress at the time the NOP was published.

L-27-170

Please refer to Response to Comment L-27-169 regarding the analysis of the City of Long Beach’s General Plan Land Use and Urban Design Elements.

L-27-171

The VIA discusses the project setting in Section VI, A. Project Setting. The project setting provides the information required in both Caltrans and FHWA guidance documents.

L-27-172

The areas under analysis are broken into visual Landscape Units, which roughly correspond to land use types. The residential areas Westside and Wrigley, Bixby Knolls, and North Long Beach fall into the residential landscape unit that has been identified along the I-710 Corridor.

Therefore, while these residential areas are not individually identified, the residential landscape units within the City of Long Beach were accounted for in the analysis.

L-27-173

The VIA was prepared following Caltrans and FHWA guidance. The VIA acknowledges the County of Los Angeles General Plan policies that identify and protect scenic resources, and it specifically mentions Ocean Boulevard in the residential landscape unit. Further, per FHWA guidance, only State Scenic Highway resources are analyzed in the VIA. Therefore, the VIA follows Caltrans and FHWA guidance as it pertains to the analysis of scenic resources.

L-27-174

Per FHWA guidance, “Although a visual assessment unit is typically defined by a particular viewshed, alternative methods for defining a visual assessment unit are acceptable, such as defining it by an area of similar visual character.” Therefore, similar residential landscape units were used to define the visual assessment units prescribed by the guidance. While it is understood that each residential area might have unique features, for a project of this scope, it was reasonable to combine all the residential landscapes into a single unit for analysis.

L-27-175

Caltrans and FHWA guidance was used and tailored for the scope of the I-710 Corridor Project. Please refer to Response to Comment L-27-174 for more information on the determination and use of landscape units in the VIA. Changes in visual quality are adequately discussed in the Section IX, Subsection C, Levels of Visual Impact, of the VIA; and are specifically laid out within that subsection in Table 8.1, Existing and Proposed Visual Quality. Because of the scope of this project, a broad statement regarding each entire build alternative would be inconclusive, and therefore, each key view was instead analyzed on the “very low” to “high” visual change scale.

L-27-176

Highway Neighbors are discussed in detail in Section VIII, Subsection A, of the VIA. Several of the key views analyzed are from the perspective of potential highway neighbors. This includes, but is not limited to, Key Views 1 and 5 from the Los Angeles River Trail, Key View 5, Key View 8 from Coolidge Park, and Key Views 11 and 14 from various residential land uses along the I-710 Corridor. These represent the various “highway neighbor” categories described in Subsection A, referenced above. Per FHWA guidance, a discussion of the project’s community outreach meetings, public input received, and the draft Aesthetics Master Plan are not required to be addressed in the VIA. However, much of this information can be found in Chapter 5.0, Comments and Coordination, of the RDEIR/SDEIS and this Final EIR/EIS.

L-27-177

Caltrans and FHWA guidance was used and tailored for the scope of the I-710 Corridor Project. Key view locations are provided in map form and are further titled with appropriate descriptions and street addresses from which key view photographs were taken. Then, impacts are assessed for each key view per each build alternative, which serves as the discussion of visual change to landscape units by build alternative. The term “minimally traveled” does not appear in the VIA, and several key views come from the Los Angeles River Trail. New build alternative features are disclosed appropriately in the discussion of key views and are compliant with the guidance. The *I-710 Corridor Aesthetics Master Plan* (February 2014) is a separate document related to this project, but it is referenced in the RDEIR/SDEIS within the Visual Section (Section 3.6) in accordance with the Caltrans EIR/EIS Annotated Outline, as well as briefly referenced in the VIA itself. The VIA rating system is meant to gauge viewer response, and is compliant with FHWA guidance; further, the ratings given at each key view are appropriate and in accordance with Caltrans and FHWA guidance.

L-27-178

Caltrans and FHWA guidance was tailored for the scope of the I-710 Corridor Project. Section I, Executive Summary, contains a subsection regarding the Project Visual Impact Summary and has a table categorizing visual impact scores by build alternative. This summary characterizes the overall visual impact of the build alternatives by numerical score, which is compliant with the VIA Annotated Outline. CEQA compliance is addressed in Section V, Environmental Laws and Policies; the VIA goes on to state “The guidelines under these laws were used in this analysis to determine potential effects of the I-710 Corridor Project on the visual aesthetic environment.” Finally, shade and shadow are described in Section X of the VIA, Light, Glare, Shade and Shadow.

L-27-179

The VIA acknowledges in the executive summary that, “There will be short-term as well as long-term negative impacts with the construction of all build alternatives that would contribute adverse visual impacts to the existing views for viewers and/or user groups within the I-710 Corridor.”

L-27-180

While the FHWA VIA guidelines do advise that anticipated cumulative impacts should be described, there is no specific chapter or section for cumulative impacts within guidance for the Standard or Expanded VIA types. The approach taken by the VIA “fulfills the letter and the spirit of FHWA requirements” as it addresses estimated impacts to visual quality of the I-710 Corridor Project viewshed and takes a qualitative/aesthetic approach to visual quality loss within the

study area. The analysis of each key view addresses impacts to the full range of visual elements within each viewshed, thereby addressing the cumulative effect of the build alternatives on these visual elements. A comprehensive cumulative discussion for visual/aesthetic resources was included in Section 3.24.5.6 of the RDEIR/SDEIS.

L-27-181

The Aesthetics Master Plan is referenced appropriately in the VIA and utilized as a source in Section 3.6, Visual/Aesthetics, of the RDEIR/SDEIS. Caltrans uses “Context Sensitive Solutions”, which balance performance goals with community, aesthetic, historic and environmental values. These solutions would provide consistency and unity in the appearance and image of the route, through the application of corridor aesthetic themes. Design criteria for soundwalls would also be used, and the soundwall aesthetic and, should a build alternative be selected as the Preferred Alternative, design would receive close coordination between Caltrans and local communities throughout the life of the project. These aspects of the performance goals and design criteria for the build alternatives were incorporated into the avoidance, minimization, and/or mitigation measures identified in the VIA.

L-27-182

A discussion of designated scenic corridors has been added to Section 3.6.2, Affected Environment. The following information from the VIA will be included in Section 3.6.2: The southern portion of the I-710 Corridor Project runs through the City of Long Beach. The Open Space and Recreation Element of the City’s General Plan states that the City’s policy is to “protect and improve the community’s natural resources, amenities and scenic values.” There are no state or locally designated scenic roads within the I-710 Corridor Project’s viewshed; however, the City is working with the California Coastal Conservancy and others to rehabilitate wetland acreage in areas along the Los Angeles River, which parallels the I-710 Corridor.

L-27-183

A discussion of designated scenic vistas and scenic roads has been added to Section 3.6.2, Affected Environment. There are no state or locally designated scenic vistas or roads within the I-710 Corridor Project’s viewshed. Since it would be impractical to discuss each individual visual resource along the I-710 Corridor, the I-710 Corridor was broken up into “landscape units” which can be thought of as outdoor rooms that exhibit a distinct visual character. These landscape units included views of prominent landforms and views of historic resources from the I-710 Corridor, and the landscape units were analyzed separately in the form of key views along the I-710 Corridor.

L-27-184

Aesthetic characteristics that would be implemented as part of the build alternatives (should a build alternative be selected as the Preferred Alternative) are detailed in the Caltrans Aesthetics Master Plan, which is referenced in Section 3.6.4, Avoidance, Minimization, and/or Mitigation Measures as Measure VIS-1. Per VIS-1, elements from the Caltrans I-710 Corridor Aesthetics Master Plan would be incorporated into the final design of the if a build alternative is selected as the Preferred Alternative. The Aesthetics Master Plan has been developed in a context-sensitive design process in consultation with the affected local agencies and includes involvement of local community members as determined by the local agencies. However, as stated in Response to Comment L-2-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, elements of the I-710 Corridor Aesthetics Master Plan would not be incorporated into the final design.

L-27-185

Caltrans respectfully disagrees that visual quality of the key views in question should be rated differently. The VIA rating system is meant to gauge viewer response, and is compliant with Caltrans and FHWA-guidance; further, the ratings given at each key view are appropriate and in accordance with Caltrans and FHWA guidance.

L-27-186

Please refer to Response to Comment L-27-185 regarding the rating of the visual quality of the key views. Additionally, as discussed in Section 1.1, Identification of a Preferred Alternative, Alternative 7 is no longer under consideration as the No Build Alternative has been identified as the Preferred Alternative.

L-27-187

Please refer to Responses to Comments L-27-185 and L-27-186 regarding the rating of the visual quality of the key views.

L-27-188

Please refer to Responses to Comments L-27-185 and L-27-186 regarding the rating of the visual quality of the key views.

L-27-189

Please refer to Responses to Comments L-27-185 and L-27-186 regarding the rating of the visual quality of the key views.

L-27-190

Caltrans respectfully disagrees that the analysis of nighttime lighting is inadequate. Nighttime lighting is discussed in the Executive Summary and again in Section X, Light, Glare, Shade, and Shadow, of the VIA. The VIA discloses that, under the build alternatives, elevated night lighting would be located closer to all land uses bordering the I-710 Corridor and that some neighborhoods would experience increased night lighting, particularly under Alternative 7. It should be noted that Alternative 7 has not been identified as the Preferred Alternative.

L-27-191

Although there are measures proposed that would reduce the visual impacts of the I-710 Corridor Project build alternatives (should a build alternative be selected as the Preferred Alternative), there would still be a residual visual impact due to the introduction of reconstructed freeway-to-freeway connectors and soundwalls that cannot be fully mitigated. However, due to right-of-way constraints within the I-710 Corridor, options to rework the area south of Willow Street are limited. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no visual impacts.

L-27-192

Clarification of sensitive viewers that may be impacted by the build alternatives has been added to Section 3.24.3.6 in this Final EIR/EIS. According to the VIA, the types of viewers considered to have a more sensitive viewer response to highway projects are highway neighbors. This viewer group involves a large number of viewers that varies from residents, students, travelers on local streets, users on bicycle trails and other recreational facilities, and employees and visitors in commercial, industrial, and transportation businesses.

L-27-193

None of the roads in the I-710 Corridor Project viewshed are designated as a State Scenic Highway. Additionally, while the County of Los Angeles has three State-designated Scenic Highways and eight County-designated Scenic Highways, none of these are within the I-710 Corridor Project's viewshed. Local scenic vistas are taken into account in Section V, Environmental Laws and Policies, and many of the local jurisdictions do not have designated scenic vistas within the I-710 Corridor viewshed. Due to the relatively flat topography within the I-710 Study Area, no scenic vistas were identified in the VIA.

L-27-194

Section X, Light, Glare, Shade, and Shadow, of the VIA deals with potential light and glare along the I-710 Corridor. Caltrans respectfully disagrees that, though qualitative, the analysis of light and glare impacts is inadequate. The analysis was done in accordance with Caltrans and

FHWA guidance regarding light and glare. The Caltrans annotated outline for VIAs calls for a discussion of “CEQA-required issue areas” including light and glare, and the VIA breaks both light and glare into separate subcategories for discussion in accordance with the annotated outline. Measure VIS-7 contained in Section 3.6.4 of this Final EIR/EIS stipulates that, should a build alternative be selected as the Preferred Alternative, “During preparation of PS&E, a lighting plan will be prepared by Caltrans. The lighting fixtures will be designed to minimize glare on adjacent properties and into the night sky. Lighting will be shielded with nonglare hoods and focused within the I-710 Corridor Project right-of-way.” Additionally, as discussed in Section 1.1 of this appendix, the No Build Alternative was identified as the Preferred Alternative. Therefore, there would be no light and glare impacts resulting from either build alternative.

L-27-195

As discussed in Section 1.1 of this appendix, the No Build Alternative has been identified as the Preferred Alternative and Alternative 7, which includes the freight corridor, has been eliminated from further consideration.

L-27-196

A discussion of cumulative adverse impacts related to aesthetics has been added to the Mandatory Findings of Significance in Chapter 4.0, CEQA Evaluation.

L-27-197

The graphic included in the RDEIR/SDEIS is for informational purposes only. For more detailed graphical data, refer to the publicly available Historic Property Survey Report, which includes a 24-page detailed Area of Potential Effects (APE) map.

L-27-198

The NOP for the Draft EIR/EIS was circulated in 2008 and therefore it is not required to follow the requirements of Assembly Bill 52. While specific reference to Assembly Bill 52 does not appear in the document, Caltrans has provided documentation of consultation with appropriate Native American tribes. Please refer to text under “Native American Consultation” in Section 3.7.2.5 of the RDEIR/SDEIS and in this Final EIR/EIS for the full list of names of representatives contacted during the course of this project. As CEQA lead agency, Caltrans consulted with California Native American tribes that were traditionally and culturally affiliated with the geographic area of the proposed project.

L-27-199

The two historical resources referenced were not included in the Historical Resources Evaluation Report because they are not located within the project’s Area of Potential Effects

(APE). The APE is the area within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, should any be present. The Masonic Hall at 5351-5353 Long Beach Boulevard is located approximately .42 miles east of the APE, separated from the project by the Los Angeles River Channel and two blocks of residential development. The Pressburg Residence at 167 East South Street is located approximately 0.36 miles east of the APE, separated from the build alternatives by the Los Angeles River Channel and five blocks of residential development. These buildings will not be directly or indirectly affected by the build alternatives.

L-27-200

The Historic Properties Treatment Plan was included as an actual stand-alone measure in Section 3.24, Construction, of the RDEIR/SDEIS as Measure CON-CUL-3, and has been prepared as an appendix to the Finding of No Adverse Effect document concurred upon by SHPO on December 20, 2018. The Historic Property Treatment Plan is a guidebook that, should a build alternative be selected as the Preferred Alternative, would lay out procedures for scenarios that may be encountered as the project progresses and was developed in consultation with the State Historic Preservation Officer (SHPO).

L-27-201

As stated in Section 3.8.3.1 of the RDEIR/SDEIS, localized channel modifications would be required to maintain the existing channel hydraulic capacity under the build alternatives. Therefore, the existing channel hydraulic capacity would not change with implementation of the modifications proposed as part of the build alternatives. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and localized channel modifications would not be necessary.

L-27-202

As requested in this comment, the term “floodway” was replaced with “floodplain” where applicable within this Final EIR/EIS, unless it is referencing a designated floodway identified on the Flood Insurance Rate Map (FIRM). The Los Angeles River is a regulatory floodway, which is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

L-27-203

The potential necessity of a CLOMR is discussed in Section 3.8.3.1. Although no revisions to the FEMA FIRM maps are anticipated at this time, should a build alternative be selected as the Preferred Alternative, Measure FP-1 would provide for the preparation of a Final Flood Control

Facilities Report and Final Location Hydraulic Study during final design, when more detailed design plans would be available, which would assess the risk of floodplain impacts and demonstrate that the design of the build alternative provides acceptable flood protection. The level of risk was assessed in accordance with USACE authorized design discharge. The modeling results from these reports would be included in the application for a CLOMR and/or Letter of Map Revision, if required, which would be processed through the Los Angeles County Flood Control District and FEMA. However, a CLOMR and/or Letter of Map Revision will be unnecessary since the No Build Alternative has been selected as the Preferred Alternative.

In addition, acknowledgement of the need for Section 408 permits was noted in Table 2.5-1 of the RDEIR/SDEIS. Therefore, no further discussion of Section 408 permits was added to the Final EIR/EIS.

L-27-204

As stated in Section 3.8.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, improvements within the 100-year floodplain proposed under Alternative 5C would result in direct, permanent impacts to the Los Angeles River, Rio Hondo and Compton Creek, which are considered potentially jurisdictional to the USACE, the California Department of Fish and Wildlife (CDFW) and the Regional Water Quality Control Board (RWQCB). Table 3.25-6 in Section 3.25.4.16 of the RDEIR/SDEIS and this Final EIR/EIS includes impacts under each build alternative to potentially jurisdictional and nonjurisdictional areas. Should a build alternative be selected as the Preferred Alternative, permits/approvals needed, and required mitigation would be coordinated with the appropriate resource agencies. However, as stated previously, these permits will not be obtained since the No Build Alternative has been selected as the Preferred Alternative.

L-27-205

Please refer to Response to Comment L-27-202 regarding the term “floodway”.

L-27-206

As shown in Table 2.5-1 of the RDEIR/SDEIS, for the build alternatives, it was anticipated that, should a build alternative be selected as the Preferred Alternative, a Section 408 permit for modification to levees would be required from the Unites States Army Corps of Engineers. However, as stated previously, the No Build Alternative has been selected as the Preferred Alternative and therefore a Section 408 permit will not be necessary. Section 3.8, Hydrology and Floodplain, of the Final EIR/EIS was revised to clarify the need for a Section 408 Permit under the build alternatives.

L-27-207

As discussed in Section 2.3.2.2 of the RDEIR/SDEIS and this Final EIR/EIS, under the build alternatives, there would be modifications to existing pump stations and new pump stations added, as shown in Figure 2.3-8. As discussed in Section 3.8.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, there would be 22 existing pump stations impacted by the build alternatives. Out of the 22 locations, 18 locations would require modification including upgrading facilities to accommodate projected peak flows, relocation due to proposed improvements, or reconstruction due to freeway widening and/or profile changes. All pump stations located on the east side of the Los Angeles River would be protected-in-place during construction of either build alternative. Table 3.8-3 lists the name, location and modifications for each affected pump station. Caltrans and Metro acknowledge the importance of the Long Beach MUST project to the City and appreciate that opportunities for coordination do exist between the two infrastructure projects. As stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the Long Beach MUST facility will not need to be used for stormwater treatment and/or storage.

L-27-208

The text in Measure FP-1 is correct as is, and no changes are required. Please also refer to Response to Comment L-27-203 regarding the need for a CLOMR and/or Letter of Map Revision.

L-27-209

Please refer to Measures WQ-1 through WQ-3 in Section 3.9.4 of the Final EIR/EIS which would also be implemented to meet water quality goals related to TMDLs should a build alternative be selected as the Preferred Alternative. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore implementation of these measures will not be necessary.

L-27-210

Impacts to the Lynwood Retention Basin and Dominguez Gap Spreading Grounds would only have occurred under Alternative 7. As stated in Section 3.9.1.2 of the RDEIR/SDEIS, details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. This section includes a description of existing state regulations that the build alternatives must comply with. However, as discussed in more detail in Section 1.1 of this appendix, the No Build Alternative has been identified as the Preferred Alternative and therefore there will be no impacts to the Lynwood Retention Basin or Dominguez Gap Spreading Grounds.

L-27-211

Caltrans and Metro acknowledge the importance of the Long Beach MUST project to the City and appreciate that opportunities for coordination do exist between the two infrastructure projects. Please refer to Response to Comment L-27-207 regarding the use of the LB MUST facility by the I-710 Corridor Project build alternatives.

Section 3.8.3.1 of the RDEIR/SDEIS stated “The build alternatives would require substantial reconstruction of the existing drainage systems including drainage inlets, storm drains, cross culverts, dikes, overside drains, concrete and earthen channels, pump stations, and detention basins. Most of the existing on-site drainage systems would be replaced with new facilities. Some existing facilities may be extended to accommodate the wider freeway.” In some segments of the build alternatives, notably the area crossing I-105, reconstruction of systems are not proposed because the highway is relatively modern and roadway modifications are minimal. However, segments through the City of Long Beach, notably where flooding has occurred, would require substantial system reconstruction as described. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no reconstruction of existing drainage systems.

L-27-212

Section 3.8 of the RDEIR/SDEIS was intended to inform the public of potential floodplain impacts resulting from the build alternatives, and includes avoidance, minimization, and mitigation measures as required. Additional information regarding offsite sources is not required in this section to inform the public of potential floodplain impacts. The Preliminary On-site Hydrology Report accomplished the objectives outlined in its executive summary, some of which were used to support the RDEIR/SDEIS. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to the drainage system

L-27-213

As stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no need for replacement pump stations.

L-27-214

The repair of existing drainage systems is performed in the due course of maintenance of the overall State Highway System and is generally also funded by specific maintenance funding sources. Although some drainage systems may be protected in place under the build alternatives, the construction of the build alternatives would not preclude the regular maintenance of those systems. However, as stated in Response to Comment L-27-1, the No

Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to existing drainage systems. It should be noted that the I-710 Corridor Project is not responsible for upgrading those systems that are to be protected in place.

L-27-215

It is important to note that the RDEIR/SDEIS is intended to disclose the impacts and avoidance, minimization, and mitigation measures of the build alternatives. Should a build alternative be selected as the Preferred Alternative, the improvements proposed under the build alternatives would be designed to engineering standards and would provide for adequate design discharge, in accordance with Caltrans guidance. Further, as discussed in Section 3.8.4 of this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, Measure FP-1 would require a Final Flood Control Facilities Report/Final Location Hydraulic Study to be prepared during final design, which would inform design features. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there would be no impacts related to avoidance, minimization, and/or mitigation measures.

L-27-216

Please also refer to Response to Comment L-27-213 regarding FIRM maps. As discussed in Section 3.8.3.1 in the RDEIR/SDEIS, Alternatives 5C and 7 would consist of highway improvements that would require encroachments within the 100-year floodplain in the Los Angeles River, the Compton Creek, and the Rio Hondo Channel as part of the bridge and levee improvements and utility relocations. According to the *Flood Control Facilities Report* (2017), Alternatives 5C and 7 would not change the capacity of the Los Angeles River, Compton Creek, and the Rio Hondo Channel to carry water or result in a measurable impact to the 100-year floodplain elevation. The proposed encroachments would not result in any adverse impacts on the natural and beneficial floodplain values, would not result in a substantial change in flood risk or damage, and would not have substantial potential to cause interruption or termination of emergency services or emergency routes. Therefore, Alternatives 5C and 7 would not constitute a significant floodplain encroachment as defined in 23 CFR 650.105(q). However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, updates to FIRM mapping at the project location will not be necessary.

L-27-217

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, please refer to Responses to Comments L-27-213 and L-27-216 regarding FIRM maps.

L-27-218

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, please note that as discussed in Section 3.9.3 of the RDEIR/SDEIS, Alternatives 5C and 7 would increase impervious surface areas, which would increase runoff volume and pollutant loads. Alternatives 5C and 7 would require replacement or extension of the existing drainage systems such as drainage inlets along the median and shoulders to accommodate the increased project flows. Impacts to water quality of receiving waters may be expected from the loading of various constituents typically associated with highway runoff. These potential operational impacts, Should a build alternative be selected as the Preferred Alternative, would be addressed through the incorporation of design pollution prevention BMPs, treatment BMPs, and adherence to the necessary operational maintenance protocols identified in the Caltrans SWMP. As described in the *Storm Water Data Report* (SWDR) (January 2017), proposed design pollution prevention BMPs would include preserving existing vegetation wherever feasible, incorporation of concentrated flow conveyance systems with velocity-reducing outlet structures, and providing slope protection with vegetation. Proposed treatment BMPs would include biofiltration swales, biofiltration strips, infiltration basins, media filters, detention basins, gross solids removal devices, and wet basins. Proposed operational maintenance BMPs would include storm drain cleaning and normal roadway and bridge maintenance, in addition to maintaining all vegetated slopes. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there would be no increase in impervious surface.

L-27-219

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, brief descriptions of the existing drainage facilities in the I-710 corridor, some of which contain terrain and size descriptions, can be found in Section 3.8.2.2 of the RDEIR/SDEIS. Tables 3.8-2 and 3.8-3 in Section 3.8.3.1 list the existing facilities requiring removal and reconstruction under the build alternatives.

L-27-220

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Substantial longitudinal modifications to the Los Angeles River levees are not proposed under Alternatives 5C or 7.

L-27-221

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, as stated in Section 3.8.3.1 of the RDEIR/SDEIS, all encroachments related to the build alternatives have been considered low risk by location hydraulic studies performed at 133-year flood levels. This analysis included consideration of all project features proposed as part of the build alternatives, including noise barriers.

L-27-222

As discussed in Section 3.8.4 of this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, Measure FP-1 would require a Final Flood Control Facilities Report/Final Location Hydraulic Study to be prepared during final design of the build alternatives. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, studies pertaining to City owned and/or maintained facilities, or potentially cooperative project features, will not be necessary.

L-27-223

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Because the scope of Alternatives 5C and 7 did not include substantial longitudinal modifications to the Los Angeles River levee, a revised Los Angeles River Impact Report was not prepared in support of the RDEIR/SDEIS. In addition, since the No Build Alternative has been selected as the Preferred Alternative, coordination with the LACFCD regarding floodplain encroachments would not be necessary.

L-27-224

The referenced amendments to the Caltrans MS4 Permit have been included in Section 3.9.1.3 of this Final EIR/EIS.

L-27-225

As stated in Response to Comment L-27-210, the Dominguez Gap Basin is not impacted under the Preferred Alternative.

L-27-226

As discussed in Section 3.9.3.1 of the RDEIR/SDEIS, proposed treatment BMPs under the build alternatives would include 40 biofiltration swales, 12 media filters, 32 infiltration/detention basins, and one wet basin, as well as eight gross solids removal devices where feasible.

Although the introduction of treatment BMPs as part of the build alternatives would represent an improvement when compared to the No Build condition, as there currently are 60 Caltrans-maintained BMPs treating freeway runoff on I-710, the No Build Alternative has been selected as the Preferred Alternative and therefore, BMPs are no longer necessary.

L-27-227

In response to this comment, the following revisions have been made to the text in Section 3.9.3.1 of this Final EIR/EIS:

> BMPs would be designed to treat low flows from more regular storms. The Caltrans Permit requires that the stormwater runoff water volumes used for sizing BMPs be based on the 85th percentile, 24-hour storm event (Water Quality event). For estimating purposes, this event is roughly equivalent to ~~,and BMPs would be sized according to the results o~~ two-year peak-flow storm~~ events which are equivalent to 85th percentile storms~~.

L-27-228

Please refer to Response to Comment L-27-207 regarding impacts to pump stations.

L-27-229

Please refer to Response to Comment L-27-210 regarding impacts to the Dominguez Gap Basin.

L-27-230

Please refer to Responses to Comments L-27-207 and L-27-226 regarding impacts to pump stations and the use of the LB MUST system.

L-27-231

No references to treatment trains were included in the last paragraph on page 3.9-21 in Section 3.9.3.1 of the RDEIR/SDEIS. The statements in the referenced paragraph are not presumptive and are factual. No revisions to this Final EIR/EIS have been made in response to this comment.

L-27-232

As discussed in Section 3.9.3 of the RDEIR/SDEIS, Alternatives 5C and 7 would increase impervious surface areas, which would increase runoff volume and pollutant loads. Alternatives 5C and 7 would require replacement or extension of the existing drainage systems such as

drainage inlets along the median and shoulders to accommodate the increased flows from the build alternatives. Impacts to water quality of receiving waters may be expected from the loading of various constituents typically associated with highway runoff. Should a build alternative be selected as the Preferred Alternative, these potential operational impacts would be addressed through the incorporation of design pollution prevention BMPs, treatment BMPs, and adherence to the necessary operational maintenance protocols identified in the Caltrans SWMP. As described in the *Storm Water Data Report* (January 2017), proposed design pollution prevention BMPs would include preserving existing vegetation wherever feasible, incorporation of concentrated flow conveyance systems with velocity-reducing outlet structures, and providing slope protection with vegetation. Proposed treatment BMPs would include biofiltration swales, biofiltration strips, infiltration basins, media filters, detention basins, gross solids removal devices, and wet basins. Proposed operational maintenance BMPs would include storm drain cleaning and normal roadway and bridge maintenance, in addition to maintaining all vegetated slopes. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, BMPs will not be necessary.

L-27-233

Please also refer to Response to Comment L-27-232 regarding the need for BMPs.

L-27-234

Please also refer to Responses to Comments L-27-212 and L-27-232 regarding the need for BMPs. As stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, approvals from the RWQCB and USACE would not be required for Clean Water Act Section 401 and 404 Permits, respectively. Additionally, the relocation of the Dominguez Gap Spreading Grounds would not be necessary.

L-27-235

As discussed in Section 3.8.2.2 of the RDEIR/SDEIS, the Dominguez Gap Spreading Grounds, located in the northeast quadrant of the I-710/I-405 interchange, serve as recharge facilities and water quality basins.

It should be noted that comments L-27-235 through L-27-252 refer specifically to the Stormwater Drainage Report (SWDR), which was utilized during preparation of the RDEIR/SDEIS but is primarily a design document. The SWDR summarizes the stormwater quality issues and design decisions made regarding compliance of the build alternatives with Caltrans' National Pollutant Discharge Elimination System (NPDES) Permit. The SWDR is initiated in the Project Initiation Document (PID) phase, refined during the Project Approval/Environmental Document phase (the current phase of the project as of this writing), and finalized during final design and the Plans, Specifications, and Estimates (PS&E) phase

(should a build alternative be selected as the Preferred Alternative). The SWDR level of detail at the PID and PA/ED phases is often limited, as is the case for this project, and based on the available information developed for the build alternatives (which, should be noted, is preliminary). At the end of the PA/ED phase, the SWDR is intended to obtain project approval. Should a build alternative be selected as the Preferred Alternative, the SWDR would be updated to ensure consistency with the project's Water Quality Assessment Report and approved environmental document. The updates would also consider additional available information and further define costs. The SWDR available during PA/ED supports the Project Report and is not typically signed until after the environmental document is approved, as the SWDR needs to reflect the identification of the Preferred Alternative. However, since the No Build Alternative has been identified as the Preferred Alternative, The SWDR will not be updated during the PS&E phase to document the design details of BMPs incorporated into the build alternatives.

L-27-236

As discussed in Section 3.9.2.3 of the RDEIR/SDEIS, excessive nutrients (and their effects) and coliform are widespread problems in the watersheds, as well as excessive metals. The Los Angeles River Reach 1 (estuary to Carson Street) is listed as impaired for coliform bacteria, cyanide, cadmium, diazinon, trash, ammonia, dissolved copper, lead, nutrients (algae), pH, and dissolved zinc. The Los Angeles River Reach 2 (Carson Street to Figueroa Street) is listed as impaired for coliform bacteria, copper, nutrients (algae), oil, trash, ammonia, and lead. A list of expected and approved TMDLs was shown in Table 3.9-2.

L-27-237

Please refer to Responses to Comments L-27-232 and L-27-235 regarding TMDL limits.

L-27-238

Section 3.9 in the RDEIR/SDEIS and this Final EIR/EIS is intended to inform the public of potential water quality impacts from the build alternatives, and includes avoidance, minimization, and/or mitigation measures as required. Additional information regarding dry weather flows is not required in this section to inform the public of potential water quality impacts.

L-27-239

Please refer to Responses to Comments L-27-232 and L-27-235 regarding BMPs.

L-27-240

As discussed in Section 3.9.3.1 of the RDEIR/SDEIS, the cumulative risk level for the build alternatives were determined to be Risk Level 2 through the Construction General Permit (CGP) procedure. However, since the No Build Alternative has been identified as the Preferred

Alternative, it will not be necessary to confirm the risk level and update as necessary prior to completion of the PA/ED phase.

L-27-241

Please refer to Response to Comment L-27-240 regarding the cumulative risk factor for the build alternatives.

L-27-242

Section 3.9.1 of the RDEIR/SDEIS provides the appropriate regulatory setting for water quality and stormwater runoff, including federal and state regulations.

L-27-243

Please refer to Responses to Comments L-27-212 and L-27-238 regarding pump stations and the LB MUST facility.

L-27-244

Please refer to Responses to Comments L-27-232 and L-27-235 regarding stormwater discharges, the use of BMPs, and TMDL requirements.

L-27-245

Please refer to Response to Comment L-27-236 regarding TMDLs.

L-27-246

As shown in Table 3.25-1 in Section 3.25 of the RDEIR/SDEIS, the LB MUST facility project is in preliminary design and engineering stages. Pre-bidding was held on January 17, 2017, and bids were received in February 2017. According to a schedule summary provided on the website https://longbeach.gov/pw/projects/lbmust/, construction for the LB-MUST facility began in November 2021, and is scheduled to take approximately 2 years for the completion of the entire site. The project would be designed to treat diverted runoff water that would otherwise discharge into the Los Angeles River. Stormwater that enters the Los Angeles River has historically carried pollutants containing trash, bacteria, metals and hydrocarbons that have contaminated our beaches and waterways. By diverting this stormwater before it enters recreational waters, LB MUST has the potential to improve Long Beach’s recreational water quality. Please refer to Response to Comment L-27-207 for more information regarding the LB MUST project and its interface with the I-710 Corridor Project. Please also refer to Response to Comment L-27-235 regarding the SWDR.

L-27-247

Please refer to Responses to Comments L-27-235 and L-27-240 regarding risk level determination and the SWDR prepared for the build alternatives. In addition, Alternative 5C was not identified as the Preferred Alternative.

L-27-248

Please refer to Responses to Comments L-27-235 and L-27-240 regarding risk level determination and the SWDR prepared for the build alternatives. In addition, Alternative 7 was not identified as the Preferred Alternative.

L-27-249

Please refer to Responses to Comments L-27-235 and L-27-246 regarding the LB MUST project and it's interface with the I-710 Corridor Project.

L-27-250

As discussed in Section 3.9.1.3 of this Final EIR/EIS, by law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the Construction General Permit. Please also refer to Response to Comment L-27-235 regarding the SWDR prepared for the build alternatives. Since the No Build Alternative has been selected as the Preferred Alternative, the SWDR, including checklist SW-3, will not be updated during final design.

L-27-251

Please refer to Responses to Comments L-27-235 and L-27-236 regarding treatment BMPs.

L-27-252

Please refer to Response to Comment L-27-235 regarding the SWDR prepared for the build alternatives.

L-27-253

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. As stated in Response to Comment L-27-210, the Dominguez Gap Basin is not impacted under the No Build Alternative which has been identified as the Preferred Alternative.

L-27-254

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. In addition, this comment is an incomplete sentence and does not contain enough information to warrant the provision of a response.

L-27-255

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Please also refer to Response to Comment L-27-218 regarding how the runoff from the build alternatives would be treated and controlled in order to achieve both the interim and final targets.

L-27-256

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, updated expected and approved TMDLs were listed in Table 3.9-2 in Section 3.9.2.3 of the RDEIR/SDEIS.

L-27-257

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, it should be noted that, should a build alternative be selected as the Preferred Alternative, Measures WQ-1 through WQ-3 in Section 3.9.4 of the RDEIR/SDEIS would be implemented to address long-term water quality impacts from the build alternatives. However, since the No Build Alternative has been selected as the Preferred Alternative, it will not be necessary to determine the final disposition and siting of BMPs. The analysis of funding sources as they relate to the ability to maintain water quality improvements is not appropriate for inclusion into a project-level environmental document intended to identify and disclose the environmental impacts of a proposed project.

L-27-258

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, the estimated change in pollutants associated with brake dust, tire wear, and exhaust for the roadway network within the I-710 Area of Interest (AOI) that would be attributable to Alternative 5C relative to future No Build travel conditions are mapped on Figure 4-1b, “Comparison of 2035 Alternative 5C to 2035 Alternative 1, Total PM2.5 Emissions and Total PM10 Emissions” and mapped in Figure 4-1c for Alternative 7 in the *I-710 Project AQ/HRA/GHG Technical Report* (2017).

Improvements to I-710 proposed as part of the build alternatives tend to draw traffic to I-710 from other roadways such as the arterial network. Figures 4-1b and 4-1c show increases in PM2.5 and PM10 directly on I-710, but no change or slight decreases in these pollutants in the vicinity of 7th Street, 9th Street, and Anaheim within the City of Long Beach.

L-27-259

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, it should be noted that specific construction staging areas, including routes into and out of the staging/storage areas, sources of required concrete, borrow pits, processing pits, and transportation routes, have not yet been identified for the build alternatives, and would not be known in detail until final design (should a build alternative be selected as the Preferred Alternative). As the activities occurring at any concrete batch plant would be considered part of construction of the I-710 Corridor Project build alternatives, they would also be subject to all applicable avoidance, minimization, and/or mitigation measures regarding water quality outlined in Section 3.8.3 of this Final EIR/EIS. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, defining this level of detail during final design will not be necessary.

L-27-260

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. The substantial longitudinal relocation of power lines adjacent to the Los Angeles River that was proposed in the 2012 Build Alternatives is no longer proposed under Alternatives 5C and 7.

L-27-261

Please refer to Response to Comment L-27-257 regarding the use of BMPs.

L-27-262

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. The SWDR ascertains the feasibility and reasonability of permanent BMPs to treat an area within Caltrans' right-of-way. Please also refer to Response to Comment L-27-235 regarding the SWDR prepared for the build alternatives.

L-27-263

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, it should be

noted that to comply with its permit, Caltrans must treat the equivalent of 100 percent of new impervious surfaces. The treatment of existing and new surfaces is converted to compliance units (Cus). Because the build alternatives treat previously untreated surfaces, the build alternatives effectively "bank" Cus, and the total Cus that the build alternatives add or gain far exceed the Cus for only the new surface area. It should be noted that the treatment estimate of 83 percent was intended as a total measure of improvement in a manner that is easy for the general public to understand. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, it will not be necessary to treat new impervious surfaces.

L-27-264

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Please also refer to Response to Comment L-27-263 for further information regarding runoff treatment percentage.

L-27-265

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, it should be noted that an EIR/EIS is not required to evaluate equivalency between different standards. The design of Caltrans' BMPs follows guidelines set forth in the Caltrans Stormwater Quality manuals and handbooks, specifically the Project Planning and Design Guide.

L-27-266

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, it should be noted that the purpose of the Draft EIR/EIS and RDEIR/SDEIS is to evaluate and disclose the environmental impacts that would occur as a result of the proposed project, and although post-construction effectiveness assessments of the system as a whole may be required under the current or a future MS4 permit for the build alternatives, that assessment is beyond the scope of an EIR/EIS analysis. As discussed in Section 3.9.1.3, Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

L-27-267

Please refer to Responses to Comments L-27-210 and L-27-253 regarding impacts to the Dominguez Gap and TMDLs.

L-27-268

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, it should be noted that Measures U&ES-2 and WQ-1 in the RDEIR/SDEIS provide for coordination with local jurisdictions regarding utility relocations and water quality standards compliance should a build alternative be selected as the Preferred Alternative. However, as noted in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative.

L-27-269

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, it is acknowledged that an increase in flow volume would occur under both Alternatives 5C and 7. It is unknown how the increase in flow volume would "dramatically increase the number of wet-weather storms" as indicated in the comment. Further, it is important to note that the purpose of the Draft EIR/EIS and RDEIR/SDEIS is to evaluate and disclose the environmental impacts of the proposed project, and a change in sampling procedures required by the *I-710 Corridor Aesthetics Master Plan* (February 2014) is beyond the scope of the project.

L-27-270

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. The Coordinated Integrated Monitoring Program (CIMP) for the Lower Los Angeles River Watershed Monitoring Group document dated December 21, 2017 was used to confirm the latest monitoring sites pertaining to the Los Angeles River. All of the sampling sites are in the floodway. However, one of the sites includes a "mass emission station." This is the Los Angeles County Department of Public Works Gaging Station F319-R, which includes an 11x13-foot stilling well house situated on the western levee, south of Wardlow Road. The station and supporting infrastructure is proposed to be relocated up to 400 feet south of its current location under the build alternatives. This information has been added to Section 3.9.3 of this Final EIR/EIS. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and there will be no need to relocate the Public Works Gaging Station F319-R.

L-27-271

This comment is referencing a comment previously submitted by the City of the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, please also refer to Response to Comment L-27-270 and Response to Comment 27-232 regarding participation with local municipalities.

L-27-272

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, it is important to note that bridges crossing the Los Angeles River are part of the local roadway system and are subject to the permit requirements of the relevant local jurisdiction. The City of Long Beach Municipal Storm Water and Urban Runoff Discharge Permit would apply to bridges that would be replaced under the build alternatives within the City of Long Beach. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and there will be no permit requirements.

L-27-273

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and compensatory mitigation for jurisdictional aquatic resources is no longer necessary to obtain permits from the USACE and CDFW.

L-27-274

This comment is referencing a comment previously submitted by the City of the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. It should be noted that the RDEIR/SDEIS is not required to include calculations of water quality flows or identify discharge points. However, this information is included in the SWDR, which was available for review during circulation and was commented on by the City of Long Beach (refer to Responses to Comments L-27-235 to L-27-252) It should also be noted that Section 3.9, Water Quality, of the RDEIR/SDEIS and the technical studies outlined in Section 3.9.2 were all prepared in accordance with Caltrans guidelines and procedures in order to assess and disclose potential environmental impacts as a result of the project.

L-27-275

This comment is referencing a comment previously submitted by the City of the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, should a build alternative be selected as the Preferred Alternative, Measures WQ-1 through WQ-3 in Section 3.9.4 of the RDEIR/SDEIS would ensure compliance with the latest code requirements at the time of circulation of the environmental document. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, the latest code requirements will not need to be confirmed and assessed at the time of final design and construction.

L-27-276

This comment is referencing a comment previously submitted by the City of the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, as stated in Section 3.9.3.1 of the RDEIR/SDEIS, permanent impacts to the water quality of groundwater in the vicinity of the I-710 Corridor Project would be minimal upon completion of the construction of either build alternative because there would not be any increase in the transport of pollutants into the groundwater through infiltration during the operational life of the new structures. The sediment surface of some of the affected channels is impervious, while other locations are natural bottom. Operation of the build alternatives would not change the nature or extent of these surfaces; therefore, no net gain or loss in infiltration is anticipated from operation of the build alternatives. The treatment BMPs selected as part of the build alternatives would have provided infiltration opportunities along the alignment, which would have been a positive influence to the local hydrogeology. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore there would be no permanent impacts to the water quality of groundwater in the vicinity of the I-710 Corridor Project.

L-27-277

This comment is referencing a comment previously submitted by the City of the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, it should be noted that the No Build Alternative has been selected as the Preferred Alternative and no BMPs will be established.

L-27-278

The sources of the mapping noted in Section 7.0 of the 2010 Geotechnical Final Report have been included in Section 3.10.2.1 as requested.

L-27-279

The figures and appendices were erroneously omitted from the *Geotechnical Final Report* (January 2010) posted on the Caltrans website; the fully compiled report is available from Caltrans upon request.

L-27-280

Please refer to Response to Comment L-27-279 regarding the *Geotechnical Final Report*.

L-27-281

The California Registered Professional Geologist (PG) or a Registered Professional Engineer (PE) has been identified in the Final Geotechnical Report, and is available from Caltrans upon request.

L-27-282

Section 3.12 of this Final EIR/EIS has been updated to clarify that additional file reviews have been conducted to supplement the online database reviews and assessments prepared for the project. The ISA was prepared in general accordance with Caltrans' internal guidance document on ISAs. The Caltrans guidance is intended to be consistent with American Society of Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process, which is available to the public through ASTM. It should also be noted that because of the similar geographic locations of the build alternatives, hazardous waste concerns were not considered to be a major differentiating factor in the comparison of the build alternatives.

L-27-283

Please refer to Response to Comment L-27-282. Sites of Potential Environmental Concern classified as high risk were listed for Alternative 5C in Table 3.12-1 and for Alternative 7 in Table 3.12-2 in Section 3.12.4 of the RDEIR/SDEIS. Sites classified as medium risk were not included in the table due to the sizable amount of data and readability. The full risk assessment for sites of potential concern is included in the *Final Preliminary Initial Site Assessment* (February 2017), available on Caltrans' website at http://www.dot.ca.gov/d7/env-docs/docs/710corr-eir/. As discussed in Section 3.12.2.7, the criteria for risk categorizations were based on land use and conditions that have the potential to produce or cause site contamination and materials that require special handling. The basis for determining each parcels risk was based upon its use, regulatory status, visual observations, and the example sites for risk analysis.

As discussed in Section 3.12.3.1, during the agency database review, 134 EDR listings were identified associated with 248 of the parcels within Alternative 5C Design Options and 133 EDR listings were identified associated with 284 of the parcels within Alternative 7 Design Options, which are summarized in Appendix P. As discussed in Section 3.12.2, because access to the individual properties and parcels was not permitted at the time of ISA preparation, and given the large amount of parcels potentially impacted by the build alternatives, only a pre-screening and risk assessment for each parcel was completed for inclusion in the RDEIR/SDEIS. Section 3.12 of this Final EIR/EIS has been updated to clarify that additional file reviews have been conducted to supplement the online database reviews and assessments prepared for the project, but consistent with the RDEIR/SDEIS, only high risk sites have been included.

L-27-284

Should a build alternative be selected as the Preferred Alternative, Measures HW-1 through HW-7 in Section 3.12.4, and CON-HW-1 through CON-HW-3 in Section 3.24.4.12 of the RDEIR/SDEIS would be implemented to substantially reduce adverse impacts related to hazardous materials and hazardous wastes during construction of the build alternatives. Additional information would be required (i.e., file review) to determine the potential impact of parcels within the two build alternatives. Sufficient evidence was not gathered or completed at every parcel to fully characterize the potential presence of hazardous materials or contaminants, as access was not permitted to conduct thorough investigations. Should a build alternative be selected as the Preferred Alternative, and if contamination is present at the parcels that cannot be mitigated, the limits of acquisition may be adjusted to avoid the residual contamination. If the limits of acquisition cannot be adjusted, minimization measures may include indemnification, reduction in price, or acquisition as highway easements instead of in fee. Please also refer to Responses to Comments L-27-282 and L-27-283.

L-27-285

In response to this comment, Measure CON-HW-3 has been refined to describe the actions that would be taken if contaminated groundwater is detected during the studies required under the measure (should a build alternative be selected as the Preferred Alternative). However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore there will be no impact to groundwater.

L-27-286

Section 3.12.2.7 of this Final EIR/EIS has been updated to reflect the Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils (Agreement) effective July 1, 2016, that supersedes the prior ADL Variance. In addition, Measure HW-3 in Section 3.12.4 of the RDEIR/SDEIS stated that, should a build alternative be selected as the Preferred Alternative, prior to soil excavation, a soil investigation for aerially deposited lead and other contaminants of concern would be conducted.

L-27-287

As discussed in Section 3.12.2.8 of the RDEIR/SDEIS and this Final EIR/EIS, all operating and most closed landfills are required to have landfill gas migration control systems and monitoring programs. Additionally, most active and many closed landfills have landfill gas capture and treatment and destruction systems. Therefore, the likelihood of methane landfill gas affecting an area beyond the landfill property is low. In addition, should a build alternative be selected as the Preferred Alternative, Measures HW-1 through HW-7 in Section 3.12.4, and CON-HW-1 through CON-HW-3 in Section 3.24.4.12 would be implemented to substantially reduce adverse impacts

related to hazardous materials and hazardous wastes during construction of the build alternatives.

As noted in Table 2.5-1 in Section 2.5 of the RDEIR/SDEIS, permits for structures or buildings within 200 feet of an active, abandoned, or idle oil or gas well, or within 1,000 feet of a landfill would be acquired from the Los Angeles Department of Water and Power (LADWP) Environmental Programs Division prior to construction of the build alternatives.

As discussed in Section 3.12.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, each property of environmental concern to be acquired, should a build alternative be selected as the Preferred Alternative, would require testing in order to characterize specific soil and/or groundwater contaminants on the property, and a site-specific hazardous waste remediation plan would be developed for the appropriate removal and disposal of materials. In addition, a remediation plan and site closure plan, if required, would be implemented to clean up the site and provide for any subsequent monitoring to ensure the contamination would be remediated below regulatory thresholds. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore there would be no adverse impacts related to hazardous materials and hazardous wastes during construction.

L-27-288

As the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic element of the build alternatives, the specific locations of any potential fueling stations has not been determined at the time this Final EIR/EIS was prepared; therefore, the specific environmental impacts of fueling stations are not known at this time. However, since the No Build Alternative (Alternative 1) has been selected as the Preferred Alternative, programmatic elements of the build alternatives, such as the I-710 Clean Truck Program will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

L-27-289

Caltrans and Metro respectfully disagree that analysis has been inappropriately deferred. Should a build alternative be selected as the Preferred Alternative, Measures HW-1 through HW-7 in Section 3.12.4, and CON-HW-1 through CON-HW-3 in Section 3.24.4.12 of the RDEIR/SDEIS would be implemented to substantially reduce adverse impacts related to hazardous materials and hazardous wastes during construction of the build alternatives. Additional information would be required (i.e., file review) to determine the potential impact of parcels within the two build alternatives. Sufficient evidence was not gathered or completed at every parcel to fully characterize the potential presence of hazardous materials or contaminants, as access was not permitted to conduct thorough investigations. Should a build alternative be

selected as the Preferred Alternative, and if contamination would be present at the parcels that cannot be mitigated, the limits of acquisition may need to be adjusted to avoid the residual contamination. If the limits of acquisition cannot be adjusted, minimization measures would include indemnification, reduction in price, or acquisition as highway easements instead of in fee. If interviews and further investigative work are conducted too soon, the information may become dated and have to be re-done to provide relevant information for the design, right-of-way acquisition, and construction phases of the project. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore Measures HW-1 through HW-7 in Section 3.12.4, and CON-HW-1 through CON-HW-3 will not be implemented. Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste.

L-27-290

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste. The property located at 960 De Forest Avenue, in addition to the site of a former dry cleaning facility, was discussed in Table 3.12-3 in Section 3.12.4 of the RDEIR/SDEIS. Rocket Oil, located at 1701 West Anaheim Street, is neither a site of potential environmental concern, nor an adjoining property of potential concern, for either of the build alternatives.

L-27-291

The reference to Measures HW-1 through HW-8 in Section 3.12.3.1 of this Final EIR/EIS, as well as the Executive Summary, was corrected to be consistent with the list of measures in Section 3.12.4.

L-27-292

Please refer to Response to Comment L-27-288 regarding the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program).

L-27-293

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste. It is also important to note that the measures included in Section 3.12.4 of the RDEIR/SDEIS do provide for specific performance measures, including appropriate testing, remediation, removal of contaminants, and preparation of a Construction Contingency Plan in accordance with Caltrans' Unknown Hazards Procedures for Construction, among others (should a build alternative be selected as the Preferred Alternative). However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the

Preferred Alternative and therefore there will be impact from hazardous materials and development of appropriate minimization measures that include specific performance criteria that must be met is not necessary.

L-27-294

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste. It is also important to note that the measures included in Section 3.12.4 of the RDEIR/SDEIS do provide for specific performance measures, including appropriate testing, remediation, removal of contaminants, and preparation of a Construction Contingency Plan in accordance with Caltrans' Unknown Hazards Procedures for Construction, among others (should a build alternative be selected as the Preferred Alternative). However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore there will be impact from hazardous materials and development of appropriate minimization measures that include specific performance criteria that must be met is not necessary.

L-27-295

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste. It is also important to note that the measures included in Section 3.12.4 of the RDEIR/SDEIS do provide for specific performance measures, including appropriate testing, remediation, removal of contaminants, and preparation of a Construction Contingency Plan in accordance with Caltrans' Unknown Hazards Procedures for Construction, among others (should a build alternative be selected as the Preferred Alternative). However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore there will be impact from hazardous materials and development of appropriate minimization measures that include specific performance criteria that must be met is not necessary. Specific information regarding USTs was described in Tables 3.12-1, 3.12-2, and 3.12-3 of the RDEIR/SDEIS.

L-27-296

Section 3.24 of the RDEIR/SDEIS and this Final EIR/EIS describes the construction methods and related types of impacts considered for the build alternatives. Construction methods are the basis for assessing and qualifying the potential environmental impact from construction activities. As discussed in Section 3.24.3.9 of the RDEIR/SDEIS and this Final EIR/EIS, the construction activity that has the greatest potential to impact groundwater would involve the removal and disposal of groundwater during the excavation required for the structural foundations for I-710 under the build alternatives. However, the No Build Alternative has been selected as the Preferred Alternative and, therefore, there will be no construction activity.

L-27-297

Table 3.12-1 in Section 3.12.4 of the RDEIR/SDEIS included sites of potential environmental concern to the I-710 Corridor Project, and the rationale behind that classification, under the build alternatives. This table has been updated in this Final EIR/EIS.

L-27-298

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste.

L-27-299

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste.

L-27-300

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste. It should be noted that although the RDEIR/SDEIS was based on the ISA prepared and circulated for public review, the ISA itself has no such public review requirement. Caltrans understands the implications of changing conditions and has considered these potential risks in its decision making to date and has applied commensurate project contingencies. Additional investigation will not occur during subsequent phases of project development since the No Build Alternative has been selected as the Preferred Alternative.

L-27-301

Please refer to responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste. As stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, there will be no additional environmental impacts that are currently not known.

L-27-302

The ISA was prepared in general accordance with Caltrans' internal guidance document on ISAs, which is not available to the public. The Caltrans guidance is intended to be consistent with *American Society of Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process*, which is available to the public through ASTM.

L-27-303

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste. Caltrans and Metro respectfully disagree with the City's opinion that the analysis is flawed, as the referenced guidance is intended to be a tool rather than a mandate.

L-27-304

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste. Section 3.12 of this Final EIR/EIS has been updated to clarify that additional file reviews have been conducted to supplement the online database reviews and assessments prepared for the project.

L-27-305

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste. Due to the size and complexity of the build alternatives, design, right-of-way, and construction of the build alternatives would be expected to be implemented in multiple stages over several years (should a build alternative be selected as the Preferred Alternative). If interviews and further investigative work are conducted too soon, the information may become dated and have to be re-done to provide relevant information for the design, right-of-way acquisition, and construction phases of the build alternatives. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, interviews and further investigative work will not need to be conducted prior to programming these project development phases for each stage.

L-27-306

Off site adjacent properties of concern were disclosed in Table 3.12-3 of the RDEIR/SDEIS and in greater detail in the ISA. The information in Table 3.12-3 included known information regarding the presence of USTs, which may have impacts to groundwater. Should a build alternative be selected as the Preferred Alternative, Measure HW-4 in Section 3.12.4 of the RDEIR/SDEIS would specifically address the potential for contaminated groundwater.

L-27-307

Caltrans and Metro respectfully disagree with the City's opinion that the analysis is flawed, as the referenced guidance is intended to be a tool rather than a mandate. The inclusion of conclusions or recommendations concerning RECs is not required. However, recommendations for subsequent project activities for the build alternatives were made and disclosed in Section 7 of the ISA.

L-27-308

Please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste. It should be noted that provisions for the handling of USTs (and other contaminants) encountered during construction of the build alternatives are included in Measure HW-6 in Section 3.12.4 of the RDEIR/SDEIS and this Final EIR/EIS. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, the suggested recommendations will not be necessary as discussed in Response to Comment L-27-305.

L-27-309

This comment is referencing a comment previously submitted by the City of the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, please refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287 regarding impacts related to hazardous waste.

L-27-310

Please refer to Response to Comment L-27-309 regarding impacts related additional hazardous waste investigations.**L-27-311** This comment is referencing a comment previously submitted by the City of the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, as was discussed in Section 3.12.2.2 of the RDEIR/SDEIS and this Final EIR/EIS, the bridges, overpasses, interchanges, entrance and exit ramps, and other features of I-710 also have the potential to contain asbestos-containing material (ACM), which would also impact demolition activities related to the build alternatives. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore, there would be no demolition of existing bridges, overpasses, interchanges, entrance and exit ramps, or other features of I-710 that have the potential to contain ACM or lead-based paint (LBP)

L-27-312

This comment states that the air quality section should analyze both an opening year and a horizon year (20 years after opening). As discussed in Section 3.13, Air Quality, of the

RDEIR/SDEIS and this Final EIR/EIS, 2035 was selected to represent future conditions to maintain consistency with the baseline year (2012) and horizon year (2035) used for the I-710 Traffic Model. As further detailed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities of the RDEIR/SDEIS, 2035 was used as the horizon year for future conditions to maintain consistency with the date of the socioeconomic data used in the Southern California Association of Governments' (SCAG) 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The rationale for this is that the geometric design for the build alternatives was prepared and completed between 2013 and 2015, and as such, the SCAG 2012 RTP and associated traffic forecasting model were used, which have a travel forecasting horizon year of 2035. Based on a comparative review of the key model inputs (i.e., demographics, and cargo forecasts), it was determined that the 2012 model and the recently updated 2016 model would not yield substantially different traffic forecasts, nor would they result in substantially different geometric designs. Additionally, utilizing a 20-year horizon from a projected opening year of 2033 would target a 2053 horizon year, which would be both impractical and speculative from an analytical standpoint.

Further, as discussed in Response to Comment R-3-9, it has been demonstrated that 2035 is the peak PM_{10}/$PM_{2.5}$ emissions year for operational emissions in the August 2018 White Paper "I-710 Corridor Project: Selection of Analysis Year for Quantitative PM Hot-Spot Analyses", which was Appendix B of the August 2018 PM conformity submittal to the Transportation Conformity Working Group. In essence, vehicle miles travelled (VMT) would increase during this period (as noted in the South Coast Air Quality Management District's Final 2016 Air Quality Management Plan), while fleet-turnover to the cleanest current cars and trucks would be essentially complete by 2023 (as shown in EMFAC2014 and complete implementation of the CARB Truck and Bus Rule by that date). Therefore, 2035 represents the worst-case scenario for future air quality emissions.

L-27-313

Please refer to Response to Comment L-27-16 for more information regarding the use of the 2012 RTP/SCS for planning assumptions rather than the 2016 RTP/SCS. The language provided on Page 3.13-14 of the RDEIR/SDEIS is related to specifics associated with the regional conformity process and air quality conformity requirements to include a description of the design concept and scope of the build alternatives in the conformity analysis conducted for the region. This conformity requirement does not invalidate the future year travel demand forecasts, traffic analysis, or air quality analysis prepared for the I-710 RDEIR/SDEIS, which examines both build and no build conditions. As was also stated in Section 3.13.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, an update to the description of Alternative 5C was included in the RTP/SCS and FTIP. This amendment was included in the 2016 RTP/SCS Amendment No. 3 (including the 2019 Federal Transportation Improvement Program Consistency Amendment No. 19-00), adopted by SCAG on September 6, 2018. However, as

stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore regional conformity was not obtained. Further, the discussion of project-level conformity was updated in Section 3.13.3.2 of this Final EIR/EIS.

L-27-314

Please refer to Response to Comment L-27-313 regarding the FTIP and RTP/SCS descriptions of the build alternatives.

L-27-315

Caltrans respectfully disagrees that the air quality analysis relied upon out-of-date conformity guidance. Consistent with Caltrans and FHWA guidance, project-level PM conformity analysis is not required for approval of a Draft EIR/EIS and is not required to be included in the RDEIR/SDEIS. EPA's General Conformity webpage[7] indicates that the Federal agency (in this case, Caltrans under their assumption of FHWA's responsibility under NEPA) is provided deference in determining the most appropriate way to integrate the conformity and NEPA processes, and that "it may not make sense to perform a conformity analysis for all alternatives, but only for the one actually selected." Please refer to Response to Comment L-27-12 for further discussion of the appropriate timing of the project-level PM conformity analysis. Additionally, the discussion of project-level conformity in Section 3.13.3.2 has been updated in this Final EIR/EIS.

L-27-316

The comment expresses concern that the build alternatives may not be able to demonstrate project-level PM conformity. Following the circulation of the RDEIR/SDEIS in 2017, extensive coordination occurred between Caltrans, Metro, and EPA staff related to the protocol for the particulate matter hot-spot analysis, a component of that project-level conformity analysis. Prior to circulation of the 2012 Draft EIR/EIS, the I-710 Corridor Project was determined to be a Project of Air Quality Concern (POAQC) requiring a PM hot-spot analysis because it was considered to be: (i) a new or expanded highway project that had a significant number of or significant increase in diesel vehicles, and (ii) a project affecting intersections that are at level of service (LOS) D, E or F with a significant number of diesel vehicles, or those that will change to LOS D, E or F because of increased traffic volumes from a significant number of diesel vehicles related to the build alternatives. This was described in Section 3.13.3.1 of the 2012 Draft EIR/EIS. Some of the build alternatives analyzed in the 2012 Draft EIR/EIS assumed that zero emission/near zero emission (ZE/NZE) trucks would be commercially deployed and therefore in

[7] Website: https://www.epa.gov/general-conformity/general-conformity-training-module-13-background, accessed December 13, 2018.

use in the corridor at the time a build alternative would be constructed; however, at that point in project development, the I-710 Corridor Project did not include a ZE/NZE truck program as a programmatic element. The assumption that the project was a POAQC was carried forward in the RDEIR/SDEIS even considering that the subsidy and deployment of ZE/NZE trucks was included as a programmatic element of Alternatives 5C and 7, which serves as a commitment that ZE/NZE trucks would be deployed in the corridor should a build alternative be approved and constructed. Because the build alternatives analyzed in the RDEIR/SDEIS included ZE/NZE truck deployment strategies and funding commitments approved by the Metro Board of Directors, it can be reasonably concluded that "a significant number of or significant increase in diesel vehicles" would not occur as a result of the build alternatives. Rather, it can be demonstrated that the number of diesel vehicles operating in the corridor would actually decrease as a direct result of either Alternative 5C or 7. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore project-level conformity was not obtained.

L-27-317

Please refer to Responses to Comment L-27-12 and L-27-315 for a discussion of appropriate timing of the project-level PM conformity analysis. A quantitative analysis of PM emissions was conducted and disclosed in Section 3.13.3.3 of the RDEIR/SDEIS in accordance with the requirements of CEQA and NEPA. Please also refer to Response to Comment L-27-316 regarding the TCWG process.

L-27-318

As stated in Section 3.13.3.4 of the RDEIR/SDEIS and Section 4.5 of the AQ/GHG/HRA Technical Study, exhaust $PM_{2.5}$ emissions (sum of running exhaust, tire wear, brake wear, and entrained road dust) are used as a surrogate for the qualitative assessment of PM (ultrafine particle) mortality and morbidity. Comparison of the exhaust $PM_{2.5}$ emissions from the I-710 freeway, South Coast Air Basin, and I-710 "Area of Interest" for each of the build alternatives (5C and 7) as compared to the No Build Alternative (Alternative 1) in 2035 is disclosed in Section 2.5 (and not the executive summary) of the Technical Study. This information was also depicted graphically in Appendix Q of the RDEIR/SDEIS. For clarification, the following discussion from the Technical Study was added to Section 3.13.3.4 of this Final EIR/EIS:

"The near-road modeling of total PM2.5 emissions also shows that the I-710 near-roadway total PM2.5 concentrations of the 2035 No Build Alternative were about the same as both build alternatives; the exception being increases in total $PM_{2.5}$ at receptors near the freight corridor in Alternative 7. Similar to the comparisons to the 2012 Baseline, these very near-roadway increases are predominantly because of increases in entrained roadway dust (related to the assumption of an infinite silt reservoir on the roadways)."

L-27-319

Please refer to Response to Comment L-27-318 regarding exhaust $PM_{2.5}$ emissions.

L-27-320

Should a build alternative be selected as the Preferred Alternative, both measures AQ-2 (detailed in Section 3.13.4) and C-8 (detailed in Section 3.3.3.7) would provide for the installation of filtration or HVAC units for sensitive receptors. The measure would not provide for ongoing maintenance of filtration units, as Caltrans and Metro do not have an appropriate mechanism for ongoing provision of funds or materials. Maintenance would ultimately be the responsibility of the filtration recipient.

L-27-321

In response to this and other comments, Measure AQ-3 has been expanded to describe in more detail the types of vegetation that, should a build alternative be selected as the Preferred Alternative, would be utilized for the intended purpose and enforcement mechanisms used. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and, therefore Measure AQ-3 will not be implemented and providing further specifics related to this measure is unnecessary.

L-27-322

The City of Long Beach's support of zero emissions and opposition to any alternative that does not include a ZE component is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of ZE options.

L-27-323

Detailed final design, construction, and staging plans and equipment location and timing is typically not determined until after a Final EIR/EIS is approved. Without location-specific construction activity information, modeling of location-specific air quality impacts is not possible and assumptions about those locations and the intensity/duration of construction activity at those locations would cause any dispersion modeling results (ambient or mobile source air toxics) to be speculative and misleading. However, a preliminary construction staging analysis has been performed in order to demonstrate that the build alternatives could feasibly be constructed. The construction emissions scenarios presented in the AQ/GHG/HRA Technical Study (2017) and summaries in Section 3.24, Construction Impacts, of the RDEIR/SDEIS assumed consecutive construction of all freeway sections, which represents a conservative (i.e., worst case) emissions analysis, drawn from the construction staging scenarios, in order to

identify and disclose the range of potential impacts resulting from construction of the build alternatives.

L-27-324

Please refer to Response to Comment L-27-323 regarding location-specific air quality impacts during construction.

L-27-325

This comment states that the Draft EIR/EIS omits considerations of emissions from traffic disruptions during construction. The air quality analysis was conducted consistent with Caltrans requirements. Volume 1, Chapter 11, of Caltrans' Standard Environmental Reference states that in areas subject to transportation conformity requirements, a construction impact analysis is only required if construction will last more than five years. Although the No Build Alternative has been selected as the Preferred Alternative, for purposes of the air quality analysis, it was anticipated that the duration of construction activities related to the build alternatives would not be greater than five years at any single site. Please refer to Section 3.13.3.2 of this Final EIR/EIS for an updated discussion of project-level conformity.

Further, according to the preliminary construction staging analysis, it is likely that construction of either build alternative would take place in different segments within the 19-mile corridor simultaneously in order to construct the full project. The analysis presented in the AQ/GHG/HRA Technical Study (2017) evaluates potential emissions associated with the highest traffic levels in the I-710 Corridor upon project completion (Year 2035) as well as the construction emissions impacts of constructing the full corridor under the build alternatives. It was assumed, as is typical during major freeway reconstruction projects in the Los Angeles metropolitan area, that the I-710 would continue to operate during the construction period.

In addition, as shown in Table 2.3-5 in the RDEIR/SDEIS, the most complex area in terms of construction activity and duration would be located within Segment 2 (Wardlow Road to Del Amo Boulevard). A more detailed examination of the preliminary construction staging analysis within this broad area confirmed that construction of the various sequential elements would occur at different locations and that no individual site would be affected by construction-related activities for longer than five years. However, as stated previously, the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction would occur.

L-27-326

Please refer to Response to Comment L-27-312 regarding the peak construction year analysis, demonstrating that 2035 is the peak operational emission year. Also, please refer to Response to Comment L-27-325 for a discussion of construction emissions.

L-27-327

Please refer to Response to Comment L-27-325 for a discussion of emissions from traffic disruptions during construction of the build alternatives.

L-27-328

Construction emissions were calculated using the I-710 Construction Emissions Model, which is a modified version of the Sacramento Metropolitan Air Quality Management District (SMAQMD) Road Construction Emissions Model (RCEM) version 8.1.0. The results of this analysis were included in Table 3.24-4 of the RDEIR/SDEIS and in this Final EIR/EIS. Project specific information about the construction activities listed in the comment is typically not available until during the final design phase of a build alternative. However, greenhouse gas emissions from the sources listed in the comment represent a very small proportion of the overall greenhouse gas emissions expected from major construction activities, like those included in the I-710 Construction Emissions Model and presented in Table 3.24-4, and are expected to be minimal in comparison.

L-27-329

Caltrans and Metro acknowledge that Type I precision noise meters are preferred; however, they are not required for project-level environmental studies. All Type II general purpose noise meters used by Caltrans for field work on this project were calibrated annually to the American National Standards Institute (ANSI) requirements, using a third-party vendor.

L-27-330

It should be noted that most, if not all, of the receptors that show an increase in the noise level exceeding 10 dBA would be due to the removal of an existing sound wall in order to accommodate widening of the I-710 under the build alternatives. In all cases where a soundwall would be removed due to widening, it would be replaced either in-kind or taller (should a build alternative be selected as the Preferred Alternative). More details regarding abatement, including specific dBA decreases, can be found in Table 3.14-3 of Section 3.14 of this Final EIR/EIS. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no sound walls will be constructed.

L-27-331

Out of the 150 measured sites, a very small number (5) showed a calibration factor exceeding 5 dBA. Because of this small number (only three percent of all measured sites) and the fact that nearby sites provide a reasonably good calibration factor, additional measurements were not conducted.

L-27-332

Extending the analysis beyond the horizon year in order to hypothesize the future roadway's pavement condition is speculative. Regular maintenance will be performed on the roadway surface as needed. Further, based on empirical data available to Caltrans, freeway traffic does not cause ground-borne vibration sufficient to cause architectural or structural damage.

L-27-333

The predicted traffic volumes utilized in the traffic and air quality analyses were also utilized in the noise analysis. More information regarding these predicted volumes can be found in Section 3.5, Traffic, of the RDEIR/SDEIS and Final EIR/EIS, as well as the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017). This information was disclosed in Section 5.3 of the *Noise Study Report* (Caltrans, May 2016), along with other highly technical methodological information that would not typically be included in an EIR/EIS, but would be available to the public in a technical report. The Traffic Noise Model is based on these predicted traffic forecasts, including the predicted truck percentages throughout the I-710 Corridor.

L-27-334

At the time of the preparation of the Noise Abatement Decision Report (NADR, approved in June 2017), $80,000 per benefited receptor was the reasonable allowance used, in accordance with the current guidance at the time. It is important to note that there is only one soundwall within the City of Long Beach (SW-405A2) that was not recommended for construction to abate noise from the build alternatives because the cost exceeded the allowance. Even using the more updated 2017 allowance of $92,000, this proposed wall would still not be considered cost-reasonable. In addition, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no sound walls will be constructed.

L-27-335

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no adverse temporary ground-borne vibration impacts would occur.

L-27-336

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. The discussion provided in Section 3.24.3.14, Construction Impacts, addresses noise impacts during the construction phase of the build alternatives. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, a more detailed

Noise Monitoring Plan and Noise Control Plan, which would further refine the potentially impacted locations and measures to address potential impacts will not be necessary and no sound walls will be constructed.

L-27-337

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Please refer to Response to Comment L-27-336 regarding noise impacts during construction of the build alternatives. It is important to note that Caltrans has not adopted CEQA significance thresholds, nor is it required to adopt other agencies' thresholds.

L-27-338

Please refer to Response to Comment L-27-336 regarding noise impacts during construction of the build alternatives.

L-27-339

Please refer to Response to Comment L-27-336 regarding noise impacts during construction of the build alternatives.

L-27-340

The Energy Resources and Consumption Section discussion of Coal, Electricity, and Renewables was updated to properly describe the CEC energy assessment without specifying any power plant type.

L-27-341

The traffic input data for the energy analysis was corrected, resulting in differences between the build alternatives that show changes for Alternatives 5C and 7. The VMT and VHT data in Table 3.15-6 in this Final EIR/EIS for the entire region now show that average auto speeds, for instance, would increase from 38.2 mph in 2012 to 40.9 mph for the 2035 No Build Alternative, and to 41.0 mph for both Alternatives 5C and 7.

L-27-342

The data in Tables 3.15-6, 3.15-8 and 3.15-10 have all been updated in this Final EIR/EIS, based on the corrected traffic data input.

L-27-343

The statement in Section 3.16.1 of this Final EIR/EIS, “There are no other adopted or proposed Habitat Conservation Plans or Natural Communities Conservation Plans within the I-710 Corridor Project Study Area...” has been revised to correctly identify and provide a brief discussion of the Coastal Pelagic Management Plan.

L-27-344

The scientific name for tocalote in paragraph 4 under the Developed/Ornamental/Ruderal subtitle in Section 3.16.2.2, Land Cover Designations, in this Final EIR/EIS has been revised to *Centaurea melitensis*. Similarly, the scientific name for California ground squirrel in same paragraph has been revised to *Otospermophilus beecheyi*. The species identification for perennial sow-thistle *Sonchus arvensis* has been confirmed.

L-27-345

The first sentence under the Freshwater Emergent Marsh subtitle in Section 3.16.22, Land Cover Designations, of this Final EIR/EIS has been revised to read, “This habitat has been highly affected by the human environment, much like the riparian scrub habitat described below.”

L-27-346

Scientific names have been added for the following species referenced under the Freshwater Emergent Marsh subtitle in Section 3.16.2.2 of the Final EIR/EIS, California bulrush (*Schoenoplectus californicus*) and cattails (*Typha* sp.). Subsequent mentions of the scientific names for California bulrush and cattails (particularly under Riparian Scrub in Section 3.16.22) have been removed from the remainder of Section 3.16.

L-27-347

The last sentence of paragraph 2 under the Riparian Scrub subtitle in Section 3.16.22 of the Final EIR/EIS has been revised to read, “Nonnative and/or weedy species commonly observed included…”

L-27-348

In Table 3.16-2 of the Final EIR/EIS, the word “Developed” has been added to the cell in the second column from the right, row 2. The cell justification in Row 4 of Table 3.16.2 has also been adjusted to be consistent with the remainder of the table.

L-27-349

Please refer to the Cumulative Impacts section, Section 3.24, for more information on the impacts of other projects. Presumably, the commenter is requesting a discussion of the impacts of Alternative 1 in order to provide a side-by-side comparison of the impacts of all three alternatives. However, the impacts of Alternative 1 are limited to those associated with planned and approved projects that may happen with or without any changes to the current configuration of the I-710 Corridor. Thus, including descriptions/quantification of impacts of other planned and approved projects as Alternative 1 impacts, but not including them as part of Alternative 5C and Alternative 7 impacts would skew the comparison that is relevant to the decisions at hand for the I-710 Corridor. Furthermore, the existing information on the impacts of other planned and approved projects is not at a consistent level of detail for comparison to the I-710 design options being considered here. Finally, the impacts of those other projects have been, or will be, considered in the environmental documents for those projects on a project-by-project basis.

L-27-350

The second sentence in paragraph 5 of Section 3.17.1, Regulatory Setting, of this Final EIR/EIS has been revised to read, “Essentially, EO 11990 states that a Federal agency, such as FHWA and/or Caltrans, as assigned, cannot…”

L-27-351

In Table 3.17-1 under Section 3.17.2.3 of this Final EIR/EIS, an footnote has been added to Row 2, Column 7 and the following definition has been added to the table footnotes, “Total Section 10 Area (acres) are inclusive of Total Section 404 Area (areas).”

L-27-352

The following sentence in the second paragraph under the Wildlife Habitat subtitle in Section 3.17.2.4 of this Final EIR has been revised to read, “Wetland and riparian habitat within Drainage Features 3, 23, and 24 (Joint Dominguez Gap and DeForest Treatment Wetlands) provide wildlife habitat for mainly avian species.”

L-27-353

The last sentence in the third paragraph under the Aquatic Habitat subtitle in Section 3.17.2.4 of this Final EIR/EIS has been revised to read, “The small amount of wetland vegetation within Drainage Feature 6 and 22 (Compton Creek) provides a moderate amount of habitat for aquatic species.”

L-27-354

Where applicable within Section 3.17.3 of this Final EIR/EIS, Drainage Feature 3 has been clarified to indicate that this particular feature refers to the Dominquez Gap wetlands.

L-27-355

The second sentence in paragraph one under Section 3.17.4 of this Final EIR/EIS has been revised to read, “Compensatory mitigation for impacts to jurisdictional aquatic resources would be required in order to obtain permits from the USACE and CDFW.”

L-27-356

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, the City’s concurrence on the adequacy of the statement that the “final details for compensatory mitigation would be evaluated through coordination between Caltrans and the resource agencies,” is acknowledged and included in the project record.

L-27-357

As indicated in the comment, the requested discussion has been included in this Final EIR/EIS. A separate subheading titled “Wetlands Only Practicable Alternative Finding” can be found in Section 3.17.5 of this Final EIR/EIS and includes a discussion addressing items a through d as required in Caltrans’ Annotated Outline.

L-27-358

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. As indicated in Caltrans’ Annotated Outline, identification of the Least Environmentally Damaging Practicable Alternative (LEDPA) is provided in a final environmental document. Thus, Section 3.17 in this Final EIR/EIS includes a discussion of the LEDPA determination.

L-27-359

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, Section 3.17, Wetlands, in the RDEIR/SDEIS and this Final EIR/EIS discusses the Joint Dominguez Gap and DeForest Treatment Wetlands as likely being under the jurisdiction of the RWQCB. As such, the DeForest Wetlands (Drainages 23 and 24, as shown in Appendix R in the RDEIR/SDEIS and this Final EIR/EIS) are included as a wetland and are analyzed in Section 3.17, Wetlands, as well as in Section 3.16, Natural Communities, in the RDEIR/SDEIS and this Final EIR/EIS due

to the associated native habitat. Protection of the DeForest Wetlands is accounted for in Measure NC-1, described in Section 3.16, Natural Communities in this Final EIR/EIS. Should a build alternative be selected as the Preferred Alternative, this measure would be implemented to avoid and minimize, mitigate, and/or compensate impacts to jurisdictional areas and native habitat under the build alternatives. Measure NC-1 states that the California Department of Transportation (Caltrans) would prepare a Habitat Mitigation Monitoring Plan (HMMP) that would comply with all terms and conditions set forth in the permits and opinions issued by the resource agencies. Measure NC-1 also explains that, as part of the HMMP, unavoidable impacts to wetlands and natural communities, both of which the DeForest Wetlands are considered to be within the RDEIR/SDEIS and Final EIR/EIS, would be mitigated through in-kind restoration or replacement. Furthermore, the RWQCB permit would require, as general conditions of a Water Quality Certification, water quality protection measures and BMPs. Section 3.24, Construction Impacts, also specifically mentions the DeForest Wetlands under Section 3.24.3.16, Natural Communities, and since the DeForest Wetlands are presumed to be RWQCB jurisdictional, they are also incorporated under Section 3.24.3.17, Wetlands. Thus, water quality monitoring under a SWPPP, including for the DeForest Wetlands, is discussed under Section 3.24.4.16, Natural Communities (CON-NC-8) and, should a build alternative be selected as the Preferred Alternative, the need for a Water Quality Certification, which as stated above would include water quality protection measures and BMPs, from the RWQCB is identified under Section 3.24.4.17, Wetlands (CON-WET-3). The comment, therefore, was addressed through the specific mention and inclusion of the Deforest Wetlands under the Natural Communities and Wetlands sections in the RDEIR/SDEIS and this Final EIR/EIS. However, it should be noted that, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to the Joint Dominguez Gap and DeForest Treatment Wetlands.

L-27-360

The legend in the Figures provided in Appendix R have been revised the Final EIR/EIS. “Other Drainage Features Within Developed Areas (non-jurisdictional)” has been revised to read, “Other Drainage Features Within Developed Areas (RWQCB-jurisdictional only).”

L-27-361

The legend in the Figures provided in Appendix R of the Final EIR/EIS accurately implies that the “Jurisdictional Features (includes L.A. River)” are jurisdictional to all three resource agencies (USACE, RWQCB, and CDFW). The legend is already crowded and specifying that the features are jurisdictional to the USACE, RWQCB, and CDFW would be redundant.

L-27-362

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. The maps in question have since been comprehensively updated to reflect the revised set of build alternatives. Red lines (red crosshatching in the legend) indicate the location of permanent direct impacts.

L-27-363

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. The construction of both construction and treatment BMPs was provided for in Section 3.24 and 3.9, respectively, in the RDEIR/SDEIS and this Final EIR/EIS.

L-27-364

It is important to note that the Regulatory Setting text provided in Section 3.18.1 is Caltrans standard language pursuant to its 2017 EIR/EIS Annotated Outline; and therefore, the requested revisions to the text were not made in this Final EIR/EIS.

L-27-365

The species statuses provided in Table 3.18-1 have been updated in this Final EIR/EIS pursuant to California Department of Fish and Wildlife's most current listing status. Additionally, the General Habitat Descriptions have been updated in Table 3.18-1 to include the blooming period and habitat description for plant species where this was previously omitted. The Habitat Present/Absent column has also been updated where applicable in Table 3.18-1 to provide clarification and further rationale for species presence or absence within the Biological Study Area.

L-27-366

The General Habitat Description in Table 3.18-1 of this Final EIR/EIS for the intermediate mariposa lily now provides more details than were provided in the table that was commented upon in 2012. The current description states that the species' elevational range is 600 to 2,800 feet and the geographic range is in hills. Based on this description, the Rationale now states that the BSA is outside the species' elevational and geographic range. Specific sources or references are not provided for any of the species in the table; this information can be found in the NES.

L-27-367

The “Rationale” text in Table 3.18-1 of this Final EIR/EIS has been updated for the Davidson’s bushmallow and California muhly. The rationale for the mud nama is correct and has not been revised.

L-27-368

In Table 3.18-1 of this Final EIR/EIS the “Rationale” text for Parish’s gooseberry has been revised to exclude the following sentence, “No willow swales within the BSA.”

L-27-369

In Table 3.18-1 of this Final EIR/EIS, the “Rationale” text for Salt Spring checkerbloom has been revised/expanded. Additionally, the “Rationale” text for Greata’s aster has been revised to include the following text, “BSA is outside of species’ known elevation range.”

L-27-370

In Table 3.18-1 of this Final EIR/EIS the “Rationale” text for Sonoran maiden fern has been revised to exclude the following sentence, “BSA is outside the species’ known range.”

L-27-371

In paragraph one in Section 3.18.2.1 in the Final EIR/EIS, the first sentence has been revised to read, “Southern tarplant (*Centromadia parryi* ssp. *Australis*), previously known as *Hemizonia parryi* ssp. *Australis*, is a…” The species mentioned in comments above this comment include Intermediate mariposa lily, Davidson’s bushmallow, California muhly, Mud nama, Parish’s gooseberry, Salt Spring checkerbloom, Greata’s aster, and Sonoran maiden fern. The suggestions in the preceding comments regarding habitat description and rationale have been incorporated unless otherwise noted. With these updates to Table 3.18-1 in the Final EIR/EIS, the rationale for each of these species thoroughly explains why these species are considered absent from the BSA. Therefore, additional discussions for these species are not warranted.

L-27-372

There are two types of permanent impacts to southern tarplant discussed in the RDEIR/SDEIS and this Final EIR/EIS: Direct permanent impacts, resulting from the design or construction of the build alternatives, and indirect permanent impacts, resulting from shading of the build alternatives.

L-27-373

The center heading in Table 3.18-2 in the RDEIR/SDEIS and this Final EIR/EIS is correctly titled "Direct Permanent Impacts," as described in the preceding paragraph under Section 3.18.3.1 Permanent Impacts. Since shading impacts, which are discussed as indirect permanent impacts in the paragraph following Table 3.18-2, are difficult to quantify, they are not presented in Table 3.18-2.

L-27-374

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, a summary of the discussion provided in Section 2.2.1 of the Natural Environment Study with regard to the literature review conducted was added to Sections 3.18, 3.19, and 3.20 in this Final EIR/EIS.

L-27-375

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Should a build alternative be selected as the Preferred Alternative, CON-61 in the Draft EIR/EIS, now CON-PS-1 in the RDEIR/SDEIS and this Final EIR/EIS, would provide for a qualified biologist to monitor construction and is considered an avoidance/minimization measure. This measure is intended to provide sufficient flexibility for future monitoring efforts related to the build alternatives and was not revised in this Final EIR/EIS.

L-27-376

Please refer to Response to Comment L-27-364 regarding Regulatory Setting text.

L-27-377

The species statuses in Table 3.19-1 in this Final EIR/EIS have been updated as applicable pursuant to the California Department of Fish and Wildlife's most current listing status.

L-27-378

The Rationale column in Table 3.19-1 provides discussions of whether suitable habitat is present for each species. Providing nearest and most recent occurrences recorded by CNDDB to the public is not permissible by CDFW, as the CNDDB license agreement states, "The CNDDB and Spotted Owl data may be shared freely between current subscribers, but should not be released to the public or non-subscribers." Furthermore, geographic occurrence information in CNDDB is not always accurate, is often too broad or general, and can be misleading to laypeople of the general public. The CNDDB license agreement states, "Data

within the CNDDB and Spotted Owl Database require biological expertise for proper analysis, interpretation, and application." Therefore, specific CNDDB occurrence information was not provided in Table 3.19-1 of this Final EIR/EIS.

L-27-379

In Table 3.19-1 in the Final EIR/EIS the "Rationale" text for Mountain plover has been revised to read, "Probably a regular winter visitor historically, but no suitable habitat remains within the BSA."

L-27-380

The statement was based on general knowledge by professional biologists. However, probability of occurrence ratings is not required and a focused analysis was not conducted. Therefore, the first sentence in the second paragraph under Other Special-Status Species Not Requiring Surveys subheading in Section 3.19.3.1 in the Final EIR/EIS has been revised accordingly to state, "All of these species are widespread in distribution and are not State or Federally listed as threatened or endangered."

L-27-381

The referenced sentence in Section 3.20.2 in this Final EIR/EIS has been further revised beyond what was included in the RDEIR/SDEIS.

L-27-382

The number of animal species referenced in Section 3.20.2.1 in this Final EIR/EIS has been corrected from 42 to 47 in the first sentence and from 40 to 43 in the second sentence of the first paragraph.

L-27-383

Please refer to Response to Comment L-27-365 regarding species statuses provided in Table 3.18-1.

L-27-384

In Table 3.20-1 in this Final EIR/EIS the "Rationale" text for San Fernando Valley spineflower has been revised to read, "Presumed extirpated from the Los Angeles Basin."

L-27-385

The CNDDB records for Lyon's pentachaeta near the Study Area are historical records (late 1800s/early 1900s) from San Pedro, Palos Verdes, and Wilmington, occurring on the Long

Beach and Torrance USGS quads. The records all state that the species is possibly extirpated from the area. Further, USFWS no longer includes this species on the official species list generated for the project, which suggests that the Service considers the species extirpated from the Study Area. Therefore, the statement “Believed to be extirpated from the area” for Lyon’s pentachaeta was not removed from Table 3.20-1 in this Final EIR/EIS.

L-27-386

The Rationale column in Table 3.20-2 provides discussions of whether suitable habitat is present for each species. Providing nearest and most recent occurrences recorded by CNDDB to the public is not permissible by CDFW, as the CNDDB license agreement states, “The CNDDB and Spotted Owl data may be shared freely between current subscribers, but should not be released to the public or non-subscribers.” Furthermore, geographic occurrence information in CNDDB is not always accurate, is often too broad or general, and can be misleading to laypeople of the general public. The CNDDB license agreement states, “Data within the CNDDB and Spotted Owl Database require biological expertise for proper analysis, interpretation, and application.” Therefore, specific CNDDB occurrence information was not provided in Table 3.20-2 of this Final EIR/EIS.

L-27-387

Table 3.20-2 of this Final EIR/EIS has been revised to reflect the “Rationale” for Green sea turtle.

L-27-388

The conclusion of “absent” pertains to nesting habitat and to the fact that the species was not observed during surveys conducted for the proposed project. As suggested under the “Status Federal/State” column in Table 3.20-2 in the RDEIR/SDEIS with the inclusion of “(nesting)”, the occurrence of nesting sites, not necessarily occurrences during migration foraging stops, are of interest and are tracked under the CNDDB. At the time that the RDEIR/SDEIS was written, there was only marginally suitable nesting habitat within the Study Area and there were no records of least Bell’s vireo occurring near the Study Area during the species’ nesting season; thus the conclusion of “absent” was made. However, recent habitat restoration projects adjacent to the Los Angeles River have resulted in the establishment of more suitable nesting habitat for the least Bell’s vireo and there are three of recent eBird records in which the species was observed during the breeding season within the vicinity of the Study Area. Although there are currently no available records of least Bell’s vireo nesting in these areas, suitable habitat is expanding and improving and it is reasonable to suspect that the species may begin nesting within or adjacent to the Study Area in the near future. As such, the conclusion regarding presence/absence has been revised and this Final EIR/EIS has been revised to consider potential impacts to the least Bell’s vireo.

L-27-389

The following text has been added to the Affected Environment section preceding the Plant and Animal Species subsections in Section 3.20.2 in this Final EIR/EIS:

“Prior to conducting the field surveys, existing documentation relevant to the Biological Study Area (BSA) was reviewed. Database records and websites reviewed included:”.

L-27-390

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Please refer to Response to Comment L-27-343 regarding the discussion that has been added to Section 3.16.1 related to the Coastal Pelagic Management Plan.

L-27-391

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. More specific information regarding permit conditions are typically not known until the completion of final design of a build alternative. As stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, no permits will be required.

L-27-392

Caltrans respectfully disagrees that Section 3.23 of the RDEIR/SDEIS should address loss of productivity within the City of Long Beach as a result of business displacements under the build alternatives. Section 3.23, Irreversible and Irretrievable Commitments of Resources, discusses the irreversible commitment of resources required to construct the build alternatives. Section 3.23 acknowledges that land acquisition represents an irreversible commitment of land to a transportation facility. However, business displacements do not represent an irreversible commitment of resources because the businesses would be relocated, should a build alternative be selected as the Preferred Alternative. Should a build alternative be selected as the Preferred Alternative, replacement properties would be identified and the businesses relocated prior to demolition of the properties in order to minimize disruptions to business operations.

The City of Long Beach’s concern about the community impacts from business displacements is acknowledged and noted in the public record. As noted in the comment and as outlined in Measure C-1, should a build alternative be selected as the Preferred Alternative, Caltrans would make every effort to relocate the affected businesses near their existing locations within the City of Long Beach if at all feasible. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, relocations will not be required.

L-27-393

Section 3.23 of the RDEIR/SDEIS and this Final EIR/EIS is entitled “Irreversible and Irretrievable Commitments of Resources that would be Involved in the Proposed Project”. This section is intended to specifically address permanent impacts and losses that could result from the build alternatives. Short-term and temporary impacts are discussed in Section 3.24, Construction Impacts, and Section 3.22, Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity.

Section 3.22.2.1 of the RDEIR/SDEIS and this Final EIR/EIS specifically states that the build alternatives would result in short-term losses and impacts related to disruption of recreational activities at Cesar E. Chavez Park during construction of the build alternatives. However, since the No Build Alternative has been selected as the Preferred Alternative, there will be no disruption of recreational activities at Cesar E. Chavez Park during construction.

L-27-394

The City states that the discussion provided for Alternative 1 (No Build) is contradictory. The funded and committed projects that are anticipated to be implemented under the Alternative 1 scenario would in fact result in the irreversible and irretrievable commitment of the same or similar types of resources that are identified for the build alternatives; however, the magnitude of the resources committed would not compare to that required for the build alternatives. Similarly, each of the funded and committed projects anticipated to be implemented under the Alternative 1 scenario would each have transportation-related benefits from implementation of the improvements; however, the benefits would not compare to that resulting from the build alternatives. It is important to note that there are no other projects currently proposed that are intended to wholly address the issues that the build alternatives would. Each of the funded and committed projects that are anticipated to be implemented under the Alternative 1 would also be implemented under either build alternative and does not present a differentiating factor among the build alternatives.

L-27-395

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives (Alternatives 5A, 6A, 6B, and 6C) no longer under consideration.

L-27-396

The City correctly notes that this section identifies that the build alternatives would involve the commitment of a range of natural, physical, human, and fiscal resources which are all considered to be irreversible and irretrievable resources. The discussion following this

statement provides additional detail on physical and natural environment resources which include paleontological resources, archaeological resources, estuarine habitat, riparian/riverine habitat, jurisdictional waters, and construction resources (e.g., fossil fuels, cement, aggregate, bituminous materials, and steel). While implementation of either of the build alternatives would involve the irreversible and irretrievable commitment of fiscal resources, the commitment of fiscal resources would not result in an effect with physical change. Effect analyzed under CEQA must be related to a physical change; therefore, no further discussion of the commitment of fiscal resources is provided in the discussion within this chapter or in Chapter 4.0, CEQA Evaluation.

L-27-397

The City correctly notes the RDEIR/SDEIS identifies that the No Build Alternative includes approved and planned projects identified in SCAG's 2012–2035 RTP/SCS and FTIP as well as current plans and projects related to good movement to and from the Ports and application of advanced technologies and programs within the I-710 Corridor. Attempting to identify the irreversible and irretrievable effects of each of the anticipated projects expected to be implemented in the No Build Scenario would be speculative for those projects for which environmental documents have not yet been prepared (refer to State CEQA Guidelines Section 15145, Speculation). Future planned projects that are assumed to be implemented under the No Build scenario would be subject to discretionary review by the approving agency at which time an analysis of the project's irreversible and irretrievable effects can be better defined and analyzed.

L-27-398

The comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. The commenter states that the section does not include an analysis of the consumption of water during construction of the build alternatives and provides examples of how water is used during construction (e.g., for dust control, concrete mixers, etc.). Water consumption during construction of the build alternatives would be temporary and would no longer be required once construction is complete; therefore, water use during construction is not considered to be an irreversible and irretrievable commitment of a resource. During operation, the build alternatives would require the use of water on a long-term basis for landscaping and irrigation systems. As detailed in Chapter 2.0, Project Alternatives, page 2-20, landscaping and irrigation systems would be provided where necessary within the I-710 Corridor to provide aesthetic treatment, replacement planting, or mitigation planting. The plant palette for landscaping would include drought-tolerant and native species to reduce the consumption of water. As further detailed within this section, new irrigation systems would be designed to use reclaimed water (if available) and the use of drought-tolerant trees, shrubs, and foliage would be maximized throughout the project corridor.

Therefore, the build alternatives include design features that would be intended to minimize the long-term consumption of water during operation.

The commenter also states that the section does not include an analysis of the irreversible and irretrievable commitments of air quality that are attributable to Alternative 5A as this alternative only includes freeway widening and does not include the zero-emission technology features. While Alternative 5A was carried forward in the 2012 environmental studies as a stand-alone alternative, it should be noted that Alternative 5A was eliminated as a feasible alternative in the RDEIR/SDEIS as described in Section 2.4 in Chapter 2.0, Project Alternatives. Alternative 5A proposed improving the I-710 mainline by widening I-710 to include ten lanes throughout the length of the I-710 Corridor (including through the freeway-to-freeway interchanges) and modernizing its design (which includes redesigns of the freeway-to-freeway and arterial interchanges). Because of the updates in traffic assumptions and data, resulting in a clearer understanding of the origin and destination of truck traffic within the Study Area, and the substantial comments received from agencies and the public concerned with potential right-of-way impacts, potential impacts to health and air quality associated with the addition of general purpose lanes, and other requests (refer to Section 2.2.1 for more information), the funding partner agencies decided to continue to build on the available information and move forward with the development of revised build alternatives that would better respond to public input and updated traffic patterns, while still meeting the project's purpose and need. Therefore, Alternative 5A has been withdrawn from consideration and was not discussed further in the RDEIR/SDEIS.

The commenter also states that the section does not include an analysis of the irreversible and irretrievable commitments of energy from electrical consumption during construction and with implementation of an overhead catenary system, which is an option to power electric propulsion trucks that would utilize the Clean-Emission Freight Corridor. Identifying the source of electricity, (and the type of fuel that creates the electricity) that would be utilized during construction and operation of either of the build alternatives to determine what commitments of resources would be required is an impossible task. Electricity is provided to various users through various means including from electricity generated at electrical generating plants that use nonrenewable resources (e.g., coal, nuclear, oil, and natural gas) as well as from electricity generated from renewable resources (e.g. solar, wind, water, biomass, and geothermal). Because the type of resources that would be consumed to generate the electricity that would be used for construction and operation of the build alternatives is unknown, this analysis was not included in the RDEIR/SDEIS. As the No Build Alternative has been selected as the Preferred Alternative, there will be no energy use beyond what is existing.

L-27-399

Please refer to Response to Comment L-27-394 regarding the benefits of the projects included in the No Build Alternative.

L-27-400

As was discussed in Section 3.9.1.3 of the RDEIR/SDEIS and this Final EIR/EIS, the Construction General Permit (Order No. 2009-009-DWQ as amended by Order No. 2012-0006-DWQ) regulates storm water discharges from construction sites which result in a Disturbed Soil Area of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the Construction General Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

As discussed in Section 3.24.3.9 of the RDEIR/SDEIS and this Final EIR/EIS, the build alternatives would involve construction over and adjacent to the local water bodies and would disturb existing channel bottom sediments. Any construction work within the channel areas would likely result in sediment resuspension and dispersal into the water column of the channels. However, work within any channels would be limited to non-flood season as much as practicable. Additionally, should a build alternative be selected as the Preferred Alternative, coordination with the National Weather Service and the USACE regarding storm and flood events would occur. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to local water bodies adjacent to the I-710 corridor.

L-27-401

It is important to note that the text included in Section 3.24.2 of the RDEIR/SDEIS was intended to describe typical construction impacts of the build alternatives very generally. Although sediment and erosion control are components of water quality management, more detailed information regarding water quality and stormwater runoff during construction was included in Section 3.24.3.9 of the RDEIR/SDEIS. As discussed in Section 3.24.3.9 of the RDEIR/SDEIS and this Final EIR/EIS, the construction work under the build alternatives would involve the removal of the existing structures and construction of the new highway alignments and related improvements. The construction phase of the build alternatives would have the potential to impact the present and future water quality of the receiving waters through the transport of

pollutants and mobilization of construction equipment within waterways. The primary impact locations that would have the greatest risk to water quality would be areas at or adjacent to the highway and stormwater discharge points. This would include work on structures that are located within the Los Angeles River channel. During construction, should a build alternative be selected as the Preferred Alternative, applicable construction site BMPs would be incorporated into the construction documents, including temporary soil stabilization, sediment and tracking control, and waste management. With the incorporation of the proposed site-specific BMPs during the construction phase of the build alternatives, no adverse impacts to water quality due to construction of the proposed improvements would occur.

L-27-402

As discussed in Section 3.24.4.17 of the RDEIR/SDEIS and this Final EIR/EIS, Measure CON-NC-16 states that, should a build alternative be selected as the Preferred Alternative, the operation of equipment and stockpiling of materials in storm channels, including the Los Angeles River, must be avoided during times of high flow. If such work is occurring, weather forecasts and storm predictions shall be closely monitored, and equipment and materials that could be affected by storms or other high-flow events shall be removed from the channel prior to such events. Should a build alternative be selected as the Preferred Alternative, the specifics of construction work within the Los Angeles River would also be governed by permit requirements deemed appropriate by the Army Corps of Engineers and the Los Angeles Regional Water Quality Control Board and defined when those permits are secured during the final design phase. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no construction over or adjacent to local water bodies.

L-27-403

Please refer to Response to Comment L-27-240 regarding the risk level determination in the SWDR.

L-27-404

Should a build alternative be selected as the Preferred Alternative, it would be Caltrans' intent to dispose of groundwater removed during dewatering operations off-site at approved locations and to not discharge groundwater to the storm drains and downstream receiving waters. As required by Measure CON-WQ-2 in Section 3.24.4.9 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, Caltrans would require the Construction Contractor to comply with the provisions of the Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties, Order No. R4-2013-0095, NPDES No. CAG994004, as they relate to discharge of non-stormwater dewatering wastes for the build

alternatives, including monitoring and reporting requirements. This would include complying with the prescribed Monitoring and Reporting Program and submitting to the Los Angeles Regional Water Quality Control Board (RWQCB) a NOI at least 45 days prior to the start of non-stormwater dewatering discharge. In addition, a Notice of Termination would be submitted upon completion of dewatering discharge. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no dewatering required.

L-27-405

The requested information regarding construction activities associated with the build alternatives that encounter contaminated soil, whether they are discovered as a result of roadway construction or utility relocation activities, are discussed in more detail in Section 3.24.3.12, Hazardous Waste/Materials in the RDEIR/SDEIS and this Final EIR/EIS.

L-27-406

Section 3.24.4.6 of the RDEIR/SDEIS acknowledged that visual impacts associated with construction of the build alternatives would be experienced by viewers in the area, but that these impacts would be temporary and addressed by Caltrans' Standard Construction Specifications. Since specific staging areas and hauling routes have not yet been defined, any analysis would be speculative. Nighttime construction would be unavoidable as it is a standard practice to reduce mobility impacts during the day, when far more motorists are using the highways. Should a build alternative be selected as the Preferred Alternative, Measure CON-AS-13 would provide for the direction of lighting away from the Los Angeles River, adjacent parks, wetlands and vacant lands, which would also benefit adjacent residential areas. In addition, Measure CON-VIS-1 has been added to Section 3.24.4.6 in order to address visual impacts during construction of the build alternatives. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no visual impacts related to construction.

L-27-407

Section 3.25.4.8 of the RDEIR/SDEIS does not contain a discussion of a Conditional Letter of Map Revision (CLOMR); however, the potential necessity of a CLOMR is discussed in Section 3.8.3.1 of the RDEIR/SDEIS and this Final EIR/EIS. Please refer to Response to Comment L-27-203.

L-27-408

Because there is overlap between the discussion of impacts to jurisdictional waters and hydrology and floodplains, the referenced discussion is located accurately. More detailed

information regarding impacts to channel capacity during construction of the build alternatives is typically not known until the preparation of final design documents following the approval of a Final EIR/EIS. Should a build alternative be selected as the Preferred Alternative, that information would be coordinated with the applicable permitting agency and any commitments that result from permit conditions would be added to the Environmental Commitments Record at that time. Similarly, should a build alternative be selected as the Preferred Alternative, an emergency action plan outlining procedures to follow during a significant storm event would also be negotiated with regulatory agencies at the time of permit application.. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to channel capacity during construction.

L-27-409

It is important to note that although a greater number of structures would be constructed under Alternative 7 than under Alternative 5C, the improvements would occur in the same general area. Geologically speaking, there would be no difference between the temporary impacts of the build alternatives other than there would be more excavated soil, soil compaction, and potential soil erosion under Alternative 7. Therefore, the referenced discussion was not revised in this Final EIR/EIS. Also, as discussed in Section 3.10.3 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, Measure GEO-1 would be implemented to address geologic hazards from the build alternatives. GEO-1 states that prior to completion of final design, the California Department of Transportation (Caltrans) would prepare a design-level geotechnical report in accordance with the *Guidelines for Preparing Geotechnical Design Reports* (Caltrans 2006). Design-level geotechnical reports would precede development of grading and/or construction plans, and they would provide detailed, site-specific design recommendations. Studies at this stage would provide specific design recommendations to mitigate geologic hazards as they relate to grading and construction of the build alternatives. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no excavated soil, soil compaction, or potential soil erosion.

L-27-410

As indicated in the referenced discussion in Section 3.24.3.12 of the RDEIR/SDEIS, any site listings that lack available information in the agency database reports and require additional information would be completed as part of a focused parcel-by-parcel study following the identification of the Preferred Alternative, should a build alternative be selected as the Preferred Alternative. This information from the Supplemental ISA (2018) has been added to Section 3.12.3.1 of this Final EIR/EIS. It is important to note that the rationale for the timing of these investigations is due to the large number of properties of environmental concern for both build alternatives. Should a build alternative be selected as the Preferred Alternative, the evaluations

and investigations referred to in the comment would be done prior to construction at a given site and were so outlined in Section 3.24.3.12 of the RDEIR/SDEIS. However, the avoidance, minimization, and mitigation measures outlined in Section 3.12.4 are applicable to this activity. Please also refer to Responses to Comments L-27-282, L-27-283, L-27-284, and L-27-287regarding impacts related to hazardous waste. In addition, since the No Build Alternative has been selected as the Preferred Alternative, a focused parcel-by-parcel study will not be conducted.

L-27-411

The referenced discussion is supported by a great deal of technical information and data, the locations of which are specifically referenced in the text (for example, on page 3.24-20 of the RDEIR/SDEIS, it is disclosed that “Details about the assumptions, method, and results of this “worst-case” construction scenario may be found in Appendix B of the AQ/GHG/HRA Technical Study (2017).” Important information, such as criteria pollutant mass emissions for construction of the build alternatives, were directly included in Table 3.24-4 in Section 3.24.3.13 of the RDEIR/SDEIS. However, in order to present the necessary information while also ensuring this section of the document is as reader-friendly as practicable, detailed technical information is cross-referenced to the technical study where appropriate.

L-27-412

Please refer to Responses to Comments L-27-323 and R-3-16 regarding the hot spot analysis for air quality.

L-27-413

Please refer to Responses to Comments L-27-323 and F-4-25 regarding the hot spot analysis for air quality.

L-27-414

Measure CON-AQ-15 was drafted in a manner that ensures it is both enforceable and consistent with Caltrans’ and Metro’s contract bid requirements and procedures, given that it is not currently known at this time which agency may eventually administer the construction contract for the build alternatives. Therefore, some flexibility was retained accordingly in the wording of the measure. It is important to note that some, but not all Tier 4 equipment is commercially available at the present time, and it is currently unknown if and when all Tier 4 equipment necessary to construct the build alternatives may be available in the future. Should a build alternative be selected as the Preferred Alternative, by the time construction would begin, the Best Available Control Technology (BACT) compliance schedule for CARB In-Use Off-Road

Diesel-Fueled Fleets Regulation indicates that only 10 percent of “large fleets” would consist of BACT equipment.[8]

Therefore, in order to ensure that the referenced measure is feasible and enforceable, the text of the measure has not been revised. It should also be noted that as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no air quality impacts related to construction.

L-27-415

Please refer to Response to Comment L-27-335 regarding ground-borne vibration impacts. Please note there are no established state/Federal criteria for identifying vibration impacts, and more general guidelines are used to help determine whether levels would be high enough to cause annoyance or architectural/structural damage to buildings. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no vibration impacts.

L-27-416

Please refer to Response to Comment L-27-335 regarding ground-borne vibration impacts.

L-27-417

The construction noise analysis for the build alternatives provides the best and most detailed information that was known at the time of preparation. As stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, more detailed information regarding the type, number, specific location, and construction method of piles is not necessary to define. Please refer to Response to Comment L-27-335 for vibration monitoring during construction of the build alternatives and L-27-336 for the preparation of Noise Monitoring and Noise Control Plans during final design of the build alternatives.

L-27-418

Please refer to the Response to Comment L-27-336 regarding preparation of a Noise Monitoring Plan and Noise Control Plan for the build alternatives.

[8] California Air Resources Board (CARB). 2014, Revised August 2014. Frequently Asked Questions In-Use Off-Road Diesel Vehicle Regulation. Website: https://www.arb.ca.gov/msprog/ordiesel/faq/bact faq.pdf (accessed October 3, 2018).

L-27-419

Please refer to the Response to Comment L-27-336 regarding preparation of a Noise Monitoring Plan and Noise Control Plan for the build alternatives.

L-27-420

Caltrans and Metro respectfully disagree that Measures CON-N-1 through CON-N-10 are vague and unenforceable. At the current level of engineering detail, the measures proposed are appropriately general in order to be applicable to multiple construction scenarios and activities related to the build alternatives. As stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts related to noise during construction.

L-27-421

A more detailed description of the energy impacts of the build alternatives can be found in Section 3.15, Energy, of the RDEIR/SDEIS and this Final EIR/EIS. It is important to note that Caltrans has not adopted CEQA significance thresholds, nor is it required to adopt other agencies' thresholds. The decision of CEQA significance is made on a case-by-case basis, and significance determinations with regard to energy use can be found in Section 4.2.5 of the RDEIR/SDEIS.

L-27-422

See Response to Comment L-27-406 regarding visual impacts associated with construction of the build alternatives.

L-27-423

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Requested information regarding staging, schedule, and work hours related to construction of the build alternatives are not known in detail at this time. However, should a build alternative be selected as the Preferred Alternative, general working hours would regulated by Caltrans' Standard Specifications (Section 7-1.02k(5)), all of which would be adhered to during construction. It should be noted that the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction will occur.

L-27-424

Please refer Response to Comment L-27-423 for more information on construction schedules and staging related to the build alternatives. The specific locations of staging and potential crushing plant locations are not known at this time in project development.

L-27-425

Please refer to Response to Comment L-27-423 for more information on construction schedules and staging related to the build alternatives.

L-27-426

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. The commenter does not indicate what specifically about the response they consider inadequate or what analysis was not provided. More information regarding the impacts to area utilities as a result of the revised build alternatives was presented in Section 3.4, Utility and Emergency Services, of the RDEIR/SDEIS and this Final EIR/EIS. Although the relocations associated with utility conflicts would occur during construction of the build alternatives, they would be permanent impacts and are therefore were not included in Section 3.24, Construction Impacts.

L-27-427

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. The commenter does not indicate what specifically about the response they consider inadequate or what analysis was not provided. Please refer to Response to Comment L-27-89 for a similar response regarding impacts related to the build alternatives.

L-27-428

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. However, it should be noted that a construction staging analysis for the build alternatives was prepared in the Construction Staging Concepts Report, one of the supporting technical documents for the *Draft Project Report* (2017). The preliminary construction staging identifies the approximate sequence of construction activities and ramp closures for the build alternatives. However, the construction schedule as well as the final construction staging is typically developed during the final design of a project. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, additional details such as the expected level of service during construction, the timing and duration of construction and ramp

closures, and measures to maintain pedestrian and bicycle safety during construction will no longer be necessary.

L-27-429

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. It is important to note that a TMP does not typically provide for permanent capital upgrades to local streets, but rather items like public information and outreach, traveler information strategies, demand management, etc. As noted above, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts related to construction.

L-27-430

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Please refer to Response to Comment L-27-429 regarding impacts during construction of the build alternatives.

L-27-431

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Please refer to Response to Comment L-27-192 regarding visual impacts related to the build alternatives.

L-27-432

Please refer to Responses to Comments L-27-258 and L-27-400 regarding pollutants during construction of the build alternatives.

L-27-433

This comment is referencing a comment previously submitted by the City on the 2012 Draft EIR/EIS and is relevant to alternatives no longer under consideration. Please refer to Response to Comment L-27-336 regarding noise impacts during construction of the build alternatives. It is important to note that Caltrans has not adopted CEQA significance thresholds, nor is it required to adopt other agencies' thresholds.

L-27-434

Traffic-related impacts during construction of the build alternatives are considered temporary. Mitigation to address these effects, should a build alternative be selected as the Preferred Alternative, was identified in Section 3.24.4 of the RDEIR/SDEIS. However, as stated in

Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no traffic-related impacts during construction.

L-27-435

The Shoemaker Bridge Replacement Project and Long Beach MUST Project in the City of Long Beach have been added to Table 3.25-2 in this Final EIR/EIS.

L-27-436

This comment states that the discussion of land use in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS should be revised to address the potential for the build alternatives to place transportation land uses in closer proximity to land uses that may not be compatible with these uses. As discussed under the Public Health Discussion header in Section 3.1.1.21 of the RDEIR/SDEIS, existing sensitive land uses (e.g., residents, parks, and schools) directly adjacent to the I-710 are exposed to higher levels of vehicle exhaust emissions and traffic noise than occur within the overall I-710 Corridor. Improvement of air quality and reduction of public health risks are key elements of the project purpose for the proposed project, and avoidance, minimization, and mitigation measures are proposed to reduce these impacts related to the build alternatives. Therefore, Caltrans respectfully disagrees with the assertion that the analysis included in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS should be expanded to evaluate the build alternatives' compatibility with adjacent land uses as sufficient analysis has already been provided. No changes were made in this Final EIR/EIS.

L-27-437

This comment requests that Section 3.25, Cumulative Impacts of the RDEIR/SDEIS be revised to include a goal and policy specific consistency analysis to address land uses, and that specified Long Beach planning documents be included in this analysis. A detailed goal and policy-specific consistency analysis is not warranted in the Cumulative Impact section. Section 3.1.2 of the Land Use section already evaluates the proposed project's consistency with the Long Beach LCP, I-710 Community Livability Plan, and the City of Long Beach General Plan. In response to this comment, the proposed project's consistency with relevant goals and policies in the Long Beach Downtown & TOD Pedestrian Master Plan has been added to the discussion in Section 3.1.2 of this Final EIR/EIS. The Long Beach Riverlink Plan and Parks, Recreation, and Marine Strategic Plan were reviewed; however, neither plan contains goals or strategies that apply to the I-710 Corridor Project.

L-27-438

This comment requests that the analysis of cumulative land use impacts in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS be revised to address changes to the land use

discussion in Responses to Comments L-27-436 and L-27-437. Caltrans respectfully disagrees that the project-level analysis and conclusions are insufficient. The statement that “the build alternatives are generally compatible with adjacent land uses” is not overly broad for a project of this size and scope. Further, a detailed analysis of the project’s consistency with State, regional, and local planning documents is provided in Section 3.1.2, Consistency with State, Regional, and Local Plans, of the RDEIR/SDEIS. The Long Beach General Plan, the City of Long Beach LCP, and the City of Long Beach Community Livability Plan are each analyzed in Section 3.1.2 of the RDEIR/SDEIS. Additionally, destinations along the RiverLink Plan are addressed in Section 3.1.3, Parks and Recreation Facilities, of the RDEIR/SDEIS. The RDEIR/SDEIS was prepared in accordance with the Caltrans Annotated Outline.

L-27-439

Please refer to Response to Comment L-27-435 regarding the addition of the LB MUST Project in the cumulative analysis.

L-27-440

This comment requests the RDEIR/SDEIS be revised to include more analysis regarding potential growth impacts and that the cumulative impact analysis in Section 3.25, Cumulative Impacts, be updated. Caltrans respectfully disagrees that the noted statement is based on unsubstantiated conclusions in Section 3.2, Growth, of the RDEIR/SDEIS. Specific responses related to the adequacy of the analysis in Section 3.2 of the RDEIR/SDEIS are provided in Responses to Comments L-27-61, L-27-62, and L-27-63.

L-27-441

This comment requests that the list of projects identified in the discussion of reasonably foreseeable actions for utility/emergency services in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS be revised to include the Shoemaker Bridge Replacement Project and the LB MUST Project. The Shoemaker Bridge Replacement Project and LBMUST Project have been added to the discussion of reasonably foreseeable actions related to utility/emergency services.

L-27-442

Refer to Response to Comment L-27-441 regarding the addition of the Shoemaker Bridge Replacement Project and the LB MUST Project in the cumulative impacts analysis.

L-27-443

This comment appears to suggest that Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS does not provide an adequate analysis of the visual quality in the I-710 Corridor and should include a discussion of Ocean Boulevard, a local scenic highway. The description of the overall

visual quality is consistent with that described in the VIA in for the Residential Landscape Unit in Section VII.B.2,

> *"For the purposes of this assessment, the distance limit to assess visual quality has been set at 0.2 miles within the study area. This distance is within a reasonable range for viewers to experience visibility to the freeway.*
>
> *Residential Landscape Unit: The overall visual quality is moderately low. Rolling hills and blue skies (weather permitting) dominate the background. Many houses that are within proximity to I-710 general purpose lanes may have a high concern about the proposed project. The vividness is low because the landscape components are low. The intactness is low because above-ground utility and power lines occupy the foreground and contribute to a low visual integrity. The visual coherence and compositional unity of the natural and built landscape as a whole is considered moderate."*

Regarding locally designated scenic highways, please refer to Response to Comment L-27-182.

L-27-444

This comment appears to suggest the key views used to analyze the build alternatives' impacts to community character and cohesion in Section 3.25, Cumulative Impacts, are not representative of the communities of Long Beach. The methodology for selecting the Key View locations was described in Section 3.6.2.4, Methodology, of the RDEIR/SDEIS and was done in accordance with FHWA's January 2015 publication *Guidelines for the Visual Impact Assessment for Highway Projects*. The purpose of the key views is to give a representative sample of visual units along the I-710 Corridor. Therefore, the RDEIR/SDEIS and this Final EIR/EIS uses key view analysis appropriately and consistent with the FHWA guidance.

L-27-445

This comment requests that the discussion of visual/aesthetics in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS be revised to include a discussion of the Shoemaker Bridge Replacement Project and LB MUST Project and related impacts. The Shoemaker Bridge Replacement Project and LB MUST Project have been added to the discussion of reasonably foreseeable actions related to visual character aesthetics.

L-27-446

Please refer to Response to Comment L-27-203 regarding the need for a CLOMR.

L-27-447

It is unclear what “Comments 15, 16, and 17 herein below” is intended to reference, and it is unclear from the comment why the commenter disagrees with the conclusions regarding Compton Creek. It is important to note that Section 3.25.4.8 of the RDEIR/SDEIS discusses cumulative impacts related to hydrology and floodplains; permanent impacts related to hydrology and floodplains as a result of the build alternatives were provided in Section 3.8 of the RDEIR/SDEIS and this Final EIR/EIS.

L-27-448

A more detailed discussion of Caltrans’ Municipal Stormwater Permit (MS4) is included in Section 3.9.1.3 of the RDEIR/SDEIS and this Final EIR/EIS. The discussion in that section indicates that the Statewide Storm Water Management Plan (SWMP) was developed by Caltrans to comply with the permit. The SWMP assigns responsibilities within Caltrans for implementing storm water management procedures and describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. Importantly, it also indicates that, should a build alternative be selected as the Preferred Alternative, the build alternatives would be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff, which includes TMDL requirements. As indicated in the comment, should discharges be found to cause or contribute to an exceedance of an applicable water quality standard, additional or different types of BMPs would be employed. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, an exceedance of an applicable water quality standard would not occur and no BMPs will be required.

L-27-449

This comment requests that the discussion of water quality and storm water runoff in Section 3.25, Cumulative Impacts be revised to add a discussion of water quality benefits from the proposed LB MUST Project. A discussion of the LB MUST Project has been added.

L-27-450

This comment notes that the discussion of project conformity in the air quality analysis in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS is inconsistent with the project-level analysis. The analysis has been updated for consistency with the project-level analysis. Please refer to Section 3.13.3.2 of this Final EIR/EIS for an updated discussion of project-level conformity.

L-27-451

This comment notes that that are several references in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS that incorrectly identify the BSA as approximately 18 linear miles along the I-710 Corridor. These references have been revised to “approximately 19 linear miles” in this Final EIR/EIS.

L-27-452

This comment requests that the discussion of natural communities in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS be revised to add a statement regarding the compliance of compensatory mitigation for estuarine communities with Section 1600 of the California Fish and Game Code. The text was revised as suggested in this Final EIR/EIS.

L-27-453

This comment requests that the discussion of plant species in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS be revised to make the discussion of indirect impacts to southern tarplant consistent with Section 3.18, Plant Species. The discussion of indirect impacts in Section 3.25, Cumulative Impacts, of this Final EIR/EIS has been revised for consistency with the project-specific analysis in Section 3.18.

L-27-454

This comment requests that the discussion of animal species in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS be revised to make the discussion of the number of special status, threatened and endangered, and NMFS-regulated animal species and habitats consistent with Section 3.19, Animal Species and Section 3.20, Threatened and Endangered Species. The number of animal species has been revised for consistency with Sections 3.19 and 3.20 in this Final EIR/EIS.

L-27-455

This comment requests that the discussion of threatened and endangered animal species in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS be revised to be consistent in discussing habitat for each species. A discussion of habitat has been added for green sea turtles, California least tern, California sea lion, and essential fish habitat in this Final EIR/EIS.

L-27-456

This comment requests that the discussion of invasive species in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS be revised to clarify that temporarily affected areas under the build alternatives would be revegetated with native plant species and replanted consistent with

the Los Angeles River Master Plan Landscaping Guidelines and Plans Palettes. Section 3.25.4.20 of the RDEIR/SDEIS was revised to clarify that, should a build alternative be selected as the Preferred Alternative, revegetation would occur using native plant species and plantings would be consistent with the Los Angeles River Master Plan Landscaping Guidelines and Plant Palettes or otherwise consist of the native riparian and upland plants historically present along the Los Angeles River. Measure IS-1 in Section 3.21, Invasive Species, of the RDEIR/SDEIS was also revised to include similar language.

L-27-457

For specific responses to the City of Long Beach Department of Parks, Recreation and Marine comments, please refer to letter L-12 in this appendix.

L-27-458

As stated in the Response to Comment L-12-2, Measure PR-11 in Section 3.1.3.3 and Section 5.1 of Appendix B, Section 4(f)/6(f), has been revised in this Final EIR/EIS to ensure consistency with the Cesar E. Chavez Park Integration Plan.

L-27-459

The Draft Section 4(f) Evaluation was completed in compliance with Section 4(f) of the United States Department of Transportation Act. While avoidance, minimization, mitigation, or enhancement measures for the build alternatives are considered under Section 4(f), compliance with Ordinance No. C-78226 would not be required under Section 4(f). Please refer to Response to Comment L-12-1 which raised this same concern.

L-27-460

As discussed in the Response to Comment L-27-3, the Shoemaker Bridge Replacement Project is discussed in the RDEIR/SDEIS and this Final EIR/EIS as an Early Action Project. However, retaining the Shoemaker Bridge was not evaluated in the I-710 Corridor Project RDEIR/SDEIS because the construction of another structure within the Los Angeles River in addition to retaining an existing structure may have impacts to the hydrology and natural resource habitat within the Los Angeles River. Past coordination with the United States Army Corps of Engineers indicated that substantial modifications to the Los Angeles River and levees would not be acceptable; therefore, Caltrans has strived to avoid impacts to the Los Angeles River wherever possible. As the CEQA Lead Agency for the Shoemaker Bridge Early Action Project, the City of Long Beach is in the preliminary design phase; however, it is important to note that as part of the I-710 Corridor Project, retaining the bridge in its current location was not evaluated. As discussed in Response to Comment L-12-2, Measure PR-11 in Section 3.1.3.3 and Section 5.1

of Appendix B, Section 4(f)/6(f), has been revised in this Final EIR/EIS to ensure consistency with the Cesar E. Chavez Park Integration Plan.

L-27-461

As required under Section 4(f) of the United States Department of Transportation Act, Caltrans has coordinated with the City of Long Beach regarding the proposed *de minimis* impact determination for the build alternatives for Cesar E. Chavez Park and the Drake/Chavez Greenbelt. This coordination included a discussion of measures to minimize harm to the property, which included, but were not limited to, design refinements of the build alternatives to minimize the permanent and temporary use of land from the park. As discussed in the Response to Comment L-12-2, Measure PR-11 in Section 3.1.3.3 and Section 5.1 of Appendix B, Section 4(f)/6(f), has been revised in this Final EIR/EIS to ensure consistency with the Cesar E. Chavez Park Integration Plan, should a build alternative be selected as the Preferred Alternative. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to Cesar E. Chavez Park or the Drake/Chavez Greenbelt.

L-27-462

As required under Section 4(f) of the United States Department of Transportation Act, Caltrans coordinated with the City of Long Beach regarding the proposed TCEs and temporary occupancy exceptions under the build alternatives for the Wrigley Greenbelt, Coolidge Park, Los Cerritos Park, and Cressa Park. This coordination included the discussion of measures to minimize harm to the properties, which would include, but not be limited to, design refinements to minimize the TCE areas in the parks, or to avoid the TCEs in the parks if feasible. During consultation with the City in 2019, the need for TCEs and temporary occupancies for the build alternatives at Coolidge Park, Los Cerritos Park, and Cressa Park were subsequently reevaluated and deemed not necessary, and therefore avoided. This has been updated in Appendix B, Section 4(f)/6(f), of this Final EIR/EIS. In addition, as discussed in Response to Comments L-12-33 and L-12-46, Measure PR-22 and Measure PR-23 have been added to Section 3.1.3.3, and Sections 6.2 and 6.3 of Appendix B, Section 4(f)/6(f), in this Final EIR/EIS, so that in the event a build alternative be selected as the Preferred Alternative, coordination with the City of Long Beach would be required regarding construction impacts adjacent to the parks, staging, and measures that would prevent disruption of park programs because of construction activities adjacent to the parks. However, as stated in Response to Comment L-27-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to Coolidge Park, Los Cerritos Park, or Cressa Park.

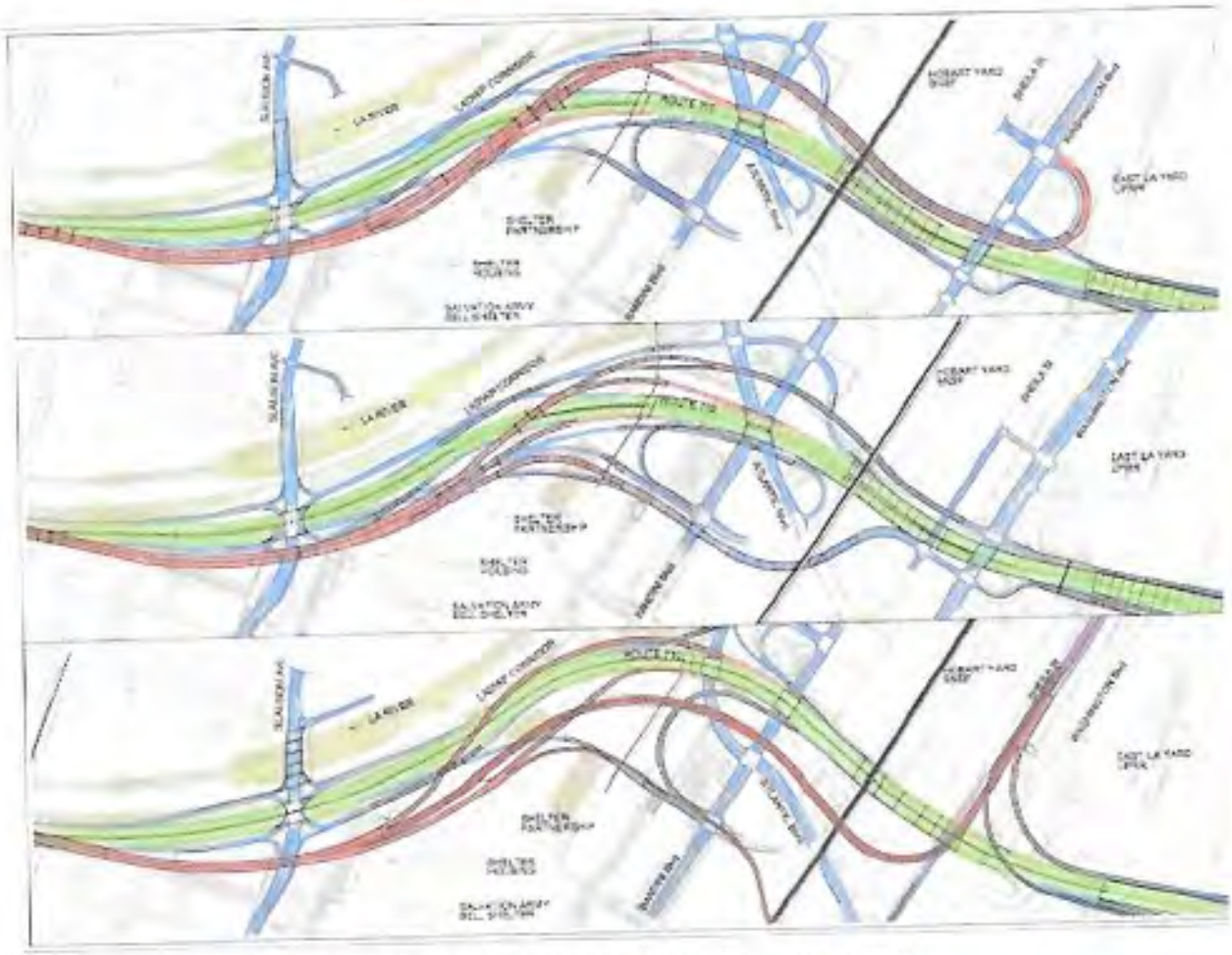
L-27-463

The Draft Section 4(f) Evaluation was an appendix to the RDEIR/SDEIS, and is therefore intended to be reviewed in conjunction with the RDEIR/SDEIS. Section 6.1.2 of the Draft Section 4(f) Evaluation in the RDEIR/SDEIS referenced applicable sections of the RDEIR/SDEIS that provided detailed analyses about the impacts under each build alternative on Coolidge Park (refer to RDEIR/SDEIS Section 3.14.4, Noise; Section 3.6.3, Visual; and Section 3.13.3, Air Quality).

Noise, visual, and air quality impacts on Coolidge Park as a result of the build alternatives are also discussed in more detail in Section 3.1.3.2 of the RDEIR/SDEIS. Section 3.1.3.2 states that visual impacts on Coolidge Park would be low under Alternative 5C, and moderately low under Alternative 7. Air quality impacts from the build alternatives on users of the park were not identified in the technical analysis prepared for the RDEIR/SDEIS. In addition, soundwalls under each build alternative are proposed at locations throughout the I-710 Corridor where noise levels would exceed Federal NAC. Under the build alternatives, a new soundwall would replace an existing soundwall at Coolidge Park to address noise impacts, as discussed in Section 3.6.3.1 under “Key View 8.”

Based on the analyses provided in the RDEIR/SDEIS, the build alternatives would not result in proximity impacts after mitigation that would be so severe that the activities, features, and/or attributes that qualify Coolidge Park for protection under Section 4(f) would be substantially impaired. Caltrans has consulted with the City of Long Beach regarding Coolidge Park, and details on that consultation are located in Chapter 4 of this Final EIR/EIS. It should be noted that as a part of this consultation, the need for a TCE for the build alternatives at Coolidge Park was reevaluated and subsequently avoided. This modification is reflected in the Section 4(f) analysis included in Appendix B of this Final EIR/EIS.

Comment Letter – Interstate 710 Corridor Project Recirculated DEIR/Supplemental DEIS



City of Maywood | 4319 E. Slauson Ave. | Maywood, CA 90270

Mayor Ramon Medina
Mayor Pro Tem Ricardo Villarreal
Councilmember Sergio Calderon
Councilmember Eduardo De La Riva
Councilmember Joaquin Lanuza

City Administrator Reuben Martinez
Director of Building and Planning David Mango
City Engineer Daniel R. Garcia, PE, REA, CPP
Project Manager Oranos Mekwian
Contributor Al Cablay
Contributor Kamran Saber

October 23, 2017

Ronald Kosinski
California Department of Transportation, District 7
100 South Main Street, MS 16A
Los Angeles, CA 90012

Comment Letter – Interstate 710 Corridor Project Recirculated DEIR/Supplemental DEIS

Dear Mr. Kosinski

The City of Maywood has completed the **FIRST** review of I-710 EIR/EIS. The following documents were submitted:

1. Documents: One (1) copy of the EIR/EIS Documents per disk from Ronald Kosinski.

We are delighted to provide our comments to assist in the overall I-710 improvement project. The City of Maywood strongly advocates that Alternatives 6A/B/C be reconsidered and implemented into this process. An on/off ramp for access to our City is crucial for Maywood. We desire to be an active and working participant and partner in this improvement effort. L-28-1

Please feel free to contact me or my City Engineer, Dan Garcia at (310) 968-7263 should you have any questions or need clarification on our comments.

Sincerely,

Reuben Martinez

Reuben Martinez
City Administrator

Maywood Comments on EIR/EIS Documents:

Appendix B, 2.0 Description of the Project and Alternatives - 2.4.3 Alternative 7: Add Clean-Emission Freight Corridor (Truck-Only Lanes) Along I-710 on page 25 and 26, the first darken bullet, third hollow bullet.

1. Here you mention that Slauson Avenue is a local access point for this alternative 7. Although you mention restrictions for trucks on Slauson Avenue in Appendix T, Location 3 - Slauson Ave - Existing Context starting on Page 14, 4th Paragraph last sentence where you state "Trucks on Slauson Avenue are restricted through Maywood."

2. This alternative 7 is strictly for trucks at Slauson Avenue. That doesn't' make sense. There is a truck restriction throughout Maywood, not just Slauson Avenue and does not restrict this alternative apparently from Truck Traffic. To clarify: Per Ordinance No. 03-492 trucks "... exceeding a maximum gross weight limit of three (3) tons" is restricted throughout Maywood entirely. This however is not restricted solely to Slauson Avenue. Generally, trucks use Slauson Avenue for industrial commerce for the cities of Vernon, Commerce, Bell and Maywood itself. In other words we agree that truck traffic is not an issue, yet you used this reasoning to eliminate Alternatives 6A/B/C, any options. L-28-2

3. Maywood would much rather prefer that we revisit alternative 6A/ B/C any options and implement on and off ramps at Slauson Avenue for all cars and trucks meeting Maywood's ordinance 03-492.

Appendix B, 2.0 Description of the Project and Alternatives - 2.4.3 Alternative 7: Add Clean-Emission Freight Corridor (Truck-Only Lanes) Along I-710 on page 26 the last darken bullet.

4. Please include Alternatives 6A/B/C any options for the Slauson Avenue on/off ramps when talking about reconfiguring local interchanges. You are doing this with Alternative 7 as well but Slauson Avenue is missing. L-28-3

Appendix B, 2.0 Description of the Project and Alternatives - 2.4.3 Alternative 7: Add Clean-Emission Freight Corridor (Truck-Only Lanes) Along I-710 on page 29 the last darken bullet (above Design Options)

5. On the paragraph following the first darken bullet, the Slauson Avenue Bridge should be added. Maywood agrees that bridges and overcrossings need to accommodate bicycle and pedestrian traffic. This will assist Maywood in complying with federal and state regulations and assist in qualifying for grants. For the Slauson Avenue Bridge L-28-4

overcrossing these parameters would be appropriate for Maywood and the Slauson Avenue Bridge should be added (we support Bell's efforts in reconstructing this bridge).

6. Please include the Slauson Avenue Bridge, Gage Avenue Bridge and the Florence Avenue Bridge. These bridges are being constructed by the City of Bell. L-28-4

Appendix B, 2.0 Description of the Project and Alternatives – 2.5 Design Options starting on page 29.

7. Basically, design options are satisfactory but Maywood prefers Alternative 6A/B/C any options and it should be included in this section. L-28-5

Appendix B, 3.0 Description of section 4(F) and 6(F) properties – 3.1 Section 4(F) properties on page 32.

8. The City of Maywood would like to be considered for section 4(F) properties the same as Parque Dos Rios Cesar E. Chavez Park, Drake/Chavez Greenbelt, Bandini Park/Batres Community Center, etc for its Riverfront Park. If Alternative 6A/B/C is included, that would require some widening on Slauson Avenue that impact this park. L-28-6

Appendix B, 6.0 Resources Evaluated Relative to the Requirements of Section 4(f) – Table 3: Resources Within 0.5 Mile of I-710 Corridor Project - Resources in the City of Maywood (refer to Figures 4.16-2 and 4 16-3 in the CIA for the locations of these resources) on page 81.

9. For Maywood, the following Parks/Schools/Community Center were listed: Heliotrope Avenue Elementary School, Maywood Elementary School, Maywood Park and Community Center, Maywood River Park and Pixley Park. We couldn't find Figures 4.16-2 and 4.16-3 in the documents provided. Please submit for review. L-28-7

10. Also in Appendix P, the above Parks/Schools/Community Centers were not analyzed. Please include this in your review.

Appendix F, Environmental Commitments Record – Avoidance, Minimization and Mitigation Measures - Starting on Page F-1:

11. Please include "If Alternatives 6A/B/C, any option" is considered to this section and incorporate Maywood's comments here as a PR-__. L-28-8

Appendix F, Environmental Commitments Record – Avoidance, Minimization and Mitigation Measures - Community Impacts and Relocation C-2 on Page F-10.

12. The City of Maywood would like the same consideration given to Slauson Avenue as was given to the City of Vernon on the Atlantic/Bandini interchange for this item. Assuming that you consider Alternatives 6A/B/C any options, The City of Maywood would like to improve this interchange with widening, bike and pedestrian inclusion as L-28-9

mitigation measures. This would include the bridge replacement on Slauson Avenue. L-28-9

Appendix F, Environmental Commitments Record - Avoidance, Minimization and Mitigation Measures - Community Impacts and Relocation C-4 on page F-10

13. For this Mitigation item the City of Maywood would like to incorporate Alternative 6A/B/C any options as part of this final design. L-28-10

Appendix F, Environmental Commitments Record - Avoidance, Minimization and Mitigation Measures - Community Impacts and Relocation C-7 on page F-11 and F-12.

14. The City of Maywood would like to be included as part of this disproportionate to environmental justice population analysis. It appears that Maywood was left out from this consideration. L-28-11

Appendix F, Environmental Commitments Record - Avoidance, Minimization and Mitigation Measures – Traffic and Transportation/Pedestrian and Bicycle facilities TR-1 starting on page F-15.

15. The City of Maywood is apparently missing from this analysis TR-1. The impact of the reconfiguration of Atlantic Blvd./Bandini Blvd. interchange improvement and if you consider Alternative 6A/B/C any options this would have significant impacts on Slauson Avenue and Atlantic Blvd. through Maywood. Please include Maywood in this analysis. The I-710 project will have a significant impact on our City. L-28-12

Appendix F, Environmental Commitments Record - Avoidance, Minimization and Mitigation Measures – Hydrology and Floodplains FP-1 on page F-24.

16. Upon receipt of the final approved Grading Plans the City of Maywood will issue a Maywood Grading Permit for any portion of the work that occurs within its jurisdiction. L-28-13

Appendix F, Environmental Commitments Record - Avoidance, Minimization and Mitigation Measures – Hydrology and Floodplains FP-2 on page F-24.

17. City of Maywood to participate as a member of the same Watershed Group – Los Angeles River Upper Reach 2 for any impacts to the LACFCD facilities that reside within the jurisdiction of Maywood. Please include Maywood in this analysis. L-28-14

Appendix F, Environmental Commitments Record - Avoidance, Minimization and Mitigation Measures – Water Quality and Stormwater Runoff WQ-1 on page F-25.

18. Runoff calculations will be reviewed by the City of Maywood for compliance with their current MS4 Permit requirements. MS4 Permit requirements supersede that of the L-28-15

CALTRANS. Please include Maywood in this analysis. L-28-15

Appendix F, Environmental Commitments Record - Avoidance, Minimization and Mitigation Measures – Water Quality and Stormwater Runoff WQ-2 on page F-25.

19. Upon final approval of the Low Impact Development (LIDs), a copy of the recorded Operations & Maintenance (O&M) shall be provided to the Maywood City Clerk for record purposes. L-28-16

Appendix F, Environmental Commitments Record - Avoidance, Minimization and Mitigation Measures – Air Quality AQ-2 on page F-31 and F-32.

20. Please coordinate the improvements for this item that includes Heliotrope Avenue Elementary, Maywood Elementary, etc. with the City of Maywood as part of your process in developing these reports. Please copy all of these reports to the City Administrator, City Engineer and the Director of Building and Planning. L-28-17

Appendix F, Environmental Commitments Record - Avoidance, Minimization and Mitigation Measures – Animal Species AS-1 on page F-37.

21. The City of Maywood would like to incorporate these principles for this item in the Slauson Avenue Bridge replacement being conducted by the City of Bell. L-28-18

Appendix F, Environmental Commitments Record - Avoidance, Minimization and Mitigation Measures – Construction CON-WQ-1 on page F-46.

22. A copy of the final approved General Permit shall be given to Maywood's City Clerk for record purposes. L-28-19

Appendix T, Location 3 - Slauson Ave - Existing Context start Page 14, 4th Paragraph last sentence.

23. The statement "Trucks on Slauson Avenue are restricted through Maywood." is in error. Per Ordinance No. 03-492 trucks "... exceeding a maximum gross weight limit of three (3) tons" is restricted throughout the City of Maywood entirely. This restriction, however, is not restricted solely to Slauson Avenue and in general, trucks use Slauson Avenue for industrial commerce for the cities of Vernon, Commerce, Bell and Maywood itself. This statement should not be used to discard or discount Alternatives 6A/B/C, any option which is preferred by the City of Maywood and these alternatives should be included in this analysis. For clarification, trucks may use Slauson Avenue provided they abide by Ordinance No. 03-492. L-28-20

Appendix T, Location 3 - Slauson Ave - Design Concepts - Alternative 6A/B/C (2012 DEIR/EIS) Page 14

24. Maywood favors alternatives 6A/B/C. Any of the three options would be acceptable. It appears that this effort should be further examined and reconsidered for implementation. Maywood favors conversion of this interchange into a full service interchange including four entrance and exit ramps. L-28-21

25. Your analysis here denotes that under this alternative "traffic performance was adequate during most peak periods" and the "local street system improved." This should be a preferred alternative for the entire I-710 effort overall. L-28-22

Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement and Section 4(f) Evaluation – S.3 Proposed Project – S.3.1 Costs and Schedule on Page 5.

26. Please include Alternative 6A/B/C any options in Table S-1. L-28-23

Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement and Section 4(f) Evaluation – S.3 Proposed Project – S.3.3 Alternatives on Page 6

27. Alternative 6A/B/C any options should be consider as viable alternatives. These alternatives provide on/off ramps at Slauson Avenue. They should not have been withdrawn from consideration. Reviewing these alternatives could possibly alleviate congestion at Atlantic Blvd and Bandini Blvd interchange by further studying this alternatives/options. This would also give Maywood access to the I-710 for vehicles as well as trucks. L-28-24

Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement and Section 4(f) Evaluation – S.5 Environmental Consequences – S.5.1.3 Parks and Recreation Facilities on Page 10

28. In this paragraph, you mention permanent indirect impacts to Maywood River Front Park but do not list the impacts. Please list the impacts and submit for review.

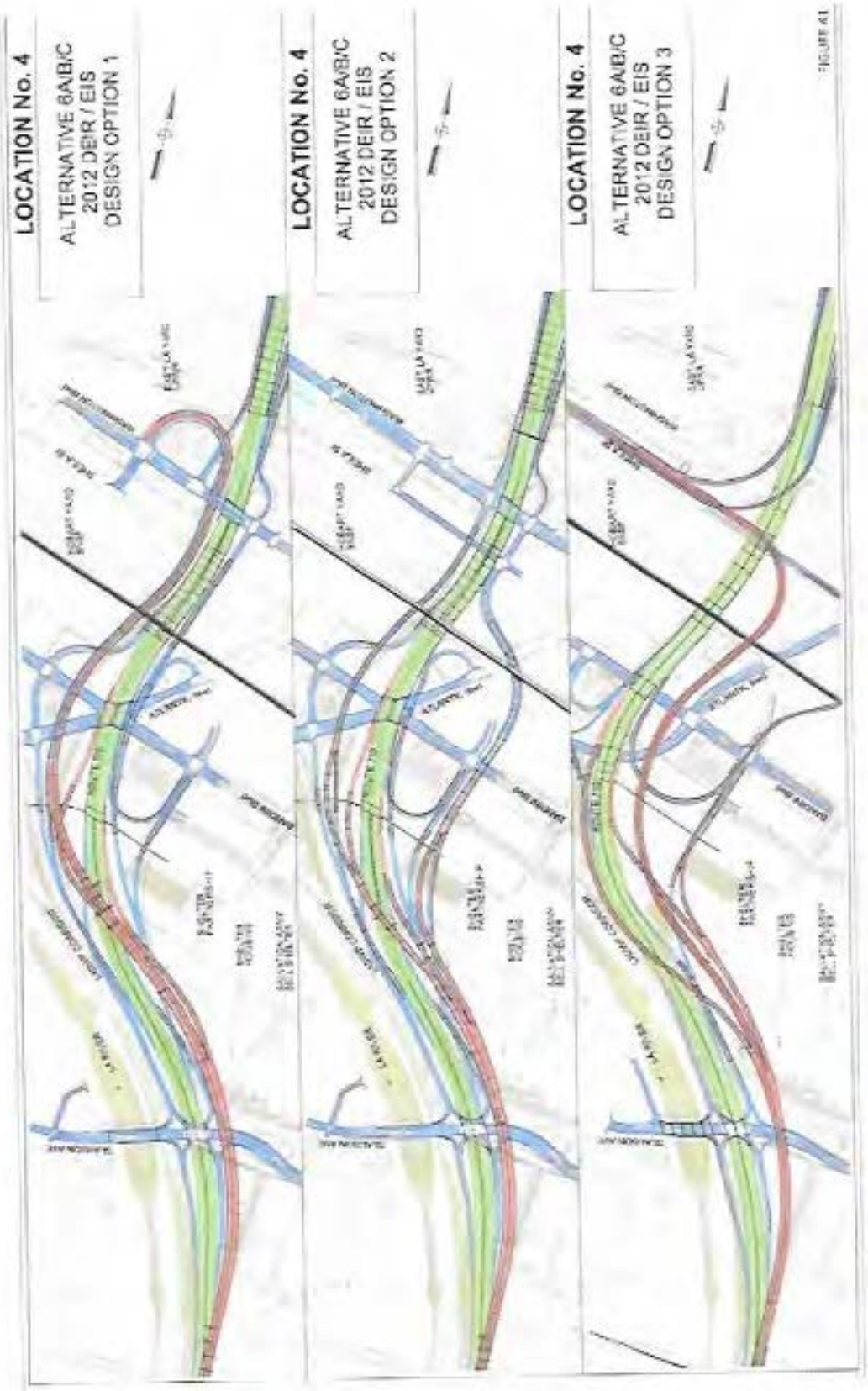
Alternative 7 shows some direct impact to Maywood River Front Park but Alternative 5C does not. Please clarify and submit for review. L-28-25

Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement and Section 4(f) Evaluation – S.5 Environmental Consequences – S.5.3.2 Relocations and Property Acquisition on Page 12

29. According to your statement on the build alternatives you stated that "The build alternatives will not result in any relocations in the cities/communities of" Maywood but Alternative 7 shows some real property acquisition for Maywood River Front Park. Please clarify and submit for review. L-28-26

Please contact my City Engineer Daniel R. Garcia, PE, REA, CPP at drgarcia@interwestgrp.com or (310) 968-7263 with any questions.

[END]


LOCATION No. 4
ALTERNATIVE 6A/B/C
2012 DEIR / EIS
DESIGN OPTION 1
LOCATION No. 4
ALTERNATIVE 6A/B/C
2012 DEIR / EIS
DESIGN OPTION 2
LOCATION No. 4
ALTERNATIVE 6A/B/C
2012 DEIR / EIS
DESIGN OPTION 3

L-28-1

The City's support of Alternatives 6A, 6B, and 6C are acknowledged and included in the project record. Alternatives 6A, 6B, and 6C were eliminated after the conclusion of the 2012 Draft EIR/EIS public circulation period. Updates in traffic assumptions and data resulted in a clearer understanding of the origin and destination of truck traffic within the Study Area. Substantial comments were received from agencies and the public concerned with the potential right-of-way impacts and potential impacts to health and air quality associated with the addition of general purpose lanes under Alternatives 6A, 6B, and 6C. For these, and other, reasons the funding partner agencies decided to remove those alternatives from consideration and move forward with the development of revised build alternatives (Alternative 5C and Alternative 7) that better responded to public input while still meeting the project's purpose and need. Please refer to Chapter 2.0, Project Alternatives, in this Final EIR/EIS. It should be noted that Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

L-28-2

The City is referring to a new interchange at I-710 and Slauson Avenue evaluated in the RDEIR/SDEIS that would provide direct access to and from the freight corridor proposed as part of Alternative 7. The City would like to make it clear that trucks exceeding a gross weight limit of three tons are restricted throughout the City of Maywood per local ordinance.

Alternative 7 – including new freight corridor ramps at I-710 and Slauson Avenue that would exclusively serve heavy-duty trucks – was not identified as the Preferred Alternative (Alternative 1 – No Build Alternative). The process used to identify the Preferred Alternative is described in further detail in Section 1.1 of this appendix.

A full-service local interchange at Slauson Avenue was evaluated as part of the Draft EIR/EIS circulated for public review in 2012. A full-service interchange would provide all movements between northbound/southbound I-710 and eastbound/westbound Slauson Avenue. Further evaluation of a full-service interchange was conducted as part of the refinement of the build alternatives, which included Alternative 5C. Due to substantial impacts to existing infrastructure, adjacent property, and freeway operations, a new full-service interchange at Slauson Avenue was not considered viable. The impacts would include relocation of the LA Junction Railroad and corresponding property impacts required for its relocation, additional property acquisition and business relocations in the City of Commerce along Slauson Avenue, additional property acquisition and business relocation in Bell (including the Bell Shelter), and relocation of LADWP electrical transmission towers. Furthermore, a new interchange at Slauson Avenue would not be compatible with proposed interchange improvements at the Atlantic Avenue/Bandini Boulevard

interchange. The proposed modifications under the build alternatives at Atlantic Avenue/Bandini Boulevard have been refined, as compared to the build alternatives evaluated in the Draft EIR/EIS, to reduce environmental impacts as well. The proximity of the full-service interchange at Slauson Avenue, as requested by the City, to the modified interchange proposed under the build alternatives at Atlantic Avenue/Bandini Boulevard, would adversely affect freeway safety and operation on I-710. The additional impacts required to address the safety and operational effects of a new Slauson Avenue interchange would cause further environmental impacts in the vicinity of the Atlantic Avenue/Bandini Boulevard interchange. Furthermore, because reasonable and effective modifications are proposed under the build alternatives at interchanges (Atlantic Avenue/Bandini Boulevard and Florence Avenue) adjacent to Slauson Avenue, there is not sufficient justification to satisfy federal policies for new access on the federal Interstate System. These assessments, along with the proposed build alternatives, were reviewed with Maywood's City Engineer and officials prior to the circulation of the RDEIR/SDEIS in 2017.

L-28-3

Please refer to Response to Comment L-28-2 regarding the Slauson Avenue interchange.

L-28-4

It appears from the comment that the commenter is referring to the abbreviated project description contained within Appendix B of the RDEIR/SDEIS, the Section 4(f) Evaluation. It should be noted that a far more comprehensive project description could be found in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS. It should also be noted that the commenter appears to be referring to the three locations of new bicycle/pedestrian-only bridges proposed under Alternative 7. The locations of these bridges were determined by performing an analysis that first identified gaps in direct access points over I-710 (and the Los Angeles River in many cases), then evaluated the feasibility of crossings located within these gap areas. Section 2.3.2.1 of the RDEIR/SDEIS indicates that inclusion of pedestrian paths (sidewalks, curb ramps, and crosswalks) and sufficient outside shoulder width to accommodate Class II bikeways on local street crossings would be provided as part of local street modifications proposed as part of the build alternatives. However, under the Preferred Alternative (Alternative 1 – No Build), no bicycle/pedestrian bridges will be constructed.

L-28-5

Please refer to Response to Comment L-28-2 regarding Alternatives 6A/B/C.

L-28-6

Riverfront Park is included as a Section 4(f) resource in the Draft Section 4(f) Evaluation in Section 6.2 and Table 4; however, the park is listed as "Maywood River Park." Table 4 of the Draft Section 4(f) Evaluation and Section 3.1.3 of this Final EIR/EIS has been revised as follows:

Maywood River<u>front</u> Park

Alternatives 6A, 6B, and 6C were eliminated after public circulation of the 2012 Draft EIR/EIS. Alternatives 5C and 7 were carried forward for environmental review in the RDEIR/SDEIS. The impacts of Alternatives 5C and 7 on Maywood Riverfront Park are addressed in Section 6.2 of the Draft Section 4(f) Evaluation of the RDEIR/SDEIS and in the Final Section 4(f) Evaluation in this Final EIR/EIS.

L-28-7

Figures 4.16-2 and 4.16-3 from the Community Impact Assessment were not provided in the Draft Section 4(f) Evaluation in the RDEIR/SDEIS. These figure numbers referenced the Community Impact Assessment technical study as stated in the comment. However, the locations of the City of Maywood parks/schools/community center are shown in Figures 3.1-3 and 3.3-1 of the RDEIR/SDEIS and this Final EIR/EIS.

The impacts under each build alternative on City of Maywood parks/schools/community center are addressed in Section 6.2 of the Draft Section 4(f) Evaluation of the RDEIR/SDEIS and in the Final Section 4(f) Evaluation in this Final EIR/EIS. Also, the build alternatives' impacts on Maywood Riverfront Park are discussed in Tables 3.1-5 and 3.24-1 in the RDEIR/SDEIS and this Final EIR/EIS; and impacts under each build alternative on Heliotrope Avenue Elementary School and Maywood Elementary School are addressed in Tables 3.3-8 and 3.24-2 of the RDEIR/SDEIS and this Final EIR/EIS.

L-28-8

Alternatives 6A, 6B, and 6C have been removed from consideration. Please refer to Response to Comment L-28-2.

L-28-9

The referenced measure C-2, as indicated in the bold face type immediately preceding the bracketed comment, would specifically provide for the relocation of the City of Vernon Fire Station No. 4 as a direct result of the improvements under the build alternatives to the Atlantic Ave/Bandini Blvd interchange (should a build alternative be selected as the Preferred Alternative). As indicated in Table 2.3-3 of the RDEIR/SDEIS and this Final EIR/EIS, under

Alternative 5C, Slauson Avenue would be reconstructed including the freeway overcrossing from the Los Angeles River to approximately 700 feet east of the existing Los Angeles Junction Railway at-grade crossing. Also as indicated in Section 2.3.2.1 of the RDEIR/SDEIS and this Final EIR/EIS, inclusion of pedestrian paths (sidewalks, curb ramps, and crosswalks) and sufficient outside shoulder width to accommodate Class II bikeways on local street crossings would be provided as part of local street modifications associated with the build alternatives. Please also refer to Response to Comment L-28-2 regarding a new interchange at I-710 and Slauson Avenue.

L-28-10

Alternatives 6A, 6B, and 6C have been removed from consideration. Please refer to Response to Comment L-28-2 regarding a new interchange at I-710 and Slauson Avenue.

L-28-11

The City of Maywood was taken into account in the environmental justice analysis provided in Section 3.3.3, Environmental Justice, of the RDEIR/SDEIS and this Final EIR/EIS. Measure C-7 does not omit the City of Maywood as the measure refers to all affected local jurisdictions; should a build alternative be selected as the Preferred Alternative, the City of Maywood would be eligible for the funding described in Measure C-7 at the start of construction within City limits. However, as stated in Response to Comment L-28-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to environmental justice communities associated with the build alternatives.

L-28-12

The City of Maywood was included in the traffic/transportation evaluation of major arterials and study intersections conducted for the I-710 Corridor Project RDEIR/SDEIS. This evaluation revealed a slight improvement to the intersection of Slauson Avenue and Atlantic Boulevard, where the level of service (LOS) for the PM peak hour improved from LOS E, under the future No Build Alternative, to LOS D for Alternatives 5C and 7. Please refer to Tables 6-3 and 6-8 in the *Intersection Traffic Impact Analysis Report* (March 2017) for detailed information. This evaluation does take into account the reconfiguration of the Atlantic Avenue/Bandini Boulevard interchange included in the build alternatives. As shown when comparing Table 5-1 with Table 6-1 from this report, total daily volumes are projected to decrease as a result of the build alternatives on Atlantic Boulevard, between Slauson Avenue and Bandini Boulevard, by 7,000 daily vehicles as traffic shifts over to use the I-710. However, this segment of Atlantic Boulevard still exhibits congestion in 2035 under both the No Build Alternative and the build alternatives in the PM peak period. Figure 6-1 shows that Slauson Avenue would continue to operate at accepted levels of service through the City of Maywood. However, the City of Maywood may be eligible for funds intended to improve operations at congested intersection locations under the

ITS/TSM/Congestion Relief Program, outlined in more detail in Section 2.3.2.1 of this Final EIR/EIS However, since a build alternative has not been selected as the Preferred Alternative, the ITS/TSM/Congestion Relief Program programmatic element will not be implemented as part of this Project. Please refer to Responses to Comments L-28-1 and L-28-2 for further discussion on why Alternatives 6A, 6B, and 6C were eliminated from further consideration.

L-28-13

This comment suggests that a grading permit from the City of Maywood would be required to implement Measure FP-1. Should a build alternative be selected as the Preferred Alternative, construction within floodplains would require an encroachment permit from the Los Angeles County Flood Control District. However, as stated in Response to Comment L-28-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, grading permits and other approvals will not need to be obtained from the City of Maywood.

L-28-14

Caltrans acknowledges the City of Maywood's intent to participate in the Los Angeles River Upper Reach 2 Watershed Management Area. The City of Maywood was not omitted from any analysis regarding hydrology and floodplains. Please refer to Section 3.8 of this Final EIR/EIS for a detailed analysis of the project's potential impacts to hydrology and floodplains, and to letter R-1 of this appendix for responses to comments from the Los Angeles River Upper Reach 2 Watershed Management Area. As discussed in Section 3.8.4 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, Measure FP-2 would require coordination with the LACFCD and affected local agencies to verify that the basin replacements would continue to meet water quality goals including those established for the Los Angeles River Metals Total Maximum Daily Load. However, as stated in Response to Comment L-28-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to hydrology and floodplains.

L-28-15

Order 2012-0011-DWQ, the Statewide Storm Water Permit for the State of California Department of Transportation regulates the storm water discharges from Caltrans Municipal Separate Storm Sewer System. This permit was issued to Caltrans from the State Water Resources Control Board to cover all of Caltrans operations. For Caltrans facilities, such as I-710, this permit supersedes the Los Angeles County MS4 permit.

L-28-16

As discussed in Response to Comment L-28-15, above, the build alternatives are subject to the requirements of the Statewide Storm Water Permit for the State of California Department of Transportation (Caltrans NPDES Permit) and not the Los Angeles County MS4 Permit. The Caltrans NPDES Permit requires preparation of a Storm Water Data Report, and not a Low Impact Development (LID) Report. BMPs are maintained by Caltrans Division of Maintenance. Caltrans Maintenance Manual is available on their website at http://www.dot.ca.gov/hq/maint/manual/maintman.htm.

L-28-17

As indicated in Measure AQ-2, should a build alternative be selected as the Preferred Alternative, the determination of adequate air filtration systems that would be provided to the listed facilities would be addressed during coordination with the respective school districts or administrations. However, as stated in Response to Comment L-28-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no nexus to implement Measure AQ-2.

L-28-18

Should a build alternative be selected as the Preferred Alternative, Measure AS-1 would be incorporated for all bridges throughout the I-710 Corridor as part of the build alternatives. Unfortunately, neither Caltrans nor Metro has the jurisdiction to incorporate this measure into the design of the Slauson Avenue Bridge Replacement being conducted by the City of Bell; therefore, it is recommended that the City of Maywood coordinate directly with the City of Bell on this project.

L-28-19

The California Construction General Permit is a statewide permit and is available on the State Water Resources Control Board's website at https://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml. Caltrans is not required to submit the Waste Discharge Identification Number to the City of Maywood. However, this information is public record and would be available on the State Water Resources Control Board's Storm Water Multiple Application and Report Tracking System if Caltrans submits the Notice of Intent for coverage under the Construction General Permit. However, as stated in Response to Comment L-28-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, a Construction General Permit will not be necessary.

L-28-20

Please refer to Response to Comment L-28-2 regarding the Slauson Avenue interchange. It should be noted that the referenced text simply states that trucks on Slauson are restricted through the City of Maywood, not disallowed. The clarification provided by the City with regards to weight limits is consistent with, albeit more detailed than, the text in Appendix T.

L-28-21

Alternatives 6A, 6B, and 6C have been removed from consideration. Please refer to Response to Comment L-28-2 regarding the Slauson Avenue interchange.

L-28-22

Appendix T, Avoidance Concepts Applicable to Alternative 7 Memorandum, evaluates right-of-way avoidance strategies at very specific locations along the I-710 Corridor under Alternative 7, in accordance with Metro Board Motion 22.1. The quotations referenced in the comment only refer to the operation of the specific avoidance concepts developed for the Bell Shelter. Please refer to Response to Comment L-28-2 for more detailed information regarding the reason for the development of these avoidance concepts. As stated in Section 1.2.2.1 of the RDEIR/SDEIS and this Final EIR/EIS, goals of the overall I-710 Corridor Project include (but are not limited to) improving traffic safety, accommodate projected traffic volumes, and modernizing the freeway design. Please also refer to Section 1.1 of this appendix for more information regarding the identification of the Preferred Alternative.

L-28-23

Alternatives 6A, 6B, and 6C have been removed from consideration. Please refer to Response to Comment L-28-2 regarding the Slauson Avenue interchange.

L-28-24

Alternatives 6A, 6B, and 6C have been removed from consideration. Please refer to Response to Comment L-28-2 regarding the Slauson Avenue interchange.

L-28-25

The project’s impacts on Maywood Riverfront Park are not discussed in detail in Section S.5.1.3 of the Executive Summary because this section is intended to be a brief summary of the project’s impacts. The project’s direct and indirect impacts are discussed in more detail in Tables 3.1-5 and 3.24-1 in the RDEIR/SDEIS and this Final EIR/EIS.

As discussed in Table 3.1-5, Alternatives 5C and 7 would not directly affect the park; however, both build alternatives would indirectly result in minimal visible changes that are classified as

low visual impacts on the park. As discussed in Table 3.24-1, the build alternatives would result in temporary impacts to access from Slauson Avenue, but, should a build alternative be selected as the Preferred Alternative, a TMP, required under Measure CON-TR-1, would minimize access impacts and provide alternate access points, if necessary. However, as stated in Response to Comment L-28-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to Maywood Riverfront Park.

L-28-26

It is unclear to where the City is referring when they indicate “real property acquisition” would be required at Maywood Riverfront Park. Table S-6 of the Executive Summary of the RDEIR/SDEIS disclosed the indirect impacts to the park, which were outlined in more detail in Table 3.1-5 of Section 3.1 of the RDEIR/SDEIS. In addition, Key View 18, shown in Figure 3.6-19 of the RDEIR/SDEIS, shows views northeast from the Los Angeles River Trail next to Maywood Riverfront Park. There is no real property acquisition required at Maywood Riverfront Park under either Alternative 5C or Alternative 7, as the park is separated from the I-710 by the Los Angeles River, and any proposed work along Slauson Avenue would not encroach into the park parcel(s). As the No Build Alternative has been selected as the Preferred Alternative, there will be no impacts to Maywood Riverfront Park.

PEGGY LEMONS
Mayor

DIANE J. MARTINEZ
Vice Mayor

LAURIE GUILLEN
Councilmember

TOM HANSEN
Councilmember

DARYL HOFMEYER
Councilmember

October 23, 2017

Mr. Ronald Kosinski RK GRD Email: 710eir@metro.net
Caltrans District 7,
Division of Environmental Planning
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Los Angeles, CA 90012
Esubmission: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/

Subject: City of Paramount Comments on the I-710 Corridor Project Recirculated Draft Environmental Impact Report/Environmental Impact Statement and Section 4f Evaluation

Dear Mr. Kosinski:

The City of Paramount would like to thank the State of California Department of Transportation (Caltrans) and Los Angeles County Metropolitan Transportation Authority (Metro) for the opportunity to review the Recirculated Draft Environmental Impact Report/Draft Environmental Impact Statement (RDEIR/RDEIS) for the I-710 Corridor Project (Project). Paramount is supportive of Caltrans and Metro efforts to improve the I-710 Corridor and therefore urges rejection of the No Build Alternative. Furthermore, given the projected increase in container traffic from the ports projected to occur by 2040, it is important to accelerate completion of Project, so that all components are completed by 2040. L-29-1

The City of Paramount appreciates that Metro has taken the time to revise the project and prepare the RDEIR/RDEIS, based on comments received on the 2012 DEIR/DEIS. The City of Paramount also appreciates the collaborative planning and community participation process that has taken place regarding the I-710 Corridor. We commend Caltrans and Metro for their efforts to involve affected communities and responsible agencies in the project and the EIR/EIS.

We are sensitive to the difficulties associated with the preparation of an EIR/EIS for such a complex project, spanning multiple jurisdictions. We offer the following comments on the RDEIR/RDEIS. Our comments are intended to address the environmental concerns of our City, as well as the document's usefulness as a decision-making tool under both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). In preparing these comments we have:

1. Reviewed the document to see if revisions in the project alternatives or changes in circumstances raise any additional issues.
2. Reviewed the responses to our 2012 comments on the DEIR/DEIS to see if our concerns have been adequately addressed.

Document's Ease of Use

The Study Area includes the portion of the I-710 Corridor from Ocean Blvd. in Long Beach to SR-60, a distance of approximately 19 miles and includes all or portions of the Ports, the Cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Lynwood, Maywood, Paramount, Signal Hill, South Gate, and Vernon, as well as unincorporated areas of Los Angeles County, including the communities of East Los Angeles, Boyle Heights, Wilmington, and San Pedro. As noted on page 7 of the RDEIR/RDEIS: some of the project's pragmatic elements would not be implemented by Caltrans as the Lead Agency under CEQA and NEPA, but would instead by implemented by Metro or other public agencies with jurisdiction over a particular element. As stated on page 5.16-1 of the Community Impact Assessment: " . . adoption of one of the I-710 Corridor Project build alternative would require the City of Paramount to amend its General Plan Land Use and Circulation Elements to reflect the improvements proposed for the I-710 mainline and interchanges . " Mitigation Measure LU-1 in fact requests that local jurisdictions update their General Plans accordingly. Since a number of the local jurisdictions along the alignment will need to take discretionary actions to implement portions of the project, it is important that the document be written in a way that facilitates it use by other jurisdictions for purposes of CEQA. L-29-2

The CEQA summary table included in the document is so summary as to be meaningless when it comes to understanding the specific impacts of the Project. For example the CEQA summary table (Table S-5) indicates that all noise impacts are less than significant with mitigation. However, the Community Impact Assessment, which is one of the technical studies for the Project indicates that under Alternative 7 there would be a substantial noise increase resulting in noise impacts at Ralph C. Dills Park and that noise abatement was considered in the form of a soundwall along the proposed truck lanes, however, it was determined to be acoustically not feasible. This would appear to indicate a significant unmitigated noise impact under Alternative 7 to Ralph C. Dills Park in the City of Paramount. The CEQA summary table needs to be sufficiently detailed to identify the impacts of the No Build and Project alternatives. If necessary, separate summary tables should be prepared for each Alternative. L-29-3

As currently written it is difficult for cities to easily find a summary of the impacts that affect their communities, the applicable mitigation measures, and the level of L-29-4

significance after mitigation specific to their communities. In the Final EIR/EIS, please provide city-specific CEQA-style summary tables to facilitate a clear understanding of the impacts, and associated mitigations for each city along the alignment, and the processing of any Project required discretionary approvals by local cities along the alignment. L-29-4

In reviewing the responses to the City's 2012 comments on the DEIR/DEIS we find that the comments often point to a section in the RDEIS/RDEIR as the location where the concern expressed is addressed, but sometimes fail to indicate how the concern was addressed. It would be more helpful if future responses to comments indicate how the comment has been resolved, rather than simply pointing the reader to a section of the document. This will also help to highlight Caltrans/Metro responsiveness to community concerns. L-29-5

1. COMMENTS ON THE RDEIR/RDEIS ANALYSIS OF ALTERNATIVES 5C and 7

The technical studies for the Project are not listed in the Table of Contents for the RDEIR/RDEIS. Are they considered to be part of the RDEIR/RDEIS? L-29-6

Project Description

Table 2.3-1 indicates that the Project includes the following local interchange and roadway modifications for both build:

- B-25 (Paramount and East Compton) - Modification of Rosecrans Ave. entrance and exit ramps.
- B-25 (Paramount and East Compton) - Widening of Rosecrans Ave., including the freeway overcrossing, between Gibson Ave. and the Los Angeles River.
- B- 20 (Compton) - Reconstruction of the Alondra Blvd. interchange, including conversion from one-quadrant cloverleaf interchange to diverging diamond interchange configuration, and entrance and exit ramps.
- B- 20 (Compton) - Reconstruction of Alondra Blvd., including the freeway overcrossing and bridge over the Los Angeles River, between S White Ave. and Hunsaker Ave. (Compton).

L-29-7

The description of the Alondra improvements in Table 2.3-1 (B-20) should be corrected to indicate that these improvements are also in the City of Paramount.

According to page 5.16-5 of the Community Impact Assessment: L-29-8

> Within the City of Paramount, Alternative 5C includes improvements at Alondra Blvd. and Rosecrans Ave., two major roadways that are used to travel from one part of the community to another and are familiar to residents. These improvements would either improve an arterial intersection or existing interchange with new ramps or overcrossings to accommodate the widening of the I-710 mainline or result in a new configuration of an interchange to improve circulation (refer to Section 5.16.8 for details regarding potential changes in access). In addition, Alternative 5C includes replacement of sidewalks for pedestrian access along Alondra Blvd. and Rosecrans Ave., adjacent to both the westbound and eastbound lanes within the project limits. These sidewalks would join existing sidewalks outside the project limits.

According to page 5.16-10 of the Community Impact Assessment:

> Under the I-710 Corridor Project build alternatives, sidewalks would be added along Alondra Blvd. and Rosecrans Ave. adjacent to both the westbound and eastbound lanes within the project limits and would join existing sidewalks outside the project limits. The sidewalk design will comply with Americans with Disabilities Act of 1990 (ADA) standards. Through the project limits, both Alondra Blvd. and Rosecrans Ave. feature eight-foot outside shoulders in each direction, which exceeds the minimum requirements of a Class 3 Bikeway.

Is the Community Impact Assessment description on page 5.16-5 correct or do these improvements apply to both build alternatives per Table 2.3-1? Where is the information in the RDEIR/RDEIS regarding specific Project components located within the City of Paramount and the Alondra Blvd. and Rosecrans improvements described in the Community Impact Assessment? It is difficult to tell the specifics of the Alondra Blvd. and Rosecrans Ave. improvements from Figure 2.3-6 (Sheet 3 of 7). L-29-8

Table 2.3-5 lists the construction durations for the seven segments of the Project. Will this construction occur sequentially, or will some of all of the segments be constructed concurrently? What is the total number of months for construction and when is construction anticipated to be complete? L-29-9

Page 2-88 indicates: "For each segment of the proposed project, a sequence of work was developed identifying major elements of the improvements to be constructed by stage. Maintenance of traffic assumptions, including number of lanes maintained, temporary detours, and roadway closures were identified." L-29-10

Where is this information available? When the Alondra bridge is being replaced it is important to keep one lane in each direction open for local traffic. L-29-10

Where can the list of screenwalls and sound barriers to be installed in Paramount located in the document? It does not appear from Section 3.14.5.7 that there are any soundwalls planned for the City of Paramount. Is this correct? L-29-11

Community Health Benefit Program

According to pages 2-23 to 2-24, the Project includes the Community Health Benefits Program. "The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement." "Projects falling into three broad categories would be eligible and considered for funding under the program: (1) air quality improvement and/or noise reduction measures at local schools and other sensitive receptors or related sites, (2) air quality improvements at hospitals, medical centers, and senior facilities, as well as health education, outreach, and screening, and (3) greenhouse gas (GHG) reduction through projects such as renewable power, energy efficiency, and tree-planting, etc. More specific criteria for eligible projects would be developed by the I-710 Funding Partner agencies."

How much funding is anticipated to be allocated to this program? How will Caltrans/Metro ensure that funds are appropriately distributed among affected local jurisdictions in a way that ensure appropriate noise and air quality improvements in areas affected by I-710 traffic-related noise and emissions? How can the City of Paramount ensure that schools within 0.5 miles of the alignment will receive funding to address the air impacts of location in proximity to a major freeway under this program? Please address these same questions for Mitigation Measures C-6 and C-7 which are intended to address noise impacts and air quality, traffic, visual, land use and parks effects on environmental justice communities. L-29-12 L-29-13

Community Impact/Relocations/Acquisitions

According to the Community Impact Assessment, which is one of the technical studies for the Project:

Alternative 5C will result in:

- Partial acquisition of two commercial/industrial parcels.
- No relocations.

L-29-14

Alternative 7 will result in:

- Six full flood control parcel acquisitions and seven partial acquisitions (two commercial/industrial and five flood control parcels).
- No relocations.

However, page 5.16-7 of the Community Impact Assessment states: "as the result of the residential property acquisition under Alternative 5C, the I-710 Corridor Project build alternatives have the potential to result in a loss of property tax revenue." However no residential property acquisitions are identified in the RDEIR/RDEIS in the City. This inconsistency should be resolved and corrected in the RDEIR/RDEIS and technical study. L-29-14

Response to comment L-25-34 indicated that based on the revised build alternatives there will be no impact to the driveways at the Home Depot. Please verify that this is the case. L-29-15

Traffic

For the City of Paramount, only two (2) intersections were identified as being significantly impacted by the alternatives studied. The impacts were identified in only the Alternative 5C scenario.

- Intersection #51 – Rosecrans Avenue and Garfield Avenue
- Intersection #52 – Rosecrans Avenue and Paramount Boulevard

Mitigation Measure TR-1 (page F-18) includes:

- ROSECRANS AVE./GARFIELD AVE.: Add an extra left-turn lane on the eastbound (EB) approach. The improvement at this intersection pertains to Alternative 5C only.
- ROSECRANS AVE./PARAMOUNT BLVD.: Add an extra left-turn lane on the eastbound approach. The improvement at this intersection pertains to Alternative 5C only. L-29-16

Currently, Rosecrans Avenue provides 2 westbound and 3 eastbound lanes generally separated by a raised center median. It is unclear how the proposed mitigation measure to add an extra EB left-turn lane would be able to fit at the two impacted intersections. A major redesign of both the eastbound and westbound approaches of Rosecrans Avenue to the intersections would be necessary. The proposed mitigation measures may require the removal of the raised median and on-street parking to fit within the existing roadway width. The Final EIR/EIS needs to address the potential need for a redesign, its feasibility and any direct or indirect impacts of the mitigation.

The Project includes the implementation of peak period parking restrictions as part of Alternatives 5C and 7, to improve traffic operations on some of the congested arterial roadway segments. The parking restrictions would be 7:00 a.m. – 9:00 a.m. and 4:00 p.m. – 7:00 p.m. and implemented on:

- Atlantic Boulevard between Pacific Coast Highway and SR-60;
- Cherry Avenue/Garfield Avenue between Pacific Coast Highway and SR-60;
- Eastern Avenue between Cherry Avenue and Atlantic Boulevard; and
- Long Beach Boulevard between San Antonio Drive and Firestone Boulevard.

L-29-17

The proposed peak hour parking restrictions on Garfield Avenue will impact the City of Paramount. These restrictions will impact all the fronting uses along Garfield Avenue in Paramount. Some property owners may not be supportive of these parking restrictions especially if they have limited on-site parking.

From the analysis, we cannot confirm the City's project for the improvements along Garfield Avenue were incorporated. The City is in the process of making Garfield a 3-lane of travel in each direction with peak hour parking restriction of 7- 9 a.m. and 4-6 p.m. only.

L-29-18

From the analysis, we cannot confirm that the analysis includes the widening of Alondra Boulevard to three lanes in each direction from the I-710 to Lakewood Boulevard. Please confirm that this is included in the analysis.

L-29-19

The City would anticipate that the intersection of Alondra Blvd./Garfield Ave. would be impacted by the Project. The Traffic Impact Analysis indicates that this intersection would operate at LOS E or F under all three alternatives, but neither build alternative would impact this intersection. Please summarize the findings at this intersection regarding LOS under each of the three alternatives, in the response to this comment. Did the analysis assume City improvements at this intersection?

L-29-20

Several of the Tables in the TIA and TOAR do not list intersections numbered in the 200s. Information on these intersections is provided in the associated Figures but nothing is found in the Tables. This error/omission needs to be addressed.

L-29-21

According to page 5.16-8 of the Community Impact Assessment: "(t)here is one main area of improvement under the I-710 Corridor Project build alternatives that is within the Cities of Paramount and Compton that may impact access and circulation for residents or workers within the City of Paramount: the I-710/Alondra Blvd. interchange." According to page 5.16-10:

L-29-22

> The existing interchange configuration at Alondra Blvd. is proposed to be replaced with a diverging diamond interchange. The proposed configuration would improve traffic operations and safety over the existing interchange's tight curves, narrow lanes, and nonstandard deceleration lengths. Alondra Blvd. would be reconstructed to three through lanes in each direction between Atlantic Ave. and the second Dominguez High School entrance, east of the Los Angeles River. Because of the improvements to Alondra Blvd. and their close proximity to the interchange, Frailey Ave. and Lime Ave. in the City of Compton would require cul-de-sacs, eliminating direct access to and from Alondra Blvd. While these changes in access are not located directly within the City of Paramount (they are located adjacent to the City of Paramount within the City of Compton), the changes in access may impact residents or commuters within the City of Paramount. Drivers who access Alondra Blvd. from these roadways would be required to be redirected north to Linsley Ave. and use Atlantic Blvd. to reach Alondra Blvd.

L-29-22

Is the impact to City of Paramount drivers significant? If so, how is it being mitigated?

According to page 5.16-10 of the Community Impact Assessment:

> During construction, the project may result in increased service times for the Metro bus service in the City of Paramount, as well as for the City's Easy Rider Shuttle, the Paramount Dial-A-Ride, and the Paramount Dial-A-Taxi service. In addition, bus stops in the vicinity of the proposed improvements for Alondra Blvd. and Rosecrans Ave. would be temporarily relocated during construction. These impacts would be temporary and would cease after completion of any construction in the vicinity of these service routes.

L-29-23

How long will bus service on Alondra Blvd. and Rosecrans Ave. be relocated. What is the likely increase in service times for Metro bus service, the City's Easy Rider Shuttle, the Paramount Dial-A-Ride, and the Paramount Dial-A-Taxi? Does this constitute a significant construction impact of the Project?

How is the Eco-Rapid [1] (West Santa Ana Branch Transit Corridor) project addressed in the RDEIR/RDEIS? There appears to be only one reference to Eco Rapid in the document, on page 3.25-17. The notice of preparation of the EIS/EIR for the Eco-Rapid project was issued on June 26, 2017. Based on the current schedule, Metro now anticipates releasing the Final EIS/EIR in late 2019. How is the Eco-Rapid project included in the traffic forecasts for the Project and what assumptions were included in the analysis regarding the timing of the Eco-Rapid project? L-29-24

One of the construction impacts of the proposed project will be the impact of construction and diverted traffic on local arterials. It is very important that Caltrans/Metro provide adequate mitigation to local jurisdictions to address these impacts and that, when calculating likely impacts, the EIR/EIS consider the cost of impacts along the full length of, not only, likely construction truck routes within the corridor, but the impact of traffic diverted or detoured onto local street during construction. Please provide more information regarding how this impact is addressed in the EIR/EIS for the Project, reimbursement will be provided to local jurisdictions for roadway repair, and how the amount allocated for mitigation reimbursement has been calculated. L-29-25

Mitigation CON-TR-2 states:

> Prior to construction, an evaluation of damage to the pavement surface on local roadways that may occur due to project-related construction traffic will be completed. New pavement will be provided on local arterials that connect to or cross over (or under) I-710 where such roadways will be directly affected by project construction after project completion in the vicinity of each arterial. L-29-26

As written, Mitigation Measures CON-TR-2 does not appear to fully address this concern, as only a small segment of the lengths of roadways that may be impacted by "project-related construction traffic", are addressed by this mitigation. The wording of the mitigation should make clear that it applies to detour traffic as well as construction traffic.

Noise

Under Alternative 7, there would be a substantial noise increase (12 dB) resulting in noise impacts at Ralph C. Dills Park. Noise abatement was considered in the L-29-27

[1] For more information on Eco-Rapid, see: http://eco-rapid.org/pdf/weareplanningen.pdf , http://eco-rapid.org/Project/description.shtml , https://www.metro.net/projects/west-santa-ana/ , https://media.metro.net/projects_studies/westSantaAnaBranch/images/nop_final_signed.pdf

form of a soundwall along the proposed truck lanes, however, it was determined to be acoustically not feasible. Why was mitigation infeasible? Why is this not identified as a significant unmitigated project impact? Are there any other locations in the City where it was determined there would be a substantial noise increase resulting in noise impacts, but soundwalls or other mitigation was deemed infeasible? L-29-27

Aesthetics

Why are there no visual simulations for the City of Paramount? How is it possible to determine if there are aesthetic impacts to Paramount without simulations? L-29-28

2. PRIOR COMMENTS NOT ADEQUATELY ADDRESSED

The City's 2012 comment letter is identified in the RDEIS/RDEIR as Letter L-25 in Appendix S. Responses to these comments begin on page 589 of Appendix S. Only those comments that have not been adequately addressed are reiterated below:

Executive Summary

L-25-3 The Executive Summary does not comply with California Environmental Quality Act (CEQA) Guideline 15123(b), which requires that the summary identify "each significant effect with proposed mitigation measures." It would be helpful if the summary specified not just the impacts, but the mitigations measures included in the document to address the impacts. As currently written, the reader is required to look at the end of each section of Chapter 3 in order to obtain a listing of proposed mitigation measures. A summary table, like those typically included in an EIR which lists for each impact, the mitigation measures and level of significance after mitigation, would make review of the adequacy of the mitigation measures as well as an understanding of the comparative impacts of the Alternatives substantially easier. We understand that NEPA level analysis of the alternatives may necessitate separate summary tables for each alternative, or for groups of alternatives, but believe that the informational value of such tables is warranted, given the difficulties inherent in a reader or decision-maker understanding the comparative impacts and comparative mitigation effort required for the five alternatives addressed in the DEIR/DEIS. L-29-29

L-25-4 Please provide an estimate of the timing of the project (i.e. weeks/months for construction), key project phasing and when the project would become operational. If information, such as when the project would become operational is not available at this time, include an explanation of why the information is not currently known. L-29-30

L-25-6 Table S-3 provides only the most basic comparison of the alternatives. Statements like "project area particulate matter emissions increase compared to no project conditions" do not provide sufficient information for a meaningful understanding of the relative impacts of the alternatives. A more detailed comparison should be provided. If impacts, such as air quality emissions have been quantified, the quantifications should be included in the summary. L-29-31

2.0 Alternatives

L-25-8 Pursuant to CEQA Guidelines Section 15126.6 (e)(2) the EIR/EIS should identify the environmentally superior alternative among the alternatives, either here, or in the Executive Summary. L-29-32

L-25-9 As noted in our comments on the Executive Summary above, Table S-3 provides only the most basic comparison of the alternatives. Statements like "project area particulate matter emissions increase compared to no project conditions" do not provide sufficient information for a meaningful understanding of the relative impacts of the alternatives. A more detailed summary comparison of the alternatives should be provided in this chapter or in the Executive Summary. L-29-33

L-25-11 Please provide an estimate of the timing of the alternatives (i.e. weeks/months for construction), key phasing for each alternative and when the alternative would become operational. If information, such as when the alternative would become operational is not available at this time, include an explanation of why the information is not currently known and how the unknowns have been addressed in the analysis. This information is important when assessing the accuracy of some of the technical analysis performed for the DEIR/DEIS, such as the calculation of construction air quality impacts. The DEIR/DEIS should identify any differences in the likely construction timing or phasing of the alternatives. L-29-34

L-25-12 In addition, the timing of project components may affect potential impacts. We would recommend, for example, that street/intersection improvements be done in advance of mainline construction to reduce the impacts of mainline construction traffic on the local roadway system. In addition, we would recommend that the freight corridor be completed in advance of the general-purpose lanes so that trucks can be diverted to the freight corridor while the general purpose lane improvements are occurring, thus minimizing the disruption to car travel along the I-710. The DEIR/DEIS should address any construction timing issues with the potential to alter or reduce construction impacts and disruption and provide more complete information regarding project phasing. L-29-35

L-25-13 It would be helpful if the description of the alternatives provided information on existing capacity verse the carrying capacity of each of the alternatives, so that this information can be compared to the description of capacity needs contained in Chapter 1. L-29-36

It would be useful if this information were provided in a table comparing the three alternatives.

L-25-25 Table 2.5-3 lists the Construction duration by segment. Please make clear the assumptions used in the analysis regarding whether or not construction was assumed to be sequential, or which segments were assumed to be constructed concurrently, for each of the alternatives. Please indicate the assumed duration for construction for each of the alternatives used in the analysis. This section of the RDEIR/RDEIS needs to provide more detailed information regarding the timing of the construction components for each segment or point the reader to where that information is located in the document. More detailed project phasing, like that required for the air quality analysis, should be provided as part of the description of the alternatives. L-29-37

Chapter 4

L-25-26 Each Environmental Consequence section within this Chapter should clearly identify the impacts associated with each of the alternatives, the mitigation measures that apply to each alternative, and the level of significance after mitigation for each impact. For each issue area CEQA requires a strict baseline versus build analysis to assess whether a proposed project will have an impact. If a proposed project is determined to have a significant impact L-29-38

under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. L-29-38

3.1 Land Use

L-25-29 Page 37 of the City of Paramount's General Plan states that:

> Any new development or redevelopment in the city should have a Traffic Impact Analysis (TIA) conducted if the project is expected to generate more than 500 new trips per day. The TIA should be conducted in accordance with the procedures in the Los Angeles County Congestion Management Program (CMP) Guidelines for Traffic Impact Analysis, except that the impact shall be considered significant if the project related increase in the volume to capacity (v/c) ratio for intersections equals or exceeds the thresholds shown in Table 3-3. When a new project results in a significant impact, improvements to the intersection (referred to as mitigation) will be required so as to restore or reduce the v/c ratio to the operating levels that existed prior to the project's implementation.

The Traffic analysis for the I-710 only addressed intersections projected to operate at LOS E or F and, used the following criteria for determining which intersections are adversely impacted when comparing any of the I-710 Corridor Project build alternatives to the No Build conditions: L-29-39

- Degraded LOS E or F in the build alternatives (with I-710 Project); and
- Increase in intersection delay over Alternative 1 conditions.

The threshold of significance used on the I-710 Traffic Analysis is thus different than the threshold specified in the City's General Plan. Use of a threshold that is different than the threshold specified in the City's General Plan is likely to result in the under-identification and under-mitigation of intersection impacts in the City, and to create "with project" operational impacts inconsistent with the City's General Plan Circulation Element.

Would use of the City's prescribed methodology result in the identification of additional impacts within the City? L-29-39

L-25-30 Mitigation Measure LU-1 requires that:

> **LU-1** Following approval of the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Interstate 710 (I-710) Corridor Project and filing of a Notice of Determination with the State Clearinghouse, the California Department of Transportation (Caltrans) shall request that the affected Cities and the County amend their respective General Plans to reflect the final alignment, interchange locations, and modification of land use designations for properties that would be acquired for the project. Caltrans will also initiate amendments to existing freeway agreements with cities where the build alternatives would add or remove access to I-710 or Interstate 405 (I-405). L-29-40

Whether written as a request or a directive, the Project will required local jurisdictions to incur costs which may not be programmed, which could result in indirect impacts to public services if local governments are required to divert public service funds to pay for the required General Plan amendment. The mitigation measure should specify that the cost of the required General Plan amendments will be reimbursed from I-710 funds, or the potential indirect environmental impacts of this cost burden must be addressed in the DEIR/DEIS.

3.3 Community Impacts

L-25-32 As noted in Table 3.3-5, the following schools in the City are located within 0.5 mile of the I-710 mainline and interchange improvements: (1) Los Cerritos Elementary School, 14626 Gundry Ave., Paramount; (2) Keppel Elementary School, 6630 Mark Keppel St., Paramount; and (3) Zamboni Middle School, 15733 Orange Ave., Paramount. These schools are not identified as impacted in Table 3.3-8, which only identifies impacted schools, but the reason why Paramount schools within 0.5 miles of the facility are not impacted is not clear from the discussion. It would be helpful if Table 3.3-8 explained the basis of both impact and no-impact conclusions for each school. L-29-41

3.5 Traffic

L-25-42 The DEIR/DEIS needs to address the timing of street and intersection improvements. These improvements should be done in advance of mainline construction to facilitate use of local streets for detour and construction purposes.

L-29-42

While the Early Action Project nomination process allows cities to nominate improvements for early action, this should be done without requiring such action by local jurisdictions.

3.6 Visual

L-25-45 The visual/aesthetic analysis does not specifically address potential impacts to or views from the City of Paramount.

L-29-43

L-25-48 We are concerned that the project may not include adequate soundwalls and screen walls through the City of Paramount. We would request either a soundwall and/or screen wall be required along the I-710 freight corridor in and adjacent to the City of Paramount so trucks aren't visible.

L-29-44

A screen wall is required on Shoemaker bridge so trucks aren't visible. In the absence of such a screen wall, the potential for visual impacts remains.

Conclusion

We thank Caltrans and Metro for the opportunity to review the EIR for the I-710 Corridor project and look forward to continuing to work with Caltrans and Metro on this important improvement project. Should you have any questions please contact Bill Pagett, City Engineer at 562-220-2108 or bpagett@paramountcity.com.

CITY OF PARAMOUNT

Christopher S. Cash
Director of Public Works

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L-29-1

The City of Paramount's opposition to the No Build Alternative is acknowledged and included in the project record. Caltrans and Metro appreciate the City of Paramount's participation in the development of the I-710 Corridor Project build alternatives. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more information on the identification of the Preferred Alternative.

L-29-2

The RDEIR/SDEIS was written to comply with Caltrans' CEQA and NEPA standards which describe the environmental impacts of the proposed project. However, as stated in Response to Comment L-29-1, the No Build Alternative has been identified as the Preferred Alternative and there will be no need for any future General Plan updates by the City to address changes resulting from the build alternatives.

L-29-3

As described above in Response to Comment L-22-8, the Executive Summary of the Final EIR/EIS includes a summary table identifying all project-related impacts; applicable avoidance, minimization, and/or mitigation measures; and level of CEQA significance.

With respect to noise impacts described in the RDEIR/SDEIS, it is important to note that the CEQA noise analysis is completely independent of the 23 CFR 772 noise analysis, which is centered on the Federal noise abatement criteria (NAC), as described in Chapter 4.0, CEQA Evaluation. The NAC specified in Caltrans' *Traffic Noise Analysis Protocol* (Protocol) is the same as those specified in 23 CFR 772. The Protocol defines a noise increase as "substantial" when the predicted noise levels under build conditions exceed existing noise levels by 12 dBA. Several receptors within the project Study Area would experience a substantial noise increase of 12 dBA or more over existing noise levels for both build alternatives. The provision of new soundwalls under Alternatives 5C and 7, as required by Measure N-1, would mitigate project-related noise impacts along the I-710 freeway to a level below significance under CEQA. Specifically, proposed soundwall 705TL combined with other soundwalls, was determined to be acoustically feasible and would adequately reduce substantial noise impacts for this receptor. However, as stated in Response to Comment L-29-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, soundwalls will not be constructed as a part of this project.

L-29-4

As described in Response to Comment L-22-8, where a jurisdiction-specific analysis was conducted, corresponding summary tables are provided in Section 3.1 and 3.3 of the RDEIR/SDEIS. Table 3.1-1 identifies existing land use impacts by jurisdiction; Table 3.3-9 identifies parking impacts by jurisdiction; and Table 3.3-12 identifies relocations by City. Much of the analysis throughout the RDEIR/SDEIS is regional in nature due to the scale of the build alternatives; therefore, specific study areas were established to identify project-related impacts at a larger scale for each build alternative. Since the No Build Alternative has been selected as the Preferred Alternative, there is no need for permits and/or approvals from any agency and/or jurisdiction. However, the Executive Summary of the Final EIR/EIS includes a summary table identifying all project-related impacts; applicable avoidance, minimization, and mitigation measures; and level of CEQA significance.

L-29-5

Caltrans and Metro appreciate this feedback and acknowledge the amount of information presented in both the 2012 Draft EIR/EIS and the 2017 RDEIR/SDEIS. In many cases, although the analysis that was included in the Draft EIR/EIS was similar to that which was included in the RDEIR/SDEIS, the revised analysis was different enough or the comment was on a feature of the build alternatives that was no longer under consideration in the revised set of build alternatives. Therefore, many comments were essentially no longer applicable since they had been made on alternatives no longer under consideration. Caltrans has made an effort to be more specific in the responses to comments on the RDEIR/SDEIS contained in this appendix, but cross-references are still utilized where appropriate.

L-29-6

The technical studies supporting the RDEIR/SDEIS were made available for informational purposes on Caltrans' website and via Compact Disc or flash drive at six corridor-area libraries that also housed a hard copy of the RDEIR/SDEIS during the circulation period in 2017. The full list of technical studies supporting the RDEIR/SDEIS and this Final EIR/EIS is contained in Appendix H, List of Technical Studies. The analysis contained within the RDEIR/SDEIS summarizes the contents of those studies, but those studies are bound separately and not considered to be appended to the RDEIR/SDEIS itself.

L-29-7

The description of improvements under the build alternatives at Alondra Boulevard in Table 2.3-1 has been updated in this Final EIR/EIS to indicate that they are also in the City of Paramount.

L-29-8

Specific information regarding the proposed improvements to the Alondra Boulevard and Rosecrans Avenue crossings under the build alternatives can be found in Table 2.3-1 (Alondra Boulevard as B-20, Rosecrans Avenue as B-25) and shown on sheet 3 of 7 on Figure 2.3-6 of the RDEIR/SDEIS and this Final EIR/EIS. As discussed in Section 3.3.1.3 of the RDEIR/SDEIS and this Final EIR/EIS, all crossing arterials modified as a result of the build alternatives would be provided pedestrian facilities (sidewalks, curb ramps, and crosswalks) and sufficient outside shoulder width for Class II bikeways. All replaced and new sidewalks associated with the build alternatives would be designed to comply with the Americans with Disabilities Act (ADA). However, since the No Build Alternative has been selected as the Preferred Alternative, pedestrian facilities will not be provided.

L-29-9

The construction staging analysis was a conceptual analysis developed to ensure that the build alternatives could physical be constructed, that the freeway facility could continue to operate during construction, and that a logical order of construction could be defined thereby minimizing throw-away of built elements. Should a build alternative be selected as the Preferred Alternative, construction of the build alternatives would take place in sequenced construction stages or packages as funding is made available for construction. However, as stated in Response to Comment L-29-1, the No Build Alternative has been identified as the Preferred Alternative and there will be no construction.

L-29-10

Please refer to Response to Comment L-29-9 regarding construction staging for the build alternatives. The preliminary construction staging analysis for the build alternatives (which can be made available to the City upon request) shows that the Alondra Boulevard bridge would be constructed one side at a time (eastbound Alondra Boulevard, followed by westbound Alondra Boulevard) for purposes of maintenance of traffic. However, as stated in Response to Comment L-29-1, the No Build Alternative has been identified as the Preferred Alternative and therefore, closure of local roadways will not be necessary.

L-29-11

The build alternatives propose several soundwalls along I-710 in the City of Paramount between SR-91 and I-105. Please refer to sheets 20 through 22 of Figures 3.14-2 and 3.14-3 in the RDEIR/SDEIS and this Final EIR/EIS for the soundwalls proposed under Alternative 5C and Alternative 7, respectively. Screenwalls were only proposed on the freight corridor structure under Alternative 7. However, since the No Build Alternative has been selected as the Preferred Alternative, soundwalls will not be constructed as part of this project.

L-29-12

The details of the Community Health Benefit Program have been developed beyond what was included in the RDEIR/SDEIS and further details of the program are included in Section 2.3.2.1 of this Final EIR/EIS. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please also refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

L-29-13

Should a build alternative be selected as the Preferred Alternative, Measure C-6 would address disproportionate adverse noise impacts on environmental justice communities as a result of the build alternatives. Because these are impacts that would specifically occur as a result of the build alternatives and would not address existing conditions, the locations that would receive noise abatement measures, should a build alternative be selected as the Preferred Alternative, are specifically identified in the text of measure C-6. These areas would receive noise abatement upon the commencement of construction in these particular areas. However, as stated in Response to Comment L-29-1, the No Build Alternative has been identified as the Preferred Alternative and therefore, there would be no disproportionate adverse noise impacts on environmental justice communities as a result of the build alternatives.

L-29-14

The cited statement on page 5.16-7 in the Community Impact Assessment (CIA) regarding residential property acquisition is incorrect; there are no partial or full acquisitions of residential property within the City of Paramount as a result of the build alternatives.

L-29-15

No permanent impacts to the driveways at Home Depot are proposed under either build alternative. Should a build alternative be selected as the Preferred Alternative, temporary impacts to the driveways would occur during reconstruction of the I-710/Alondra Boulevard interchange. However, as stated in Response to Comment L-29-1, the No Build Alternative has been identified as the Preferred Alternative and therefore, there would be no temporary impacts to circulation.

L-29-16

As discussed in Section 3.5.4 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, mitigation for impacts to local intersections by the build alternatives would be implemented by Caltrans as the lead agency in coordination

with the local jurisdiction. The proposed mitigation improvements are only conceptual at the time of this Final EIR/EIS. Since the No Build Alternative has been selected as the Preferred Alternative, these mitigation improvements will not be implemented and do not need to be developed further in coordination with the City.

L-29-17

Please refer to Section 1.6 of this appendix for more detailed information regarding the proposed arterial parking restriction program. This program is not included in the Preferred Alternative (Alternative 1 – No Build).

L-29-18

The future year analysis (2035) conducted for the I-710 Corridor Project did not assume that the Garfield Improvement Project would be in place. The analysis conducted for the RDEIR/SDEIS was based on future, funded and committed projects identified in the SCAG Region's 2012-2035 travel demand forecast model. The future No Build network for the RDEIR/SDEIS travel demand forecasting effort for the I-710 Corridor was reaffirmed with the I-710 TAC in May 2013, prior to conducting the detailed traffic, design, and engineering studies developed in support of the RDEIR/SDEIS. Since the No Build Alternative has been selected as the Preferred Alternative, preliminary recommendations for the mitigation concepts identified for the Garfield Avenue/Rosecrans Avenue intersection in the RDEIR/SDEIS would not be implemented.

L-29-19

The traffic analysis performed in support of the RDEIR/SDEIS did not presume the widening of Alondra Boulevard to three lanes in each direction from I-710 to Lakewood Boulevard, as this arterial improvement is not yet included in the future (2035) No Build Alternative network. As of the date of this analysis (December 2018), it is acknowledged that this project is in the conceptual planning stages and has yet to achieve environmental clearance and formal project approval. Since the No Build Alternative has been selected as the Preferred Alternative, a refined traffic analysis will not be conducted during final design for the I-710 Corridor Project.

L-29-20

In response to this comment, the table provided below summarizes the delay and the LOS at the Alondra Boulevard/Garfield Avenue intersection for all three alternatives. These detailed results were also provided in Table 6-3 and Table 6-8 of the *Intersection Traffic Impact Analysis Report* (March 2017). The volumes and lane configuration at this intersection were illustrated in Figure 6-3.d and Figure 6-8.d of this report. Traffic volumes and traffic analysis performed for the RDEIR/SDEIS were changed for the future year (2035) as compared to the Draft EIR/EIS circulated for public review in 2012 as a consequence of the updated travel demand forecasts.

In addition, the build alternatives are not predicted to substantially change daily volumes on this segment of Alondra Boulevard (refer to Tables 5-2 and 6-2 in the *Intersection Traffic Impact Analysis Report* for details), as improvements to I-710 tend to attract traffic to the freeway, and thus relieve volumes on the arterial network through this area relative to the future No Build Alternative.

The traffic analysis conducted in support of the RDEIR/SDEIS did not assume the future City improvements for this intersection, as the build alternatives were still under development. In this regard, the impact analysis performed for Garfield Avenue in support of the RDEIR/SDEIS represents a worst-case future traffic condition, as the City's proposed project would improve 2035 No Build Alternative LOS at this intersection, as shown in the table below.

Delay and LOS at Alondra Boulevard and Garfield Avenue Intersection

44	Alondra Blvd/Garfield Ave Intersection	No Build (Alt 1)		Alt 5C		Alt 7	
		Delay	LOS	Delay	LOS	Delay	LOS
	AM Peak	39.0	D	42.5	D	38.7	D
	MD Peak	49.3	D	47.9	D	38.6	D
	PM Peak	72.2	E	66.1	E	68.8	E

Source: *Intersection Traffic Impact Analysis Report* (March 2017).

L-29-21

Some of the intersections numbered in the 200s are not shown in all of the tables in the *Intersection Traffic Impact Analysis Report* (March 2017) or the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) because they are not included in some of the alternative scenarios. For example, Intersection Nos. 230 and 231 are freight corridor intersections included only in Alternative 7. These two intersections are not applicable to existing conditions, the future No Build Alternative, or Alternative 5C and its associated design options.

L-29-22

The proposed access changes under the build alternatives in the area of the I-710/Alondra Boulevard interchange has in and of itself not been determined to be a "significant impact" under CEQA. Please refer to Section 4.2.4.4 of this Final EIR/EIS for more information on significant traffic-related impacts under CEQA. Under the build alternatives, the conversion of Frailey Avenue and Lime Avenue to culs-de-sac at Alondra Boulevard would represent an access change in that drivers traveling to or from the residential neighborhood along Frailey Avenue and Lime Avenue would be required to use Atlantic Avenue and E Linsley Street. However, the proposed access change would only represent at most approximately 1,700

additional feet of travel to access Atlantic Avenue/Alondra Boulevard Additionally, circulation and congestion would generally improve for all users at the I-710/ Alondra Boulevard interchange. Drivers seeking access to Alondra Boulevard would be re-routed through the Alondra Boulevard/Atlantic Avenue intersection. This intersection was evaluated as part of the intersection impact analysis assessment conducted for the project. As shown in Table 6-3 in the *Intersection Traffic Impact Analysis Report* (March 2017), the level of service for this intersection in 2035 improves from LOS E under the No Build Alternative to LOS D under the Alternative 5C in the AM peak hour. In the MD and PM peak hours, LOS is projected to remain at LOS D. The shifts in peak hour traffic volumes for this intersection are very slight.

L-29-23

As discussed in Section 3.24.4.5 of the I-710 Corridor Project RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, a TMP would be prepared prior to construction to address potential short-term traffic impacts during construction, including impacts to existing transit services. This, and other measures, such as CON-TR-3, would reduce temporary construction impacts to local bus services to levels below significance under CEQA. However, as stated in Response to Comment L-29-1, the No Build Alternative has been identified as the Preferred Alternative and therefore, these transit impacts would not occur and a TMP will not be necessary.

L-29-24

When the travel forecasting was undertaken for the I-710 Corridor Project RDEIR/SDEIS in 2013, the West Santa Ana Branch Transit Corridor (Eco-Rapid) had not yet initiated an environmental review process. As agreed upon by the I-710 Technical Advisory Committee (TAC), the projects assumed in the RDEIR/SDEIS No Build and build alternatives needed to have been environmentally cleared by that time in order to be included in the travel demand forecasting in support of the RDEIR/SDEIS. Some exceptions were made in order to produce the most conservative, “worst-case” forecast. Therefore, this project was not assumed to be constructed and in operation by the horizon year (2035) of the travel demand forecasts. For a list of the projects assumed in the No Build Alternative, please refer to Appendix U of the RDEIR/SDEIS and this Final EIR/EIS. In March 2018, the Metro Board of Directors authorized further study of additional alternatives for the West Santa Ana Branch Transit Corridor Project, and as such, the environmental process for this project will not be completed until after the scheduled completion of this Final EIR/EIS.

L-29-25

As stated in Response to Comment L-29-1, the No Build Alternative has been identified as the Preferred Alternative and therefore, traffic will not be diverted on local arterials during construction.

L-29-26

Please refer to Response to Comment L-29-25 regarding impacts to local arterials during construction of the build alternatives.

L-29-27

The City's concern regarding the substantial noise increase resulting in noise impacts at Ralph C. Dills Park under Alternative 7 has been noted. However, Alternative 7 is no longer under consideration and the No Build Alternative has been identified as the Preferred Alternative and therefore, there will be no noise impacts at the Ralph C. Dills Park.

L-29-28

Key Views 9 and 11 are the closest key views to the City of Paramount. It is important to note that the purpose of the key views is to give a representative sample of visual landscape units along the I-710 Corridor, not provide every possible type of view at every potential jurisdiction within the I-710 Corridor. Therefore, the RDEIR/SDEIS and this Final EIR/EIS utilize selected key views appropriately consistent with FHWA's January 2015 publication *Guidelines for the Visual Impact Assessment for Highway Projects*.

L-29-29

The Executive Summary of the Final EIR/EIS includes a summary table identifying all project-related impacts; applicable avoidance, minimization, and/or mitigation measures; and level of CEQA significance.

L-29-30

As stated in Response to Comment L-29-1, the No Build Alternative has been identified as the Preferred Alternative and therefore, no construction will occur.

L-29-31

This comment was submitted on the original Draft EIR/EIS and is relevant to alternatives no longer under consideration. In general, the executive summary is meant to provide only the highest level of summary. More detailed information is available in the various EIR/EIS Chapters 3.0 and 4.0 resource area discussions, and in this case, Section 3.13, Air Quality. As there are many different pollutants and analyses comparing existing conditions with the No Build and build alternatives, providing the details in the Chapter 3.0 section and providing the plain language summary in the Executive Summary is consistent with standard practice under CEQA and NEPA.

L-29-32

Consistent with State CEQA Guidelines Section 15126.6I(2), a discussion and identification of the Environmentally Superior Alternative has been added to Chapter 4.0, CEQA Evaluation, in this Final EIR/EIS.

L-29-33

Please refer to Response to Comment L-29-31 regarding the level of detail provided in the Executive Summary.

L-29-34

As stated in Response to Comment L-29-1, the No Build Alternative has been identified as the Preferred Alternative and therefore, no construction will occur.

L-29-35

As stated in Response to Comment L-29-1, the No Build Alternative has been identified as the Preferred Alternative and therefore, no construction will occur.

L-29-36

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 and which evaluates alternatives no longer under consideration. It should be noted that it was decided to utilize Highway Capacity System (HCS) analysis as depicted in Figure 1.2-1 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS to illustrate the congestion problem on I-710, as this traffic operational analysis factors in design deficiencies, speeds, density and other variables that exacerbate congestion, in addition to limitations associated with insufficient lane capacity. Lane schematics have been developed for the proposed project that compares the three alternatives side by side, using a scale where these differences in lane capacity can easily be seen. These figures are provided in the supporting technical reports prepared for the project,

including in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017), Appendix E, and in the *I-710 Draft Project Report* (2017), Attachment B.

L-29-37

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 and which evaluates alternatives no longer under consideration. Please refer to Response to Comment L-29-9 regarding construction duration and phasing of the build alternatives.

L-29-38

The organization of Chapter 4.0, CEQA Evaluation in both the RDEIR/SDEIS and this Final EIR/EIS, identifies and discusses “no impact” conclusions first, followed by “less than significant impact” conclusions, “significant impacts that can be mitigated to below a level of significance” conclusions, unavoidable significant impacts, and significant irreversible environmental changes. As described on page 4-1 of Chapter 4.0, “In making determinations of significance under CEQA, the impacts of the build alternatives are analyzed relative to baseline conditions which, for the Interstate 710 (I-710) Corridor Project, were the existing conditions in the I-710 Corridor in 2012,” consistent with the requirements for determining significance under CEQA. Additionally, as noted on p. 4-2, “Project impacts vary among the two build alternatives, with one alternative having greater impacts to a particular environmental factor than another. For this reason, significance under CEQA is generally discussed in terms of the alternative with the most significant adverse impact. In cases where the impacts of the alternatives vary widely, clarification is provided regarding which alternatives have the most adverse impacts to a particular environmental factor.” The responses to the CEQA Checklist questions in this chapter are summaries of information contained in Chapter 3.0 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, refer to Chapter 3.0. Mitigation Measures identified for potentially significant impacts for each environmental topic area are identified in Section 4.4 of Chapter 4.0, with specific references to the locations of the Mitigation Measures in the respective sections of Chapter 3.0.

L-29-39

It is important to note that the proposed I-710 Corridor Project build alternatives are not considered “new development or redevelopment”, but are rather transportation system enhancements that redistribute existing and forecasted traffic volumes throughout the Study Area.

As the lead agency, it is Caltrans’ standard practice to utilize the Highway Capacity Manual (HCM) methodology, as described in Chapter 11 through Chapter 13 of HCM 2010, to assess intersection performance. Intersection Level of Service (LOS) was calculated according to analysis methodologies described in the HCM. Section 3.5.3.1 of the RDEIR/SDEIS and

Section 7, Project Impacts and Mitigation Measures, of the *Intersection Traffic Impact Analysis Report* (March 2017), outlined the criteria for determining impacts to arterial intersections. As lead agency under CEQA, Caltrans is responsible for establishing the traffic impact thresholds for the project. With respect to the intersection impact analysis, the same thresholds and methodology were uniformly applied for the intersections of all local jurisdictions within the I-710 Study Area for the purpose of determining the impacts of the build alternatives and for identifying measures to mitigate those impacts. This is appropriate given that each city has their own thresholds for their own local projects, which vary from city to city. The criteria for determining the impacts of the build alternatives were identified based on an examination of future (congested) travel conditions of the arterial network within the I-710 Study Area and Caltrans' project experience with other major freeway projects in Los Angeles County similar in scope and magnitude to the I-710 Corridor Project.

L-29-40

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 and which evaluates alternatives no longer under consideration. Measure LU-1 was revised in the RDEIR/SDEIS in response to comments to indicate that, should a build alternative be selected as the Preferred Alternative, amendments could occur in line with regular amendment cycles as required by law, and would be at the discretion of each local jurisdiction. It should be noted that local jurisdictions are under no obligation to amend their General Plans, but it is a best practice to keep them up to date. Because these amendments can occur in the normal course of General Plan updates, should a build alternative be selected as the Preferred Alternative, Caltrans and Metro do not intend to provide compensation to local jurisdictions to update their General Plans to reflect land use changes resulting from the I-710 Corridor Project. However, it should be noted that since the No Build Alternative has been selected as the Preferred Alternative, amendments to the City's General Plan will not be necessary.

L-29-41

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 and which evaluates alternatives no longer under consideration. Table 3.3-8 in the RDEIR/SDEIS describes "Permanent Direct and Indirect Impacts to Schools and Other Community Facilities". Since no permanent impacts to the referenced schools in the City of Paramount were identified under the build alternatives, they were not included in this table.

L-29-42

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 and which evaluated local intersection improvements that are no longer under consideration as part of the build alternatives. Please refer to Response to Comment L-29-9 regarding construction duration and phasing of the build alternatives.

L-29-43

This comment refers to information presented in the Draft EIR/EIS circulated for public review in 2012 and which evaluates alternatives no longer under consideration. Please refer to Response to Comment L-29-28 regarding the visual/aesthetic analysis.

L-29-44

Screenwalls on the separated freight corridor are only applicable under Alternative 7. Alternative 1 (No Build Alternative) has been identified as the Preferred Alternative; therefore, no screenwalls or sound walls on the freight corridor structure are applicable.

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DIRECTOR OF PUBLIC WORKS
CITY ENGINEER

October 23, 2017

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Subject: ***I-710 Corridor Project RDEIR/SDEIS, City of South Gate Comment Letter***

Dear Mr. Kosinski:

The City of South Gate is in receipt of the RDEIR/SDEIS for the I-710 Corridor Project that was released for circulation on July 21, 2017. The purpose of this letter is to outline the City's findings and comments pursuant to our review of the RDEIR/SDEIS.

GENERAL COMMENT

The City of South Gate welcomes initiatives that would reduce traffic congestion, improve the flow of goods, reduce vehicle related air pollution, and reduce community noise impacts. As the City is bisected by the I-710 Freeway, the proposed project would have a direct impact on the City's residents, business and property owners. While we are committed to working with Caltrans and Metro during the ongoing and planning stages of the I-710 Corridor Project, we are concerned that the proposed project may have unintended consequences related to growth inducement, cumulative impacts, dislocation, and a general degradation of the existing environment.

CHAPTER 1 – PROPOSED PROJECT

The City has worked with Caltrans, Metro, Gateway Cities COG, SCAG and the Ports to improve the I-710 as part of the Technical Advisory Committee and Project Committee. The City of South Gate residents and businesses are directly impacted by the elevated levels of traffic congestion, elevated truck volumes, increased air pollution, and exposure to toxic air contaminants. As such, the City is supportive of the proposed project's purpose to improve air quality and public health; improve traffic safety; modernize freeway design; accommodate future traffic volumes, and address the increased traffic volumes from projected growth in population, employment, and economic activities related to goods movement.

Construction of the Build Alternatives will result in major disruptions to the City, including impacts to access for residents, businesses and emergency services. The reconstruction of the Imperial Highway/I-710 interchange and the Firestone Boulevard/I-710 interchange effectively remove the major east/west arterials from circulation for the duration of their construction, creating increased traffic congestion for the duration of the construction improvements. Construction and operation of the proposed project will also result in substantial public and private property acquisitions, and subsequent financial impacts to both the City and private property owners. Our specific comments on each of these issues are detailed below.

CHAPTER 2 – PROJECT ALTERNATIVES

The Project Alternatives are described in a manner that makes them easy to understand and informative. However, it is our contention that the following items should be addressed in the RDEIR/SDEIS:

- The RDEIR/SEIS does not provide a clear description of when construction would commence. It is not until Table 3.25-2 that an anticipated start date of 2020 is provided. This information is needed to understand the extent and timing of construction related impacts. The project description should be revised to clearly indicate the anticipated construction timeline. The timeline should be given by project segment (southern, central, northern) so that the City and its affected agencies can plan and allocate resources accordingly. L-30-1

- The RDEIR/SDEIS assumes construction of the BNSF Railroad Southern California International Gateway (SCIG) near-dock intermodal yard; however, this facility may not be constructed as the EIR for the SCIG project was vacated in 2016. Freight that may have gone to the SCIG facility will likely continue to go to either the Burlington Northern Santa Fe (BNSF) Hobart rail yard or the Union Pacific (UP) East Los Angeles rail yard. We are concerned that including the SCIG facility in the travel demand model may misrepresent future traffic demand, resulting in an underestimation of future cargo related traffic that will travel through the City's study area. L-30-2

- The proposed project will result in an increase in cargo related traffic (with or without the SCIG facility be constructed) input to both the Hobart and East Los Angeles freight yards; as such, the City would like to state its preference for Design Options 1A/1B in order to reduce truck queuing at these facilities L-30-3

- Table 2.3-1 on page 2-16 of the RDEIR/SDEIS states that West Frontage Road would be extended from current northern terminus to Southern Avenue via a loop ramp; however, Figure 2.3-6 (Sheet 4 of 7), does not show the improvements to West Frontage Road that would occur under Alternative 5C. We request that the drawings be updated to show the improvements to West Frontage Road. L-30-4

- The RDEIR/SDEIS relies on the availability of ZE/NZE vehicles for the AQ/GHG analysis, as well as health risk analysis. We understand that the proposed project includes the Zero Emission/Near Zero Emission Truck Technology Deployment Program which would include funding to individual truck and fleet owners, and the deployment of up to 20 electric charging stations and up to ten hydrogen refueling stations within the corridor, and that the program would commit up to $100 million under Alternative 5C, and between $460 million to $1.050 billion under Alternative 7. However, Page 2-22 states that "zero-emission capable drayage trucks can be developed, demonstrated, validated, and moved into production by a 2025 target timeline," but there remain core issues to be addressed prior to the successful commercialization of said vehicles. The reliance of ZE/NZE technology is speculative at this time, as there is no commercial market for the production and deployment of such vehicles. Even with the increase in ZE/NZE vehicles, the proposed project would result in an increase in 24-hour averages of fine particulate matter (PM_{10}) in the City of South Gate. As such, the RDEIR/SDEIS should incorporate additional mitigation measures to ensure that AQ standards are met within the Study Area. Refer to AQ response for more detail L-30-5

CHAPTER 3 – AFFECTED ENVIRONMENT

Our comments regarding Section 3.0 are categorized according to the individual topical issues (land use, growth, community impacts, etc.). As stated previously, our comments focus on those issues that will directly affect the City of South Gate.

Chapter 3.1- Land Use

- The discussion of the environmental setting focuses on the adopted land use and development policy for the affected area. For South Gate, the discussion focuses on selected general plan land use policies included in the Mobility Element, Community Design Element, and the Healthy Community Element. While we do not disagree with the RDEIR/SDEIS selection, these and other elements also indicate that any improvements must not harm affect the community's physical or economic wellbeing, including avoiding residential displacements within the City. L-30-6

- Both Alternatives result in the acquisition of the Urban Orchard, which the City recently acquired, in order to complete the Southern Avenue extension. The City is supportive of the Southern Avenue extension and believes that completion of the extension a valid strategy to reduce traffic impacts that will result from L-30-7

implementation of the proposed project; however, the City is strongly opposed to any action that results in the loss of beneficial use and/or access to the Urban Orchard. The Urban Orchard, when completed, will be an important community asset that will provide much needed open space, community gardening, and assist the City in meeting its stormwater management goals. The RDEIR/SDEIS should be revised to evaluate potential impacts that would occur from the proposed acquisition of the Urban Orchard. The City opposes such acquisition and requests that the Urban Orchard be protected, maintained and integrated into the I-710 Corridor Project as a project feature. The City also requests that the access road providing access to and from the Thunderbird Villas and the Southern Avenue extensions be shown as an alternative that could be implemented at the City's discretion. It should also indicate that no other agency has the authority to implement the access road without City approval, in writing. The City requests that the loss of any parkland or open space in the City that would occur as a result of the proposed project be mitigated by the construction of comparable facilities elsewhere in the City prior to certification of the Final REIR and approval of the Record of Decision. L-30-7

- Parque Dos Rios would be permanently impacted by Alt 5C (3.21 acres) and Alt 7 (all 8.6 acres). Mitigation Measures PR-1 through PR-9 identify the need to identify and incorporate design refinements to minimize the permanent and temporary uses of land from Parque Dos Rios during the final design of Alternative 5C, or identify potential replacement property under either Alternative 5C or Alternative 7. We believe that impacts to Parque Dos Rios must be minimized under both Alternatives, and that replacement sites must be identified prior to certification of the Final REIR and approval of the Record of Decision. In the absence of replacement sites, the project shall provide funding to the City for installation of greenspace near the I-710 Freeway, as a mitigation measure. L-30-8

- The new vertical structures associated with the proposed project, such as the new bridge over Southern Avenue, and the proposed elevated freight corridor would attract homeless encampments to areas of the City. Caltrans must coordinate with the City of South Gate to ensure that the new structures are maintained in a manner that ensures public safety and does not increase the City's homeless population. Specific mitigation measures should be identified. L-30-9

Chapter 3.2 – Growth

- The discussion of growth impacts focuses on a general description of the regional growth projections for the region and the individual cities. This discussion of growth trends in goods movement largely repeats an earlier discussion included in the Project Description and our concerns regarding the rail yard and rail line capacity to accommodate a significant increase in rail traffic is restated here. This section also correctly details a correlation between activity and growth in the ports and increased truck traffic along the I-710 Corridor. However, this section does not address actual growth inducing impacts as required by CEQA Section 15126.2(d). The RDEIR/SDEIS must evaluate the ways that the proposed project could foster economic or population growth, or remove obstacle to population growth. Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The RDEIR/SDEIS does mention that there may be potential growth inducing impacts on traffic, noise, air quality, and health-related impacts though it does not specifically identify those impacts that may affect the City's residents. L-30-10

Chapter 3.3 – Community Impacts

- Alternative 5C would result in the full acquisition of 10 properties, and the relocation of one apartment building with 6 residential units and 6 non-residential properties, while Alternative 7 would result in in the full acquisition of 14 properties, and the relocation of one apartment building with 6 residential units and 11 non-residential properties.

- Alternative 5C would result in the loss of $37,764 in sales tax and $2,116 in property tax and relocation of 20 employees, while Alternative 7 would result in the loss of $47,205 in sales tax and $3,487 in property tax and relocation of 30 employees.

- The City is strongly opposed to any acquisition of residential or commercial property. The project proponents should ensure that every effort must be made to eliminate or minimize property acquisitions and that Caltrans must explore alternative freeway and roadway designs that eliminate property acquisitions that would negatively impact residents and businesses in South Gate. L-30-11

- Additionally, Alternative 5C would result in 34 additional partial acquisitions and Alternative 7 would result in an additional 43 partial acquisitions. While these partial acquisitions do not result in the displacement of residential or employees, it is important that these partial acquisitions do not result in the loss of access or parking that would negatively impact commercial or industrial uses. L-30-12

- The RDEIR/SDEIS indicates that the provisions of the "Uniform Act" will be adhered to in providing just and fair compensation to affected property owners. Any resident or business acquired as a result of the proposed project must be relocated prior to construction activities commencing. Additionally, relocation of South Gate businesses and residents should occur within the City of South Gate. L-30-13

- The new vertical structures associated with the proposed project, such as the new bridge over Southern Avenue, and the proposed elevated freight corridor would attract homeless encampments to areas of the City. Caltrans must coordinate with the City of South Gate to ensure that the new structures are maintained in a manner that ensures public safety and does not increase the City's homeless population. Specific mitigation measures should be identified. L-30-14

Chapter 3.4 – Utility/Emergency Services

- The RDEIR/SDEIS does not identify Hawkins Reservoir or pumping station. The RDEIR/SDEIS should include these water resources as part of the utilities impact analysis, and determine if any impact to this important infrastructure would occur. Mitigation should be identified to ensure that local infrastructure impacts are avoided. L-30-15

Chapter 3.5 – Traffic and Transportation/Pedestrian and Bicycle Facilities

- The traffic impact analysis did not analyze all of the arterial highways and intersections in the City of South Gate. Therefore, the proposed project may not have identified all of the potential traffic impacts generated by the proposed project in the City of South Gate. L-30-16

- Both Alternatives would improve freeway operations and safety on the I-710 Corridor, but most segments between the I-105 and Florence Avenue would still operate at a Level of Service E or F during the AM and PM Peak Hours.

- Similarly, traffic volumes on Atlantic Avenue, Garfield Avenue, Imperial Highway and Firestone Boulevard are reduced, but not enough to measurably improve traffic level of service. The City of South Gate will bear a significant burden from construction of the proposed project, as project construction in the segment that would affect the City of South Gate would last for 48 months under Alternative 5C and 72 months under Alternative 7. Additionally, the City will continue to serve as an alternate route for motorists looking to by-pass the I-710. As such, the City requests that Metro carefully coordinate with the City to explore additional measures that could be incorporated into the project design in order for the City to receive maximum benefits from the I-710 project. The programmatic aspects of the I-710 Corridor Project, such as the I-710 TSM/TDM Congestion Relief Program, that would provide funding for traffic signal upgrades and coordination, safety improvements, restriping, to add turning lanes, roadway widening, and traffic calming measures, would help to provide for relief to the City relative to the lack of measurable improvements provided by implementation of the proposed project. L-30-17

- Under Alternative 5C, improvements are proposed at the following intersections due to an increase in delay resulting from the proposed project: Firestone Boulevard at Atlantic Avenue; Firestone Boulevard at Garfield Avenue; and Garfield Avenue at Southern Avenue. Under Alternative 7, improvements are proposed at Firestone Boulevard and Atlantic Avenue, and Garfield Avenue at Southern Avenue. The recommended mitigation measure for each of these intersections includes adding turning lanes; however, the RDEIR/SDEIS does not show whether additional property acquisitions would be required in order to implement the recommended mitigation measures. The RDEIR/SDEIS should provide clarification if property acquisitions are needed for these corners at these intersections; and the affected property owners should be properly notified of the potential property acquisitions. L-30-18

- Under both Alternatives, the northern portion of Wright Road is proposed to be cul-de-saced at the intersection of Imperial Highway. The City would strongly urge Caltrans to identify a new configuration for the Imperial Boulevard ramps that does not result in the creation of the cul-de-sacing of Wright Road. We understand that maintaining open access to Wright Road would result in the loss of the full benefit of the Imperial Highway ramp improvements; however, it is our contention that the impacts related to L-30-19

emergency services, residential access and the shifting of north/south traffic to St. James Avenue would negate any such benefits. L-30-19

- The RDEIR/SDEIS identified that peak hour parking prohibitions need to be implemented on Long Beach Boulevard south of Firestone Boulevard, Atlantic Avenue and Garfield Avenue during the peak periods to provide an additional travel lane. The RDEIR/SDEIS should provide alternatives for consideration in lieu of implementing the on-street parking prohibition. L-30-20

- The Southern Avenue extension over the Los Angeles River and I-710 Freeway should be constructed as an Early Action Project (EAP). The Southern Avenue extension would provide an additional connection between the east side and west side of the City and would reduce the anticipated congestion during construction work of the improvements for the I-710 Freeway/Firestone Boulevard interchange and I-710 Freeway/Imperial Highway interchange. In addition, construction of the Southern Avenue extension as an EAP will provide emergency vehicles with an additional alternative route between the east side and west side of the City. L-30-21

- The loop access from West Frontage Road (adjacent to Thunderbird Mobile Home Villas) to the proposed Southern Avenue extension should be considered as a one-way outbound access only, in order to minimize vehicular intrusion to the residential area. L-30-22

Chapter 3.6 – Visual/Aesthetics

- The use of screening shown in the images will have other impacts that are not mentioned. While screening is necessary to attenuate noise along those segments where residential neighborhoods are located in close proximity to the freeway, in other areas the screening will block the "off-site" views where freeway visibility may be desirable. For example, new commercial development near the Firestone Boulevard ramps greatly benefit from the freeway visibility. The RDEIR/SDEIS must include mitigation to ensure that there will not be a proliferation of even taller and larger signage along the freeway corridor to compensate for the loss of freeway visibility. L-30-23

- New elevated freeway lighting may adversely impact light sensitive uses in the City due to the widening of the I-710 mainline. Special care must be given during final design to ensure the light sensitive use in the City are not exposed to elevated levels of transportation related lighting from the proposed project. L-30-24

- Soundwalls, vertical columns, and other features of the proposed project could attract graffiti and vandalism. Caltrans must coordinate with the City to implement mitigation measure VIS-4 and VIS-10 which required the planting of vines, utilizing textured surfaces, and ongoing maintenance, which would serve to deter graffiti and other forms of vandalism. L-30-25

Chapter 3.7 – Cultural Resources

- Table 3.7-1 only lists one historic resource within the area of potential effect (APE) City of South Gate, the UP Railroad; however, there are several historic properties and structures within the City of South Gate that were not identified. Care should be made that impacts to these properties does not occur during construction of the proposed project. L-30-26

Chapter 3.8 – Hydrology and Floodplain

- This section accurately describes the Study Area's drainage system and potential flood hazards. FEMA flood maps indicate that the eastern portion of South Gate near the Los Angeles River and the Rio Honda drainage channel are at an elevated risk of flooding. Care must be given that development of the proposed project does not result in drainage from the I-710 running off to local streets and increasing flood risk in the City. L-30-27

Chapter 3.9 – Water Quality and Stormwater Runoff

- The increase in impervious area for Alternative 5C is 156.4 acres -- for the whole Project – which results in a total post-project impervious surface area of 913.1 acres (pre-project area of 756.7 acres). If, as anticipated, impervious area increases in South Gate, water quality may be adversely affected. To the extent the City's runoff is comingled with the I-710 runoff, the City's efforts to comply with its stormwater permit requirements may be adversely affected by the Project. L-30-28

- The increase in impervious area for Alternative 7 is 256.9 acres -- for the whole Project – which results in a total post-project impervious surface area of 1013.6 acres (pre-project area of 756.7 acres). If, as anticipated, impervious area increases in South Gate, water quality may be adversely affected. To the extent the City's runoff is comingled with the I-710 runoff, the City's efforts to comply with its stormwater permit requirements may be adversely affected by the Project. L-30-29

- The City requests site specific mitigation measures that would ensure Caltrans considers potential impact on City efforts to comply with City stormwater permit requirements. L-30-30

- The Los Angeles River Reach 2 (Carson St. to Figueroa St.) is listed as impaired for coliform bacteria, copper, nutrients (algae), oil, trash, ammonia, and lead. TMDLs must be developed for waters listed as impaired on the Section 303(d) List of Water Quality Limited Segments. The bacteria and Oil TMDLs are slated to be developed in 2019; the TMDLs for copper, nutrients (algae), trash, ammonia, and lead are shown in the RDEIR/SEIS as already having been developed and approved. Because South Gate contributes runoff to this reach of the LA River, it is important to know how the I-710 Project runoff will affect the TMDLs for this segment and what that will mean for South Gate's efforts to comply with TMDLs. L-30-31

- Proposed treatment BMPs for Alternative 5C include 40 biofiltration swales, 12 media filters, 32 infiltration/detention basin, and one wet basin, as well as eight gross solids removal devices where feasible. The introduction of treatment BMPs as part of Alternative 5C would represent an improvement when compared to the No Build condition, as there currently are 60 Caltrans-maintained BMPs treating freeway runoff on I-710. Existing BMPs within the project area will be removed as a result of the changing alignment and profile of the project.

- Proposed treatment BMPs for Alternative 7 include 36 biofiltration swales, 12 media filters, 30 infiltration/detention basin, and one wet basin, as well as eight gross solids removal devices where feasible. The introduction of treatment BMPs as part of Alternative 7 would represent an improvement when compared to the No Build condition, as there currently are 60 Caltrans-maintained BMPs treating freeway runoff on I-710. Existing BMPs within the project area will be removed as a result of the changing alignment and profile of the project.

- The RDEIR/SDEIS should delineate which construction and post construction areas of the I-710 will be discharging from what specific discharge points in South Gate, into which waterbody, and what/where treatment BMPs will be installed in South Gate. L-30-32

Chapter 3.10 – Geology/Soils/Seismic/Topography

- Given historical problems related to the ability of elevated freeway structures to withstand strong ground motion and surface rupture, we are concerned that the elevated structure and the high sound walls associated with Alternative 7 can withstand such events. While the mitigation identified is critical, additional geotechnical investigation and mitigation (including possible avoidance) may be required for those improvements. L-30-33

Chapter 3.11 – Paleontology

- Considering the amount of historical ground disturbing activities within the city of South Gate, the avoidance, minimization, and/or mitigation measures identified in section 3.11 are assumed to be sufficient.

Chapter 3.12 – Hazardous Waste/Materials

- Table 3.12-1 lists several known sites along the I-710 corridor that could be affected by the proposed project under Alternative 5C; however, Table 3.12-2 lists only one site of "Potential Concern" under Alternative 7. This discrepancy is not explained in the RDEIR/SDEIS. The RDEIR/SDEIS should be modified to show the extent of potential sites that may be impacted by both Alternatives. There are four locations in the City that are designated Cortese sites and 155 other sites that are known to be contaminated, several of which are undergoing remediation. Many of the sites are located in close proximity to the areas impacted by the I-710 project. L-30-34

Chapter 3.13 – Air Quality

- Both Alternatives 5C and 7 increase traffic on I-710 itself, resulting in an increase in total traffic related PM_{10} and $PM_{2.5}$ emissions. This would potentially increase air quality and health risk impacts near the I-710; therefore, affecting residents and other sensitive receptors in the City of South Gate. Based on this finding, the RDEIR/SEIS should include mitigation to reduce the proposed project's significant unavoidable impacts under CEQA. As shown in the RDEIR/SDEIS figures in Chapter 3.13, there are several places in the City of South Gate that would experience an increase in air pollutant emissions and health risk from the proposed project in the 2035 No Build v project Alternatives 5C and 7. L-30-35

- Thunderbird Village Mobile Home Park is a focal point of historical concern with respect to the I-710 project impacts. The RDEIR/SDEIS incudes mitigation/minimization measures that affect air pollutant dispersion and reduce the concentration of air pollutants at sensitive receptors, including Measure AQ-3 that requires solid barriers and vegetation.

- The RDEIR/SDEIS includes mitigation/minimization measures to reduce the indoor concentrations of air pollutants, including Measure AQ-2, which provided enhanced filtration systems for schools within a quarter mile. However, children who attend schools within a quarter mile of the I-710 freeway expansion areas are likely to live proximate to the schools and spend the remaining 2/3 of their day at home. There are also other sensitive receptors proximate to the freeway that would experience a significant increase in emissions compared to the 2035 No Build Alternative that would warrant minimization/avoidance measures. The RDEIR/SDEIS should amend this mitigation measure to apply to "other sensitive receptors" by establishing funding to homeowners who do not have high-efficiency ventilation systems to upgrade their systems to allow for use of high efficiency filters. The RDEIR/SDEIS should quantify how installation of the indoor air filtration system reduces indoor air concentrations of air pollutants and lowers cancer risk as the maximally affected sensitive receptor. L-30-36

- While the City acknowledges that regional air quality would improve, and localized health risks would decrease with the proposed project. For example, cancer risk within the Study Area will be reduced by approximately 90% according to their air quality models prepared for the EIR/EIS. However, since traffic congestion on the freeway within the South Gate City limits will not be improved to levels matching neighboring cities, However, the EIR/EIS acknowledges that South Gate residents air quality in South Gate c would still be disproportionally impacted by unhealthy air quality due to congestion on the I-710. The EIR/EIS identifies mitigation to reduce potential impacts, including solid and vegetation barriers; however, the City requests priority funding for the Community Health and Benefits Program, so that air quality impacts could be minimized. the residents of South Gate can receive the maximum benefits L-30-37

3.14 – Noise

- Noise impacts are accurately identified, and the implementation of new soundwalls would ensure that increased noise levels would not impact the residents of South Gate.

Chapter 3.15 – Energy

- Appendix F of the CEQA guidelines recommends inclusion of "total estimated daily vehicle trips to be generated by the project and the additional energy consumed per trip by mode." Without this information it is difficult to assess the proposed project's energy impacts as they relate to the city of South Gate. L-30-38

Chapter 3.16- Natural Communities

- The RDEIR/SDEIS indicates that the primary impacts will be related to the coastal impacts and other impacts to riparian areas. Would ask that the RDEIR/SDEIS please clarify why it is not feasible to more clearly define the compensatory mitigation details at this stage in project conceptualization. L-30-39

Chapter 3.17 – Wetlands

- The RDEIR/SDEIS indicates the importance of both the Los Angeles River and the area located at the confluence of the Rio Hondo and Los Angeles Rivers as jurisdictional waters. Would ask that the RDEIR/SDEIS please clarify why it is not feasible to more clearly define the compensatory mitigation details at this stage in project conceptualization. L-30-40

- Given the reasonably foreseeable changes to the Los Angeles River related to habitat restoration, please clarify how the proposed project would impact future wetland habitat within the city of South Gate. L-30-41

Chapter 3.18 – Plant Species

- Chapter 5.33 of the South Gate municipal code titled Tree Preservation and Protection offers protection for "Public Trees". The public tree designation applies to "any single or multi-stemmed plant normally reaching mature heights of 15 feet or more, regardless of its current level of maturity, with one-half or more of its trunk or branches on or above all public property". Any public trees that will be removed as part of the proposed project's implementation must be replaced at a one-to-one ratio L-30-42

Chapter 3.19 – Animal Species

- Since no protected species are known or suspected to be found within South Gate, we have no comments at this time.

Chapter 3.20 – Threatened and Endangered Species

- We have no comments at this time on this section other than the proposed mitigation measure should be implemented to ensure protections to protected avian species foraging in the Los Angeles River. L-30-43

Chapter 3.21 – Invasive Species

- We have no comments at this time on this section other than the proposed mitigation measure should be implemented to ensure that invasive vegetation abatement programs are implemented for the Los Angeles River. L-30-44

Chapter 22 – Relationship Between Local Short-Term-Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

- The RDEIR/SDEIS on page 3.22-3 states that "the existing roads and intersections in the Study Area will operate at unacceptable levels of service into 2035 without implementation of the I-710 Corridor Project. The I-710 Corridor Project would serve to improve traffic conditions in the region. The long-term benefits to the community (through transportation improvements) will be weighed against the short-term and long-term environmental impacts of the I-710 Corridor Project." However, as previously described, most segments between the I-105 and Florence Avenue would still operate at a Level of Service E or F during the AM and PM peak hours, and traffic volumes on local arterials would also not see a measurable improvement.

- We reiterate the request that Caltrans and Metro carefully coordinate with the City to explore additional measures that could be incorporated into the project design in order for the City to receive maximum benefits from the I-710 project. The programmatic aspects of the I-710 Corridor Project, such as the I-710 TSM/TDM Congestion Relief Program, that would provide funding for traffic signal upgrades and coordination, safety improvements, and traffic calming measures, would help to provide for relief to the City relative to the lack of measurable improvements provided by implementation of the proposed project. L-30-45

Chapter 3.23 – Irreversible and Irretrievable Commitments of Resources that would be Involved in the Proposed Project.

- The loss of productive businesses that may be displaced and the attendant impacts (lost jobs, revenue, etc.) is a significant irreversible and irretrievable impact to our community. These impacts should be identified in this section and in the other relevant sections of the RDEIR/SDEIS. L-30-46

Chapter 3.24 – Construction Impacts

- The RDEIR/SDEIS does not provide a clear description of when construction would commence. It is not until Table 3.25-2 that an anticipated start date of 2020 is provided. This information is needed to understand the extent and timing of construction related impacts. The project description should be revised to clearly indicate the anticipated construction timeline. The timeline should be given by project segment (southern, central, northern) so that the City and its affected agencies can plan and allocate resources accordingly. South Gate will bear a significant burden from construction of the proposed project, as project L-30-47

construction in the segment that would affect the City of South Gate would last for 48 months under Alternative 5C and 72 months under Alternative 7. L-30-47

- Implementation of the project would require several improvements within the City boundaries. During construction there would be temporary impacts to traffic circulation due to traffic diversions resulting from temporary closures to local roadways, sidewalks and bicycle lanes, and freeway ramps. Roadway construction would require the implementation of temporary detours, additional truck traffic from haul and vendor trucks related to work and staging areas that could affect circulation in the City. L-30-48

- The proposed project could result in temporary access impacts to Los Angeles County Fire Station 54 and Station 57 that serve the City of South Gate. Mitigation Measure CON-TR-1 would be prepared to minimize impacts and provide detours. CON-TR-1 direct Caltrans to implement a transportation management plan (TMP) to maintain traffic safety and acceptable traffic flow during construction and to minimize traffic delays and detours. The City requests that Caltrans and its construction contractor coordinate with both the City and Los Angeles County Fire prior to finalizing the TMP related to these two fire stations. L-30-49

- The project is in a conceptual plan and at this level of environmental review, traffic impacts during construction were not specifically described. No construction plans and specific measures to address construction were included in the RDEIR/SDEIS The City will closely coordinate with Caltrans on the implementation of the construction plan to reduce potential impacts to land uses in the City and minimize disruptions during the construction period. L-30-50

- The RDEIR/SEIS identifies construction-related CEQA air quality impacts as a significant impact of the project. The worst-case construction scenario shows that peak daily emissions on a single segment would exceed the NOx and PM_{10} CEQA significance thresholds. The RDEIR/SDEIS includes Measures CON-AQ-1 through CON-AQ-17 to reduce air pollutant emissions generated during the construction phase. Many of the measures are largely existing regulations and/or standard Caltrans with the exception of CON-AQ-15 and CON-AQ-17, which require used of Tier 4 construction equipment and other measures that further reduce construction exhaust and construction-related fugitive dust to the extent practical. L-30-51

- Measure CON-AQ-15 requires use of construction equipment that utilizes Tier 4 engines. Use of Tier 4 equipment, especially in the early years of project implementation is not guaranteed and mitigation measure CON-AQ-15 provides flexibility since there are multiple responsible agencies associated with the improvements. If the RDEIR/SDEIS intends to require use of Tier 4, then this requirement should be specified in the construction bid so that Caltrans subcontractors are required to utilize this new construction equipment for the I-710 improvements. If Metro administers the contract, then the RDEIR/SDEIS should state whether the Metro Green Construction Policy is equally effective of reducing NOx and PM emissions associated with construction activities. If the Metro Green Construction Policy does not mandate use of Tier 4 equipment, this measure should be expanded to apply to both Caltrans and Metro subcontractors. L-30-52

- The RDEIR presents various vibration thresholds from the Caltrans Transportation- and Construction-Induced Vibration Guidance Manual (September 2013) document. There is a total of three thresholds for vibration damage and four thresholds for vibration annoyance. The next sentence states: "Both of these thresholds were used to evaluate short-term, construction-related groundborne vibration" but it is unclear what 'both' is referring to. It is requested that this paragraph be re-written to provide clarity on the two types of potential vibration impacts and the associated respective thresholds. L-30-53

- The RDEIR/SDEIS addresses pile driving impacts as the worst-case equipment item and handles potential impacts with avoidance, minimization, and/or mitigation measures (CON-N-9 and CON-N-10). However, there are other equipment items and/or processes that could potentially cause unacceptable annoyance or damage effects from construction vibration, but these are not even mentioned. For example, the RDEIR-noted FTA manual list vibratory rollers as having a reference level of 0.210 PPV at 25 feet. The FTA manual also lists a clam shovel drop as having a reference level of 0.202 PPV. These levels are double the level for "strongly perceptible" reactions (i.e., 0.1 PPV in the RDEIR/SDEIS), but there is no mention of these or any other equipment items or processes. While vibratory rollers (and other equipment) would, indeed, "generate vibration levels much lower than those of pile driving and would therefore result in lower vibration levels at adjacent receiver locations", such a statement too quickly dismisses potential construction vibration impacts and too narrowly defines the associated vibration control measures. As such, it is requested that this section be expanded to present a broader discussion of potential construction L-30-54

vibration effects (beyond the worst-case pile driving) and clarified as to the associated avoidance, minimization, and/or mitigation measures. L-30-54

Thank you for your consideration of these comments. If you have any questions, please feel free to contact Clint Herrera, P.E., Assistant City Engineer, at (323) 563-9582.

Sincerely,

Arturo Cervantes, P.E., Director of Public Works/City Engineer

CC: Michael Flad, City Manager

L-30-1

More information is known than was available for inclusion in the RDEIR/SDEIS at the time of its publication, and a descriptive construction schedule by project segment for the build alternatives has been included in Section 2.3.4.2 of this Final EIR/EIS. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, construction of the I-710 Corridor Project will not occur. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

L-30-2

At the time of the commencement of technical studies, including detailed traffic forecasting, in support of the I-710 Corridor Project RDEIR/SDEIS, Caltrans reviewed the status of the SCIG project and came to the conclusion that they were reasonably foreseeable projects and in order to represent a likely future scenario, should be included in the No Build scenario. Because of the lead time necessary for the complex traffic modeling efforts on the I-710 Corridor Project, it was not possible to revise the No Build scenario and re-run the model, and all subsequent analyses that depend upon the traffic model, and still meet the schedule established for the project. In addition, in January 2018 the California Courts of Appeal ruled that the Port of Los Angeles and BNSF were in compliance with the majority of CEQA requirements in the SCIG Final EIR, with the exception of the air quality analysis of ambient air concentrations and associated cumulative impacts of such pollutant concentrations. The court further ordered that work on the project be suspended until such time that these deficiencies are addressed. However, the information above provides sufficient evidence and rationale for retaining the SCIG project in the No Build scenario.

A Sensitivity Test was conducted that removed the SCIG and ICTF Expansion Projects from the I-710 Corridor traffic model to evaluate the effects on the I-710 Corridor transportation travel patterns. These sensitivity tests can be reviewed in more detail in the I-710 Travel Demand Methodology Technical Memorandum (June 2017). In general, viewed from daily conditions for total vehicles, removal of the SCIG and ICTF expansion projects from the No Build scenario resulted in only a slight overall change in vehicles, with additional trucks using I-710 displacing some autos.

L-30-3

The City’s support for Design Options 1A and 1B are acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

L-30-4

Figure 2.3-6, sheet 4 of 7, has been corrected in this Final EIR/EIS to show the proposed improvements at this location under the build alternatives. The proposed Frontage Rd. loop ramp under Alternative 5C is also provided in Appendix O-1, Concept Plans, sheet 18 of 23 of the RDEIR/SDEIS and this Final EIR/EIS.

L-30-5

The air quality analysis conservatively assumed that all ZE/NZE trucks will be NZE. The California Air Resources Board (CARB) has certified NZE non-diesel engines and NZE trucks are currently commercially available. In addition, the Metro Board Motion 5.1 approved in March 1, 2018, changed the ZE/NZE Truck Technology Deployment Program to the Phased-In Zero-Emission Truck Technology Deployment Program (which increased the program funding target from $100 million to $200 million, and included in the program incentives and grants investment for the acceleration of ZE technology both for long-haul trucks and for freeway infrastructure. The Metro Board took further action in April 2020 to program $50 million in Metro-controlled funds to provide funding for the initial deployment of what is now known as the I-710 Clean Truck Program and to leverage the remaining funds required for full program implementation. Caltrans and Metro respectfully disagree that the reliance on ZE/NZE technology is speculative at this time. Although specifics of the types of technologies that may be market-ready at the time of future project implementation are not currently known, “government policies can encourage the introduction of new, cleaner and more efficient technologies through investment in research and development, technology demonstration and deployment help to support industry investment, and incentives to consumers and fleets to drive demand for those new technologies…logistics provides are investing in developing and promoting new technologies.”[9] However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the I-710 Clean Truck Program will need to be developed and implemented following a process separate from this Final EIR/EIS should Metro and its partner agencies elect to proceed with these improvements at a future date. Please refer to Section 1.3 of this appendix for more detail on the I-710 Clean Truck Program.

As discussed in Section 3.14, Air Quality, the build alternatives would increase PM_{10} emissions at near-roadway locations in the vicinity of I-710 from increases in entrained road dust, tire wear, and brake wear (which are a direct function of vehicle miles traveled) compared to the 2012 Baseline and compared to the 2035 No Build Alternative. The number of receptors near I-710 that would experience increases in PM_{10} emissions would be larger for Alternative 7 than

[9] California Air Resources Board. Sustainable Freight. Pathways to Zero and Near-Zero Emissions. 2015. April. Website: https://www.arb.ca.gov/gmp/sfti/sustainable-freight-pathways-to-zero-and-near-zero-emissions-discussion-document.pdf (accessed October 30, 2018).

for Alternative 5C due to the larger increase in traffic along the I-710 Corridor for Alternative 7. Within the City of South Gate, there would be increases in 24-hour PM10 impacts (Figures 4-4b and 4-4c of the AQ/GHG/HRA Technical Report) in locations within 150 meters of the I-710 Freeway for Alternative 5C and 500 meters of the I-710 Freeway for Alternative 7 as compared to the 2012 baseline and 2035 No Build Alternative. Besides the Zero-Emission Truck Technology Deployment Program, air quality avoidance, minimization, and mitigation measures were included in Section 3.13.4 of the RDEIR/SDEIS and this Final EIR/EIS to minimize exposure to air quality impacts associated with the build alternatives, should a build alternative be selected as the Preferred Alternative. Specifically, Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for the installation of solid barriers where feasible and where soundwalls are not proposed, and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind.

L-30-6

Caltrans and Metro acknowledge that the City does not disagree with the discussion included in Section 3.1 and similarly acknowledge that the General Plan land use policies and elements indicate that any improvements must not harm the community's physical or economic well-being, including avoiding residential displacements within the City. Any residential or business displacement that would occur as a result of the build alternatives would be addressed by Measure C-1, which would provide for relocation assistance in accordance with State and Federal procedures and regulations. In addition, should a build alternative be selected as the Preferred Alternative, the City would also benefit from the disbursal of funds under Measure C-7, which would provide for funding for targeted improvements within environmental justice communities adjacent to the I-710 freeway (described in more detail in Section 3.3.3.7 of this Final EIR/EIS). It is important to note that the conclusion in Section 3.1.2.3, Land Use, of this Final EIR/EIS states that, should a build alternative be selected as the Preferred Alternative, several regional and local agencies would need to amend their plans and/or land use maps to reflect modifications to the I-710 mainline, interchanges, arterial highways, and arterial intersections, as well as the elimination of any land uses that may need to be acquired for the build alternatives, the proposed build alternatives are generally consistent with these plans. Further, the update of these plans could be done in the course of regular General Plan updates and are at the discretion of each local jurisdiction. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, freeway agreements or General Plan amendments will not need to be amended with cities.

L-30-7

Planned parks and recreational facilities are considered Section 4(f) resources only if there is evidence of formal designation of these properties as recreational resources through inclusion in

a City or County Master Plan. The Urban Orchard has not been formally designated as a recreational resource through inclusion in any City or County Master Plans that were publicly available at the time the Draft Section 4(f) Evaluation was written.

Because the Urban Orchard is a planned facility that is not formally designated for park or recreational purposes in a City or County Master Plan, the analysis of impacts on the planned recreational uses of the property is not required under Section 4(f) of the United States Department of Transportation Act.

Metro and the City of South Gate met to discuss the relationship between the Urban Orchard and the I-710 Corridor Project in June 2017, where it was preliminarily determined that there is sufficient area to accommodate both the Urban Orchard project as well as the freeway ramp to Southern Avenue proposed under the Alternative 5C. However, since the No Build Alternative has been identified as the Preferred Alternative, the Urban Orchard will not be impacted.

L-30-8

Caltrans previously coordinated with the Watershed Conservation Authority (WCA), the owner and operator of Parque dos Rios, to find replacement sites for Parque Dos Rios during the right-of-way acquisition process should a build alternative be selected as the Preferred Alternative. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Parque Dos Rios will not be impacted.

L-30-9

As stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, new vertical structures such as the bridge over Southern Avenue will not be constructed and homeless encampments will not be attracted to the area. In addition, because this is not considered an impact with regard to the requirements of CEQA and/or NEPA, a specific mitigation measure as requested in this comment was not added to the Final EIR/EIS.

L-30-10

The CEQA-specific discussion regarding inducement of substantial population growth in an area, either directly or indirectly, was discussed in detail in Section 4.2.2.10 in Chapter 4.0, CEQA Evaluation, of the RDEIR/SDEIS and this Final EIR/EIS. To summarize, the build alternatives intend to improve upon an existing facility, and would not provide access to previously inaccessible areas. The build alternatives themselves would not propose the construction of new homes or businesses or otherwise result in a substantial change in the location, distribution, or rate of population and housing growth within the Study Area. There

would be no impacts that would require the new construction or alteration of community facilities, the construction of which could have significant environmental effects. It is unclear what the commenter means by “potential growth inducing impacts on traffic, noise, air quality, and health-related impacts”. Section 3.2 of the RDEIR/SDEIS and this Final EIR/EIS concluded that the build alternatives themselves do not have growth-related impacts because of the reasons stated above. A more robust evaluation of impacts related to traffic, noise, and air quality was presented in Sections 3.5, 3.14, and 3.13, respectively, of the RDEIR/SDEIS, and each of those specific resource sections contained a subheading titled “Public Health Considerations” which discussed health pathways related to each resource area.

L-30-11

The City’s opposition to the acquisition of residential and commercial property is acknowledged and included in the project record. However, it should be noted that the No Build Alternative has been selected as the Preferred Alternative and will not require any acquisitions.

L-30-12

Currently, the partial acquisitions that are proposed under the build alternatives are classified as such because they do not require displacement of a building or structure and do not restrict access to a parcel in such a way that would render it unusable. However, it should be noted that the No Build Alternative has been selected as the Preferred Alternative and will not require any acquisitions.

L-30-13

Caltrans and Metro thank the commenter for providing this input regarding the guidelines of the Uniform Act and it is acknowledged and included in the project record. Please refer to Section 1.5 of this appendix for a discussion of the methodology used in the analysis of replacement properties. However, it should be noted that the No Build Alternative has been selected as the Preferred Alternative and will not require any acquisitions.

L-30-14

Please refer to Response to Comment L-30-9 regarding new vertical structures and homeless encampments.

L-30-15

The Hawkins Reservoir is located near the Firestone Boulevard/I-710 interchange. Improvements at this interchange under Alternative 5C were shown in Figure 2.3-6, Sheet 4 of 7 in Section 2.3.2.1 of the RDEIR/SDEIS and this Final EIR/EIS. As discussed in Section 3.4.2.2 of the RDEIR/SDEIS and this Final EIR/EIS, utilities in conflict with the build alternatives would

either be relocated or protected in place. Should a build alternative be selected as the Preferred Alternative, further coordination would be required with each owner to confirm the conflict and disposition strategy (i.e., whether they can be protected in place or relocated). Generally, all utility relocations would be expected to occupy new or existing fee owned or easement rights-of-way or public rights-of-way. Several strategies have been considered for utilities impacted as a result of the build alternatives. These strategies included (1) protect in place, (2) continuous aboveground relocation, and (3) continuous underground relocation. However, the Hawkins Reservoir facility located at 9021 W. Frontage Road (southwest of the Firestone Boulevard interchange) would not be impacted by the build alternatives and therefore was not discussed in Section 3.4 of the RDEIR/SDEIS or this Final EIR/EIS.

L-30-16

The selection of arterial highway segments to include in the traffic analyses performed in support of the RDEIR/SDEIS and this Final EIR/EIS was determined based upon the role that these major arterial roadways perform with regard to I-710 as well as the regional arterial system. Generally, contiguous north-south arterials of sufficient length that run parallel to the 19 mile I-710 Corridor, and the east-west arterials that have an interchange with I-710, were identified for evaluation. These regionally significant arterials would be most likely to be influenced by traffic changes on I-710 generated by the build alternatives.

The main purpose of the proposed freeway improvements included in the proposed project are to address congestion, design deficiencies, traffic operations, and safety concerns on I-710, as well as related air quality issues associated with operation of the I-710 freeway. Over 185 intersections were evaluated as part of this process to determine if the proposed freeway project improvements under the build alternatives would result in traffic impacts to the I-710 Corridor's major arterial system, and if so, to identify measures to mitigate those impacts. The number and locations of the study intersections were identified prior to the initiation of the traffic studies performed for the RDEIR/SDEIS and were reviewed and approved by the I-710 Technical Advisory Committee, which includes a representative from the City of South Gate.

L-30-17

As stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, the City will not experience any construction-related traffic impacts.

L-30-18

As discussed in Section 3.5.4 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, mitigation for impacts to local intersections by the build alternatives would be implemented by Caltrans as the lead agency in coordination

with the local jurisdiction (in this case, the City of South Gate). The proposed mitigation improvements at the intersections referenced in this comment are only conceptual at this time. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, the referenced mitigation improvements will not be implemented.

L-30-19

The City's request to redesign the Imperial Highway/I-710 interchange, specifically with regards to the proposed cul-de-sac at Wright Road, is acknowledged. During development of the preliminary design of the build alternatives, relocation of the southbound exit ramp terminus from the intersection of Wright Road and Abbott Road to Imperial Highway was a key design objective to modernize of the I-710/Imperial Highway interchange. The existing isolated exit ramp to a residential neighborhood is inconsistent with modern interchange configurations where the ramps terminate at the major crossroad. To ensure adequate traffic operation at the southbound ramp termini intersection, left turns from Wright Road to Imperial Highway must be prohibited. It should be noted that the prohibition would not apply to emergency service vehicles. Residential access would be maintained from Atlantic Avenue at multiple locations using Pendleton Avenue, Abbott Road, and Tenaya Avenue. The proposed cul-de-sac at Wright Road would also divert undesirable neighborhood cut-through traffic to Atlantic Avenue, a major arterial. Modifications to the intersection at Imperial Highway and Atlantic Avenue are part of the improvements and would help address the potential traffic diversion. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, improvements to the referenced interchanges will not occur.

L-30-20

Please refer to Section 1.6 of this appendix. These arterial parking restrictions have been eliminated from further consideration and are not being carried forward as a programmatic element of Alternative 1 (No Build Alternative), the Preferred Alternative.

L-30-21

Please refer to Section 1.7 of this appendix for more information on Early Action Projects and the selection and determination process.

L-30-22

The City's request is acknowledged. During the development of preliminary design, the City expressed a desire to provide a secondary route to and from West Frontage Road. Currently, Miller Way is the only route. The loop access at the Southern Avenue freeway crossing proposed under the build alternatives would provide this secondary access. However, as stated

in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no access issues to and from West Frontage Road.

L-30-23

It is unclear whether the commenter is referring to soundwalls or screen walls, which were only proposed on the elevated freight corridor structure under Alternative 7. As the No Build Alternative has been identified as the Preferred Alternative, screen walls are no longer under consideration. However, it should be noted that, per the Caltrans Traffic Noise Protocol, commercial and industrial areas fall under Activity Category F, which do not have impact criteria due to a lack of sensitive receptors. Therefore, soundwalls were not proposed within commercial and industrial areas. There is no soundwall in the location referenced by the City, and no visual impacts would occur as a result of the build alternatives. Further, the height of billboards and signs adjacent to the freeway is subject to local city ordinances.

L-30-24

Although the City does not identify what is considered a “light-sensitive use”, per Measure VIS-7 contained in Section 3.6.4 of this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, “During preparation of PS&E, a lighting plan will be prepared by Caltrans. The lighting fixtures will be designed to minimize glare on adjacent properties and into the night sky. Lighting will be shielded with nonglare hoods and focused within the I-710 Corridor Project right-of-way.” It should be noted that the No Build Alternative has been identified as the Preferred Alternative, and therefore the elevated freight corridor would not be constructed.

L-30-25

As stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no new sound walls, vertical columns, or other features constructed that would attract graffiti.

L-30-26

The UP Railroad (formerly Southern Pacific Railroad) in Los Angeles and Orange Counties (Primary No. 19-186110/30-176630) and the Boulder Dam-Los Angeles 287.5-kilovolt Transmission Line (Primary No. 19-188983) are the only historic properties identified within the Area of Potential Effect (APE) that are located within the City of South Gate. The APE is the area within which an undertaking (in this case, the build alternatives) may directly or indirectly cause changes in the character or use of historic properties, should any be present. As explained in Section 3.7.2.5 of the RDEIR/SDEIS and this Final EIR/EIS, field surveys were conducted of the APE and all buildings or structures that were 45 years of age at the time of the survey were considered. In addition, Section 3.7.2.4 explains that record searches and historic

consultation were conducted to identify historic properties within the APE. While it is possible that there may be historic properties within the City of South Gate located outside of the APE, they would not be directly or indirectly affected by the build alternatives.

L-30-27

The City's comment that Section 3.8 of the RDEIR/SDEIS accurately describes the Study Area's drainage system and potential flood hazards, and that care must be given that the build alternatives do not result in drainage from the I-710 running off to local streets and increasing flood risk in the City, is acknowledged. A *Preliminary On-Site Hydrology Report* (December 2016) was prepared for the project in accordance with the Caltrans *Highway Design Manual* and the *Los Angeles County Hydrology Manual* (January 2006). The purpose of the Preliminary On-Site Hydrology Report was to evaluate changes in the on-site hydrology that would result from construction of the build alternatives and to identify modification to or augmentation of existing storm drain systems. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, a Final On-Site Hydrology Report will not need to be prepared during the final design phase to ensure that the proposed drainage improvements are designed to accommodate and convey stormwater runoff so that runoff generated from I-710 does not impact local streets or adjacent cities.

L-30-28

As discussed in Section 3.9.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, Alternatives 5C and 7 would increase impervious surface areas, which would increase runoff volume and pollutant loads. Alternatives 5C and 7 would require replacement or extension of the existing drainage systems such as drainage inlets along the median and shoulders to accommodate the increased project flows. Impacts to water quality of receiving waters may be expected from the loading of various constituents typically associated with highway runoff. These potential operational impacts, should a build alternative be selected as the Preferred Alternative, would be addressed through the incorporation of design pollution prevention BMPs, treatment BMPs, and adherence to the necessary operational maintenance protocols identified in the Caltrans SWMP. As described in the *I-710 Corridor Project Storm Water Data Report* (SWDR) (January 2017), design pollution prevention BMPs proposed under the build alternatives would include preserving existing vegetation wherever feasible, incorporation of concentrated flow conveyance systems with velocity-reducing outlet structures, and providing slope protection with vegetation. Proposed treatment BMPs under the build alternatives would include biofiltration swales, biofiltration strips, infiltration basins, media filters, detention basins, gross solids removal devices, and wet basins. Proposed operational maintenance BMPs under the build alternatives would include storm drain cleaning and normal roadway and bridge maintenance, in addition to maintaining all vegetated slopes. In addition, as discussed in Section 3.9.4 of the RDEIR/SDEIS and this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative,

Measures WQ-1 and WQ-2 would address long-term impacts to water quality from the build alternatives. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there would not be a potential "comingling," handling of storm water runoff generated from City roadways and no mitigation will be necessary.

L-30-29

Please refer to Response to Comment L-30-28 regarding the handling of storm water runoff from the build alternatives. It should be noted that the No Build Alternative has been identified as the Preferred Alternative.

L-30-30

Please refer to Response to Comment L-30-28 regarding the handling of storm water runoff from the build alternatives.

L-30-31

Please refer to Response to Comment L-30-28 regarding the handling of storm water runoff from the build alternatives. In addition, as discussed in Section 3.9.3.1 of the RDEIR/SDEIS, stormwater discharges to Caltrans' municipal separate storm sewer system (MS4) are regulated through the Caltrans MS4 Permit. Although the Caltrans Stormwater Permit does not include a Watershed Management Program (WMP) compliance approach like the Los Angeles and Long Beach MS4 Permits, its TMDL provisions do require cooperation with agencies subject to the same TMDLs.

L-30-32

As discussed in Section 3.9.2.1 of the RDEIR/SDEIS and this Final EIR/EIS, the primary receiving waters for runoff from the Study Area are the Los Angeles River, Compton Creek, the Rio Hondo Channel, and the Dominguez Channel. As discussed in Section 3.9.3.1 of the RDEIR/SDEIS and this Final EIR/EIS, Alternative 5C would require replacing or extending the existing on-site drainage systems such as drainage inlets along the median and shoulders with new drainage systems that can accommodate the increased project flows. The existing drainage systems that transfer legacy runoff from the adjacent neighborhoods through the I-710 Corridor would be modified to accommodate the improvements proposed as part of Alternative 5C while still maintaining the existing hydraulic capacity required to accommodate legacy storm flows. Existing Los Angeles River drainage outlets would be maintained in their existing location whenever hydraulically feasible and when not impacted by the proposed improvements. Surface runoff would be designed to flow directly into the closest stormwater channel. Runoff from bridges would be directed to nearby drainage features via drainage inlets on the decks which

then flow through the pillars. It is important to note that the No build Alternative has been selected as the preferred Alternative and therefore, there will be no discharge into waterbodies and no BMPs will be required.

L-30-33

Measure GEO-1 set forth in Section 3.10.3 of this Final EIR/EIS, which would provide for the preparation and usage of design-level geotechnical reports prior to completion of detailed design documents, is applicable to the build alternatives. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no elevated structures that need to withstand strong ground motion and surface rupture will not be constructed.

L-30-34

As was stated in the text on page 3.12-7 of the RDEIR/SDEIS and this Final EIR/EIS, "The sites listed in Table 3.12-2 and shown in Appendix P-2 are additional sites that were identified as high risk that would either be disturbed by full and partial acquisitions or by TCEs under Alternative 7, as identified in the ISA as properties of potential environmental concern. *The sites listed in Table 3.12-1 apply to Alternative 7 as well* [italics added]". Tables 3.13-1 and 3.12-2 in the RDEIR/SDEIS were structured in this manner to avoid duplication to the greatest extent possible and improve readability.

L-30-35

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS and this Final EIR/EIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions, but no increase in cancer risk when compared to the 2012 Baseline.

When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk compared to the 2035 No Build Alternative would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one million. The increases in cancer risk for the build alternatives as compared to the 2035 No Build alternative would be lower than SCAQMD significance threshold. Within the City of South Gate, there would be no

increases in cancer risk (Figures 4-6b and 4-6c of the AQ/GHG/HRA Technical Report) for Alternative 5C or Alternative 7 as compared to the 2012 baseline or 2035 No Build Alternative.

For the build alternatives, Measures AQ-2 and AQ-3 are proposed to reduce emissions at near-roadway locations. Measure AQ-2 would require filters on the ventilation systems of schools near I-710. Measure AQ-3 would require installation of solid barriers where feasible and where soundwalls are not proposed, and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measures AQ-2 and AQ-3 will not be implemented. In addition, although the No Build Alternative has been selected as the Preferred Alternative, the programmatic components to help improve air quality and public health in the I-710 Corridor will not be implemented as part of this Project. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

L-30-36

The City's concerns about children's health is acknowledged and included in the project record. It is acknowledged that there is a potential for children who attend schools located within 0.25 mi of the I-710 Corridor to also live in the vicinity of the I-710 Corridor. Please refer to Response to Comment L-30-35 for a discussion of air quality impacts at near-road receptors.

L-30-37

Section 3.3.3 of the RDEIR/SDEIS had indicated that environmental justice populations within the I-710 Corridor would be disproportionately impacted by air quality-related impacts (among others) under the build alternatives, but did not specifically indicate that one city would be more burdened than another. However, should a build alternative be selected as the Preferred Alternative, all cities within the I-710 Corridor that contain environmental justice communities adjacent to the I-710 would receive funding for targeted improvements in accordance with Measure C-7, as described in Section 3.3.3.7 of this Final EIR/EIS. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to environmental justice communities as a result of the build alternatives. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

L-30-38

Table 3.5-24 in Section 3.5.3.1, Traffic and Transportation/Pedestrian and Bicycle Facilities, shows the “2035 Daily Vehicle Miles Traveled, Vehicle Hours Traveled, and Vehicle Hours of Delay Comparison” between the 2035 No Build and Build Alternatives. Table 3.15-5 in Section 3.15, Energy, of this Final EIR/EIS, shows the I-710 Corridor Project Operational Annual VMT and VHT – Study Area. Both of these tables document how the build alternatives would affect traffic volumes. Table 3.15-5 works in concert with Table 3.15-7, I-710 Corridor Project Study Area Energy Consumption – Annual, to show the annual energy consumption from the project-related vehicles under the build alternatives. The CEQA guidelines, Appendix F, Energy Conservation, indicate that a project description “may include the following items”, including the cited energy consumed per trip by mode. The EIR/EIS for the I-710 Corridor Project includes the energy consumed by all vehicle types, including all trips and modes, in summary form to facilitate the comparison of project alternatives.

L-30-39

In some cases, it is appropriate to identify a very specific compensatory habitat mitigation, especially when that mitigation is likely to be within the project boundaries. However, in the case of the I-710 Corridor, there are three major factors that make reliance on a less specific mitigation alternative more appropriate. First, the Federal agencies with responsibility for protection of waters of the United States (the U.S. Army Corps of Engineers and Environmental Protection Agency) have expressed a specific policy and regulatory preference for utilization of mitigation banks and in lieu fee programs instead of permittee-responsible mitigation, especially when those programs are available in the same watershed. The State agencies (California Department of Fish and Wildlife and Regional Water Quality Control Boards) have generally embraced this approach. Second, the proposed project is located in a watershed that is both highly developed and currently undergoing a number of planning efforts aimed at modifying the setting to create a more aesthetically pleasing and naturally functioning environment. Some of these efforts are associated with in-lieu fee programs and others could conceivably result in mitigation banks. Finally, the relatively long-time horizon for the build alternatives, combined with comparable time horizons for many of the Los Angeles River and watershed planning/modification programs, make it difficult to reliably identify specific compensatory mitigation at this time. Therefore, planning to utilize an in-lieu fee program or mitigation bank to be specifically identified nearer the time of project implementation, should a build alternative be selected as the Preferred Alternative, is the most appropriate approach. However, since the No Build Alternative has been selected as the Preferred Alternative, mitigation will not be necessary.

L-30-40

Refer to Response to Comment L-30-39 regarding specific compensatory habitat mitigation.

L-30-41

A discussion of how the build alternatives may impact future wetland habitat within the City of South Gate given the reasonably foreseeable changes to the Los Angeles River related to habitat restoration has been added to Section 3.25, Cumulative in this Final EIR/EIS.

L-30-42

The build alternatives would comply with the South Gate Municipal Code's Tree Preservation and Protection guidelines where applicable (i.e.,outside of State right-of-way). Therefore, any public trees beyond State right-of-way that would be removed as part of the implementation of the build alternatives would be replaced at a 1:1 ratio. Within State right-of-way, Caltrans is not obligated to comply with local ordinances. In response to this comment, Measure VIS-2 in Section 3.6.4 has been revised to indicate that, should a build alternative be selected as the Preferred Alternative, public trees beyond State right-of-way would be replaced in a manner that is consistent with applicable local ordinances. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to trees.

L-30-43

The measures presented in Section 3.20.4 in this Final EIR/EIS have been included in the Environmental Commitment Record for the project (Appendix F of this Final EIR/EIS) and, should a build alternative be selected as the Preferred Alternative, would ensure that avian species foraging in the Los Angeles River are not adversely impacted. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to avian species foraging in the Los Angeles River.

L-30-44

The measures presented in Section 3.21.4 in this Final EIR/EIS have been included in the Environmental Commitment Record for the project (Appendix F of this Final EIR/EIS) and, should a build alternative be selected as the Preferred Alternative, would be implemented to address invasive species concerns related to implementation of either build alternative and would ensure that an invasive vegetation abatement program is implemented. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact related to invasive species.

L-30-45

As stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, the programmatic elements of the build alternatives will not be implemented by Caltrans. It would be the responsibility of the applicants to submit applications in order to secure funding for projects should those elements be implemented by another agency.

L-30-46

Caltrans respectfully disagrees that Section 3.23 of the RDEIR/SDEIS and this Final EIR/EIS should address loss of productivity and jobs within the City of South Gate as a result of business displacements under the build alternatives. An analysis of the employees potentially displaced as a result of business displacements under the build alternatives was included in Section 3.3.2.4 of the RDEIR/SDEIS. It is important to note that the figures presented in this section are a "worst-case" scenario and do not account for the replacement of employees at a relocated place of business. Section 3.23, Irreversible and Irretrievable Commitments of Resources, discusses the irreversible commitment of resources that would be required to construct the build alternatives, and acknowledges that land acquisition would represent an irreversible commitment of land to a transportation facility. However, business displacements would not represent an irreversible commitment of resources because the businesses would be relocated prior to construction of either build alternative. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no loss of jobs as a result of business displacements in the City of South Gate.

L-30-47

Please refer to Response to Comment L-30-1 regarding the timing of construction of the build alternatives.

L-30-48

Caltrans and Metro acknowledge that construction of the build alternatives would result in temporary impacts to traffic circulation due to temporary detours and closures, and have proposed Measure CON-TR-1, outlined in more detail in Section 3.24.4.5 of this Final EIR/EIS, to address these temporary impacts during construction. Should a build alternative be selected as the Preferred Alternative, CON-TR-1 would require the preparation of a TMP, which would take into account the effects of the build alternatives on all travel modes including pedestrians, bicyclists, and transit users, in addition to the motoring public. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to traffic as a result of construction and a TMP will not be necessary.

L-30-49

As is stated in Section 3.24.4.4 of this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, Measure CON-U&ES-1 would provide for the coordination of all temporary ramp closures and detour plans with fire, emergency medical, and law enforcement providers, as well as with local jurisdictions' Departments of Public Works, to minimize temporary delays in emergency response times as part of the TMP, including the identification of alternative routes and routes across the construction areas for emergency vehicles, which would be developed in coordination with the affected agencies. The TMP would be developed with input from project stakeholders including the City of South Gate and LA County Fire. The TMP would specifically address short-term project construction traffic taking into consideration the effects of these activities to emergency response. Context sensitive TMP strategies, such as not allowing the contractor to close two adjacent arterial streets, requiring temporary traffic signals in the construction zone with allowances for emergency response pre-emption, and implementing a public awareness campaign to inform the travelling public on recommended alternate routes to respond to the emergency calls, would help address potential impacts during project construction of either build alternative. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to traffic as a result of construction and a TMP will not be necessary.

L-30-50

Although specific details regarding construction methods, detours, and types of equipment needed for construction of the build alternatives were not known at the time of the RDEIR/SDEIS, general measures to address construction-related impacts were included in Section 3.24, Construction, of the RDEIR/SDEIS. A general description of the highway improvement process was included in Section 3.24.1.1, which included information regarding typical construction sequences, which include traffic control during construction. More detailed information on potential traffic-related impacts during construction of the build alternatives was included in Section 3.24.3.5, and a measure to prepare and implement a Transportation Management Program prior to and during construction of the build alternatives (Measure CON-TR-1) was included in detail in Section 3.24.4.5 of the RDEIR/SDEIS. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to traffic as a result of construction and a TMP will not be necessary.

L-30-51

As discussed in Section 4.2.4.1 Air Quality of the RDEIR/SDEIS and this Final EIR/EIS, in Section 4.2.4, Unavoidable Significant Impacts of the Proposed Project, for the worst-case construction scenario, peak daily emissions for Alternatives 5C and 7 would exceed SCAQMD CEQA significance thresholds for NO_X, CO, PM_{10}, $PM_{2.5}$, and VOCs for both the Baseline Compliance Scenario and the All BACT Scenario. Although compliance with SCAQMD rules and regulations (including CON-AQ-1 through CON-AQ-17) during construction of either build alternative would reduce construction related air quality impacts from fugitive dust emissions and construction equipment emissions, air quality impacts as a result of the build alternatives during construction would remain significant and unavoidable under CEQA. However, as stated in Response to Comment L-30-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to air quality during construction.

L-30-52

Measure CON-AQ-15 was drafted in a manner that ensures it is both enforceable and consistent with Caltrans' and Metro's contract bid requirements and procedures (should a build alternative be selected as the Preferred Alternative), given that it is not currently known at this time which agency may eventually administer the construction contract for the build alternatives. Therefore, some flexibility was retained accordingly in the wording of the measure. It is important to note that some, but not all Tier 4 equipment is commercially available at the present time; however, it is currently unknown if and when all Tier 4 equipment necessary to construct the build alternatives would be available in the future. By the time construction of the build alternatives would begin (should a build alternative be selected as the Preferred Alternative), the Best Available Control Technology (BACT) compliance schedule for CARB In-Use Off-Road Diesel-Fueled Fleets Regulation indicates that only 10 percent of "large fleets" would consist of BACT equipment.[10]

Therefore, in order to ensure that the referenced measure is feasible and enforceable, the text of the measure has not been revised. It should also be noted that as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no air quality impacts related to construction.

L-30-53

The text in question in Section 3.24.3.14, Noise, was revised to state that "both sets of thresholds were used to evaluate short-term, construction related ground-borne vibration."

[10] California Air Resources Board (CARB). 2014, Revised August 2014. Frequently Asked Questions In-Use Off-Road Diesel Vehicle Regulation. Website: https://www.arb.ca.gov/msprog/ordiesel/faq/bact faq.pdf (accessed October 3, 2018).

L-30-54

The discussion presented in this section and associated avoidance, minimization, and/or mitigation measures for the build alternatives was based on the best and most detailed information available at the time of preparation. In response to this and other comments, Measure CON-N-9 in this Final EIR/EIS has been revised to provide for continuous monitoring for residential structures within 200 feet of pile driving operations, should a build alternative be selected as the Preferred Alternative. Should damage occur during construction of either of the build alternatives, operations would cease and construction methods and/or equipment would be re-evaluated. Should a build alternative be selected as the Preferred Alternative, measures in the Caltrans *Transportation and Construction Vibration Guidance Manual* (September 2013) would be implemented as necessary. However, as stated in Response to Comment F-4-21, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no pile driving required.

BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

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HILDA L. SOLIS
SUPERVISOR, FIRST DISTRICT

November 6, 2017

Mr. Ronald Kosinski
Caltrans District 7
Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, California 90012

RE: I-710 Draft Environmental Impact Report (EIR)

Dear Mr. Kosinski:

On behalf of East Los Angeles Local Advisory Committee, I am submitting comments and concerns regarding the 1-710 Draft Environmental Impact Report (EIR).

My office has facilitated numerous meetings regarding the 1-710 freeway. As you are aware, the East Los Angeles community is affected by the 1-5, 1-10, SR-60, and SR-710 freeways, which, cause intensified cumulative impacts in the community. Consequently, the residents of East Los Angeles are extremely concerned about the proposed expansion of the I-710 freeway. Enclosed are the comments made by the East Los Angeles Local Advisory Committee for your consideration.

If you require additional assistance, please do not hesitate to contact Waqas Rehman, my Senior Special Projects Deputy at (213) 974-4111.

Sincerely,

Hilda L Solis

HILDA L. SOLIS
Supervisor, First District

East Los Angeles Local Advisory Committee (ELA LAC)

November 6, 2017

Mr. Ronald Kosinski RK
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16
Los Angeles, CA 90012

I-710 Corridor Project Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (Rdeir/Sdeis) and Section 4(F) Evaluation

Dear Mr. Kolinski:

The East Los Angeles Local Advisory Committee (ELA LAC) has reviewed the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) and Section 4(F) Evaluation for the I-710 Corridor Project and has the following comments/concerns. Please give these comments thoughtful consideration as our community has suffered the impacts of the I-710, and all the other freeways that run through it and around it, through the years.

Unless otherwise stated, all items described hereon are specific to the unincorporated County Community of East Los Angeles. Each matter described in this letter should be addressed not only upon the issue raised but also as an environmental justice issue and as a violation of CEQA and NEPA standards.

The 2017 Recirculated Draft EIR/SDEIS is deficient, it should be withdrawn, re-done and recirculated with the following items in mind:

- Design Options 3A/3B should not be included in the redrawn EIR/EIS. L-31-1
- Project proponents should abide by Motion 22.1 and study Community Alternative 7 as an alternative. L-31-2
- A Freeway Cap Design through East LA, like the 101 Park Design in Downtown LA, should be study. L-31-3
- If this project should go forward, the redrawn EIR/EIS shall include a Health Impact Assessment (HIA) study for East Los Angeles and offer mitigation measures for each one of the items in this comment letter. L-31-4
- East LA residents should be engaged during the process to provide input regarding options and/or alternatives impacting East Los Angeles prior to inclusion in the redrawn EIR/EIS. L-31-5
- We are opposed to the taking of properties and businesses in East Los Angeles. L-31-6

- The community of East Los Angeles should not have to suffer from more impacts from this project than other communities. L-31-7
- Impacts from Air Pollution, noise pollution and traffic should not be greater in East Los Angeles from the I-710 Corridor Project Build Alternatives than from the 2035 No Build Alternative. Build Alternatives should offer better air quality, reduce noise pollution and traffic in East Los Angeles if not they should not be built. L-31-8

Environmental Justice

East Los Angeles is an environmental justice community. Ninety-Seven percent of the community is Latino. The percentage of Latinos in East Los Angeles far exceeds the numbers in the study area and in the County as a whole. The number of residents living below the poverty level exceeds the number of residents living below the poverty level in the study area. East Los Angeles is one of the most impoverished areas in the study area.

2017 Recirculated Draft EIR/SDEIS Process

We feel that the time provided to review the document was insufficient given its complexity and voluminous associated technical documents. The document was once again released in the summer and did not provide sufficient time for residents to be informed and participate in the review process. This same exact comment was made in 2012, yet, it happened again. L-31-9

The I-710 Funding Partners had years to prepare this document, but only 90 days were given to residents to become aware of the project, review the 10,000 plus page document and provide comments. Many residents did not learn of the project until October 18th when Los Angeles County Supervisor Solis held a community forum in East Los Angeles. Despite repeated attempts from residents and their elected officials to obtain a full 120 comment period, Caltrans refused. L-31-10

The 2010 US Census reports that 87.6 percent of the residents of East Los Angeles speak a language other than English at home, compared to the California number of 43.6 percent, yet the vast majority of materials were provided in English. There are also many errors in the document making it difficult for East Los Angeles residents to fully understand the impacts of this project. Some of these errors include:

- Appendix L, an acquisitions page which says, "Los Angeles" instead of Unincorporated East Los Angeles when describing the properties to be acquired. L-31-11
- Appendix L also categorizes residential properties as Industrial, thus underestimating the number of homes to be acquired. L-31-12
- Throughout the document including in the Community Impact Report and Relocation Impact Report, lists 19 residential units instead of 24 as being acquired and, miscalculates the number of people to be displaced, 76 rather than 98, and it lists a 10-unit apartment building as having 5 units. L-31-13

- The Relocation Impact Report misidentifies Unincorporated East Los Angeles as the City of Los Angeles, and states that there are adequate number of replacement homes for East Los Angeles residents. L-31-14
- The Visual Impact Assessment is confusing in regards to East Los Angeles Key Views 24 and 25. The section states: "Under Alternatives 5C/7, there would be a new soundwall/retaining wall in closer proximity to the viewers, but it would be very similar to form and size to the existing soundwall." Yet, Table 8.1 and 8.2 inexplicably list different values for each. Apparently, the values for Alternative 7 are actually the values for East Los Angeles Design Options 3A/3B. L-31-15

When the document was first released, the link to the comments section was not easily found. It was not until repeated phone calls and the advocacy of East Los Angeles elected officials that the comment link was moved to a location more easily found. Additionally, the link to the main pdf was not operating properly for most of the comment period. L-31-16

Finally, people submitting comments are not able to submit pdf files online. All of this left the residents of East Los Angeles unable to fully participate in the Recirculated Draft EIR/EIS process. L-31-17

The Study Area

We feel East Los Angeles Community is placed at disadvantaged regarding the ability for residents to participate in the RDEIR/SDEIS process. The East Los Angeles Community is split in two with half of the community in the I-710 Corridor Project (South) and the other half in the SR-710 Project North. East LA is being sandwiched between both projects, both led by the same agency. We request that the entire community of East Los Angeles be included in both projects study areas and that the effects of one project be included on the other. In addition to being an environmental justice issue, this is a civil rights matter. L-31-18

There are obvious air quality, noise and traffic impacts to the area between SR-60 and the I-10, however both projects failed to study and analyze these. East Los Angeles is the only community which has the I-710 running through it, the only community directly impacted by both projects, and the only community not fully studied by either project.

Leaving a great portion of East Los Angeles, an environmental justice community that is obviously affected by the project, out of the study area is a violation of CEQA and NEPA and is simply unjust. If this is allowed, it will set up a dangerous precedent. A project which results in enormous increases in traffic, air pollution, cancer risks, health impacts to a community cannot exclude a community from the study area to avoid having to do CEQA and NEPA analysis of impacts. L-31-19

The intent of the NEPA and CEQA environmental justice laws is to protect communities like East Los Angeles, which is 97 percent Hispanic/Latino and has a one of the largest percentage of the population living below the poverty level, from impacts imparted by

projects like the I-710. Following are some excerpts from the documents, which the project is in violation of:

> The CEQA Guidelines state that the analysis of a proposed project shall discuss:
>
> "...changes induced in population distribution, population concentration, the human use of land (including commercial and residential development) ... analyze any significant environmental effects the project might cause by bringing development and people into the area affected."
>
> The Environmental Justice Section of this report states:
>
> All projects involving a Federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President Clinton on February 11, 1994.

This EO directs Federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of Federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. This RDEIR/SDEIS does not take the appropriate and necessary steps to identify and address disproportionately high and adverse impacts of this project for the following reasons:

1) It did not complete a health impact assessment which would have identified additional impacts to the community, such as exacerbation of asthma and new cases of asthma, reduced lung function, cardiovascular heart disease, preterm birth, low birth weight and pregnancy disorders, aging of the brain, obesity, type 2 diabetes, overall burden of disease related to near roadway air pollution, increased risk of autism spectrum disorders to children born to mothers living near freeways, and increased risks to the elderly. L-31-20
2) The impacts to East Los Angeles, an environmental justice community, are disproportionate and are not adequately addressed.
3) It did not address the disproportionate impacts to low income and minority communities in a meaningful manner. L-31-21

The RDEIR/SDEIS is deficient, replete with errors, misleading to community members, and does not properly study the impacts to East Los Angeles. Additionally, each of the deficiencies violate environmental justice standards.

This RDEIR/SDEIS should be withdrawn and re-scoped incorporating meaningful input from East Los Angeles. Design Options 3A/3B should never have been included in the RDEIR/SDEIS without first being presented to the I-710 East Los Angeles Local Advisory Committee. A new corrected draft EIR/EIS without Design Options 3A/3B should be completed and recirculated for comment. L-31-22

A consolidating study of the environmental impacts from both projects to the entire community of East Los Angeles must be completed incorporating the latest information. L-31-23

A complete Health Impact Assessment (HIA) which includes all of the latest research re impacts from living near freeways should be included. This study should include a deeper look into ultrafine particulate matter. There is significant research regarding the impacts of freeways on health. Ignoring these studies is equivalent to the tobacco industry knowing that smoking kills and not disclosing that fact to consumers. L-31-24

The HIA should establish thresholds for the I-710 Corridor Improvement Project and for all future Caltrans/Metro sponsored projects through East LA. The study would establish air quality baseline standards for our community.

Community Character and Cohesion

East Los Angeles is a place where community cohesion is strong. The RDEIR/SDEIS document is somewhat right in statistics about this community. In the community impact assessment, Section 5.13.4 it states:

> Community cohesion is the degree to which residents have a sense of belonging to their neighborhood, a high level of commitment to the community, or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time (California Department of Transportation [Caltrans] 2011).1 According to several indicators of community cohesion for the community of East Los Angeles described in Section 4.14.6, including the long tenure of many of the residents in the study area, the high degree of ethnic homogeneity, the high percentage of persons either age 65 and over or under age 19, and the large number of residents who are pedestrians (as confirmed through the finding of high percentages of transit-dependent persons), it can be concluded that there is a high degree of community cohesion in the unincorporated community of East Los Angeles.

This section states that CEQA requires:

> Alternatively, economic or social effects of a physical change may be used to determine that the physical change is a significant effect on the environment. If the physical change causes adverse economic or social effects on people, those adverse effects may be used as the basis for determining that the physical change is significant.

Design Options 3A and 3B aim to further improve safety and operation of the freeway by reducing weaving conflicts between the I-5 and SR-60. To achieve the objective, the variation would reconfigure the SR-60, I-5, and Olympic Blvd. interchanges, and alter the freeway and local traffic circulation in East LA. Design Options 3A/3B will cause significant physical change to the community and harm to residents of East Los Angeles. L-31-25

Further, other methods such as actual traffic accident data on freeway segments, on-off ramps and freeway connectors both Northbound and Southbound should have been included for comparison should have been used besides the conflict point method used to study the efficacy of Options 3A/3B. Additionally, rather than comparing the safety records of the I-710 through East Los Angeles with safety records of the State of California, County of Los Angeles should have been used for comparison. L-31-26 L-31-27

Design Options 3A/3B is deficient because it fails to meet the purpose of the project in East LA and the number one purpose throughout the corridor of improving air quality and public health and alleviating traffic congestion. Furthermore, the impacts associated with these Design Options far exceed their benefits projected. **Residents of East LA, oppose both Design Options and the taking of 24 residential properties and 7 businesses associated with this proposal**. The taking of properties on Sydney Drive and of the businesses in East Los Angeles will impact Community Cohesion. Residents will suffer both economic and social effects due to proposed displacement. The occupants of the apartment building at 626 S Sydney Drive and of other properties that would be acquired by this project on Sydney Drive are occupied by renters. Other properties that would be required are owned by residents on Sydney. Residents feel that with the four freeways running through East Los Angeles they have met their burden. They should not have to give any more property and they should not have to endure any more pollution from these projects. L-31-28

Many families on Sydney Drive have family members who also live in East Los Angeles. East Los Angeles is an environmental justice community, 97.1 percent of the population is Latino, 27.1 percent of the population have incomes below poverty level. Families with low incomes depend on extended family when money runs short. Family, and extended family is culturally important in East Los Angeles. Community members depend on their family and extended family for support. Additionally, as indicated in the East Los Angeles community profile, 42.6 percent of residents are transit dependent.

Marcia Carteret, M. Ed., states: L-31-29

> "Latinos tend to be highly group-oriented. A strong emphasis is placed on family as the major source of one's identity and protection against the hardships of life. This sense of family belonging is intense and limited to family and close friends. People who are not family or close friends are often slow to be given trust. The family model is an extended one; grandparents, aunts, cousins, and even people who are not biologically related may be considered part of the immediate family.... Financial support of the family by the individual and vice versa is important and expected." http://www.dimensionsofculture.com/2011/03/cultural-values-of-latino-patients-and-families/

Expecting East Los Angeles residents to move from homes where they have extended networks of family to new homes far away from the support groups when they have no cars to visit those family members will hurt these community members economically,

socially and psychologically. Furthermore, many of those impacted are senior citizens whose health would be impacted by one of life's great stressors, moving. L-31-29

Los Angeles currently has a housing shortage. Rents are historically high throughout Los Angeles County. Community members will have difficulty finding properties to rent that are equal to and priced similarly to the rentals that they currently live at. Additionally, many renters who are given relocation money to move run out of the relocation money in less than a year because they are forced to pay higher rents. This has contributed to the increase in homelessness in Los Angeles County. L-31-30

As indicated in the East Los Angeles community profile, East Los Angeles has many longtime residents. The number of residents who have lived in East Los Angeles for a long period of time is greater than the County wide average. Attached are quotes from residents who would be impacted if their homes on Sydney Drive are acquired through eminent domain.

Juana Cortez, age 70 lives at 600 S Sydney Drive and has lived 35 years at her home states,

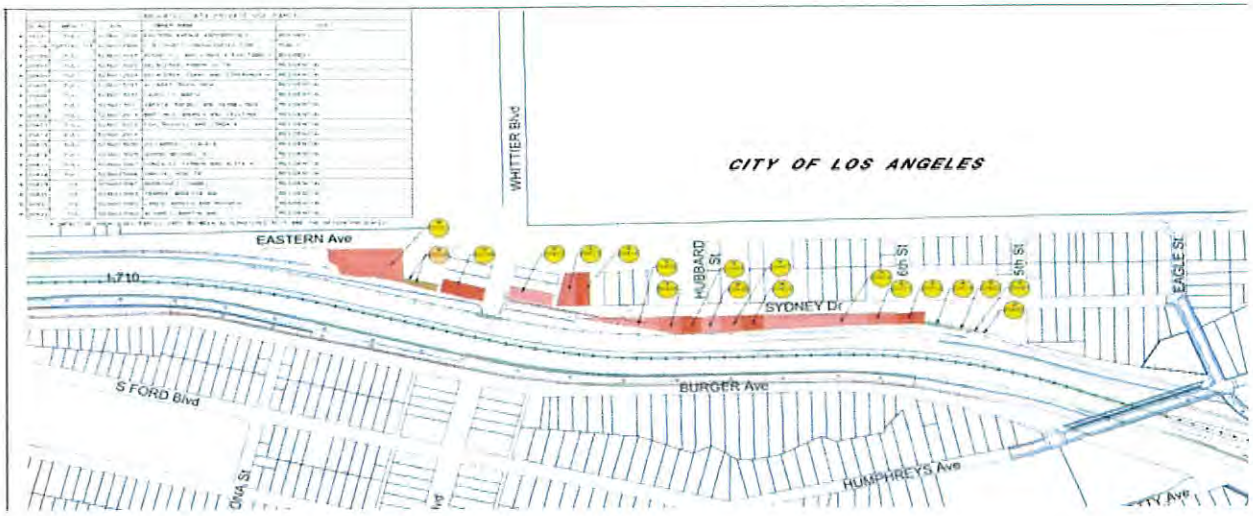
> "I am a senior citizen. My family who lives in East Los Angeles visit me and help me. At my age it would be hard and stressful for me to move to another location away from my family who provides for me both financially and emotionally. I also depend on my family for rides to the supermarket and doctor."

Relocations and Real Property Acquisition

Federal law does not allow payment for relocation benefits for undocumented Immigrants. In communities like East Los Angeles with substantial numbers of Spanish speaking immigrants, it is likely that there may be undocumented immigrants who if required to move will be severely economically impacted by this project. This will cause significant harm to this population and to the overall community of East Los Angeles. L-31-31

Additionally, the Relocation Impact Assessment is deficient in its analysis of East Los Angeles. It does not offer East Los Angeles residents the information necessary to provide comments on how this project will impact them. This is an environmental justice issue as well.

The Relocation Impact Report is totally flawed in its analysis of East Los Angeles. This puts East Los Angeles at a complete disadvantage. The Acquisitions Report, and Risk Maps list East Los Angeles homes as the City of Los Angeles. The map below is just one of the places within this document which misidentifies East Los Angeles as the City of Los Angeles. See map at below: L-31-32



The Relocation Impact Report for every community facing property acquisitions; except East Los Angeles, looks at housing sales, housing rentals, demographics, prices, and housing availability within that community. Caltrans appears to have included a generic Los Angeles category instead of studying East Los Angeles and providing detailed information on the availability of housing in East Los Angeles and how likely it would be for residents to relocate within East Los Angeles. L-31-32

If the intent was to include the City of Los Angeles as a source of housing, the report should have listed it separately, and studied East Los Angeles as an unincorporated separate community like all the other communities. It should be noted that none of the acquisitions of property occurs in the City of Los Angeles. Only 14 of the 205 properties sales listings for Los Angeles are in East Los Angeles. Almost half, 102 of the sales listings are in two zip codes in South Los Angeles (90002 and 90059). Likewise, the listings for Multi-family homes are for the City of Los Angeles not one of the 55 Multifamily homes are in East Los Angeles. A good number are near downtown 90012.

The Relocation Impact Study and the Community Impact Assessment incorrectly states that there are 19 homes that will be required when in fact the true number is 24. The apartment building at 626 S. Sydney Drive is a 10-unit building not a 5-unit building. This has resulted in the community of East Los Angeles not being fully analyzed for impacts and possible mitigation. L-31-33

Proposed Design Options 3A/3B will also impact several businesses on Whittier Blvd. Proposed displacements will hurt our community's economy as it evolves around local business sales tax revenue. Ninety-one percent of the businesses in East Los Angeles are minority owned. Eighty-one percent of the population in East Los Angeles speak a language other than Spanish at home. Businesses in East Los Angeles cater to a largely Spanish-speaking population. It will be difficult for business owners some of whom have a primary language of Spanish to find similar locations for their businesses. Additionally, East Los Angeles depends on the businesses within the community as much of the population is transit dependent. For example, the Pet Shop at the corner of Sydney and Whittier is a local resource for the community. Each weekend day the L-31-34

shop is busy with customers who walk to the store. The business for the community is irreplaceable.

The Relocation Impact Assessment is deficient in analyzing the impacts to East Los Angeles businesses and the impact to the community. It totally disregards East Los Angeles in Appendix H Commercial Listing Data and does not even attempt to locate replace properties for the businesses within East Los Angeles. Where could the Pet Shop be relocated to service the community of East Los Angeles. This business has been operating successfully within the community for many years. Where could the Dialysis Center be relocated? This is not at all addressed within the report. L-31-34

The community of East Los Angeles cannot afford to lose the jobs provided by the businesses that would be acquired. At one business alone, it is anticipated that over 20 employees would be displaced. This is unacceptable. L-31-35

The Relocation Impact Assessment does acknowledge that there is not adequate replacement housing for tenants. We believe Options 3A/3B should be removed from consideration for this reason alone. L-31-36

Further the Relocation Impact Assessment states that 80 percent of those facing relocation would require last resort housing assistance, we believe this number is low because of the failure to adequately study the impacts to East Los Angeles residents.

This failure to adequately analyze East Los Angeles in the Relocation Impact Report means that East Los Angeles was not identified as having a lack of comparable replacement housing and was not considered for further mitigation. Section 8.5 of the Relocations Sections states: L-31-37

> Within the Cities of Cudahy, Vernon, and Commerce, current market conditions indicate a lack of comparable replacement housing.... While adequate comparable replacement housing appears to exist presently in neighboring cities, new replacement dwellings under Last Resort Housing may be considered for these cities as a method of providing comparable replacement housing to displaced persons who reside in areas where the replacement housing is low.

Note this absence of East Los Angeles in this list.

The chart below is from the replacement area report.

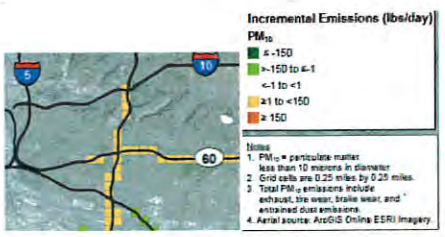
1. Housing stock for the study area:

Cities	A. Number of SFR		B. Number of Multi-Family		C. Number of Mobile Homes
	For Sale	For Rent	For Sale	For Rent	For Sale
Long Beach	294	61	184	50	26
Carson	35	7	22	5	12
Compton	123	2	6	4	9
Cudahy	3	0	2	0	1
Los Angeles	205	336	55	180	0
Lynwood	32	0	1	6	1
Paramount	21	1	12	7	11
South Gate	30	2	4	1	1
Bell Gardens	5	0	3	0	0
Bell	4	0	0	2	0
Commerce	1	0	1	0	0
Maywood	3	0	1	0	0
Vernon	0	0	0	0	0
TOTAL	**756**	**409**	**291**	**255**	**61**

L-31-37

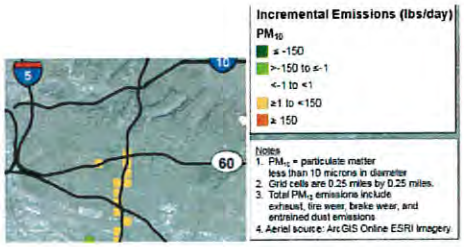
AIR QUALITY/HEALTH RISKS

The current 2017 Recirculated Draft EIR/SDEIS is deficient. It does not include all of East Los Angeles yet there are impacts from the two build alternatives to all of this community. See below the PM10 pollution comparisons:



Comparison of
2035 Alternative 7 to 2035 Alternative 1
Total PM_{10} Emissions

Figure 7



Comparison of
2035 Alternative 5C to 2035 Alternative 1
Total PM_{10} Emissions

Figure 6

L-31-38

The current RDEIR/SDEIS is deficient. It does not adequately study the impacts from pollution on the residents of East Los Angeles. With this plan, there are pockets of increased cancer risk, PM10 and PM2.5 pollution with the build alternatives. It is contrary to law that the environmental justice community of East Los Angeles will face increased pollution from the build alternatives. The Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study states at ES.6.1, Page 31,:

> Both 2035 build alternatives predominantly display decreases in cancer risk with small increases within 100 meters of the I-710 when compared to the 2035

Alternative 1 (No Build). For Alternative 7, the increase in risk is less than 1 in a million. For Alternative 5C, the maximum increase in risk is approximately 3 in a million. The primary location of increased risk for Alternative 5C is along a small portion of the I-710 just south of its intersection with SR-60; the absolute risk level at this location from I-710 traffic sources is 17.4 in a million (compared to 14.2 in a million for Alternative 1 and 14.9 in million for Alternative 7).

East Los Angeles is the only community along the corridor that shows increases in incremental cancer risk. See Figure ES8. The impacts of Alternative 7 PM10 pollution is especially troubling as is the increased cancer risk to Humphreys Avenue Elementary School students and the residents around it from Alternative 5C. The impacts from this pollution is not adequately studied and does not contain sufficient data regarding health outcomes from the effects of PM10, PM2.5 and ultrafines. Further, the study of the impact from other pollutants is not adequately addressed. The increased cancer risk is unacceptable. L-31-38

We are also concerned that the Health Risk Assessment inappropriately assumed that the BNSF SCIG would be operating even though a 2016 Court Decision found that the EIR/EIS for the SCIG project violated CEQA. This has caused the emissions to be underestimated in the present I-710 EIR/EIS Health Risk Assessment. L-31-39

The Health Risk Assessment fails to measure the impacts of increased heat due to the amount of concrete from freeways within East Los Angeles and the impact of global warming and how this will impact residents in 2035 and beyond. L-31-40

A Health Risk Assessment alone is not sufficient especially for a community like East Los Angeles that has 4 major freeways running through it. Additionally, proposed Design Options 3A/3B, impact residents of East Los Angeles who reside within a triangle of freeways with the SR-60 to the North, the I-710 to the East and the I-5 to the West. Thousands of residents within this triangle live within a few hundred feet of these freeways. Some live as close as 30 feet from the I-710. Additionally, all of East Los Angeles' 126,000 plus residents live within an area which is heavily impacted by the traffic and pollution of the I-5, I-710, I-10, and SR60 freeways. This proximity requires a closer study of the pollution and impacts from the freeway on this environmental justice community. The Health Risk Assessment only addresses Cancer Risk, but Cancer Risk is not the only danger from pollution to resident's health.

The Health Risk Assessment is flawed. The DEIR/EIS should be withdrawn, redone and recirculated. Residents of East LA demand that a Health Impact Assessment (HIA) study be done before an Alternative is selected. L-31-41

A Health Impact Assessment would have identified additional impacts to the community, such as exacerbation of asthma and new cases of asthma, Reduced lung function, Cardiovascular heart disease, Preterm birth, low birth weight and pregnancy disorders, Autism, Aging of the brain, possibly obesity and Type 2 diabetes, overall burden of disease related to near roadway air pollution, increased risk of autism spectrum disorders to children born to mothers living near freeways, and increased risks to the elderly. The

East LA LAC request a Health Impact Assessment be done for the community of East Los Angeles to identify all impacts to residents by this project. L-31-41

Many studies have been completed about the impacts of air pollution on residents living near freeways. Andrea Hricko and other scientists included a listing of these studies in their comments to the SR-710. This DEIR/EIS is deficient in not including these studies when reviewing the impacts.

Additionally, the impacts from pollution is not adequately studied and does not contain sufficient data regarding health outcomes from the effects of PM10, PM2.5 and ultrafines. Cancer risk is not the only danger from pollution to resident's health.

The Health Risk Assessment is flawed. The DEIR/EIS should be withdrawn, redone and recirculated. Many of the homes in the East Los Angeles neighborhood near the I-710 freeway are less than 100 feet from the freeway. Some are as close as 30 feet from the freeway. Proposed Design Options 3A/3B would bring residents closer to the freeway, yet the impact of Ultrafines was not studied.

In the Hricko, et al comments, the following is stated about Ultrafines:

"7. Failure to include information on the health impacts of ultrafine particles (UFPs),.....

a. Ultrafine particles (UFP; aerodynamic diameter < 0.1 micrometers) are a ubiquitous exposure in the urban environment and are elevated near highways (Fuller et al, 2012; Zhu et al, 2002a; Zhu et al 2002b; Zhu et al 2006). These particles are considered especially toxic because they can enter the lung, and stay there or get into the systemic circulation. L-31-42

b. A study done by UCLA and USC researchers documented very high concentration of ultrafine particles in close proximity to the I-710 Freeway in SE Los Angeles. It found that the pollutants start to level off at about 150 meters from the freeway and are "back to background" in about 300 meters [985 feet] from the freeway during daytime dilution conditions. In fact, the impacts for ultrafine particles are 10 to 15 times further from the source than are the daytime impacts.

c. These researchers from UCLA and USC also found that at night time when winds shifted, the pollutant levels of ultrafine particles did not reach background until 300 meters from the freeway (Zhu et al, 2006).

d. Other researchers from UCLA and USC also found that at night time when winds decrease, the concentrations of ultrafine particles did not reach background until 2500 feet from the freeway (Hu et al., 2009).

e. In fact, the impacts for ultrafine particles are 10 to 15 times further from the source than are the daytime impacts.

f. Another study, by UC Davis researchers looked at a number of studies with regard to concentrations from the roadways (Karner et al, 2010). They conclude: 'In general, concentrations decay to background within a few hundred meters downwind of a road, although studies measuring pollutants solely in the evening hours indicate that higher concentrations persist beyond 500 m (1640 feet)" (citing Zhu et al, 2006). Other researchers from UCLA and USC also found that at night time when winds decrease, the concentrations of ultrafine particles did not reach background until 2500 feet from the freeway (Hu et al., 2009). L-31-42

Further in the Health Risk Assessment, no information is provided regarding Design Options 3A and 3B. Proposed Design Options 3A/3B will remove the 24 homes of almost 100 people, included is a two-story apartment building of 10 units at 626 S. Sydney. The removal of these homes will bring the freeway closer to thousands of people living in this neighborhood. The study suggests that the sound walls will act as a barrier to pollution for residents living adjacent to the wall, but the wall on Sydney will be across the street from the remaining residences, meaning that there will be no protection from the pollution. In fact, it is anticipated that the pollution will drop onto these resident's homes. The apartment building at 626 S. Sydney, because of its height, acts a barrier from noise and pollution to residents across the street from it. The impacts from the increased noise and pollution without this apartment building were not analyzed. L-31-43

The elevated auxiliary lane proposed under Design Options 3A/3B adjacent to Burger Avenue will bring the freeway closer to residents on the east side of the freeway. The HRA indicates that PM10 and PM2.5 pollution from brake wear, tire wear and entrained road dust and exhaust will increase more on the East side of the I-710 north of the I-5 and South of the SR-60; however other health risks associated with this proposal are unknown putting this community at a disadvantage. The RDEIR/SDEIS is deficient, Design Options 3A and 3B should be rejected. L-31-44

Design Options 3A/3B propose to relocate existing exit at Olympic Blvd to Whittier Blvd. A traffic study analyzing the impacts to Whittier Blvd by this proposal has not been completed. Olympic Blvd is a truck route heavily used by traffic going to and from Downtown Los Angeles. How will proposed off-ramp relocation impact traffic on Whittier Blvd and other arterials like Eastern Avenue? Will increased traffic increase pollution in East Los Angeles? L-31-45

A jogging path is due to be constructed around Calvary Cemetery which has its eastern border on Eastern Avenue. This increased traffic will conflict with the communities use of the jogging path. The increased traffic will also increase pollution and noise. L-31-46

Additionally, a small community park is being considered on current Los Angeles County property on Eagle St at the Sydney Drive intersection. L-31-47

Design Options 3A/3B will no longer allow vehicles merging from the SR-60 to access the I-5 South. These vehicles may exit on the new Whittier exit and use East Los Angeles streets to get to the I-5 freeway. They also may stay on the SR-60 freeway and exit on Atlantic Blvd. Additional cross-through traffic on the streets of East Los Angeles will increase congestion on already congested local streets, and increase pollution among other impacts. Closure of the I-5 to vehicles merging from SR-60 shall had been studied more in depth to determine these impacts. L-31-48

The intersection traffic assessment did not show increased traffic at Eagle Street and at Humphreys/3rd St. south exit; however, Eagle Street, Humphreys Avenue, and Eastern Avenue are proposed for widening in anticipation of more traffic and possibly more truck traffic. When asked about the widening, Mr. Shannon Willits of AECOM explained this was the reason for the proposed widening. When asked how many more cars would exit he said 1 to 2 a minute. That is a substantial increase for a residential community. How will increased traffic impact pollution to adjacent residents? Eagle Street experienced increased traffic when the Gold Line Project eliminated left turns from Humphreys onto 3rd Street. Residents on Eagle, Humphreys, and Eastern complain frequently about cars speeding off the freeway and through their neighborhoods. Accidents from cars speeding off the freeway frequently occur. Many of these go unreported because they are hit and run accidents and the residents do not have comprehensive insurance for the older vehicles that are parked on the streets. L-31-49

Six businesses and one cell tower will be taken with proposed Design Options 3A/3B. One of those businesses is a Dialysis Center – Davita Doctors Dialysis Center. A google search shows only four Dialysis centers in East Los Angeles. Design Options 3A/3B will then remove 25 percent of the available centers. DaVita is reported to be a large Dialysis Center with 24 stations. Additionally, East Los Angeles is a Health Professional Shortage area. The population of East Los Angeles is highly transit dependent, 42.6 percent according to Table 4.14B of the East Los Angeles profile. Which means it is more difficult for residents to travel far distances for health care. Additionally, dialysis takes a lot of time making it more difficult for residents to travel far distances. Several studies have indicated that residents living near freeways who have Diabetes often have poorer health outcomes. Additionally, end stage renal failure can be a poor outcome among diabetes patients and often necessitates dialysis. Therefore, removing one of four dialysis centers will be very impactful to the community. It is ironic, living near a freeway makes diabetes worse yet the project is suggesting that the treatment for that outcome be more difficult to obtain. The RDEIR/SDEIS fails to study how the removal of this Dialysis Center will impact the residents of East Los Angeles, therefore it is deemed deficient. L-31-50

The project should provide air quality monitoring to all sensitive receptors adjacent to the freeway, including but not limited to the following:

Ford elementary school (1112 S Ford Blvd) L-31-51

Humphreys Avenue Elementary School (500 S Humphreys Ave)
Marianna Avenue Elementary School (4215 Gleason St)
Alphonso B. Perez Special Education Center (Michigan Ave at Ford Blvd)
Brooklyn Avenue Elementary School (4620 East Cesar E Chavez Avenue)
Hilda L. Solis Learning Academy (319 N Humphreys Ave)
Eastman Avenue Elementary School (4112 E Olympic Blvd)
Winter Gardens Elementary School (1277 Clelia Ave)
Rowan Avenue Elementary School (600 S Rowan Ave)
KIIP Alumina Academy (4800 East Cesar E Chavez Avenue)
Morris K. Hamasaki Elementary School (4865 E 1st St)
Belvedere Elementary School (3724 E 1st St)
Centro Estrella (4701 East Cesar E Chavez Avenue
New Green Dot School to be built at Humphreys and Fisher
MAOF Daycare at 330 S. Ford Blvd.
Daycare Center at Gage and Union Pacific
All Daycare centers adjacent to the freeway
All Home-based Daycare centers adjacent the freeway

L-31-51

Given that East LA is one of the few communities where project's impacts to air quality is projected would be worse than "No Built" condition, the project should include green scape projects in all schools and learning centers, and planting of additional trees and landscaping on local streets adjacent and in the vicinity of I-710 to mitigate for air quality impacts

Noise Impacts

Noise exposure: Long term exposure to moderate levels of ambient noise can increase stress, hypertension, blood pressure, heart disease, sleep disturbance, hearing impairment, and, in children, can lead to learning delays.

Sources: Van Kempe EEMM, Cruise H, Oosthuizen HC, Amlin CB, Staten BAM, de Hollander AEM. (2002). The association between noise exposure and blood pressure and ischemic heart disease: A meta- analysis. Environmental Health Perspective 110:307-317.

Stansfield SA, Berglund, B, Clark C, Lopez-Barrio I, Fischer P, Airstream E, Haines MM, Head J, Hygge S, Kamp I, Berry BF, and RANCH study team. Aircraft and road traffic noise and children's cognition and health: a cross-national study. The Lancet, June 4-10,2005, Vol. 365 (9475): 1942-49

Stansfield S, Haines M, Brown B. (2000). Noise and health in the urban environment. Rev Environmental Health 15(1-2): 43-82

East Los Angeles is surrounded by four major freeways. Throughout the community noise is a problem. It disrupts sleep and makes it difficult for children to study at home. It also is a problem in East Los Angeles playgrounds. A comprehensive study on noise and the impacts it has on residents is needed for East Los Angeles.

L-31-52

If Design Options 3A/3B are built, the SR-60 interchange running adjacent to Burger Avenue will be elevated. The impacts of noise from the elevated structure to residents farther from the freeway was not adequately addressed in the RDEIR/SDEIS. The recommended sound walls do not eliminate the increased noise throughout the community from this project. 22-feet sound walls should be constructed. L-31-53

Additionally, some sound walls are not being built even though there are known increased noise levels. All sound walls studied should be built, including sound wall SW 519. L-31-54

Because there are probable future expansion plans on the I-5 freeway and possible expansion plans on the SR-60 and a planned Gold Line extension as well as the cumulative impacts from previous freeway projects through East Los Angeles all sound walls considered should be built at the maximum height to provide protection to residents from the considerable noise impacts. This includes Sound wall SW 519. L-31-55

Alternative 5C

The recommended height at the following Sound walls will not completely eliminate the increased noise for the following:

SW516 and 517: (NB Olympic to Humphreys)
The increase will be 12 d BA: A 16-ft. wall will reduce sound by 10 dBA

SW 518: (Near McD, immediately South of Cemetery)
The increase will be 8 dBA A 14-ft. wall will reduce the sound by 1 dBA
A 16-ft. wall will reduce the sound by 2 dBA

An overall study of the sound levels and noise pollution in the entire East Los Angeles community should be completed to ensure that overall sound levels in the East Los Angeles community do not increase. Current noise pollution from the I-710 should be reduced or not be increased by the project that is selected. L-31-56

Sound walls must be provided if they reduce the sound level even if the reduction is not to acceptable levels. If the sound walls do not decrease the noise to acceptable levels the noise pollution must be reduced by other means such as taller or better sound walls, landscaping, quieter road materials, soundproofing and retrofitting of all dwellings affected including but not limited to: schools, homes, public buildings, Churches and businesses.

Additionally, SW 519 (SB between Whittier BL and Humphreys) should be built. L-31-57

No sound wall is recommended for SW 518. A sound wall should be built as a jogging track which is a sensitive use will be built around the Calvary Cemetery later this year. Note: Under 5C ELA Option, the wall will be built to protect 13 receivers. It appears this is the same location. Why the variance? L-31-58

Alternative 5C, Design Option 3A

SW 516, 516A, 516B, 517: (NB Olympic to Humphreys)
The increase will be 14 dBA — A 14-ft. wall will reduce the sound by 9 dBA
A 16-ft. wall will reduce the sound by 10 dB

L-31-59

The 16-foot sound wall would provide protection to 151 homes vs 142 provided by the 14-ft. wall. This location is near Ford Elementary School. The taller 16-foot wall is requested, if a 22-ft. wall cannot be built. Students must be protected from noise.

SW 519 & 520: (SB Whittier to Humphreys)
The increase will be 11 dBA — A 14-ft. wall will reduce the sound by 8 dBA
A 16-ft. wall will reduce the sound by 8 dBA

L-31-60

The 16-foot wall is preferred if a 22-ft. wall cannot be built.

Alternative 7

SW 716 and 717
The increase will be 13 dBA — A 16-ft. wall will reduce the sound by 9 dBA

SW 718: (Near McD South of Cemetery)
The increase will be 8 dBA — A 14-ft. wall will reduce the sound by 1 dBA
A 16-ft. wall will reduce the sound by 2 Dba

L-31-61

No sound wall is recommended for SW 718. A sound wall should be built as a jogging track, which is a sensitive use, will be built around the Calvary Cemetery later this year. Note: Under 5C ELA Option, the wall will be built to protect 13 receivers. It appears this is the same location. Why the variance?

SW 719
The increase will be 10 dBA — A 14-ft. wall will reduce the sound by 1 dBA
A 16-ft. wall will reduce the sound by 1 dBA

According to the Noise Abatement Decision Report, "The Protocol establishes a process for assessing the reasonableness and feasibility of noise abatement. Before publication of the draft environmental document, a preliminary noise abatement decision is made. The preliminary noise abatement decision is based on the feasibility of evaluated abatement and the preliminary reasonableness determination. Noise abatement is considered to be acoustically feasible if it provides noise reduction of at least 5 dBA at receivers subject to noise impacts."

L-31-62

Caltrans' noise reduction design goal is that a barrier must be predicted to provide at least 7 dBA of noise reduction at one or more benefited receptors. It is unacceptable that Caltrans is demanding noise reductions greater than provided by the protocol in order to build a soundwall

For Alternative 5C - SW518 and Alternative 7 – SW718, the sound walls although meeting the protocol of 6d BA claim only one residence would benefit. Yet with the ELA Design option it is recommended as providing relief to 12 residences with 5 d BA. L-31-63

Sound wall SW-719 should be built. It benefits the sleeping quarters of Los Angeles County Firefighters. These firefighters provide an essential service and require undisturbed sleep. L-31-64

If a project is built and it's determined that a sound wall alone is not sufficient to mitigate the noise impact to equal or below than "No Built" conditions, then a combination of sound wall and property noise abatement measures should be implemented, including sound proofing for classrooms, homes, businesses and other community centers. Special consideration should be given to the sensitive receptors adjacent to the freeway: L-31-65

Ford elementary school (1112 S Ford Blvd)
Humphreys Avenue Elementary School (500 S Humphreys Ave)
Marianna Avenue Elementary School (4215 Gleason St)
Alphonso B. Perez Special Education Center (Michigan Ave at Ford Blvd)
Brooklyn Avenue Elementary School (4620 East Cesar E Chavez Avenue)
Hilda L. Solis Learning Academy (319 N Humphreys Ave)
Eastman Avenue Elementary School (4112 E Olympic Blvd)
Winter Gardens Elementary School (1277 Clelia Ave)
Rowan Avenue Elementary School (600 S Rowan Ave)
KIIP Alumina Academy (4800 East Cesar E Chavez Avenue)
Morris K. Hamasaki Elementary School (4865 E 1st St)
Belvedere Elementary School (3724 E 1st St)
Centro Estrella (4701 East Cesar E Chavez Avenue)
New Green Dot School to be built on Humphreys and Cesar Chavez
Daycare Center across from Eastman Elementary School
MAOF Daycare Center at 330 S. Ford Blvd
All Daycare centers adjacent to the I-710 freeway
All the Home Based Daycare Centers adjacent to the I-710 freeway (for example 417 S. Humphreys Avenue)

Proposed new sound walls in East LA will introduce patch work of mix match walls that would negatively impact the esthetics in the community. Existing sound walls should be retrofitted in-kind to match new walls. All sound walls through East LA should be of same height, color, texture and design. L-31-66

Proposed replacement sound wall on east side of the freeway near Humphreys Avenue, should be extended more to the north to minimize noise to Humphreys Avenue Elementary School. L-31-67

Parking Impacts

Both Build Alternatives include proposed peak hour parking restrictions along four arterial roadways, two of these through East LA; Atlantic Blvd between Pacific Coast Hwy and SR-60; and Cherry Ave/Garfield Ave between Pacific Coast Hwy and SR-60. While proposed parking-restrictions predict a 17% capacity improvement throughout the entire area, these restrictions will have a negative economic impact to local businesses in East Los Angeles which depend on-street parking availability for their patrons. It's our understanding that this proposal is one of several programmatic elements included in the Recirculated Draft Environmental Impact Report and that it will not be implemented by Caltrans as the Lead Agency of the I-710 Corridor Project. It would be up to local jurisdictions, in this case the County, to approve the proposed parking restrictions.

The parking study does not match the experience of anyone who lives in East Los Angeles. A frequent concern of residents throughout East Los Angele is that there is not enough parking. Businesses rely on on-street parking on Atlantic Blvd. for their customers. The majority of businesses traffic is during peak pm rush hour. Limiting parking during these hours would destroy these businesses. L-31-68

Members of our I-710 Local Advisory Committee have discussed parking restrictions with business owners on Atlantic which were also proposed during the SR 710 project North. Business owners where alarmed that parking might be restricted. Additionally, parishioners from St. Alphonsus were also alarmed as they use parking for services. Kipp Raices Academy located at 668 S Atlantic Blvdalso depends on street parking during morning and afternoon pickup.

In evening hours during peak traffic times is when the hunt for parking on residential streets begins. Restricting parking on Atlantic would create a nightmare for residents who live adjacent to Atlantic Blvd.

The project must replace the loss of on-street parking spaces at one to one ratio, either in the form of project build parking structures or financial contribution to the local jurisdictions topursue these. if parking were to be restricted

This committee is opposed to removing parking on Atlantic Blvd during peak hours.

Transit Projects

Both Build Alternatives include proposed Transit Improvements as one of several programmatic elements included in the Recirculated Draft Environmental Impact Report to be implemented by Metro. Only zero emission buses should be used if a Bus Rapid Transit line is implemented through East Los Angeles. This is not addressed adequately in the RDEIR/SDEIS. Pollution in East Los Angeles is a problem that causes significant health problems to residents. L-31-69

Visual Impacts

The Visual Impact Assessment states:

East Los Angeles – County of Los Angeles' General Plan 2008 Draft. East Los Angeles is an unincorporated area of Los Angeles County and therefore does not have its own General Plan. This area is governed by the laws and policies stated above in the discussion of the County of Los Angeles.

Then under County of Los Angeles the following is indicated:

County of Los Angeles – General Plan 2008 Draft. While the County of Los Angeles has three State designated Scenic Highways and eight County designated Scenic Highways, none are within the I-710 Corridor Project's viewshed. Los Angeles County recognizes the need to preserve and protect its visual and scenic resources and has adopted the following policies:

- Identify and protect scenic resources,
- Identify and protect the County's scenic highways, corridors, and routes,
- Manage development in hillside areas to protect their natural and scenic character, and
- Reduce light trespass and light pollution.

However, the County General Plan was adopted in Oct 2015 so the EIR Should not reference 2008 draft General Plan. East LA –Land use is under General Plan and also under specific plans such as

- East Los Angeles Community Plan
- East Los Angeles 3rd Street Plan
- East Los Angeles Form Based Specific Plan

L-31-70

The above plans can be located at: http://planning.lacounty.gov/plans/adopted

The visual impacts from Design Options 3A/3B are significant and unacceptable. The elevated SR-60 will loom over residents. It will change the way East Los Angeles residents feel about their community. It will become the predominant view for residents on Burger. Proposed Design Options 3A/3B should be rejected

L-31-71

The Visual Impact Assessment of East Los Angeles Options 3A/3B is flawed. The visual impact assessment does not properly assess East Los Angeles. It fails because it does not properly consider the Community Impact Assessment for East Los Angeles. East Los Angeles residents are very transit dependent – 42.6 percent, contains a large number of children compared to the rest of the county and a large senior population. Children play outside their homes. Seniors take walks and work in their gardens. Homes in East Los Angeles are largely not air-conditioned so many residents in East Los Angeles spend a great deal of time during hot periods outside their homes in their yards.

L-31-72

Key View 23 (Re Duncan In East Los Angeles)

From the diagrams and description for this view, we are unable to determine the visual impacts to residents and businesses in East Los Angeles from this structure. The assessment is deficient in this regard. However, if the structure is elevated, we believe there will be negative impacts to the residents and businesses. Mitigation for these residents and businesses would be needed if a build alternative is chosen L-31-73

Key View 24 (Burger Avenue)

The Visual Impact Assessment of East Los Angeles Options 3A/3B for Key View 24 is flawed. The failure to consider the population of East Los Angeles as indicated in the Community Impact Assessment and as indicated above is a major flaw. The analysis for Key View 24 fails to not that the majority of this location is close to Humphreys Elementary School. Because the school is so close to this location, children and their parents walk to the school at least twice a day. Under Key View 24, it states:

The most impacted viewers at this location are residents and passing motorists. Residents could be seeing the view multiple times per day as they leave and return to their homes. The duration of the view would depend upon each viewer's activity and the duration could range from a few seconds to a several hours. The overall viewer response at this location is moderately high. L-31-74

We disagree with this analysis. The Viewer Response at this location will be High (4) or Very High (5). There is no one who will only be impacted a few seconds. Even a senior who is a shut-in will be able to see the view from their windows. The view will dominate the neighborhood on Burger Avenue. Many residents will see the structure from their living room windows. For many it will be the first thing visible when they open their front doors. It will tower over resident's heads. Residents spend a great deal of time out of doors. Children play outside. The residents on Humphreys who live in two story apartments and condos will also be impact as will be residents across the freeway on Sydney. Instead of seeing the school they will see a towering concrete structure.

Additionally, we disagree with Dominance rating under Visual Character. Dominance is defined as "position, size or contrast." The rating is listed as (2). Moderately low change in visual attributes. Because of its new closer proximity to homes on Burger and its dominance in towering over the residences we believe the rating should be (5) High Level of change in visual attributes. L-31-75

Similarly, we disagree with Scale defined as "apparent size as it relates to the surroundings." The rating is listed as (4) – Moderately high change in visual attributes. We believe the correct rating should be "Very High (5) – High level of change in visual attributes." L-31-76

These changes to dominance and scale would make the correct average Visual Character Change (VCC) for East Los Angeles Design Options 3A/3B a 3.0. L-31-77

We believe the proposed visual quality for Options 3A/3B would be 5.0 and the Visual Quality Change would be 2.3. L-31-78

For the foregoing reasons we believe, the correct Resource Change would be 2.65 instead of 1.9 for Options 3A/3B. L-31-79

Additionally, we disagree with the Viewer Response assessments for Option 3A/3B. We believe that the Location is incorrect. The structure to be built on Burger Avenue will loom over residents and will become the predominant structure. Residents may even fear that the structure will fall on them during an earthquake. Yet for Location: "Relates to position of the viewer in relationship to the object being viewed. The closer the object, the more exposure" the rating is 5.0. We feel a more accurate assessment should be a 7 – Very high response from viewers based on very high viewer exposure and very high viewer sensitivity." Additionally, we believe the Quantity rating is also incorrect. Burger Avenue has a few single family residences between Whittier Blvd and Humphreys Avenue and many apartment buildings with high density. Because of the number of apartment buildings and the proximity the Humphreys Avenue elementary school and other reasons previously mentioned we believe that the quantity rating should be 7. Finally, in regards to the duration rating, "How long a viewer is able to keep an object in view." Again, we believe this should be a 7, unless of course you count when the residents close their eyes to go to sleep. Therefore, the viewer exposure average should be 7. We don't understand Viewer Sensitivity. Nonetheless, going with the given number for viewer sensitivity and using the correct number for viewer exposure the viewer response numerical rating KV 24 should be 6.25. L-31-80 L-31-81 L-31-82 L-31-83

Using our numbers for KV Option 3A/3B, we believe that the resulting Visual Impact score should be 2.65 + 6.25 = 8.9/2 = 4.45. While we agree with part of the statement for Key View 24, Resulting Visual Impact:

"The elevated roadway and soundwall under Design Option 3A/B would introduce a large mass of concrete that would drastically change the existing view within this area."

We disagree with the conclusion: L-31-84

"However, the proposed design and form of the elevated structure blends in with the existing linear form of the street. The overall visual impact for Design Option 3A/B would be moderate (3.5), and would require a moderate level of visual mitigation."

We conclude that the Overall Visual Impact for Design Option 3A/3B would be drastic and that if it were to be built it would require tremendous visual mitigation or the highest available mitigation.

Further, it is not clear from the maps if this design will impact Burger Avenue between Whittier and Mines. L-31-85

Key View 25 (Sydney Drive)

Sydney Drive at this location consists of mostly single family homes on the west side of the street. The homes will directly face the wall. The new predominant structure on the street. We believe the dominance rating should be 4 making the VCC 2.625 and the Resource Change 1.8 for Design Option 3A/3B. L-31-86

We disagree with the Viewer Response rating. We believe the quantity rating under viewer exposure is incorrect. Residents looking out their windows will see the dominating freeway wall. Many residents have front porches where they sit during the warm days that are much more frequent these days. There are many children in the neighborhood who spend afternoons outside. Parents walk their children to Humphreys Avenue Elementary School. This is a highly transit dependent neighborhood where many people walk to buses and the Gold Line. Teens walk to Griffith and Garfield or take the Gold Line. College students take the Gold Line from Third Street. Seniors garden and take walks. The correct quantity rating should be 6.0. This would make the Viewer exposure average 5.7. As indicated we don't understand the Viewer Sensitivity rating. The Overall, the Viewer Response average should be 5.6.
The overall visual impact should be at least 3.7 for Option 3A/3B. L-31-87

If Option 3A/3B is built we believe that extensive visual mitigation should be provided. L-31-88

Conclusion Both Views

Therefore, in conclusion we believe that the Visual Impact Assessment is flawed for all the reasons previously stated. Additionally, the method used for reviewing the visual changes is confusing and is difficult for a layperson to understand. Additionally the Visual Impact Assessment is a confusing mess in regards to East Los Angeles Key Views 24 and 25. The section states: "Under Alternatives 5C/7, there would be a new soundwall/retaining wall in closer proximity to the viewers, but it would be very similar to form and size to the existing soundwall." Yet, Table 8.1 and 8.2 inexplicably list different values for each. Apparently, the values for Alternative 7 are actually the values for East Los Angeles Design Options 3A/3B. The Visual Impact Assessment is deficient. L-31-89

We note that Table 8.2 lists Key View 24 in East Los Angeles as having the highest Visual Impact Evaluation Score in the entire corridor. Once again, East Los Angeles an environmental justice community is faced with the worst impact in the entire corridor. L-31-90

Traffic Impacts

Design Options 3A and 3B aim to further improve safety and operation of the freeway by reducing weaving conflicts between the I-5 and SR-60. To achieve the objective, the variation would reconfigure the SR-60, I-5, and Olympic Blvd. interchanges, and alter the freeway and local traffic circulation in East LA. However, the Traffic Study shows L-31-91

this segment of the freeway will continue to operate at Level of Service F during peak hours with these design options, therefore offering no real benefit to East Los Angeles Community.

L-31-91

Although both Build Alternatives, which include additional capacity improvements to the footprints of the I-710, are predicted to improve traffic conditions throughout most of the alignment, neither of these will improve the Level of Service in the mainline section between the I-5 and the SR-60. The additional lanes on the freeway will lead to longer bottlenecks of traffic between the I-5 and its terminus near Valley Boulevard, resulting on spillovers onto local arterials. While the traffic study evaluated the impacts to intersections immediately adjacent to the freeway, it did not examine the effects of spillovers and the capacity of the main arterials in the area. The traffic study only included 4 counting stations in East LA, 3 along Whittier Blvd and 1 on Atlantic Blvd, to determine Daily Traffic Volumes. We feel that 4 segments are not acceptable to capture traffic volumes in this community, which is centered between four freeways. The project should include a comprehensive traffic study of East LA to identify the effects of spillovers, bottlenecks, and incident response on the freeway. The study should include all intersections along all main arterials including the following:

First Street, from Indiana Street to Vancouver Avenue
Cesar Chavez Avenue from Indiana Street to Vancouver Avenue
Eastern Avenue from Medford Avenue to Telegraph Rd
Ford Blvd from Floral Drive to Telegraph Road
Olympic Blvd from Indiana Street to Montebello Blvd
3rd Street from Indiana Street to Pomona Blvd
Whittier Blvd from Indiana Street to Garfield Ave
Atlantic Blvd from SR-60 to Telegraph Road

L-31-92

The current alternatives and options introduced by Caltrans provide no real traffic relief within East Los Angeles either on the freeway or on its streets. East Los Angeles streets are currently used as cross through roadways by commuters from other jurisdictions which causes pollution and congestion within East Los Angeles. During peak hours traffic spills over from the freeways to East Los Angeles streets causing traffic delays bringing pollution and misery to East Los Angeles residents. Alternatives 5c and 7 do not improve this situation in East Los Angeles. Options 3A and 3B likewise do not improve traffic within East Los Angeles. We suggest that the current RDEIR/SDEIS be withdrawn and that other better alternatives and options be introduced which more fully incorporate Motion 22.1 and which study Community Alternative 7.

Both Build Alternatives include an I-710 Congestion Relief Program that would provide funding to local jurisdictions for traffic signal upgrades and coordination, safety improvements, traffic calming measures, and intersection improvements on the arterial street system in the Study Area. Given that under both Build Alternatives the capacity improvements to the footprints of the I-710 end south of the I-5, and bottlenecks are expected during peak hours on I-710 between I-5 and its terminus at Valley Boulevard,

L-31-93

the program should also consider including Green Scape Projects to help alleviate for air quality impacts, Pavement Rehabilitation Improvement Projects to help local jurisdictions paid for maintenance of roads adjacent to the freeway and used as cut-thought when freeway gets congested. L-31-93

Increasing capacity on the freeway does not reduce congestion on roadways. The adage "if you build it they will come" has been studied and it has been found that if you increase capacity by 10 percent driving then increases by 10 percent. See Duranton and Turner: *Duranton, Gilles, and Matthew A. Turner. 2011. "The Fundamental Law of Road Congestion: Evidence from US Cities." American Economic Review, 101(6): 2616-52.*

L-31-94

Additionally, both truck and vehicle traffic through East Los Angeles for both Alternatives increases with the increased capacity. The Vehicle Miles Traveled through East Los Angeles increases over the no build alternatives. This increased traffic will bring more pollution and noise to the community. The anticipated Levels of Service on the I-710 through East Los Angeles show that the increased capacity merely fills up the freeway providing no benefit to East Los Angeles. This is not acceptable.

Table 6. 2035 Alternative 7 Annual Average Daily Traffic Volumes
I-710 Corridor Project
Los Angeles County, California

Based on Post-Processed Traffic Data

I-710 Freeway Segment Description	AADT Volumes[2,3]					Increase in AADT Volumes[2] as Compared to 2035 Alternative 1[4]	
	Total	Heavy Duty Trucks (Includes ZE/NZE)	ZE/NZE Heavy Duty Trucks	% ZE/NZE in Heavy Duty Trucks	% Heavy Duty Trucks in Total	Total	Heavy Duty Trucks
Northbound							
Ford On to New York Off	86,599	11,671	4,788	41%	13%	9,002	4,194
I-5 On to Olympic On	128,298	22,971	11,667	51%	18%	26,889	9,900
Florence On to Atlantic and I-5 Off	139,182	28,779	17,734	62%	21%	26,809	11,932
Southbound							
Caesar Chavez On to Third On	79,898	10,329	3,860	37%	13%	7,307	1,741
Eastern Off to I-5 Off	110,778	22,823	10,181	45%	21%	20,476	7,134
I-5 On and Washington Off to Washington On	110,088	20,452	13,025	64%	19%	4,584	6,085

Table 5. 2035 Alternative 5C Annual Average Daily Traffic Volumes
I-710 Corridor Project
Los Angeles County, California

Based on Post-Processed Traffic Data

I-710 Freeway Segment Description	AADT Volumes[2,3]					Increase in AADT Volumes[2] as Compared to 2035 Alternative 1[4]	
	Total	Heavy Duty Trucks (Includes ZE/NZE)	ZE/NZE Heavy Duty Trucks	% ZE/NZE in Heavy Duty Trucks	% Heavy Duty Trucks in Total	Total	Heavy Duty Trucks
Northbound							
Ford On to New York Off	83,256	9,354	1,729	18%	11%	5,659	1,876
I-5 On to Olympic On	122,078	16,660	3,180	19%	14%	20,669	3,590
Florence On to Atlantic and I-5 Off	133,711	20,406	4,070	20%	15%	21,338	3,558
Southbound							
Caesar Chavez On to Third On	76,263	8,683	1,485	17%	11%	3,672	96
Eastern Off to I-5 Off	107,760	17,942	3,371	19%	17%	17,458	2,253
I-5 On and Washington Off to Washington On	106,461	14,464	2,639	18%	14%	957	97
Atlantic On to Florence Off	134,251	21,973	4,345	20%	16%	20,621	2,695

The closure of the 3rd Street Exit South as a way of reducing cross through traffic exiting on the residential streets of East Los Angeles should be studied. L-31-95

Design Options 3A/3B include widening of Eastern Avenue, Humphreys Avenue and Eagle Street. Proposed widening will make it more dangerous for pedestrians. The cars speeding off the freeway will be closer to the pedestrians and to homes. Cars coming off the freeway have hit parked vehicles, fences, and bicyclists. The last accident on Eagle St. earlier this year came within inches of hitting the fence of a home. It took out the US Mail box near the corner of Eagle and Humphreys. L-31-96

There is no sufficient room on Eagle at the condominiums to widen the street. The sidewalk is only 5.5 feet on both sides. A resident in the condo unit uses a wheel chair. There are also other residents who live in the neighborhood who use wheel chairs. The street sidewalk needs to be fully in ADA compliance.

A jogging path is due to be constructed around Calvary Cemetery which has its eastern border on Eastern Avenue. This increased traffic will conflict with the community's use of the jogging path. Widening will make it dangerous for joggers. A traffic signal should be installed at Eastern and Eagle to increase safety. L-31-97

Additionally, a small park is currently being considered for the Los Angeles County property located at Eagle on the northern intersection at Sydney Drive. L-31-98

Vehicles coming off the SR 60 Pomona Freeway will be able to exit on the new Whittier Blvd. exit but traffic from the I-710 mainline will not. Therefore, vehicles searching for L-31-99

an exit will use the 3rd Street exit increasing traffic and cross-through traffic through a residential neighborhood. L-31-99

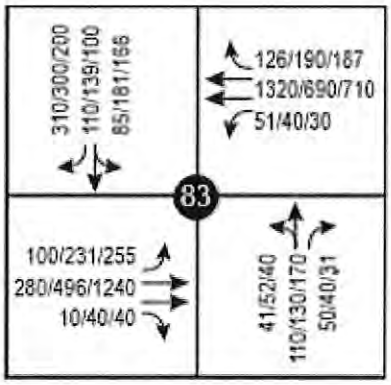
Further, we are concerned that errors were made in analyzing truck volumes. There was a failure to consider induced demand methodologies. Additionally, there is a failure to correctly evaluate the impact of transloading thereby underestimating truck volumes on the I-710 freeway. L-31-100

Comments: Mitigation Measures Intersection Impact Analysis

Intersection 83, Indiana and Olympic: According to the formula used mitigation is needed for Intersection 83. With Alternative 7, the delay for midday peak is expected to increase from 177.6 seconds to 293 seconds. It is suggested that adding a left-turn lane and a shared through/right-turn lane for North and Southbound approaches, delay will improve from 293 seconds to 30 seconds. This improvement seems a bit optimistic. The mid day peak volumes for southbound traffic left turning traffic is 180 vehicles, for vehicles going forward or turning right it is 439. The mid day peak volumes for Northbound left turning vehicles is much smaller only 52, whereas the right and forward bound vehicles total 170. Will having a separate left turn lane here slow traffic? This area has a lot of pedestrian traffic. L-31-101

Additionally, it seems that the majority of the mid day volume is not North and South bound but East and West bound. So are the delays due to North and Southbound traffic (Total Volume 842) or from East/West Volume (1687)? L-31-102

Finally, it appears that many of the vehicles are already going left and straight at the same time when a vehicle is making a left. Will having the left hand turn actually delay traffic? Since cars waiting to turn right when a pedestrian is crossing will block forward moving traffic which will no longer be able to go around the vehicle because they can't use the left hand lane. L-31-103



7.2 2035 Alternative 7 Mitigation Measures

Thirty (30) study intersections have been identified to be significantly impacted under Alternative 7 considering any of the three peak-hours analyzed. All impacted intersections identified under Alternative 7 have been analyzed to determine mitigation measures to improve intersection operations and delay back to the 2035 No Build (Alternative 1) conditions, which are presented below and summarized in **Table 7-8**.

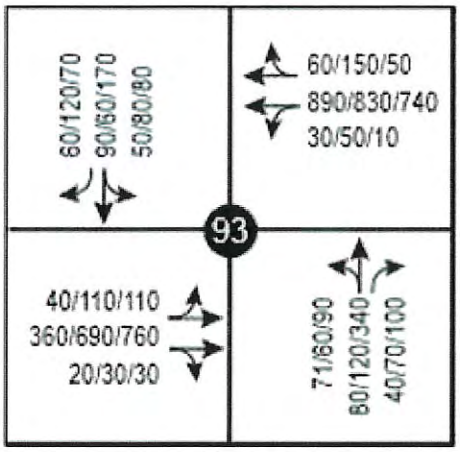
- Indiana St/ Olympic Blvd (#83): Convert both the NB and SB approaches to provide a separate left-turn lane and a shared through/right-turn lane.







Intersection 93, Ford and Whittier: According to the formula used mitigation is needed. Delay for AM-Peak is expected to increase from 49.9 seconds to 64.8 seconds. Delay for Mid-Day Peak is expected to increase from 49.4 seconds to 65.6 seconds, and delay for PM-Peak is expected to decrease from 212.2 seconds to 35.8 seconds. Again, the same mitigation of having a left turn lane and a shared forward right-hand turn lane is provided with astounding results which improve the delays for all peak periods to under 19.5 seconds. The LOS is expected to go from DDF to BBB.



L-31-104

- Ford Blvd/ Whittier Blvd (#93): Convert both the NB and SB approaches to provide a separate left-turn lane and a shared through/right-turn lane.

Northbound on Ford Blvd. at Whittier.



Southbound on Ford Bl. At Whittier.



Southbound on Ford at Whittier

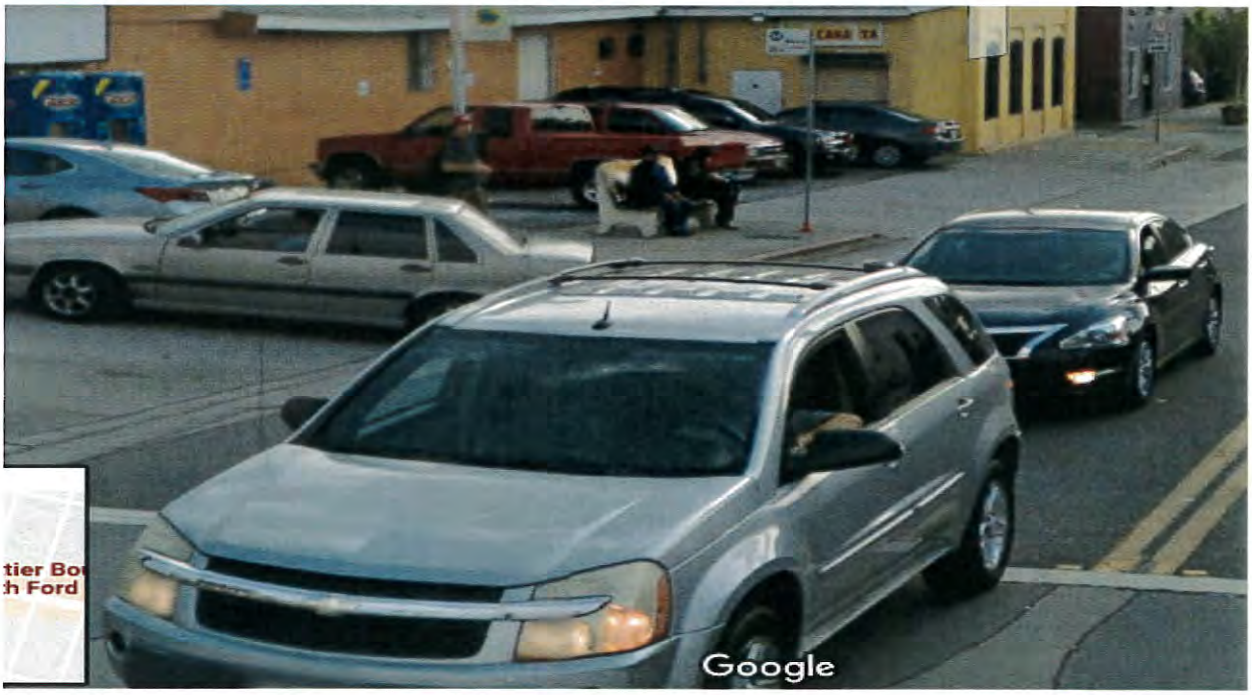


This area is a business district with a lot of pedestrian traffic. Will having a separate left turn lane here slow traffic? As can be seen in the previous photo, traffic can proceed

L-31-104

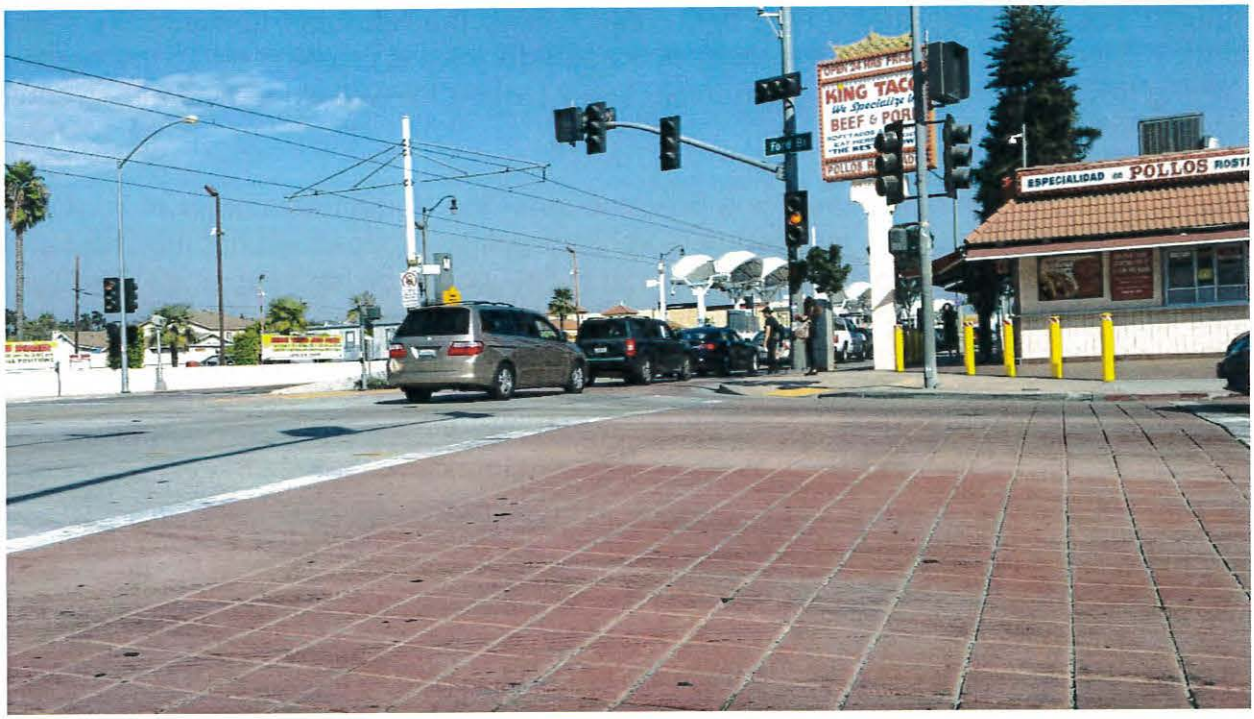
straight when vehicles are turning right. Will having the left hand turn actually delay traffic? Since cars waiting to turn right when a pedestrian is crossing will block forward moving traffic which will no longer be able to go around the vehicle because they can't use the left hand lane. L-31-104

Additionally, as seen below there is a Bus stop near the South East corner of Ford and Whittier. So when a bus is stopped here vehicles will be stopped even if the Left hand turn lane is empty. If Bus lane is moved what would be the impacts? As with intersection 83, the majority of the traffic is East/West bound. So it is questionable if this mitigation measure really make that much of a difference. L-31-105 L-31-106



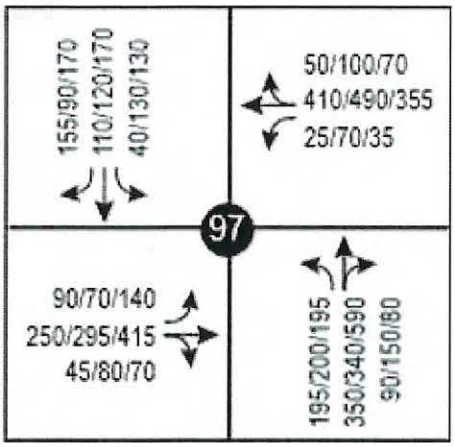
Intersection 97, Ford and 3rd: Mitigation is required because delay for Midday Peak is expected to increase from 44.8 to 64 seconds. This is a busy intersection with lots of pedestrians who access both buses and the Gold Line.

It does not appear there is sufficient space to add a right-turn lane without moving the center lane over to the other side. Additionally, if a right-turn lane was added would it help since 3rd Street is frequently packed with vehicles? Frequently traffic on Third Street backs up into the middle of the street. See photo below taken in October 2017 at 2:49 p.m. L-31-107



October 18, 2017 at 2:48 p.m. below: Third Street between Humphreys and Ford Bl.





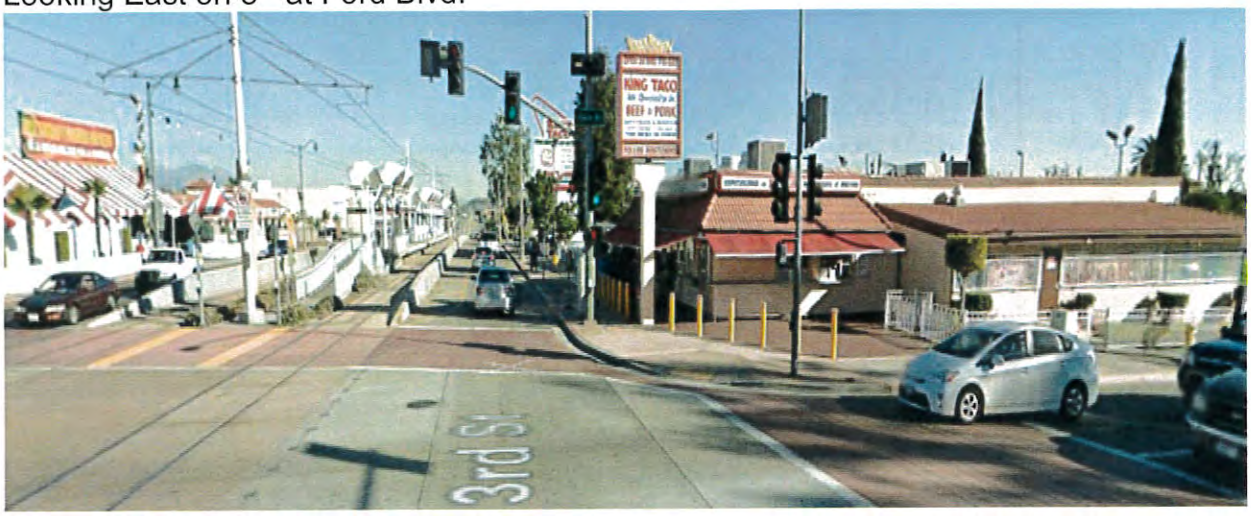
- Ford Blvd/ 3rd St (#97): Add a separate right-turn lane on the NB approach



Looking South on Ford at 3rd Street



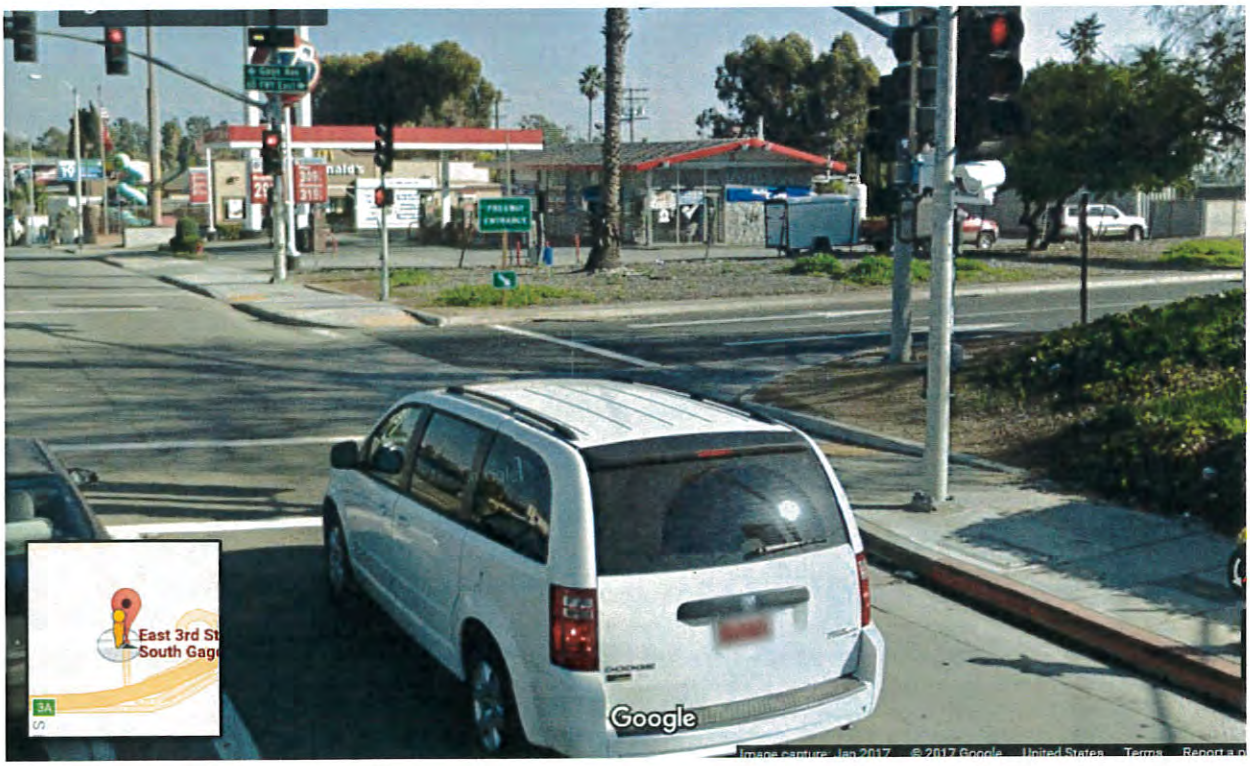
Looking East on 3rd at Ford Blvd.



Intersection 180, 3rd and Gage: According to the formula mitigation is needed because delay for AM peak is expected to increase from 34.6 to 57 seconds. (Grade C to E). For some reason, this intersection is listed as County instead of ELA (Unincorp). It would be nice if the designation was consistent. This is a part of ELA (Unincorp). L-31-108

See photos below: It does not appear that there is sufficient space to add a right-turn on Gage going westbound? The acquisition of property at the South/East corner of Gage is not indicated in the Acquisitions report. L-31-109

A separate right-turn lane onto the Pomona SR 60 is a good idea if Caltrans Right of way is used and sufficient sidewalk space exists to accommodate ADA pedestrians.



The Project Should Aim At Reducing Usage Of Freeway Rather Than Increasing Capacity. The Following Suggestions In Line With Motion 22.1, Encourage The Use Of Public Transportation Along The I-710 Corridor:

Incentives To Employers To Reduce Use Of The I-710

Offer incentives to Employers to offer free public transportation to employees who use the I-710 freeway including but not limited to free bus passes/metro passes.

Offer incentives to Employers to allow employees to arrive at work 10 minutes late and leave work 10 minutes early if they use public transportation.

Allow employers to sign up for a zip car like program for employees to use if there is a family emergency.

Offer incentives to employers of large companies to allow their employees to more easily transfer to locations near their work. (For example: Vons supermarket employees who live in East Los Angeles but work in Long Beach would be allowed to transfer closer more easily by putting in a request with the headquarters rather than with their store manager.) L-31-110

Offer incentives to large employers who offer flexible hours allowing their employees to commute during non-peak traffic hours. The incentives could range from bragging rights such as listing them as traffic reduction champion to providing tax incentives for any costs associated with their program.

Incentives for telecommuting.

Transportation Programs

Initiate 1st mile last mile programs all along the corridor to get public transportation commuters to their destinations.

Implement a real time Uber/Lyft like carpooling program for people to use to commute to work. In this type of program there would be no payment for the ride only for the transportation cost associated with the drive (i.e. insurance, vehicle wear and tear, gas). This way the program would not hurt taxi and UBER/Drivers. The program would do background checks for participants to ensure that sexual predators and bad drivers cannot participate. L-31-111

Offer substantially reduced cost bus passes to people who currently use the I-710.

Implement an aggressive program which would identify older large vehicles driving along the I-710 freeway and offer them a program like "replace your ride" to replace the vehicles with cleaner smaller models. Smaller vehicles take up less space on the roadway and pollute less.

http://www.replaceyourride.com/
http://www.aqmd.gov/home/library/public-information/2015-news-archives/replaceyourridepr

L-31-111

Construction Impacts

Sufficient information is not given to determine the extent of the construction impacts. The Recirculated Draft EIR/SDEIS is deficient in analyzing the impacts of the project to residents during construction. If Design Options 3A/3B are chosen, it is anticipated the noise and pollution impacts to East Los Angeles residents will be considerable. During past projects, the lights and noise effected residents' ability to sleep at night. Will the noise be above 70 dBa? Will residents experience hearing loss from sustained noise over a long period? The noise and pollution will substantially impact the health of residents. Many residents live less than 30 feet from the proposed construction areas.

L-31-112

If any project is built the construction impacts from air pollution and noise pollution must be mitigated.

Lead in soil will be kicked up during construction. This has not been adequately addressed in the Health Risk Assessment. Lead testing of areas where construction is to occur should be tested. East Los Angeles has been contaminated with lead from Exide. The impacts of lead in the soil around construction areas to East Los Angeles residents has not been adequately studied. The extent of lead contamination in the soil to the residents north of Whittier Blvd adjacent to the I-710 is not fully known. Exide testing was limited to properties south of Whittier Blvd. CHP prior to the closure of Exide had cited trucks dripping battery acid. Because of the proximity to the Exide facilities and the I-710 there could be lead contamination on properties adjacent to the freeway.

L-31-113

It is also a concern that during construction, the Los Angeles County Fire Department's ability to enter and exit its facilities may be obstructed. It does not appear that an adequate study has been made of how to deal with this. What if a natural disaster to occur? Would the Fire Department be able exit its facilities? Seconds count in dealing with health emergencies. What is the plan to make certain that these precious seconds are not lost by construction delays?

L-31-114

Cumulative Impacts

CEQA Guidelines: Section 15130(a) requires that the EIR/EIS review and analyze the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," when the new projects incremental impacts together with those of past, current and probable future projects. The focus should be on the cumulative impacts which contribute to the current project. The EIR/EIS should discuss the cumulative impacts when the projects incremental contributions are "cumulatively considerable."

Each subsequent freeway project that adds capacity adds to the noise in East Los Angeles and contributes to the misery of East Los Angeles residents in having to live with it. Cumulatively, the four freeways that run through East Los Angeles have considerable impacts. It is anticipated that a new I-5 project will be in the works shortly. Additionally, in considering the Gold Line extension along the SR 60, Caltrans commented that they did not want the Gold Line project to interfere with Caltrans ability to expand the freeway in the future. This indicates that in the future Caltrans may expand the SR60. Caltrans must mitigate to the fullest extent possible all noise and air pollution impacts in East Los Angeles, because unmitigated impacts combined with possible and probable future and past projects cumulatively combine to produce significant impacts in East Los Angeles an environmental justice community. L-31-115

The 2017 Recirculated Draft EIR/EIS is deficient, flawed and has many errors. It should be withdrawn, redone and recirculated. East Los Angeles Option 3A/3B should not be included in the redrawn EIR/EIS. Motion 22.1 elements should be meaningfully included in the redrawn EIR/EIS. The taking of homes must be minimized to the greatest extent possible all along the corridor. Community Alternative 7 should be studied in the redrawn EIR/EIS. Input from the community of East Los Angeles should be received on any East Los Angeles options before including them in the EIR/EIS. L-31-116

Possible Gold line subway Construction on Atlantic: How would I-710 project combined with the Gold Line project would impact East Los Angeles traffic, pollution and noise is not meaningfully considered. How would this project impact the Gold Line Construction project? Would traffic numbers change? What are the cumulative impacts. What are the combined construction impacts? L-31-117

The Following Should Be Included In Any New Eir/Eis:

A comprehensive Health Impact Assessment for East Los Angeles must be conducted as a part of the EIR/EIS process to fully understand the impacts to the community. Given the fact that the air quality in East LA is projected would deteriorate under both project's alternatives compared to the No Build Alternative, it is imperative that the full impacts to the community be understood. L-31-118

A comprehensive traffic study of the community that incorporates features on transit development, ADA (Americans with Disabilities Act), complete streets, first and last mile, street scape, bike facilities including bike racks and bike share programs, improved crosswalks with lighting at uncontrolled crossings to improve access for bicyclists, pedestrians and transit users, thus decreasing freeway dependency. L-31-119

Suggested Community Improvements/Mitigation Measures

A Freeway Cap Design that includes air scrubbers through East LA, similar to the 101 Park Design in Downtown LA, should be study and perceived as an Alternative for this project. We believe this is viable alternative which will offer several benefits to our community, including more green areas, green belts, businesses, affordable housing, and best of all, less pollution. Capping the freeway will reconnect our community, which L-31-120

is currently divided in half by the I-710. This alternative could be explored as a P3 (Public Private Partnership) option. L-31-120

Identification of an alternative Freeway Freight Corridor, similar to Alameda Corridor, to keep trucks out of the freeway system is recommended. L-31-121

Community Health and Benefit Program

Both Build Alternatives include a Community Health and Benefit Program, which would make funding available to local jurisdictions, school districts, day care centers, community health providers, senior centers and other non-profit, to implement projects/outreach activities targeted towards improving air quality and public health within the Study Area. Given the fact that the air quality in East LA is projected would deteriorate under both project's alternatives compared to No-Built condition, the program shall also make this funding available to resident/business located within ½ mile distance from the freeway. L-31-122

Given the fact that the air quality in East LA is projected would deteriorate under both project's alternatives compared to the No Build Alternative, it is imperative that the full impacts to the community be understood and mitigated, an ongoing Comprehensive Health Impact Assessment should continue. L-31-123

Given the fact that the air quality in East LA is projected would deteriorate under both project's alternatives compared to No-Built condition, we recommend the Community Benefit Program funds affordable Air Quality Monitors for residents in East LA.

The following mitigations and community benefits were suggested in a brainstorming session of the East Los Angeles Local Advisory Committee. We request that these components be included shall the project move forward:

- Brake, Tires, Pavement compliance standards to further reduce air quality impacts including regenerative brakes for trucks, pavement which reduces tire wear.
- Air conditioning units with air filter systems along all sensitive receptors. Proposed filtration system must include retrofitting of the building to provide adequate results. L-31-124
- Solar systems to assist property owners with additional electricity costs associated with running air conditioning units.
- Improved aesthetics including lighting/Landscaping/vegetation and water conservation projects on existing on/off ramps, freeway bridges, and adjacent Caltrans properties, (i.e. Pico Blvd & 10 fwy &210 Freeway at Euclid Av., Rancho Cucamonga)
- Fencing under freeway bridges to prevent homeless encampments.
- Placement of signage with contact information on all on/off ramps and other Caltrans properties along the freeway alignment so residents may report graffiti, illegal dumping, overgrown vegetation, trespassing, etc.
- Street Banners to promote local businesses and the community events.

- Street and pedestrian lighting (facing opposite side of freeway) to streets, sidewalks immediately adjacent to the freeway.
- Affordable Air Quality monitors at all schools within 1500 feet.
- Continuous 22-foot sound walls on both sides of freeway throughout East LA, retrofit existing walls in kind to match design, color and texture through East LA. There should be no gaps between sound walls.
- Community Benefit Programs to compensate residents and businesses for all impacts associated with proposed project during and after construction. Benefits in the form of business facade improvements, Medical Bills subsidies.
- Noise abatement measures to all properties affected by the project, including but not limited to double panel windows, sound blocking fences/green screens, sound absorbing acoustic panels, etc.
- Guarantee long term contracts for local employment.
- Local Employment Plan, Small Business Enterprise participation goals of 25% or more to stimulate community economy.
- Zero parking loss impact in East LA. If on-street parking is removed, project shall add park-ride ride structures to compensate for it.
- Pigeon prevention measures on freeway walls, overpasses, and along freeway.
- Install a signalized crosswalk at on Eastern Avenue at Eagle Street or on Eastern at 5th Streeto protect residents crossing the intersection to get to the jogging path. Many vehicles from the freeway use Eastern and Eagle.- Residents request a stop sign on bridge on Humphreys at 3rd Street South exit to protect children and residents from cars speeding off the freeway. County Public Works have determined that the bridge is Caltrans Right of Way Cars exiting the freeway do not have a clear field of vision when going straight or making a left off the 3rd St. exit south at Humphreys. L-31-124
- Study the benefits/impacts of closing I-710 3rd St Exit South at Humphreys & Eagle Street. Share results and receive input from the East Los Angeles Local Advisory Committee prior to including it in the EIR/EIS.
- Raised medians with trees and up lighting, sustainable plants on local arterials adjacent to the freeway, including Eastern Avenue and Atlantic Blvd to mitigate for pollution impacts.
- Weather Stations for Schools to provide more information (data points) to gauge pollution impacts.

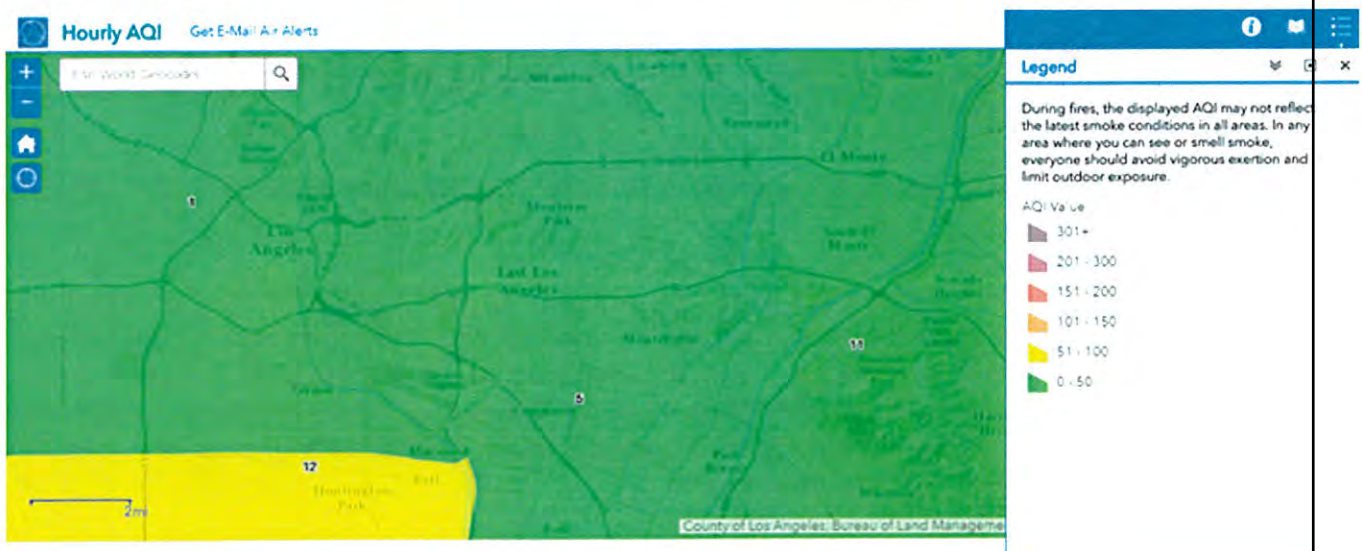
Comments from East LA –Local Advisory Committee Member Ms. Martha Hernandez:

My name is Martha Hernandez, and I have been an advocate for better air quality in East Los Angeles since the 90's. I am the co-chair for the I-710 Expansion CAC for East Los Angeles. I have read your plans and proposals. I have been to several of your meetings and spoken with your engineers, consultants and representatives. I commend the work that many of you have done. However, within all these reports there is one key portion that is missing for my community. L-31-125

I had brought this up back in 2015 when Metro had plan to install another LTR. East Los Angeles does not, nor has it ever had air quality monitors installed within its boundaries. I had mentioned this prior to 2015 in previous meetings before 2000. After these meetings Metro had promised air quality monitors. However, in 2015, it came to my attention that the air quality data used to determine the air within East Los Angeles were, and are, coming from locations outside of East Los Angeles borders and even across another city. It was discovered there are only two air quality monitors near East Los Angeles based on the zip codes that make up of the area of unincorporated East LA. One is located on 1630 North Main Street, Los Angeles CA 90012, which is the Los Angeles-North Main Street air quality monitoring site. The other is located on 4144 San Gabriel River Pkwy., Pico Rivera CA 90660, which is the Pico Rivera #2 air quality monitoring site. This falls S San Gabriel for zip code 90022, while zip codes 90023 and 90063 falls under an air monitoring site located under Central LA CO. East LA do not have a monitor that reads the air quality at the center of the freeways and the heart of the East Los Angeles Interchange. Please see attached map (https://drive.google.com/open?id=16wLsjdBG-o4ML8wmvTxM3ZFbCqI&usp=sharing).

L-31-125





It is my belief that before any plans are made, a detailed study with data from air quality monitors located in East Los Angeles need to be added. For this to happen, we need these monitors installed with live data available on the arb.ca.gov and airnow.gov sites. I also believe there should be a study done on the impact of carbon emission to the residents in every street. It has recently come to my attention that Google Maps, A Sense of Aclima and the Environmental Defense Fund did such a map with the city of Oakland (https://blog.aclima.io/aclima-google-edf-map-air-quality-oakland-aad28c67859b). I have attached the article, as well as the link.

Many things that were found for Oakland are happening in East Los Angeles, and have been happening for many decades. There are higher rates of asthma and allergies. I had found a study being done of the impact of freeway emissions in pregnant women living near the freeways. The study was of pregnant women having autistic babies. Many were found to live near freeways during their pregnancy. The emissions have been linked to cancer and heart disease. There are many other diseases that have yet to be discovered. If this can impact those of us in the now, what of those yet to be born who will carry the mutated DNA. We need to stop the bleeding before we can clean the wound, and this cannot be done without all data.

I also believe that East Los Angeles not only needs monitors, but air filters integrated within the sound walls of the freeways, as well as homes in the surrounding area. Air conditioners should be placed in every home impacted by the freeway emissions with an updated electrical system to sustain it. It would be ideal if the state and/or city would sponsor a contest to create solar-powered, low-energy air conditioners that can easily be connected to the electric grid. This will reduce the use of energy during summer months, but also the cost to residents. These air conditioners will then be given to residents within a 7-mile radius at no cost to them. L-31-125

Seeing that East LA has already been greatly affected by the pollutants from the freeways, money should also be invested in creating free clinics within a 7-mile radius of the freeways for those with medical needs, including the cost of medication. This is the least that we can do for those that have unknowingly been exposed to the contaminants in the air for many decades. We also need more beneficial trees that combat the pollutants. I've noticed there are many of these lilac trees being planted that not only polluting the air with pollen, but the ground with their flowers. Several of the plants being planted around the freeways agitate asthmatics and trigger allergic reactions. I wish more study is done before planting.

I have an idea of a cargo train, which runs on a lane within the I-710 freeway, that delivers goods to ports within each city. Each city would be responsible for these ports. Trucks can drive to these ports and pick up the goods to be delivered to their destination point located within their city. This will relieve traffic on the freeways, as well as reduce the amount of accidents. This in turn reduces emissions. It will also reduce the impact and burden from East Los Angeles. This will go along with the continued expansion of the trains and subways around Los Angeles, especially West Los Angeles.

I believe we should stop before moving forward with the proposed options. We need to gather all current and important information before going forward with any plans. These changes need to not just impact the now, but future generations to come. We need to review all avenues and issues from all cities and residents to continue. From my experience and years living in Los Angeles, we haven't been rebuilding the freeways, but creating patches. We need to go one step further than the past builders, not make the same mistake of building with no thought to the future. This needs to be our legacy, but a legacy that will continue to benefit for many, many years to come. L-31-125

Thank you for the opportunity to comment:

East Los Angeles Local Advisory Committee

Reference Attachment: Hricko and Scientists comments SR 710 DEIR/DEIS

SCH Number: 1982092310
File: O7-LA-710 (SR 710)
Project: EFIS 0700000191 (EA 187900)
State Route 710 North Project

Comments on the SR-710 DEIR/DEIS Submitted to Caltrans by Southern California Scientists and Colleagues Who Study the Health Effects of Air Pollution and Other Public Health Impacts from Transportation Infrastructure Projects and Related Traffic*

L-31-126

Mr. Garrett Damrath
Chief Environmental Planner
Caltrans District 7
Division of Environmental Planning
100 S. Main Street, MS-16A
Los Angeles, CA 90012

Submitted via website link
Hard copy and CD-Rom hand-delivered to District 7 Caltrans

Dear Mr. Damrath:

As we understand it, a DEIR/EIS is designed to help policymakers better understand the potential impacts of their decisions concerning infrastructure and other projects. As documented below, we do not believe the DEIR/DEIS effectively or successfully serves this purpose. Policymakers reading this version of the DEIR/EIS will have a very difficult time understanding what the air pollution impacts of a proposed SR-710 extension would be, particularly as it pertains to the tunnel alternative.

We respectfully submit our concerns as a group of scientists and public health experts. Some of us have been studying the health effects of air pollution in southern California individually and collectively for decades. Others are experts in public health, working to ensure that the community is adequately informed of the potential health impacts of new infrastructure projects, and that proposed infrastructure projects are designed to minimize environmental and health impacts.

Southern California has a world-class community of scientists and experts studying the health impacts of air pollution and other impacts from infrastructure projects that is unique in this field. Despite there being hundreds upon hundreds of published papers on this topic by investigators from the University of Southern California (USC), University of California, Los Angeles and Irvine (UCLA and UCI), and other investigators around the world, the DEIR is completely lacking in a discussion of the health effects of air pollution related to the alternatives, other than diffuse claims that the project will "improve air quality."

We are particularly concerned about the increased number of vehicles (and their emissions) that will chose to use a tunnel, if it is selected as an alternative, and the lack of attention in the DEIR/EIS to the increased vehicle emissions on the SR-710 north of the SR-60 Freeway up to the south tunnel portal. We are also very concerned about vehicle emissions inside the tunnel and emissions that will be "vented out" but not necessarily captured by a filter and about the lack of discussion of the health effects from portal emissions, near-roadway emissions, ultrafine particles and diesel exhaust/particulate emissions.

We are concerned about other impacts, such as noise, as described below, and of the failure of the DEIR/EIS to address environmental justice concerns in the most vulnerable communities, such as lower-income Latino communities in East Los Angeles.

Our overall evaluation of this document and its attachments leads us to conclude the following:

The DEIR/DEIS has so many deficiencies related to a lack of information on potential health impacts of the project, particularly of the Tunnel and the LRT alternatives, that we recommend that the DEIR/DEIS be redone and recirculated for review and comment.

This important determination is based upon our identification of the following deficiencies related to public health in the DEIR/EIS:

1. **Failure to describe, discuss or cite any of the dozens of studies from around the world, including many from Southern California, linking exposure to near roadway emissions with a wide range of health effects, including, as examples:**

    - **Exacerbation of asthma and new cases of asthma** (Gauderman et al. 2005; McConnell et al, 2006; McConnell et al, 2007; Jerrett et al, 2008; Perez L et al , 2012)
    - **Reduced lung function** (Gauderman et al, 2007; Urman et al, 2014)
    - **Cardiovascular heart disease** (Brook et al, 2010; Gan et al. 2010, 2011; Hoffmann et al. 2006; Kan et al. 2008)
    - **Preterm birth, low birth weight and pregnancy disorders** (Wu et al, 2009, 2011); Wilhelm et al, 2012)
    - **Autism** (Volk et al, 2011, 2013)
    - **Aging of the brain** (Chen et al, 2015)
    - **Possibly obesity and Type 2 diabetes (**Weinmayr, G et al, 2015; McConnell et al, 2015)
    - **Overall burden of disease related to near roadway air pollution** (Perez et al, 20090; Brandt et al, 2012)

2. **Failure to provide an accurate statement of the "Purpose and Need" of the Project with regard to creating a 30-mile connected truck corridor to and from the Ports, which Metro has claimed is a value of this project.**
    a. Legally, the DEIR/EIS is required to have a well-described and legitimate discussion of why the project is needed and its purpose. There is a failure in the DEIR/DEIS's purpose and need statement to acknowledge that a major reason for the tunnel alternative in this project is to move goods to and from the Ports of Los Angeles and Long Beach. Obviously, the SR-710 tunnel, when linked to the I-710 goods movement corridor, would create a 30-mile goods movement truck

corridor, yet the words "goods movement" or "freight" do not appear in the purpose and need statement.

b. Metro officials have previously stated that this, indeed, is why completing the 710 north gap closure is so valuable. Please see this 2011 statement by Douglas Failing, then executive director of highway programs for Metro: *"The 710 north gap closure between the I-10 and the I-210 would complete the natural goods corridor that was begun several decades ago."* Please find this quotation at: http://www.metro.net/news/simple_pr/metro s-highway-program-shifts-high-gear-18-new-pro/

c. Thus, the Purpose and Need of the Project, as stated, is erroneous because it fails to mention that a major purpose of the SR-710 tunnel project is to complete the "goods movement corridor" which heads north from the Ports of Los Angeles and Long Beach, between the I-10 and the I-210 Freeways. For this reason alone, the DEIR/EIS merits revision and recirculation for comments and additional opportunity for review.

3. **Failure for the DEIR/EIS to accurately inform the public and policy decision-makers about the volume and impact of heavy duty diesel big rig trucks in the tunnel – and along the lengthy approach to the tunnel's portals.**

a. The DEIR/DEIS's truck traffic estimates greatly minimize freight traffic, instead relying on a set of "FAQs" about goods movement which have no citations, admit that detailed truck studies were not performed, and are completely misleading to the public. An example is the following statement from the FAQs: *"Construction of a tunnel would not be expected to alter truck traffic destinations. Cars and trucks that are already going north (via surface streets or other freeways) may choose to take a tunnel to reduce their travel time, but no additional truck traffic will go north."* See http://media.metro.net/projects_studies/sr_710/images/sr_710_faqs_goods_movement.pdf. The public and policy makers deserve an accurate and appropriate method for estimating truck traffic in the Tunnel Alternatives – from the Ports and elsewhere – and the DEIR/DEIS should provide one. It currently does not. We request that Caltrans and Metro permanently remove this misleading set of "Frequently Asked Questions" from its web portals and websites.

b. On page 5-35 of the Air Quality Assessment, the DEIR/DEIS states *that "there is a possibility that some traffic currently utilizing other routes would be attracted to use the new facility."* This ignores the widely accepted concept of "induced demand," in which increases in traffic capacity are quickly met with increased traffic volumes whenever a new freeway is built or new lanes added. Certainly Caltrans is aware of the concept of "induced demand" when a new freeway is built. In a 2014 draft policy brief for the California Air Resources Board, two experts concluded that there is usually a growth in both vehicle miles traveled (that is there is "induced demand," as more people choose to use the new highway) and in greenhouse gas emissions after a "capacity expansion" of a highway. They argue that the "induced demand" generally offsets any reductions in greenhouse gas (GHG) emissions that would result from improved traffic flow (Handy and Boarnet, 2014. *"Given the induced travel effect, capacity expansion has limited potential as a strategy for reducing congestion*," Handy and Boarnet conclude. (See

http://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief-4-21-14.pdf.

c. Truck estimates vary widely throughout the document, and these assumptions are critical to the Health Risk Assessment, the Air Quality Assessment, and other issues in the DEIR/EIS.
   i. We note that the SR-710 tunnel project would allow, for the first time, trucks to travel north from the Ports for a continuous 30 miles on the I-710 to SR-710 Freeway directly to the I-210 (and then on north to the Central Valley or east to distribution centers in Riverside and San Bernardino Counties, or other points East). But Table 5.6 on increased VMT that will occur with tunnel project in the Air Quality Assessment makes little sense. It seems to show that at the I-210 eastbound on-ramp, there would be only about 400 more vehicles a day on the on-ramp if the tunnel allowed trucks than if it did not.
   ii. Inexplicably, Table 3.5.7 on Truck Performance (see below) shows nearly identical "Vehicle Miles Traveled (VMT) for trucks in the No Build, Light Rail, and Tunnel Alternatives. How can the same VMT for trucks traveling in the "No Trucks Allowed Tunnels" occur as in tunnels that allow trucks? It is imperative to have a valid estimation of trucks in the tunnel if one is to have a valid Health Risk Assessment.

Table 1. 2035 Truck VMT with various alternatives, from the DEIR/EIS

TABLE 3.5.7:
Opening Year (2020/2025) and Horizon Year (2035) Truck Performance by Alternative

Performance Measure	No Build	TSM/TDM	BRT	LRT	Freeway Tunnel Alternative					
					Single-Bore Design Variation			Dual-Bore Design Variation		
					Toll	Toll, No Trucks	Toll, Express Bus	No Toll	No Toll, No Trucks	Toll
Opening Year 2020 (for the TSM/TDM and BRT Alternatives)										
Daily Truck VMT per Lane Mile of Freeway	2,300	2,300	2,300	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Daily Truck VMT per Lane Mile of Arterials and Collectors	100	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Opening Year 2025 (for the LRT and Freeway Tunnel Alternatives)										
Daily Truck VMT per Lane Mile of Freeway	2,500	N/A	N/A	2,500	2,500	2,400	2,500	2,500	2,400	2,400
Daily Truck VMT per Lane Mile of Arterials and Collectors	105	N/A	N/A	105	95	105	95	95	100	95
Horizon Year 2035 (for all Build Alternatives)										
Daily Truck VMT per Lane Mile of Freeway	2,800	2,800	2,800	2,800	2,800	2,700	2,800	2,700	2,600	2,700
Daily Truck VMT per Lane Mile of Arterials and Collectors	115	115	115	115	105	115	105	95	105	105

Source: *Transportation Technical Report* (2014).
Note: The truck-related information provided in this table refers to heavy-duty trucks as defined in the Southern California Association of Governments 2012 Regional Transportation Plan travel demand model.
N/A = Not Applicable
VMT = vehicle miles traveled

   iii. In contrast to the above, which estimates a minimal amount of trucks expected with the Tunnel Alternative, Table 4-12 shows that in 2035 there would be 25,600 trucks a day in the tunnel.

Table 2. 2035 modeled truck counts along the I-710 and in the tunnel from the DEIR/EIS

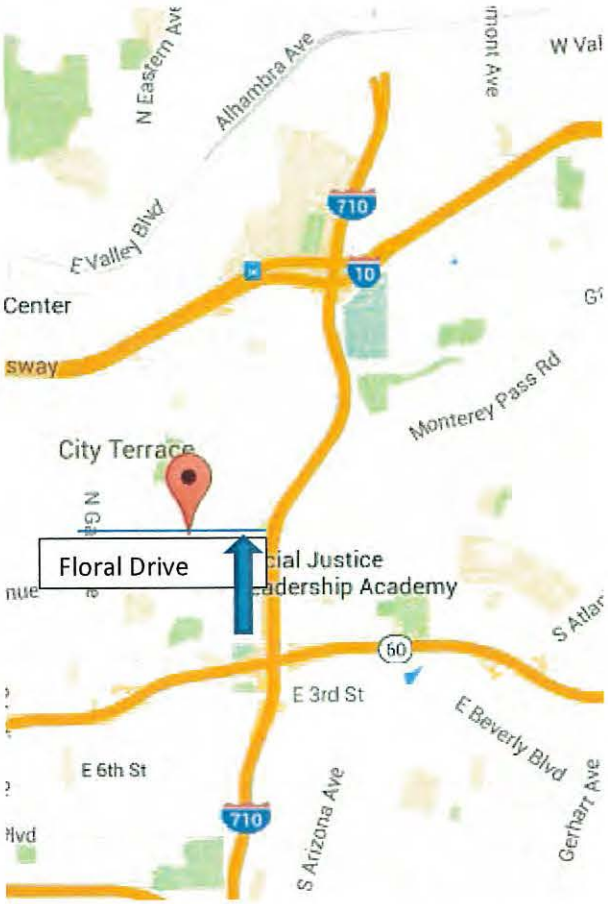
TABLE 4-12
Travel Model Comparison Summary: SR 710 North and I-710 South
SR 710 North Study, Los Angeles County, California

	SR 710 North Model (2035) [1]			I-710 South Model (2035) [1]			Comparison	
	Daily			Daily			Daily	
Location	Total	Trucks	% Trucks	Total	Trucks	% Trucks	% Diff	% Truck Diff
SR 710 Tunnel	177,600	25,600	14.4%	166,200	18,600	14.7%	-6%	-27%
I-710 North of Floral Drive	220,000	26,500	12.0%	226,900	20,300	14.7%	3%	-23%
I-710 North of Whittier Boulevard	265,800	37,000	13.9%	256,400	27,300	14.7%	-4%	-26%
I-710 North of Washington Boulevard	315,700	31,400	9.9%	274,700	30,200	14.7%	-13%	-4%
I-710 South of Imperial Highway	272,100	37,500	13.8%	249,900	36,700	14.7%	-8%	-2%

[1] The model results shown for 2035 for both SR 710 North and I-710 South include the SR 710 North tunnel and the I-710 South truck lanes. Both models assumed the SR 710 tunnel was designed as the dual-bore tunnel without a toll variation.

The above table also shows that on the I-710 north of Floral Drive there would be 26,500 trucks anticipated in 2035. Floral Drive is between the SR-60 and the I-10 Freeway. This is a clear indication that East Los Angeles will be seriously impacted by truck traffic when the tunnel opens. See map below for where Floral Drive is.

Map 1. Red mark and blue line showing east-west location of Floral Drive in East L.A. This can be matched with truck counts in Caltrans table above.



iv. The current volume of trucks that travel north of the SR-60 and north of the I-10 on the I-710 Freeway were obtained from Caltrans online truck counts and are shown below:

Map 2. Truck Counts Caltrans Data, 2013 in the study area



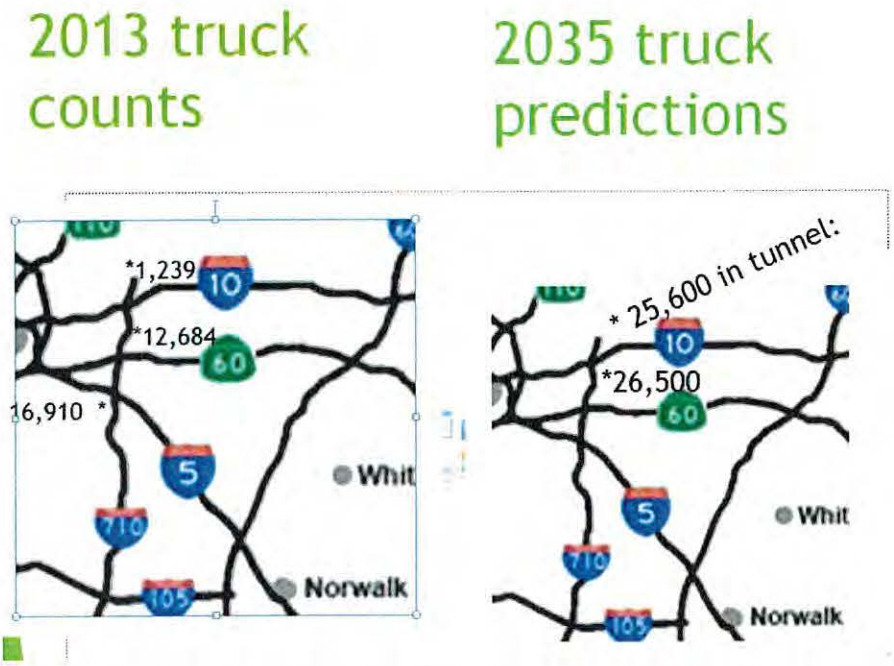
The above truck counts show that in 2013 there were 16,910 trucks (one way) on the I-710 north of the 5 Freeway. Some 4000 trucks exited on the SR-60. Another 11,000 trucks exited on the I-10, meaning that only 1,239 trucks were left on the I-710 when it ended in Alhambra. These data are from the following Caltrans table of truck counts:

Table 3. Caltrans truck counts along the I-710 during 2013

RTE	DIST	CNTY	POST MILE	L E G	DESCRIPTION	VEHICLE AADT TOTAL	TRUCK AADT TOTAL	TRUCK % TOT VEH	TRUCK AADT TOTAL By Axle 2	3	4	5+	% TRUCK AADT By Axle 2	3	4	5+	E 2- (1
710	07	LA	23.282	B	COMMERCE, JCT. RTE. 5, SANTA ANA FREEWAY INTERCHANGE	208000	16910	8.13	5712	2535	490	8173	33.78	14.99	2.9	48.33	
710	07	LA	23.282	A	COMMERCE, JCT. RTE. 5, SANTA ANA FREEWAY INTERCHANGE	177000	12514	7.07	3491	1784	572	6666	27.9	14.26	4.57	53.27	
710	07	LA	24.627	B	JCT. RTE. 60, POMONA FREEWAY INTERCHANGE	192000	12384	6.45	3455	1766	566	6597	27.9	14.26	4.57	53.27	
710	07	LA	24.627	A	JCT. RTE. 60, POMONA FREEWAY INTERCHANGE	124000	6064	4.89	2108	927	246	2783	34.77	15.28	4.05	45.9	
710	07	LA	26.497	A	MONTEREY PARK, JCT. RTE. 10, SAN BERNARDINO FREEWAY INTERCHANGE	43000	1329	3.09	617	357	76	279	46.4	26.87	5.75	20.98	
710	07	LA	R32.72	B	PASADENA, JCT. RTES. 134/210, VENTURA/FOOTHILL FREEWAYS INTERCHANGE	64000	781	1.22	491	173	36	81	62.91	22.11	4.55	10.43	

v. When using data from the Table 4-12 in the DEIR/EIS, the following maps show how many trucks are on the I-710 today in the study area versus how many are predicted through modeling for the future, when the tunnel is open.

Map 3. Comparison of truck counts in 2013 along the I-710 Freeway and 2035 predictions if the tunnel alternative is selected.



vi.

4. **Failure to describe or discuss studies and rulings that conclude that diesel exhaust and diesel particulate are carcinogens, which is critical to understanding the potential health risks of a tunnel alternative.**
   a. We note that once constructed both the single bore tunnel and the dual bore tunnel would have "diesel PM emissions greater than or equal to the 2025 and 2035 emissions" (see page 35 of Executive Summary/DEIR/EIS).
   b. Despite the above, concerns about the health impacts of diesel exhaust and diesel PM are minimized in the DEIR/DEIS. We can locate no mention of the 1998 ruling by the California Air Resources Board naming diesel particulate as a Toxic Air Contaminant because it causes cancer, nor of the 2012 ruling by the World Health Organization's International Agency for Research on Cancer (IARC) designating "diesel exhaust as a Class I carcinogen."
   c. Page 2-17 of the HRA includes a lengthy description of OEHHA's risk assessment uncertainties in 2002, but does not include anything about OEHHA's diesel cancer risk assessment in 1998 (http://www.arb.ca.gov/toxics/dieseltac/part_b.pdf) which summarized more than 40 studies published before 1998 showing the diesel particulate causes cancer. The HRA also does not describe the new OEHHA Diesel Cancer Risk Guidelines

(proposed in 2014 and finalized in 2015). See 2014 proposal, issued before the DEIR was released and 2015 final guidance:
http://oehha.ca.gov/air/hot_spots/riskguidancedraft2014.html
http://oehha.ca.gov/air/hot_spots/hotspots2015.html.
To our knowledge, the DEIR/EIS has no discussion of the multitude of studies showing that diesel causes cancer and other health effects, summarized in the the OEHHA document cited above or more recent studies, examples of which are in the References (Zhu et al, 2002; Olsson et al, 2011; Silverman et al, 2012; Attfield et al, 2012; Bhatia et al, 2012; Silverman et al, 2014; Vermeulen et al, 2014).

d. Pages 5-25 and 5-26 of the Air Quality Assessment fail to mention action in California in 1998 that declared diesel as a Toxic Air Contaminant, with a unit risk value of cancer potency for cancer risk. But it has several pages about concerns and uncertainties expressed at the national level about diesel, from the Health Effects Institute and U.S. EPA, in an apparent attempt to downplay the health effects of diesel exhaust. For example: page 3.13-34 of the DEIR/EIS states that: "*... there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA and the Health Effects Institute have not established a basis for quantitative risk assessment of diesel PM in ambient* settings. *There is also the lack of a national consensus on an acceptable level of risk."* However, California's OEHHA and the regions South Coast AQMD have, respectively, adopted quantitative risk value and an acceptable level of risk, which the DEIR/EIS fails to acknowledge.

5. **Failure to use the most recent guidance from OEHHA in development of the Health Risk assessment for determining cancer risk from exposure to diesel exhaust; the HRA must be redone.**

   a. Although OEHHA had issued a draft of its new guidance document prior to completion of the DEIR/EIS, the Health Risk Assessment fails to include calculations for how this new guidance (now adopted) would impact the HRA. http://oehha.ca.gov/air/hot_spots/riskguidancedraft2014.html. The HRA should redone using the latest guidance document at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

6. **The Health Risk Assessment (HRA) has many other flaws including inadequate information about the most impacted individuals.**

   a. It fails to provide all necessary background assumptions about traffic volumes and minimizes the air pollution in both the approach (above SR-60 to the I-10) to and the exit from the South Portal (impacting East L.A. and Alhambra residents). In addition, the HRA does not provide a map showing the most impacted individuals/workers/students (see Table 3-4). An informative map must be included. The HRA must be redone to address traffic approaching the South Portal, to better address the cancer risk which is currently claimed to be "zero" due to the ventilation towers (see page ES-3) which states "Due to the installation of the particulate matter control system at the tunnel ventilation system, vehicle emissions from the tunnel ventilation towers contribute minimally to the cancer risks at the MEIR and MEIW locations" (that is most impacted

resident and most impacted worker). Please provide page numbers for these calculations.

b. The Health Risk Assesment states that "the maximum student cancer risk is at Maranatha H.S. west of the SR-710 near the north portal." Did Caltrans alert this school to the increased noise and cancer risk that this project would bring to the school and its students and teachers?

c. Page 3-8 of the HRA states that "the area with cancer risk greater than 10 in one million is a narrow strip around the north and south portals and the adjacent interchange. There appears to be no analyses performed for increased cancer risks between the SR-60 and the portal of the tunnel even though there would be thousands more vehicles on the freeway when the tunnel opens. This increase in traffic on the I-710 due to the tunnel opening is completely ignored in the DEIR/EIS and its analyses for cancer risk – and for noise (see below). This is a major flaw in the HRA and the DEIR/EIS.

7. **Failure to include information on the health impacts of ultrafine particles (UFPs), the levels of exposure to passengers traveling in the tunnel, whether the UFPs would be "captured" by the particulate filters that are planned in the ventilation stacks, and how far from the portals and approach roads the ultrafine particles would travel.**

   a. Ultrafine particles (UFP; aerodynamic diameter < 0.1 micrometers) are a ubiquitous exposure in the urban environment and are elevated near highways (Fuller et al, 2012; Zhu et al, 2002a; Zhu et al 2002b; Zhu et al 2006). These particles are considered especially toxic because they can enter the lung, and stay there or get into the systemic circulation.

   b. A study done by UCLA and USC researchers documented very high concentration of ultrafine particles in close proximity to the I-710 Freeway in SE Los Angeles. It found that the pollutants start to level off at about 150 meters from the freeway and are "back to background" in about 300 meters [985 feet] from the freeway during daytime dilution conditions. See diagram below from the study *(Zhu et al, 2002)*. In fact, the impacts for ultrafine particles are 10 to 15 times further from the source than are the daytime impacts.

Figure 1. Ultrafine particle size distributions near the I-710 Freeway

Fig. 4. Ultrafine particle size distribution at different sampling locations near the 710 freeway.

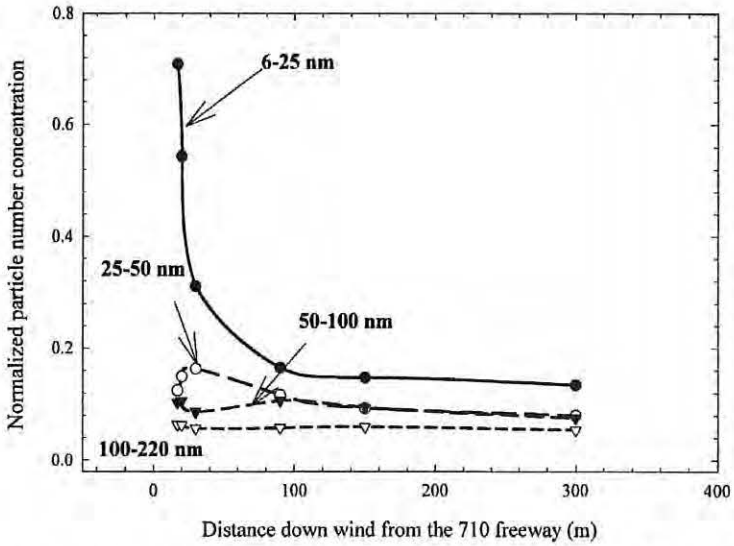


Fig. 5. Normalized particle number concentration for different size ranges as a function of distance from the 710 freeway.

c. These researchers from UCLA and USC also found that at night time when winds shifted, the pollutant levels of ultrafine particles did not reach background until 300 meters from the freeway (Zhu et al, 2006).
d. Other researchers from UCLA and USC also found that at night time when winds decrease, the concentrations of ultrafine particles did not reach background until 2500 feet from the freeway (Hu et al., 2009).
e. In fact, the impacts for ultrafine particles are 10 to 15 times further from the source than are the daytime impacts.
f. The DEIR/EIS contains no estimates on what levels of UFPs one would expect to find when driving through the enclosed environment of the tunnel, nor what ambient concentrations might be expected downwind from the ventilation stacks or portals.
g. Another study, by UC Davis researchers looked at a number of studies with regard to concentrations from the roadways (Karner et al, 2010). They conclude: *'In general, concentrations decay to background within a few hundred meters downwind of a road, although studies measuring pollutants solely in the evening hours indicate that higher concentrations persist beyond 500 m (1640 feet)"* (citing Zhu et al, 2006). Other researchers from UCLA and USC also found that at night time when winds decrease, the concentrations of ultrafine particles did not reach background until 2500 feet from the freeway (Hu et al., 2009). See graph below from Hu et al, 2009.

Figure 2. Ultrafine particles, distance from freeway

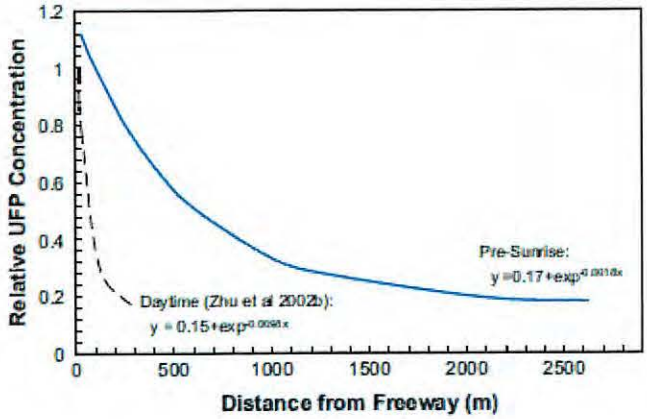


Fig. 6. Exponential fits to the downwind relative UFP concentrations with distance from the I-10 freeway during pre-sunrise hours, compared with fit to daytime data downwind of the I-405 freeway by Zhu et al. (2002b). Data were acquired continuously for pre-sunrise measurements, up to the edges of the freeway.

Also see table below from the UC Davis study which shows that many pollutants do not reach background level until 1000 meters or more (Karner et al, 2010).

Table 4. UC Davis Study summary

TABLE 1. Summary of Background Normalized Data

group	pollutant	approximate multiplier above background concentration at edge-of-road	approximate distance required to reach background concentration (m)[a]
rapid: >50% drop by 150 m	CO	21[b]	—[c]
	metal deposition	2.9	161
	UF1 particle no.	4.0	189
less rapid or gradual decay/change	benzene	2.1	280
	EC	1.7	420[d]
	NO	3.3	565[e]
	NO_2	2.9	380[f]
	NO_X	1.8	570[e]
	PM_{10}	1.3	176
	UF2 particle no.	4.8	910[e]
	VOC1	2.0	270

[a] The approximate distances were derived from an expanded version of Figure 2; the distance point at which the smoothed line reached a value of one on the *y*-axis is cited here as background. [b] Near-road CO concentrations extended outside of the range plotted in Figure 2. [c] CO concentrations did not reach background within the 285 m for which data were measured. [d] Background normalized concentrations attained an approximate minimum value of 1.1 at this distance from the road. [e] Reached background concentrations outside of the range plotted in Figure 2. [f] Background normalized concentrations attained an approximate minimum value of 1.08 at this distance from the road.

The authors concluded that *"background normalized results suggest that a range of approximately 160-400 meters [525-1312 feet] is sufficient to reach background concentrations for the majority of pollutants."*

Dozens of studies on ultrafine particles by investigators at the UCLA Particle Center directed by John Froines and by Costas Sioutas and his laboratory at USC are not included in any references or discussion in the DEIR/EIS. In fact, there are no

references to any studies on ultrafine particles, which is of great importance to the building of a tunnel alternative for the SR-710. (Examples: Delfino et al, 2005; Fanning et al, 2007; Kleinman et al, 2009; Fuller et al, 2012; Zhu et al, 2002; Zhu et al 2006)

8. **The Air Quality Assessment (the AQA) has multiple flaws and does not provide adequate information to either the public or policymakers who must select an alternative.**
    a. The AQA mentions "sensitive receptors" but fails to include a map of where all of the sensitive receptors are. Such a map must be included in a revised DEIR/DEIS. The public and policymakers cannot be expected to "imagine" where the most sensitive receptors are based on seven pages of coordinates rather than visually presenting them on a map in the DEIR/EIS.
    b. The Air Quality Assessment fails to describe operating filtration specifications of the ventilation system that will be installed in the tunnel and in the two ventilation stacks, making it nearly impossible to determine the accuracy of the claim that the stacks will remove 80% plus of the particles and gases.
    c. Air quality levels are shown in Table 3.13.1 at the South Wilson Pasadena station, but fail to show PM2.5 levels for 2013, without an explanation. Failing to include the most recent levels for a significant pollutant is not acceptable. Similar problem with Tables 4-1 and 4-2 of the air quality analysis which fail to show PM10 levels for multiple years at the Pasadena station.
    d. The assessment sometimes refers to tunnel mitigation measures as "scrubbers" and other times as "filtration devices." There is no discussion of best practices in ventilating tunnels throughout the world. Thus neither the public nor policymakers can evaluate the efficacy of the mitigation measures suggested in the context of experiences elsewhere.
    e. If a tunnel alternative is selected, there needs to be a better evaluation of what the contaminant levels and potential health risks inside the tunnel would be for those using the 4-mile tunnel. This needs to include truck estimates, based on validated truck studies (which have not been conducted according to the FAQs). A recent study (Orru et al, 2015.) estimated that there could be increased mortality due to tunnel exposures for those frequently using a proposed high volume urban tunnel in Stockholm.
    f. If a tunnel alternative is selected, there needs to be more information about the emissions and air dispersion from both portals of the tunnel and from the tunnel's ventilation stacks. The stacks are designed to primarily remove particles, not gases. Several experts have evaluated the tunnel ventilation and have submitted a separate set of comments on that topic.
    g. We request that Caltrans/Metro describe and detail the maintenance plans for how they will maintain the filtration devices as part of the tunnel air pollution control plan. This cannot be found in the DEIR/EIS.
    h. More information is needed to advise the public about details of an "exhaust duct along the entire length of the tunnel and jet fans within the tunnel." We can find no details about this technology.

9. **Failure to estimate what the pollution levels will be at the North and South Portals.**
    a. These portals are near schools and an acute care hospital and the air that rushes out from traffic will not be filtered at either portal. A voluminous medical literature has demonstrated the acute effects of particulate pollution on heart attacks, yet

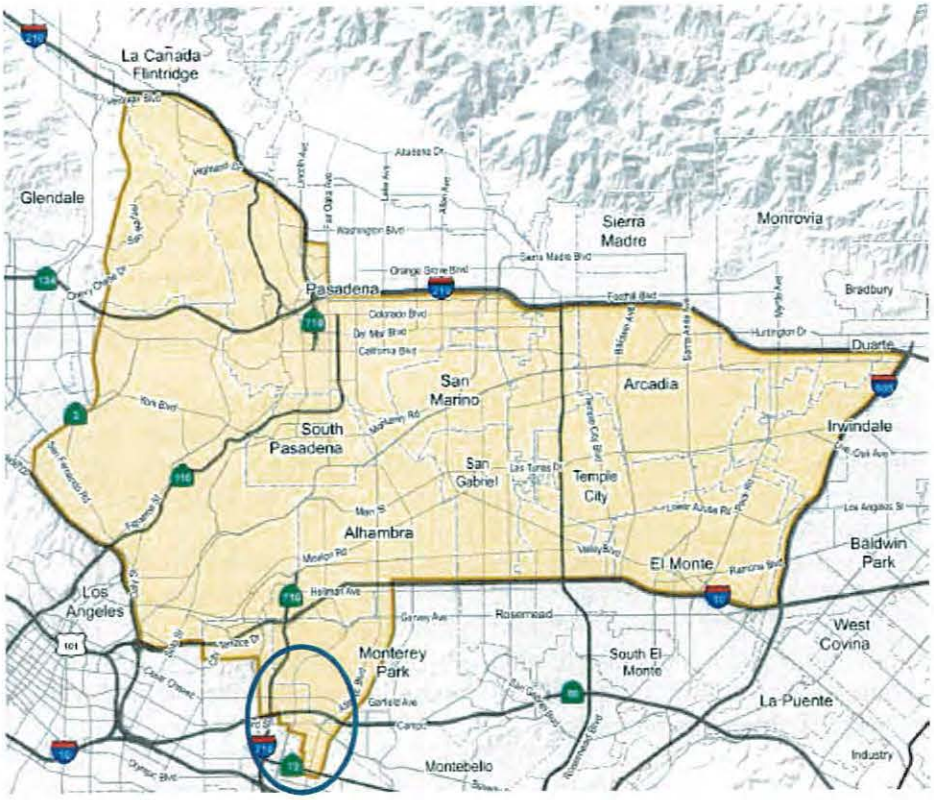
there is no consideration of the potential impact on patients with heart attacks at Huntington Hospital at high risk of lethal post-infarct arrhythmias.

i. We request that if we are incorrect and the DEIR/EIS includes information about these effects, that the pages on this be made public and sent to u as commenters.

10. The DEIR/DEIS includes a faulty "study area" that fails to include impacted parts of unincorporated East Los Angeles, making this an environmental justice issue.

a. The study area is described as "approximately 100 square miles and generally bounded by I-210 on the north, I-605 on the east, I-10 on the south, and I-5 and SR 2 on the west." (See front page of DEIR/DEIR). That means that the area between the SR-60 and the I-10 adjacent to the I-710 has not been studied with regard to the Freeway Tunnel Alternatives, thus failing to recognize the immense impact on East L.A. that vehicle traffic will create as drivers travel in or out of the South Portal. (See map below). The map below shows the study area – but the part of East L.A. that is shown is only studied with regard to the LRT alternative, not for the tunnel alternative

Map 4. DEIR/EIS Study Area. *Area circled was studied in the DEIR/EIS for the Light Rail Alternative but apparently not for the tunnel alternatives.*



b. In addition, the I-710 South DEIR/EIS evaluates impacts only from the south I-710 north to the SR-60, meaning that the East L.A. stretch of the I-710 is not evaluated in *either* DEIR/DEIS. East L.A. is 97% Hispanic, and there are multiple

sensitive receptors in this area. Failure to discuss the impacts of increased emissions and traffic in East LA make this is an environmental justice issue.

Map 5. The SR-710 DEIR/EIS "study area" exclusion zone. East L.A. was studied only for the Light Rail Alternative. It was not studied for volumes of additional truck or other vehicle traffic nor for noise mitigation nor for cancer risk.



c. Table 3-1 claims that there will be a "negative" cancer risk (that is reduced) as a result of building the tunnel alternative.
d. Also Table 3-4 calculates the "incremental cancer risks" for various alternatives. For some unexplained reason no addresses near the South Portal are included (See page 3-6 of HRA). We note that the text of the HRA states that "localized

cancer risk increases occur mostly near the tunnel portal areas and extend to the nearby interchanges and highways that vehicles would use as the main routes to or from the new freeway tunnel."... "In the south, cancer risks would increase near the south portal and extend south to the SR 710/I-10 interchange."

e. In fact, the cancer risks will not stop at the SR 710/1-10 interchange; they must be evaluated for the area within the area above, extending down to the SR-60. There will be thousands more trucks traversing the I-710 between the SR-60 and the SR-710 and these impacts of adjacent communities are not considered in SR-710 DEIR/EIS
    i. If the 25,000 pages of the DEIR/EIS include information about elevated cancer risk from more traffic and more trucks on the I-710 north of SR-60, please provide the page numbers where this information appears.
    ii. Again, this area of East L.A. is not considered in the DEIR/EIS and HRA – as though it does not exist and will not be impacted. This is a serious flaw and an environmental justice issue in the DEIR/EIS and HRA. (See page 3-8 of HRA).
f. Despite claims to the contrary in the DEIR/DEIS, if a tunnel alternative is selected, there will be significantly more traffic on the existing stretch of the I-710 Freeway heading north between the SR-60 and the I-10.
    i. The DEIR/DEIS must perform an evaluation of the air pollution impacts on homes and schools on this stretch of the I-710. Currently, homes and schools in East L.A. are evaluated only for the light rail alternative. There is no analysis of noise or air pollution impacts in this area, although it will be heavily affected by truck traffic from the Ports of Los Angeles and Long Beach traveling to or from the new tunnel. This is an environmental justice issue.

11. **The DEIR identifies high risk receptors near the north portal but not near the south portal.** In Table 3-4 of the HRA, a number of higher risk receptors are identified. Although there are higher risk receptors identified near the NORTH portal, there are none identified near the SOUTH portal. In addition, there is no map showing the areas with highest risk at the South Portal. Although page 3-8 of the HRA states that cancer risks would increase near the South Portal, there is no table showing the locations where that would occur. There need to be maps of the high risk receptors at both portals.

12. **The DEIR fails to look at zero emissions technology either for trucks going through the tunnel or for its Bus Rapid Transit (BRT) alternative.** Although Metro is the lead agency in the region of a collaborative on use of zero emissions technologies for transportation (see http://www.metro.net/projects/countywide-zero-emission-trucks-collaborative/), there is no discussion of requiring that trucks using the tunnel be zero emission technology nor of having truck age restrictions so that only newer trucks could use the tunnel. Although Metro has just bought five battery-electric buses for its fleet, there is no mention of using this zero emission technology for the BRT alternative, which is listed as an alternative to the tunnel.

13. **Concerns about increase noise levels from traffic entering and exiting the tunnel and increased traffic volumes along the approaches to the tunnel are minimized in the DEIR/EIS without scientifically sound analyses or even tables showing the noise measurements and analyses.**

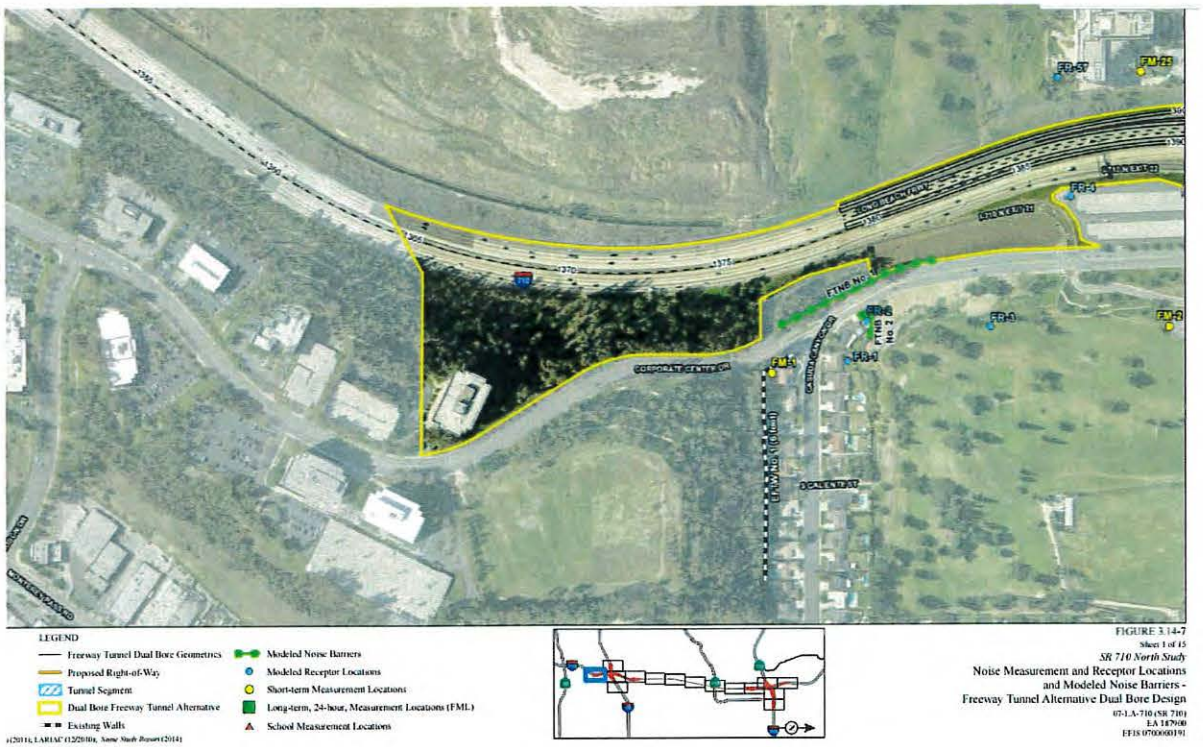
a. The Project will generate two distinct types of noise impacts: construction equipment noise and traffic noise from the cars and trucks that will travel along the routes to the tunnel and into the tunnel. The World Health Organization recognizes noise, and in particular traffic noise, as a serious public health problem.
b. Given the proposed tunnel construction and increased traffic after it opens, it is likely that the Project will result in significant noise impacts. In addition to identifying residences, the revised document should seek to identify all sensitive receptor sites including each motel and hotel, library, religious institution, hospital, nursing home, active sports area, picnic area, recreation area, playground, active sport area and park that would be potentially affected by noise from the additional traffic that will be on the I-710 Freeway between SR-60 and the approach to the tunnel, if that alternative is selected.
c. Given the serious nature of the Project's potential noise impacts, in conjunction with the effect that increased noise levels have been shown to have on public health, it is incumbent upon Caltrans through its DEIR/EIS to engage in a meticulous assessment of these potential impacts. The document's analysis of this issue, however, is subject to the same type of cursory analysis and critical omissions found in the DEIR/S overall.
a. On page 3.3-34, the Community Impact section of the DEIR/DEIS states that both Cal State LA and Marantha High School would experience permanent noise increases of 3dB if the tunnel is built. The DEIR/EIR also states that "based on a visual inspection of the exteriors of these facilities and the warm climate in the portion of Los Angeles County in which these facilities are located, the University and the high school are likely to rely on air conditioning in lieu of opening windows for ventilation; therefore the permanent noise level increases ... with the freeway tunnel alternative ... would not adversely affect their ability to serve the community." The DEIR/EIS community impacts report goes on to state that outdoor events at these two campuses would not be likely to be noise-sensitive because they "typically would produce their own noise." Noise analyses and impact determinations should not be made by "looking" at a school or site. Measurements of existing and estimated future noise impacts should be carefully considered and included in the DEIR/EIS and -- if these have not been done, they should be done and then be included in a revised and recirculated DEIR/EIS. This is a particularly egregious flaw in the DEIR/EIS: evaluating noise impacts through a "visual inspection" is simply unacceptable.

14. Noise mitigation measures are not included for the stretch of the I-710 Freeway between the SR-60 and the I-10, with the exception of noise barriers at a Golf Course and at a Park along the I-710 in this location.

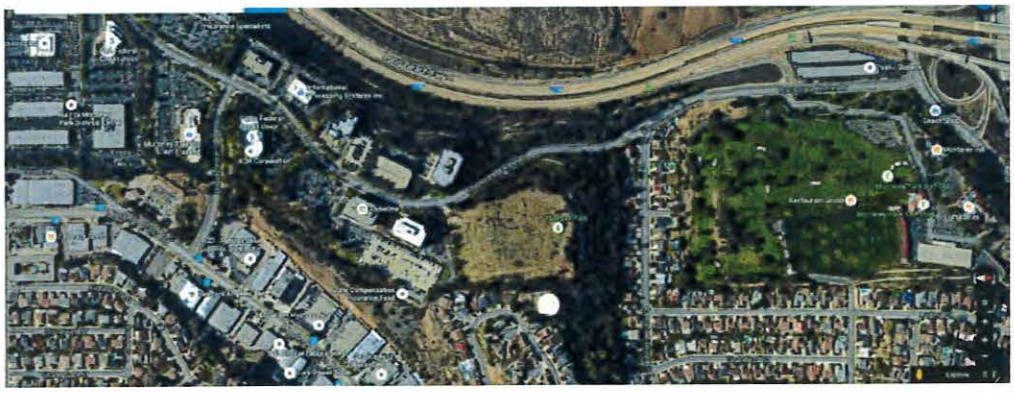
a. A redone and recirculated DEIR/EIS must include noise analyses and noise mitigation measures for the stretch of the I-710 Freeway north of the SR-60 and south of the I-10, which includes East Los Angeles among other communities. This is an environmental justice issue.

Maps 6 - 8. The noise mitigation area south of the I-10 along Corporate Center Drive, north of the SR-60, from the DEIR/EIS. *The shape includes a golf course in Monterey Park and an adjacent park both alongside Corporate Center Drive. No noise mitigation measures are described for any locations south of this location along the I-710 Freeway between the I-10 and the SR-60, despite the huge volumes of additional traffic there will be, from trucks alone, on this stretch of the Freeway as documented above:*

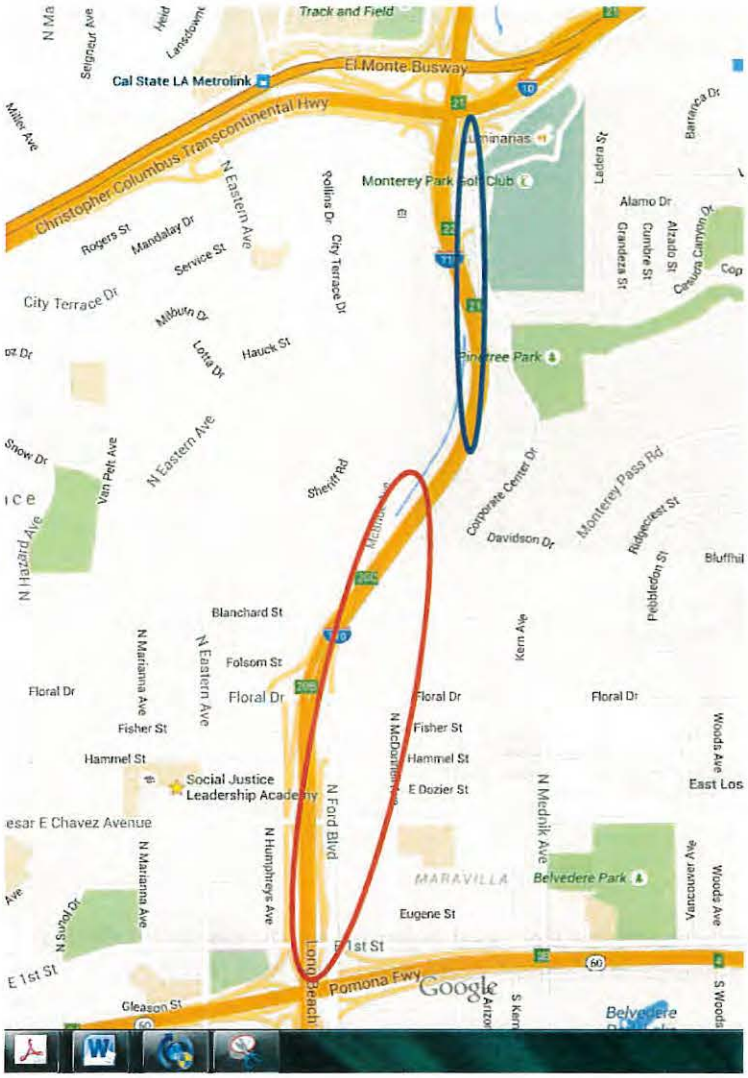
Map 6:



Map 7



Map 8



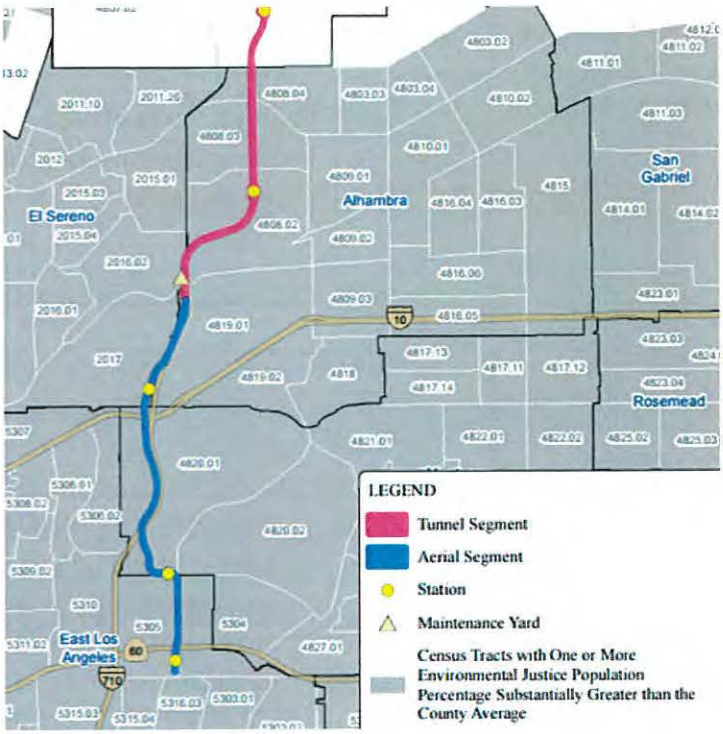
Blue oval = area of noise barrier mitigation near golf course and park

Red oval = area including East Los Angeles where no noise barriers are proposed despite the dramatic increase of truck traffic there will be in this stretch of the I-710.

15. **There are significant environmental justice issues from the various proposed alternatives, but these have been minimized by Caltrans even though various parts of East L.A. and El Sereno are documented in the DEIR/DEIS to have minority communities that would be disproportionately impacted.** Page 3.3-66/67 states that the Build Alternatives "would not cause disproportionately high and adverse effects on any minority or low-income populations under Executive Order 12898 regarding environmental justice." The graphic below shows the extent of the environmental justice population census tracts just in the area north of the SR-60 and South of the I-10 along the I-710 Freeway. An adequate I environmental justice analysis must be conducted and presented for review to the public.

Map 9.

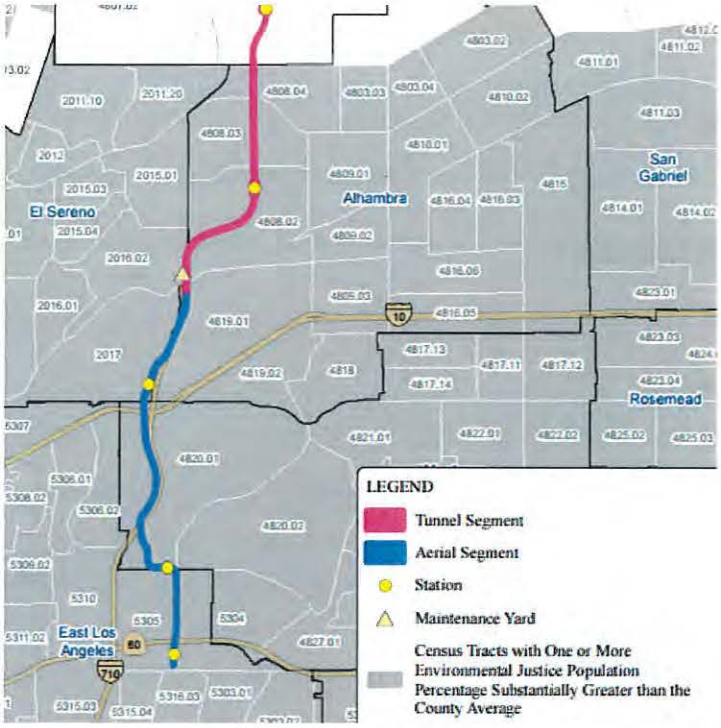
Graphic from DEIR/EIS showing the census tracts with "environmental justice population percentage substantially greater than the county average.



10

16. **There was a clear lack of public participation and community outreach by Caltrans and Metro to East L.A. in the process of developing the Light Rail (LRT) Alternative.**
    a. This alternative appears to have been a surprise to many in East L.A., indicating a lack of community engagement by Caltrans on this alternative. There are significant environmental justice issues with the LRT alternative, such as (1) the LRT would be elevated in East L.A. but be in an underground tunnel in wealthier parts of the County, and (2) it would put an elevated rail line down a very popular street in East L.A. See map below.

Map 10. The Light Rail alternative would be "aerial" (elevated) (shown in blue below) in East L.A. and would be underground (pink) in other communities, including Pasadena.



b. Significant effects are identified in the DEIR/EIS about this alternative, which would displace numerous businesses and "adversely affect the community character and cohesion of this part of East L.A.," which we note is 97% Latino.
c. In addition, the LRT alternative would cause permanent noise level increases at the Roybal Comprehensive Center, Catholic Mission of Soledad Church, Soledad Enrichment Action, East L.A. Education Center and Casa Maravilla (East L.A.), as well as Cal State L.A. (See page 3.3-33 of the Community Impacts report).
d. Many aspects of including this alternative, the lack of community awareness about it, and selection of a location that would adversely affect community cohesion and community character, indicate insensitivities by Caltrans and Metro to the East L.A. Latino community – an environmental justice issue. If this alternative is selected, a new stand-alone DEIR/DEIS on this alternative should be developed that includes extensive consultation with the East L.A. community.

For the reasons documented above, we request that the DEIR/DEIS be redone and recirculated for public review. Thank you for your consideration of our comments.

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L-31-1

Caltrans and Metro thank the commenter for providing their input. The commenter's opposition to Design Options 3A and 3B is acknowledged and included in the project record. Due to public and agency input, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

L-31-2

Please refer to Section 1.8 of this appendix for more information regarding Motion 22.1 and Community Alternative 7.

L-31-3

It should be noted that the area in which a cap park is being developed over Route 101 is depressed below grade, which makes "capping" and enclosing the freeway structurally feasible. The I-710 freeway through East Los Angeles is at-grade. Enclosing the existing freeway with a cap design would entail a massive new structure that would likely have substantial environmental impacts, including visual, stormwater, and others. Therefore, a freeway cap in this area is infeasible.

L-31-4

The Health Impact Assessment (HIA) requested by the commenter was not conducted for the project because these types of assessments are an emerging practice in the transportation sector in the United States. Neither FHWA nor Caltrans currently has an approved methodology addressing the health impacts of freeways. Currently, State Departments of Transportation generally have not yet begun to implement HIAs or related tools for transportation planning, with some exceptions. For example, San Francisco's Department of Public Health has employed the use of HIAs in evaluating the health impacts of transportation projects. The State of Massachusetts passed a law requiring HIAs on new transportation projects, and at least one is known to be complete (the McGrath Highway Corridor HIA). In addition, Caltrans Division of Research and Innovation is actively investigating the use of HIAs for transportation planning and potential applicability to Caltrans projects.[11] However, it should also be noted that there are

[11] Caltrans Division of Research and Innovation. Preliminary Investigation. 2011. Transportation-Related Use of Health Impact Assessments and Similar Tools. August 5, 2011. Website: http://www.dot.ca.gov/research/researchreports/preliminary_investigations/docs/public_health_ preliminary_investigation_8-5-11_revised.pdf (accessed June 25, 2018).

limitations associated with the preparation and use of HIAs. According to an article published in 2000 in the British Medical Journal, "Currently there is neither an accepted gold standard nor even a simple, reliable, and evaluated method for carrying out health impact assessment" and "Several issues are unresolved in the methodology of health impact assessment…causal pathways are so complex that it is not often possible to say if an outcome will definitely be good or bad for the health of a population…The current evidence base for many health determinants is inadequate for accurately informing a process of assessment."[12] Therefore, the preparation of an Air Quality/Health Risk Assessment for the I-710 Corridor Project was an effort to respond to the requests of the I-710 Corridor communities to study health-related impacts, while also ensuring the empirical analyses performed in support of the EIR/EIS process are factual and based on sound scientific, analytical, and/or engineering judgment.

Specific impacts and proposed mitigation for the build alternatives related to air quality can be found in Section 3.13 of this Final EIR/EIS.

L-31-5

Please refer to Section 1.2 of this appendix for an overview of the community participation that has occurred to date for the project. The East Los Angeles Local Advisory Committee (LAC) has met regularly over the life of the project, and was briefed on the conceptual designs for Design Options 3A and 3B, prior to the development of the analysis of impacts included in the RDEIR/SDEIS. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Design Option 3A is no longer under consideration.

L-31-6

The commenter's opposition to the acquisition of properties and businesses is acknowledged and included in the project record. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no acquisition of property will be necessary.

L-31-7

As stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the Preferred Alternative (Alternative 1 No Build) would not result in relocations and associated community impacts within unincorporated East Los Angeles.

[12] U.S. National Library of Medicine, National Institutes of Health. National Center for Biotechnology Information, Health Impact Assessment. Website: https://www.ncbi.nlm.nih.gov/pmc/articles/ PMC1118057/ (accessed June 28, 2018).

L-31-8

Specific impacts regarding air quality, noise, and traffic, as well as proposed measures to mitigate those impacts related to the build alternatives, are included in Sections 3.13, 3.14, and 3.5, respectively, in this Final EIR/EIS. Construction impacts related to the build alternatives are discussed in Section 3.24. Impacts resulting from the construction or operation of the build alternatives have been disclosed and measures proposed to address these impacts in accordance with CEQA and NEPA. It should be noted that neither CEQA nor NEPA require that existing conditions be improved upon as requested in this comment; rather the purpose of an EIR/EIS is to provide information to decision-makers regarding the consequences of a decision to approve or not approve a project. The focus of any EIR/EIS is to evaluate the potential impacts of a proposed project, evaluate alternatives, and identify feasible mitigation measures where impacts are identified.

L-31-9

Please refer to Section 1.2 of this appendix for more information regarding the public circulation period established for the project.

L-31-10

Please refer to Section 1.2 of this appendix regarding why Caltrans did not extend the public comment period beyond 90 days.

L-31-11

Because the community of East Los Angeles is an unincorporated area of Los Angeles County, the information contained in the County's parcel assessor lookup database (maps.assessor.lacounty.gov) lists addresses within unincorporated areas of the County as "Los Angeles," which was used in Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, of the RDEIR/SDEIS. The entries within Appendix L have been clarified in this Final EIR/EIS to more accurately describe their location for the reader. In addition, the number of displaced units and persons under Alternative 7 has been clarified and corrected in the document where applicable.

L-31-12

It is assumed the commenter is referring to the property located at 755 S. Sydney Drive, which is shown on the Los Angeles County Assessor Portal to have an underlying land use code of 3100 (Industrial, light manufacturing). As indicated on the Existing Land Use Map (Figure 3.1-1), the portion of S. Sydney Drive in this area is classified industrial according to SCAG 2012 land use data, although residential uses may be allowed/permitted on such land use designations. This is not erroneous; rather, it may be an instance of development that is not in conformance with the underlying land use zoning, or may have secured a variance or permit in order to do so

legally. Although the No Build Alternative has been selected as the Preferred Alternative and no displacement of this parcel would occur, the parcel located at 755 S. Sydney Drive would not have been displaced under any of the I-710 build alternatives or design options either.

L-31-13

Caltrans and Metro thank the commenter for this information. The property located at 626 S. Sydney Drive in East Los Angeles was originally identified as being a five-unit property in the Draft Relocation Impact Report; however, it is acknowledged that the property contains ten units. No displacement of residents or businesses from the community of East Los Angeles will occur under the Preferred Alternative (No Build Alternative).

L-31-14

It is important to note that the No Build Alternative has been selected as the Preferred Alternative and there would be no displacements of businesses or residents within East Los Angeles as a result. However, the replacement area for the build alternatives included the displacement communities as well as adjacent cities and communities along the I-710 Corridor. The search for replacement housing was confined to this replacement area, and did not include (for example) the entire City of Los Angeles. The replacement area map included as Appendix A to the *Draft Relocation Impact Report* shows the location of potential replacement sites along the I-710 Corridor. The community of East Los Angeles was included on the replacement area map as a portion of unincorporated Los Angeles County and a number of potential replacement sites were identified within East Los Angeles. Appendix E to the *Draft Relocation Impact Report* listed specific replacement dwellings for sale and for lease and included a number of potential replacement residences within the three zip codes that comprise East Los Angeles.

L-31-15

The commenter is correct in that the VIA Tables 8.1 and 8.2 are missing an explanation/table note to explain that the values in the Alternative 7 columns for Key Views 24 and 25 represent Design Options 3A and 3B. However, Tables 3.6-1 and 3.6-2 in the Draft EIR/EIS do include notes that read "…For Key View 24 and Key View 25, Alternatives 5C and 7 have the same Proposed Visual Quality ratings, which are represented in the table under the Alternative 5C columns, and the Proposed Visual Quality ratings for Design Options 3A and 3B are represented in this table under the Alternative 7 columns.

L-31-16

When the document was initially posted on the Caltrans website, the comment link was posted near the bottom of the page, below the links to download the RDEIR/SDEIS and accompanying technical studies. After some feedback from people who were unable to locate the link, it was placed at the top of the page as well for ease of use. Caltrans and Metro did not receive any complaints from others that the link to the main PDF containing the RDEIR/SDEIS was not functioning properly. After it was posted, the link was tested to ensure that the document rendered properly.

L-31-17

Metro and Caltrans acknowledge that the comment form provided for those commenting online was not able to accept attachments, for online security and functionality purposes. However, this feedback was provided to Metro and Caltrans management teams, who allowed for this comment and attachments to be provided via email. In the future, Metro and Caltrans will look into the feasibility of accepting PDF or other forms of attachments to comments via online portal. However, Metro and Caltrans respectfully disagree that this minor limitation in functionality precluded residents of East Los Angeles to fully take part in the public review process of the RDEIR/SDEIS.

L-31-18

The Study Area was defined by the potential areas of impact that could result from the build alternatives, both directly and indirectly. Extension of the Study Area to include the entirety of a community's boundaries without regard for the actual impacts of a project would be inconsistent with Caltrans' guidance for determining the boundaries for a study area, and could exaggerate the appearance of impact analysis results in a potentially misleading way. The potential effects of the SR-710 North Project in combination with the impacts of the I-710 Corridor Project are discussed in more detail in Section 3.25, Cumulative Impacts, of this Final EIR/EIS. It is important to note that in November 2018, Caltrans approved the Final EIR/EIS for the SR-710 North Project, which identified the TSM/TDM Alternative as the Preferred Alternative. Generally, improvements included in the scope of the TSM/TDM Alternative that would occur within East Los Angeles include ITS improvements, transit refinements, and active transportation improvements, and the potential for cumulative impacts resulting from these types of improvements are minimal.

L-31-19

Although the general project Study Area as shown in Figure 1.1-2 of the RDEIR/SDEIS terminates at the SR-60, several resource-specific study areas were defined. The air quality analysis evaluates impacts to three distinct study areas: along the I-710 freeway itself, the Area

of Interest, which extends beyond the general project Study Area to north of I-10, east of I-605, west of I-110, and south into the Pacific Ocean, and the South Coast Air Basin (Basin), which encompasses Los Angeles, Orange, Riverside, and San Bernardino Counties either partially or in full. Impacts of various air quality pollutants were analyzed for each of these study areas where applicable.

Noise impacts were determined based on existing noise monitoring, projected traffic levels, horizontal and vertical alterations to the existing highway, traffic mix, topography, and other variables like ground type.

The traffic impact analysis area extended to include several dozen local intersections, some over two miles from the I-710 mainline (for example, the Garfield Avenue and Washington Boulevard intersection in the City of Commerce was analyzed for impacts and is 2.3 miles from the I-710).

An analysis of impacts of the SR-710 North Project was included in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS. Caltrans and Metro both respectfully disagree that any impacted portion of East Los Angeles, or any community with proximity to I-710, was omitted from the impact analysis and disclosure required under CEQA and NEPA.

L-31-20

Please refer to Response to Comment L-31-4 for an explanation of why an HIA was not conducted for the project. A number of analyses unique for a roadway project In California have been included in the AQ/HRA (emission impacts on non-710 roadways, near-roadway concentration impacts, near-roadway health risks (cancer risk, acute and chronic non-cancer air toxics risks), and qualitative assessments of ultrafines and PM mortality) and EIR/EIS (health risk pathways for each resource area). The quantitative AQ/GHG/HRA results are presented as emissions, concentrations, cancer risk, and health hazard indices (acute and chronic).

L-31-21

As stated in the Environmental Justice section in Section 3.3.3, Community Impacts, of the RDEIR/SDEIS and this Final EIR/EIS, the analysis concludes that there would be a disproportionate adverse effect to minority and low-income populations within the I-710 Corridor, and proposes mitigation to address the effects of the build alternatives (refer to Measures C-6 through C-8 in Section 3.3.3.7 of the RDEIR/SDEIS and this Final EIR/EIS). Should a build alternative be selected as the Preferred Alternative, the mitigation proposed would be applicable to East Los Angeles, as an environmental justice community. The commenter does not provide specificity about how impacts to East Los Angeles are not adequately addressed or how the disproportionate impacts were not addressed in a meaningful manner. Please note that a determination of disproportionate and adverse effects to environmental justice populations is not

made individually for each relevant community; rather, a project-wide determination of disproportionate adverse impacts is made. Since the No Build Alternative has been selected as the Preferred Alternative, the adverse impacts associated with environmental justice considerations for the build alternatives would not occur. However, some beneficial effects would also not occur, including improvements to air quality after construction is complete, and the provision of the "Community Health Benefit Program" that is included within each build alternative.

L-31-22

Please refer to Response to Comment L-31-5. The set of Design Options presented in the RDEIR/SDEIS were only options, and the design of the build alternatives could function independently of those options. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, recirculation of the document is unnecessary to remove alternatives or options from consideration.

L-31-23

The impacts of other planned projects that may have overlapping impact areas or might experience impacts simultaneously with the I-710 Corridor Project build alternatives were analyzed in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS. The SR-710 North Project was included in the list of cumulative projects and analyzed accordingly.

L-31-24

Please refer to Responses to Comments L-31-4 and L-31-20 for an explanation of why an HIA was not conducted for the project. An analysis of ultrafine particulates (UFPs) was done utilizing exhaust $PM_{2.5}$ as an available surrogate, and the AQ/HRA did discuss the limitations of using exhaust $PM_{2.5}$ as a surrogate for UFPs (refer to Section 4.6, Ultrafine Particles, of the AQ/HRA technical report). Specifically, "information on UFP is limited at this time and is an area of active research. For example, physical transient behaviors such as particle growth and accumulation complicate the task of elucidating UFP concentration-response functions. Also, the existing state of knowledge does not yet support the derivation of reliable UFP emission models that account for the particulate growth and accumulation phases. Dispersion modeling of UFPs would also require additional information on the rate of UFP coagulation and absorption so that concentrations can be calculated. Given the lack of information to quantify emissions, dispersion, exposure, and health response to exposure, UFP emissions from the proposed project alternatives cannot be quantified. However, a qualitative analysis was performed using

$PM_{2.5}$ exhaust emissions and exposure as a surrogate for UFP exposure to assess the incremental impacts of the project alternatives as compared to the baseline."[13]

L-31-25

Please refer to Response to Comment L-31-22 regarding Design Options 3A and 3B.

L-31-26

Actual accident data and comparisons only represent safety concerns associated with existing conditions as they are based on accident data that have been already collected and reported on I-710. These same methods cannot be utilized to forecast safety rates for a future design condition that does not yet exist. They also lack specificity with regard to specific hot spot locations. However, what can be observed is that accidents that occur on I-710 tend to cluster at the interchanges (ramps) and the merge and diverge locations where the ramps interface with the I-710 mainlines. The examination of the elimination of vehicle operational conflict points is a useful surrogate measure, which allows for an order of magnitude assessment of the relative safety benefits of different design configurations as compared to the No Build Alternative and which takes into account both roadway geometrics and projected traffic volumes under future conditions.

While Design Options 3A and 3B were predicted to eliminate existing weave and merge conflict points on I-710 between I-5 and SR-60, there were other trade-offs associated with these Design Options to consider, including increased right-of-way requirements. It is important to note that the No Build Alternative has been selected as the Preferred Alternative and therefore, Design Options 3A and 3B have not been included as part of the Preferred Alternative.

L-31-27

The comparison of actual accident rates with average accident rates on I-710 was performed in accordance with Caltrans policies and procedures, which represent the state of the practice for analytical comparisons of this type. This evaluation takes into account similarities associated with traffic volumes, roadway geometrics (e.g., type and class of roadway facility, type and class of interchange configuration), and setting (e.g., rural, suburban, urban) that allows for an "apples to apples" comparison with I-710 through East Los Angeles. Caltrans maintains a robust and comprehensive database of this information of all reported accidents by law enforcement on state roadway facilities, which is actively maintained and frequently updated. A sufficient number of data points is necessary to produce the accident rate averages, and collection and

[13] AQ/HRA, page 38.

reporting methods must be consistent, in order to have confidence in these statistical comparisons.

L-31-28

As stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Design Options 3A and 3B have been removed from consideration. As a result, the acquisitions noted within this comment would not occur. No displacement of businesses or residences would occur in East Los Angeles under the Preferred Alternative.

L-31-29

Please refer to Response to Comment L-31-28 regarding displacements of businesses and residences in East Los Angeles as a result of the build alternatives.

L-31-30

Please refer to Response to Comment L-31-28 regarding relocations associated with the build alternatives. In addition, please note that per Caltrans' Relocation Assistance Program, eligible persons displaced as a result of a transportation project are entitled to receive relocation assistance as well as rent differential payments, if applicable.

L-31-31

As stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no displacements of undocumented persons.

L-31-32

Please refer to Response to Comment L-31-14 regarding displacements of businesses or residents within East Los Angeles as a result of the build alternatives.

L-31-33

Please refer to Response to Comment L-31-13 regarding displacements of businesses or residents within East Los Angeles as a result of the build alternatives.

L-31-34

Please refer to Response to Comment L-31-22 regarding displacements of businesses or residents within East Los Angeles as a result of the build alternatives.

L-31-35

The commenter's opposition to the loss of jobs resulting from Design Options 3A and 3B in East Los Angeles is acknowledged and included in the project record. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Design Options 3A and 3B have been removed from consideration and no businesses within East Los Angeles would be displaced, therefore no job losses would occur.

L-31-36

Please refer to Response to Comment L-31-7 regarding displacements of businesses or residents within East Los Angeles as a result of the build alternatives. Please refer to Section 1.5 of this appendix for more information on the methodology used to locate replacement housing, should a build alternative be selected as the Preferred Alternative.

L-31-37

Please refer to Response to Comment L-31-14 regarding displacements of businesses or residents within East Los Angeles as a result of the build alternatives. Please refer to Section 1.5 of this appendix for more information on the methodology used to locate replacement housing, should a build alternative be selected as the Preferred Alternative.

L-31-38

Caltrans respectfully disagrees that the RDEIR/SDEIS is deficient. Contrary to what is stated in the comment, the RDEIR/SDEIS analyzed air quality impacts to the residents of East Los Angeles. The air quality analyses presented in Section 3.13, Air Quality, of the RDEIR/SDEIS reports findings for various geographic areas including: the I-710 Corridor; the Area of Interest; and the South Coast Air Basin (Basin). Refer to Figure 1-2 of the AQ/GHG/HRA Technical Study for a depiction of these study areas. Since East Los Angeles is located in the vicinity of the I-710 freeway, the incremental impacts of the criteria air pollutant emissions and mobile source air toxic emissions were evaluated at this location. Gridded emission maps showing these impacts for NO_X, PM_{10}, $PM_{2.5}$, and DPM in the Area of Interest, which includes East Los Angeles, are presented in Appendix Q of the RDEIR/SDEIS. Further, ambient air quality impacts and health risk impacts of the I-710 freeway on areas in the vicinity of the I-710 freeway (including East Los Angeles) were also evaluated and discussed in Section 3.13, Air Quality, of the RDEIR/SDEIS and in this Final EIR/EIS.

As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS and in this Final EIR/EIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but

there are a few near-roadway locations where there would be an increase in certain emissions but no increase in cancer risk compared to the 2012 Baseline. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C is along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

In addition to the information on health risk presented in the RDEIR/SDEIS, an East Los Angeles LAC meeting was held in August 2017, which included the following tabulation of health risk assessment results for the I-710 Corridor and within East Los Angeles.

Scenario	Maximum Modeled Cancer Risk*	Maximum Modeled Cancer Risk* in East Los Angeles
2012 Baseline	1,421	624
2035 Alternative 1	57	21
2035 Alternative 5C	45	18
2035 Alternative 7, 7-ZE	30	17

* Cancer risk in one million

Measures AQ-2 and AQ-3 are included as environmental commitments of the build alternatives (refer to Appendix F, Environmental Commitments Record, of this Final EIR/EIS) to reduce exposure to emissions at near-roadway locations, should a build alternative be selected as the Preferred Alternative. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710, including Humphreys Avenue Elementary School. The air filters would remove pollutants from indoor air, where school children spend the majority of their time while at school. Should a build alternative be selected as the Preferred Alternative, Measure AQ-3 would provide for the installation of solid barriers and installation of vegetation where feasible and where soundwalls are not already proposed to disperse pollution and reduce pollutant concentrations downwind. Additionally, the build alternatives included programmatic components to help improve air quality and public health in the I-710 Corridor. Those programmatic components are outlined in more detail in Section 2.3.2.1 of this Final EIR/EIS and, since the No Build Alternative has been selected as the Preferred Alternative, are no longer a part of the I-710 Corridor Project. In addition, please refer to Section 1.10 of this appendix for more information on the Community Health Benefit Program.

In addition, the California Air Resources Board (CARB) and the South Coast Air Quality Management District (SCAQMD) are implementing programs and strategies to improve air quality near freeways. CARB is implementing several regulations such as the Truck and Bus Regulation, Pavley Standards, and Advanced Clean Cars Program to reduce emissions associated with vehicles traveling on the freeway. Besides this regulation, CARB is also in the

process of developing other regulations that target buses and heavy-duty trucks such as the Innovative Clean Transit Regulation and the Advanced Clean Trucks Regulation. The SCAQMD is also implementing several control measures under the 2016 Air Quality Management Plan to encourage the deployment of ZE/NZE technologies.

The commenter's concern regarding air quality impacts to environmental justice populations is acknowledged and included in the public record. The EIR/EIS complies with the NEPA requirement that a project must evaluate impacts to environmental justice populations and develop mitigation measures specifically to address potential disproportionately high and adverse effects to minority and/or low-income communities under the build alternatives. As discussed in Section 3.3.3, Environmental Justice, of the RDEIR/SDEIS and this Final EIR/EIS, although there are air quality benefits associated with the build alternatives, and these benefits would be experienced by the environmental justice populations that predominantly reside near the I-710 freeway, there are also near-roadway adverse impacts that would disproportionately burden environmental justice populations. Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3, as described above in more detail, would reduce exposure of environmental justice to populations to increases in air pollutant concentrations. However, even when considering these mitigation measures in addition to the beneficial effects of the build alternatives on air quality and public health, both I-710 Corridor Project build alternatives could potentially have an adverse and disproportionate air quality impact to environmental justice populations in localized areas within the I-710 Corridor. As described in Section 3.3.3 of the RDEIR/SDEIS, Alternative 7 would have a greater impact than Alternative 5C. Measure C-7 was included in the RDEIR/SDEIS and this Final EIR/EIS to further reduce air quality impacts to environmental justice populations, should a build alternative be selected as the Preferred Alternative. Should a build alternative be selected as the Preferred Alternative, Measure C-7 would provide funding for targeted improvements that would improve air quality and public health, and include (but is not limited to) the installation or upgrade of filtration systems at environmental justice population locations along I-710. Since the No Build Alternative has been selected as the Preferred Alternative, the adverse impacts associated with environmental justice considerations for the build alternatives would not occur. However, some beneficial effects would also not occur, including improvements to air quality after construction is complete, and the provision of the "Community Health Benefit Program" that is included within each build alternative.

L-31-39

Contrary to the statement in this comment, inclusion of the BNSF Railroad Southern California International Gateway (SCIG) project is appropriate to include for the 2035 No Build Alternative, as it was a part of a collaborative process with the I-710 Technical Advisory Committee, as documented in the RDEIR/SDEIS (p. 1-31).

Regarding the 2016 court decision that found that the SCIG EIR violated CEQA, a superseding January 12, 2018 Appeals Court decision reversed most of the objections in the 2016 court decision (e.g., confirming the adequacy of the final environmental impact report regarding emissions at the Hobart railyard, greenhouse gas emissions, noise and traffic impact) and identified ways to resolve the one remaining CEQA issue (i.e., reanalysis of modeled PM concentrations at a certain location). On April 11, 2018, the California Supreme Court denied a petition to review the Court of Appeal's January 2018 decision.

L-31-40

The expansion of the I-710 freeway in East Los Angeles area would be minimal for both build alternatives compared to the existing roadway (and the entire freeway system and other paved areas in the South Coast Air Basin); hence increases in heat due to additional concrete area would be negligible in terms of incremental impacts. Section 4.3 in the RDEIR/SDEIS and this Final EIR/EIS discusses climate change in the context of the 2035 build alternatives.

L-31-41

Please refer to Response to Comment L-31-4 for more information on HIAs. In addition to specific air quality-related impacts, environmental justice-related impacts and associated mitigation for the build alternatives are addressed in Section 3.3.3 of this Final EIR/EIS.

L-31-42

Caltrans respectfully disagrees that the impacts of air pollution were not adequately studied as suggested in the comment. Sections 4.5 and 4.6 of the AQ/GHG/HRA Technical Study provide qualitative assessments for PM Mortality and Morbidity, and Ultrafine Particles (UFP) respectively. Both of these sections discuss the health impacts associated with PM emissions including UFP and cite the applicable studies mentioned in this comment as well as several other studies. These sections also qualitatively evaluate the incremental impacts of the project alternatives on PM Mortality and Morbidity, as well as health effects of UFP as compared to the project baselines. This information was summarized in Section 3.13.3.4 of the RDEIR/SDEIS.

As stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Design Options 3A and 3B were not selected by the Metro Board to be carried forward as part of the Preferred Alternative. Regardless, as stated in Section 2.3.3.3 of the RDEIR/SDEIS, Design Options 3A and 3B extend from the north of the Washington Boulevard interchange to the SR-60 interchange, which is a distance of approximately two miles through the City of Commerce and the unincorporated areas of East Los Angeles. The traffic volumes travelling through the I-710 Corridor in Design Options 3A and 3B would be similar to those in the respective Build Alternatives 5C and 7, the only difference being that they are reconfigured differently. Thus, localized air quality and health risk impacts of

Design Options 3A and 3B would be similar or lower that the respective Alternatives 5C and 7 because (1) overall traffic levels and emissions are similar for the design options and related Alternatives 5C or 7, (2) the traffic in Design Options 3A and 3B would be spread out over a larger geographic area as compared to the Alternatives 5C and 7 (i.e., lower emissions density), and (3), freeway mainline emissions dominate local impacts.

L-31-43

Please refer to Response to Comment L-31-13 regarding displacements of businesses or residents within East Los Angeles as a result of the build alternatives.

L-31-44

The commenter's opposition to Design Options 3A and 3B are acknowledged and included in the project record. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Design Options 3A and 3B have been removed from consideration. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative. Please refer to Response to Comment L-31-42 for a discussion of the air quality impacts of Design Options 3A and 3B.

L-31-45

Design Options 3A and 3B have not been carried forward as part of the Preferred Alternative.

L-31-46

Total emissions for NO_X, PM_{10}, and $PM_{2.5}$, and DPM in the entire Area of Interest as compared to the 2012 Baseline and 2035 Alternative 1 (No Build Alternative) are presented in the gridded mass emission plots (Figures 4-1a to 4-2c in Appendix Q of the RDEIR/SDEIS). The gridded emission maps show that emissions primarily decrease throughout the Area of Interest for NO_X, PM_{10}, and $PM_{2.5}$, when compared to the 2012 Baseline and 2035 Alternative 1 (No Build). Some increases are seen for $PM_{2.5}$ and PM_{10} at grid cells, which are very close to the freeway. However, these increases are less than SCAQMD Significance Criteria.

In the area near Calvary Cemetery, around which the proposed jogging path would be constructed, emissions would primarily decrease, with the exception of PM10, which would have an increase very close to the freeway. However, the increase would be less than SCAQMD Significance Criteria. In addition, air quality avoidance, minimization, and mitigation measures were included in Section 3.13.4 of the RDEIR/SDEIS and this Final EIR/EIS to minimize air quality and health risk impacts associated with the build alternatives. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no air quality impacts to the proposed jogging path beyond the existing condition and what is forecast for the 2035 No Build Alternative.

L-31-47

Total emissions for NO_X, PM_{10}, and $PM_{2.5}$, and DPM in the entire Area of Interest as compared to the 2012 Baseline and 2035 Alternative 1 (No Build Alternative) are presented in the gridded mass emission plots (Figures 4-1a to 4-2c in Appendix Q of the RDEIR/SDEIS). The gridded emission maps show that emissions primarily decrease throughout the Area of Interest for NO_X, PM_{10}, and $PM_{2.5}$, when compared to the 2012 Baseline and 2035 Alternative 1 (No Build). Some increases are seen for $PM_{2.5}$ and PM_{10} at grid cells which are very close to the freeway. However, these increases are less than SCAQMD Significance Criteria.

In the area near the proposed community park at the intersection of Eagle Street and S. Sydney Drive, emissions would primarily decrease, with the exception of PM10, which would have an increase very close to the freeway (up to 50 meters for Alternative 5C and 150 meters for Alternative 7, as compared to 2012 baseline [Figures 4-3b, 4-3c, 4-4b and 4-4c of the AQ/GHG/HRA Technical Report]). Beyond 150 meters from the I-710 freeway, no increases in PM_{10} impacts above the SCAQMD Significance Criteria would occur. In addition, air quality avoidance, minimization, and mitigation measures were included in Section 3.13.4 of the RDEIR/SDEIS and this Final EIR/EIS to minimize air quality and health risk impacts associated with the build alternatives. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no air quality impacts to the proposed community park at the intersection of Eagle Street and S. Sydney Drive beyond the existing condition and what is forecast for the 2035 No Build Alternative.

L-31-48

Design Options 3A and 3B have not been carried forward as part of the Preferred Alternative.

L-31-49

Design Options 3A and 3B have not been carried forward as part of the Preferred Alternative. Please refer to Response to Comment L-31-42 for a discussion of air quality impacts of Design Options 3A and 3B.

L-31-50

Design Options 3A and 3B have been removed from consideration based on feedback received from the community. Under the Preferred Alternative (Alternative 1 No Build), the DaVita Dialysis Center would not be displaced.

L-31-51

Should a build alternative be selected as the Preferred Alternative, Measure AQ-1, as described in Section 3.13.4 of this Final EIR/EIS, would require a funding contribution to be provided to the South Coast Air Quality Management District (SCAQMD) for the design and construction of four new air quality monitoring stations within the I-710 Corridor. The specific locations of each monitoring station would be determined in coordination with SCAQMD, as the agency tasked with regulation and monitoring of air pollution; therefore, a specific commitment to a location could not be made at the time of the RDEIR/SDEIS. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measure AQ-1 will not be implemented.

Please note that, should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide installation of air filtration systems at schools located within 0.25 mile of I-710 within the Study Area that currently do not have HEPA-type air filtration systems, which includes Ford Elementary School and Humphreys Avenue Elementary School. Marianna Avenue Elementary, Alphonso B. Perez Special Education Center, Brooklyn Avenue Elementary School, and Hilda L. Solis Learning Academy are beyond the northern boundary of the Study Area and therefore were not included in the provisions of Measure AQ-2. The distance of 0.25 mile was chosen as that is where the maximum air quality impacts resulting from the build alternatives are expected to occur. However, other schools may be eligible to submit applications under a separate process for funding for filtration projects as part of the I-710 Corridor Community Health Benefit Program. Please refer to Section 1.10 of this appendix for more information on the Community Health Benefit Program.

Finally, as stated in Measure AQ-3, should a build alternative be selected as the Preferred Alternative, solid walls and vegetative barriers would be installed where feasible to increase dispersion of air pollutants and reduce air quality impacts related to the build alternatives. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measure AQ-3 will not be implemented.

L-31-52

It is important to note that the RDEIR/SDEIS analyzed the noise impacts that would occur as a result of the build alternatives, in accordance with CEQA guidelines 15002(a)(1), which states that the basic purpose of CEQA is to inform decisionmakers and the public about the potential, significant environmental effects of proposed activities, and NEPA requirements for “Federal Agencies to assess the environmental effects of their proposed actions prior to making decisions”[14]. In accordance with the Caltrans Traffic Noise Analysis Protocol, all freeway noise impacts that would occur as a result of the build alternatives have been disclosed, and

[14] National Environmental Policy Act (NEPA.GOV). Council on Environmental Quality. Website: https:// ceq.doe.gov/ (accessed July 19, 2018).

acoustically feasible and reasonable sound walls have been recommended for construction, should a build alternative be selected as the Preferred Alternative,. An expanded noise study for all of East Los Angeles would be beyond the scope of CEQA and NEPA requirements for the I-710 Corridor Project.

L-31-53

All impacted receptors along Burger Avenue under both build alternatives and applicable design options were addressed in accordance with the Caltrans Traffic Noise Analysis Protocol. Soundwalls SW-516, SW-516A, SW-516B, and SW-517 were all deemed reasonable and feasible and, should a build alternative be selected as the Preferred Alternative, were recommended for construction at 14 feet in height to provide up to 9 dBA noise reduction for 142 homes, as was indicated in the RDEIR/SDEIS and this Final EIR/EIS. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Design Options 3A and 3B are no longer under consideration.

L-31-54

It is important to note that soundwalls proposed for the build alternatives are not intended to eliminate freeway traffic noise; rather, they are intended to reduce freeway traffic noise. The reason for the seeming large increase in traffic noise is because the noise levels are predicted with the existing soundwalls having been removed in order to accommodate the freeway widening under the build alternatives. Should a build alternative be selected as the Preferred Alternative, every soundwall that would be removed for freeway widening under the build alternatives would be replaced in-kind or with a taller wall, and the actual increase in noise levels would be less than indicated after those soundwalls are built. Should a build alternative be selected as the Preferred Alternative, the new soundwalls, based on the detailed information provided in Table 3.14.3 of Section 3.14, Noise, of the Final EIR/EIS, would provide a net noise reduction of 4 to 7 dBA for most areas covered by SW-516, SW-516A, SW-516B, and SW-517. Only for a small area would the noise levels increase by 1-4 dBA, which would be slightly less than a readily noticeable increase in noise levels. Wherever noise impacts have been identified for the build alternatives, abatement strategies in the form of soundwalls have been identified. Other noise reducing measures, such as quieter pavement, are currently not Federally approved for use and funding. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no soundwalls constructed as part of the I-710 Corridor Project (other than those being constructed by Metro as early action projects).

L-31-55

In accordance with the Caltrans Traffic Noise Analysis Protocol, all freeway noise impacts that would occur as a result of the build alternatives have been disclosed, and acoustically feasible and reasonable sound walls have been recommended for construction that would abate those impacts, including SW-519. Also, please refer to Response to Comment L-31-54.

L-31-56

Please refer to Response to Comment L-31-54 regarding construction of soundwalls.

L-31-57

Please refer to Response to Comment L-31-54 regarding construction of soundwalls.

L-31-58

The design of SW-518 under Design Option 3A would have a different, longer on-ramp alignment that would place the top of the proposed soundwall at a higher elevation than that of SW-518 under the Alternative 5C base option. This difference in elevation would cause the second row of homes to benefit and reach a reduction in noise of 5 dBA, thereby making SW-518 under the Design Option cost-reasonable. The Calvary Cemetery is the primary land use and without a formalized memorial gathering area, cemeteries are not considered a noise-sensitive land use according to the Caltrans Traffic Noise Analysis Protocol, and were not evaluated for impacts.

L-31-59

Please refer to the Response to Comment L-31-54 regarding construction of soundwalls.

L-31-60

Please refer to the Response to Comment L-31-54 regarding construction of soundwalls.

L-31-61

Please refer to the Response to Comment L-31-54 regarding construction of soundwalls.

L-31-62

The Caltrans Traffic Noise Analysis Protocol, which was developed in accordance with 23 CFR 772, indicates that acoustical feasibility of a soundwall is an engineering consideration in which the barrier must be predicted to provide a minimum of 5 dBA noise reduction to the impacted receptors. Reasonableness has three factors: the noise reduction design goal (must provide at

least 7 dBA reduction to one or more receptors), the cost of noise abatement, and the viewpoints of the benefited receptors. Any soundwall that is part of a Type I or Federally-funded project must be both acoustically feasible and reasonable. This is summarized in Section 3.14.1.2 of this Final EIR/EIS.

L-31-63

Similar to the response provided for comment L-31-58, the design of the walls in question and their specific elevation would provide for a greater benefit under the Design Options 3A and 3B, due to the elevated structure. Design Options 3A and 3B are no longer under consideration.

L-31-64

In accordance with State and Federal policies, all acoustically feasible and reasonable soundwalls would have been recommended for construction as part of the build alternatives. However, SW-719 was not deemed reasonable because it did not meet the acoustical design goal and is cost-prohibitive. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no soundwalls constructed as part of the I-710 Corridor Project (other than those being constructed by Metro as early action projects).

L-31-65

All schools within the Study Area have been considered for impacts, and feasible and reasonable abatement was recommended where those impacts resulting from the build alternatives have been identified. All schools listed in this comment (with the exception of Ford Elementary and Humphreys Avenue Elementary) are beyond the limits of the Study Area (e.g., north of SR-60) or far enough from the I-710 mainline that noise impacts from the build alternatives would not occur. Under the build alternatives, two 16-foot high soundwalls were recommended at Ford Elementary School that would have provided noise reduction. The existing 12-foot high soundwalls at Humphreys Avenue Elementary School currently provide traffic noise abatement, and increasing the height of these soundwalls would not provide a noticeable noise reduction. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no soundwalls constructed as part of the I-710 Corridor Project (other than those being constructed by Metro as early action projects). It should be noted that noise reduction measures at local schools and other sensitive receptors or related sites may be considered eligible projects for funding under the Community Health Benefit Program, for which school districts would be encouraged to apply as a separate process from the I-710 Corridor Project. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

L-31-66

Under Metro's I-710 South Early Action Soundwall Program, five miles of new soundwalls along I-710 have been identified as well as seven miles of existing walls that can be aesthetically treated to match the new walls. Soundwalls that would have been constructed as part of the I-710 Corridor Project build alternatives would have included aesthetic enhancements where feasible and in accordance with Caltrans standards and the Aesthetics Master Plan, as described in more detail in Measures VIS-1 and VIS-4 in Section 3.6.4 of this Final EIR/EIS. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no soundwalls constructed as part of the I-710 Corridor Project (other than those being constructed by Metro as early action projects).

L-31-67

Due to the location of the Humphreys Avenue Elementary School as it relates to the build alternatives, additional noise abatement is not feasible. The existing soundwalls provide sufficient noise abatement to the school, and an increase in the soundwall height from 12 feet to 16 feet would not provide a discernable noise reduction to Humphreys Avenue Elementary School.

L-31-68

Please refer to Section 1.6 of this appendix for further discussion on parking details. These restrictions have been eliminated from further consideration since Alternative 1 (No Build Alternative) has been selected as the Preferred Alternative.

L-31-69

Caltrans and Metro welcome the comment to consider only ZE buses for the Rapid Bus Transit line through East Los Angeles included in the programmatic features for the build alternatives. Metro has already moved towards cleaner buses, which operate on recycled compressed natural gas and which reduce vehicle NO_X emissions to 90 percent lower than the current EPA limit of 0.2 grams per brake horsepower-hour. In 2017, the Metro Board adopted plans to transition to a 100 percent ZE bus fleet and issued contracts for the first phase of 95 electric buses. While Metro's fleet transition plan to ZE buses is contingent on continuous advancements in electric bus technology and a drop in vehicle prices as the technology develops, under the current proposal, the phased plan would reach its target of full zero emissions by 2030 (Metro Board Report No. 50, July 27, 2017.)

L-31-70

This comment notes that the Visual Impact Assessment prepared for the RDEIR/SDEIS referenced the Draft 2008 Los Angeles County General Plan; however, Section 3.1.2.2, Affected Environment, in Section 3.1, Land Use, of the RDEIR/SEIS appropriately referenced the 2015 Los Angeles County General Plan rather than the Draft 2008 General Plan. Further, the East Los Angeles Community Plan of 1988 is in fact incorporated under East Los Angeles and, as described in Section 3.1.2.3, Environmental Consequences, of the RDEIR/SDEIS, the build alternatives were found to be consistent with several of its goals. The East Los Angeles Form-Based Code Specific Plan does not contain any goals or policies that are relevant to the I-710 Corridor Project. However, Section 3.1 of the RDEIR/SDEIS has been revised to reflect that a stated goal of the East Los Angeles 3rd Street Plan is to improve mobility and transportation choices, which is consistent with the I-710 Corridor Project build alternatives.

L-31-71

Options 3A and 3B have been removed from consideration based on feedback from the community. The visual impacts associated with the elevated structure would not occur under the Preferred Alternative (Alternative 1 No Build).

L-31-72

Caltrans respectfully disagrees that the visual impact analysis undertaken for the project is flawed. The methodology utilized to evaluate the potential impacts of the build alternatives and determine proper mitigation measures is consistent with FHWA's January 2015 publication *Guidelines for the Visual Impact Assessment for Highway Projects*. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Design Options 3A and 3B have been removed from consideration.

L-31-73

The selection of the key view locations and methodology of the Visual Impact Assessment is consistent with CEQA and NEPA requirements. The view from Key View 23 would be the same for Alternative 5C and Alternative 7 and moderate mitigation would be required (as depicted in the visual simulations for both build alternatives), should a build alternative be selected as the Preferred Alternative.

L-31-74

It is important to note that the Visual Impact Assessment performed for the project is intended to be a representative evaluation of visual impacts under the build alternatives, as it would be infeasible to evaluate every possible change in view along a 19-mile corridor. Design Options

3A and 3B have been removed from consideration and the associated visual impacts would not occur under the Preferred Alternative (Alternative 1 No Build).

L-31-75

Caltrans and Metro thank the commenter for providing this detailed comment. Design Options 3A and 3B have been removed from consideration and the associated visual impacts would not occur under the Preferred Alternative (Alternative 1 No Build).

L-31-76

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-77

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-78

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-79

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-80

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-81

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-82

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-83

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-84

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-85

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-86

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-87

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-88

Please refer to Response to Comment L-31-75 regarding visual impacts related to Design Options 3A and 3B.

L-31-89

A footnote has been added to Tables 3.6-1 and 3.6-2 of this Final EIR/EIS: "For Key View 24 and Key View 25, Alternatives 5C and 7 have the same Proposed Visual Quality ratings, which are represented in the table under the Alternative 5C columns, and the Proposed Visual Quality ratings for Design Options 3A and 3B are represented in this table under the Alternative 7 columns." However, based on community feedback, Design Option 3A is no longer under consideration since the No Build Alternative has been selected as the Preferred Alternative. As Alternative 7 has not been identified as the Preferred Alternative, Design Option 3B has also been removed from consideration.

L-31-90

The score referenced in the comment is applicable to Design Options 3A and 3B. As stated previously, the No Build Alternative has been selected as the Preferred Alternative and Design Options 3A and 3B have been removed from consideration.

L-31-91

As indicated in previous responses, Design Options 3A and 3B are no longer under consideration as part of the Preferred Alternative (Alternative 1 No Build).

However, it should be noted that under the build alternatives, the Level of Service (LOS) designation on I-710 would not change. In East Los Angeles, this section of I-710 between I-5 and SR-60 would operate at LOS F under the future No Build Alternative. And, under the Preferred Alternative, this segment of I-710 would remain at LOS F in 2035. However, given the severity of traffic congestion throughout the metropolitan region, there are different gradients of LOS F that can be quantified using alternative means. VISSIM traffic modeling software was utilized as an additional analysis tool for the highway capacity analysis to examine congestion bottlenecks in key areas along the I-710 Corridor for the PM peak hour in order to help inform the design process during development of the build alternatives. This VISSIM analysis shows that the auxiliary lanes included in the design of the build alternatives on I-710 would relieve the congestion bottleneck between I-5 and SR-60 to some extent. Vehicle density would be reduced and freeway speeds would still be low, but would improve by 3 mph in the southbound direction and 12 mph in the northbound direction, under Alternative 5C relative to the No Build Alternative in this congestion hot spot location in 2035. In addition, Tables 5-1, 5-2, 5-7, 5-8provided in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017), demonstrate that levels of service on I-710 north of SR-60 would not be affected by Alternative 5C. Tables 5-1, 5-2, 5-10, and 5-11 provided in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017), demonstrate that levels of service on I-710 north of SR-60 under Alternative 7 would be slightly worse in the northbound direction during the PM peak hour and slightly higher in the southbound direction during the AM and midday peak hours. As stated previously, the No Build Alternative has been selected as the Preferred Alternative and, although the impacts associated with Alternative 5C and 7 would not occur, the existing and forecasted congestion for the future No Build conditions would still occur.

L-31-92

The main purpose of the proposed freeway improvements under the build alternatives, as discussed in Section 1.2 of the RDEIR/SDEIS are to address congestion, design deficiencies, traffic operations, and safety concerns on I-710 as well as related air quality issues associated with the I-710 freeway. Over 185 local intersections were evaluated as part of this process to determine if the proposed freeway project improvements under the build alternatives would

result in traffic impacts to the arterial system, and if so, to identify mitigation. The number and locations of the study intersections were identified prior to the initiation of the traffic studies performed for the I-710 EIR/EIS, and were reviewed and approved by the I-710 Technical Advisory Committee. Approximately 24 of these traffic analysis intersections are located within East Los Angeles, more than any other local jurisdiction in the I-710 Study Area, with the exception of the City of Long Beach. Nearly half of the I-710 Corridor is located in the City of Long Beach.

Additionally, the component of the build alternatives are targeted to address mobility, safety, and congestion traffic concerns on the local arterial system within the I-710 Study Area is the I-710 Congestion Relief Program. The program is structured to provide the flexibility necessary to respond to local needs and issues. Should a build alternative be selected as the Preferred Alternative, this program would provide funding directly to local jurisdictions, including the County of Los Angeles acting on behalf of the community of East Los Angeles, to set priorities for congested intersections most influenced by the freeway system within the I-710 Study Area under future No Build conditions. The County of Los Angeles, working with Metro, would play a material role in identifying the need for improvements and in developing essential, competitive projects for the area. However, as stated previously, the No Build Alternative has been selected as the Preferred Alternative and therefore, the I-710 Congestion Relief Program would not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

L-31-93

Please refer to Response to Comment L-31-92 regarding implementation of the I-710 Congestion Relief Program

L-31-94

Increasing capacity on the freeway under the build alternatives would, to a degree, reduce congestion on roadways. The additional capacity offered by the build alternatives would improve the traffic flow on I-710 and would shift some traffic from the congested local roadways in the I-710 Corridor to I-710. The proposed modernization of the freeway design included in both Alternative 5C and 7 would also improve traffic operations and safety, which would lead to fewer accidents than under the No Build Alternative. Studies have shown that about 25 percent of freeway congestion is a result of traffic incidents, so these elements of the build alternatives would also help offset congestion levels on I-710.

The issue of whether or not additional freeway capacity reduces traffic congestion refers to the concept of “induced demand”. Induced demand is very complex, involving various travel behavior responses, residential and business location decisions, and other factors that influence regional population and economic growth. While some of these responses may represent new

trips, much of the observed increase in traffic would come from trips that were already being made before the increase in highway capacity, or would reflect predictable behavior that is accounted for in travel demand forecasts.

The traffic volumes on I-710 through East Los Angeles are forecast to increase for both build alternatives as compared to the No Build alternative. The RDEIR/SDEIS disclosed the associated air quality and noise effects of these alternatives in East Los Angeles, along with the effect of these alternatives on mobility, in Sections 3.13 and 3.14, respectively.

L-31-95

There is no existing off ramp from I-710 to 3rd Street in the southbound direction. However, there is an on-ramp from 3rd Street to southbound I-710 in East Los Angeles. The closure of this existing on ramp was not considered as part of the build alternatives as it would eliminate an important access point for East LA residents in an area that already has limited access to the freeway system within this triangular portion of East LA that is bounded by the I-5, SR-60, and I-710.

L-31-96

Two design options were assessed in the RDEIR/SDEIS that would modify local access to I-710 in the East Los Angeles area. Design Options 3A and 3B would limit access to I-710 in the northbound direction from the Olympic Boulevard on-ramp and would shift the ramp termini from I-710 in the southbound direction from Eastern Avenue to Whittier Boulevard.

The detailed information included in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) and the *Intersection Traffic Impact Analysis Report* (March 2017) evaluated the effects that these modifications would have on twenty-four intersections examined on the local circulation network in East Los Angeles, which is surrounded by I-5, I-710 and SR-60.

These effects, along with concerns related to various environmental impacts including right-of-way impacts, were considered along with public comments received on the alternatives and design options evaluated in the RDEIR/SDEIS. As a result, the No Build Alternative has been selected as the Preferred Alternative and therefore, Design Options 3A and 3B are no longer under consideration.

L-31-97

Concerns about the traffic and circulation impacts of Design Options 3A and 3B are acknowledged, but no longer apply since these design options are not included in the Preferred Alternative (Alternative 1 No Build). Please also refer to Response to Comment L-31-96 regarding traffic impacts of the design options included as part of the build alternatives.

L-31-98

Caltrans has reviewed the East Los Angeles Community Parks and Recreation Plan[15] (dated February 2016) and the East Los Angeles 3rd Street Specific Plan[16] (adopted November 2014) and has not been able to identify any formalized plans for a park at this location. Design Option 3A would have made a minor realignment to Eagle Street at its intersection with S. Sydney Drive; however, Design Option 3A is not a part of the Preferred Alternative (Alternative 1 No Build). Therefore, this parcel will be unaffected.

L-31-99

Concerns about the traffic and circulation impacts of Design Options 3A and 3B are acknowledged, but no longer apply since the No Build Alternative has been selected as the Preferred Alternative. Please also refer to Response to Comment L-31-96 regarding traffic impacts of the design options included as part of the build alternatives.

L-31-100

It is unclear to what the commenter is referring to regarding induced demand methodologies of truck volumes, as there is no known documentation of induced demand of heavy duty truck trips. Route shifting of heavy duty truck trips was accounted for in the I-710 travel demand forecasts. Given the high levels of congestion on I-710 in the peak periods, the I-710 travel demand forecast model is particularly sensitive to changes in travel times. The proposed improvements included in the build alternatives would improve speeds and reduce travel times on I-710, which in turn would attract more heavy duty truck traffic to the facility relative to the No Build Alternative.

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[15] Los Angeles County Department of Parks and Recreation. 2016. East Los Angeles Community Parks and Recreation Plan. February. Website: http://file.lacounty.gov/SDSInter/dpr/240511East LACommunity Plan Reduced.pdf (accessed April 5, 2018).

[16] Los Angeles County. East Los Angeles 3rd Street Plan. Adopted November 12, 2014. Website: http://planning.lacounty.gov/assets/upl/project/ela_adopted-ela-3rdstreet-plan.pdf (accessed April 5, 2018).

The I-710 travel demand forecasting model also explicitly accounts for truck trips associated with transloading of marine cargo. Refer to Section 4.2 of the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017) for more detailed information. Transloading was also discussed in Section 1.2.1.4 of the RDEIR/SDEIS and this Final EIR/EIS.

L-31-101

During development of the build alternatives, Caltrans and Metro strived to develop and present the most appropriate avoidance, minimization, and/or mitigation measures taking into consideration right-of-way constraints, safety, and feasibility in implementing any proposed mitigation. In general, left-turning vehicles experience more delay when they are waiting for sufficient gaps in the on-coming traffic to clear the intersection, creating long queues. By providing an exclusive left-turn lane and by separating these left-turn vehicles from through traffic, these queues are made shorter, and the safety and delay for the intersection as a whole (i.e., all approaches) is improved. Therefore, the average total delay at the intersection is reduced and level of service for the intersection improves. The Synchro analysis conducted for this intersection demonstrated that this intersection would be improved by adding an exclusive left-turn lane. These detailed LOS analysis worksheets were provided in the appendices to the *Intersection Traffic Impact Analysis Report* (March 2017). In addition, the delay at this intersection under the Alternative 5C)would not be as severe as what would occur under Alternative 7, which was an additional factor considered when viewing the pre- and post-mitigation traffic analysis results.

L-31-102

The overall intersection delay as reported is a combination of the average delay for all approaches. By reducing the approach delays for the north and southbound directions, the overall intersection delay under the build alternatives would be reduced as well, since the amount of “green time” would now be optimized for all approaches. By adding an exclusive left-turn lane on the northbound and southbound approaches under the build alternatives, the total delay at the intersection could be reduced to better than what was projected under the 2035 No Build Alternative.

L-31-103

In general, left-turning vehicles experience more delay waiting for sufficient gaps in the on-coming traffic to clear the intersection. It is true that when a through lane is shared with a right-turn lane, sometimes right-turning traffic blocks through traffic while waiting for pedestrians to cross the street on a green. However, right-turning vehicles are permitted to turn right on a red signal unless they are specifically prohibited from doing so. By making legal right turns on a red signal, those vehicles would avoid pedestrians in the crosswalk, who are prohibited from

crossing on a red, and thus help clear the overall intersection by leaving more green time for through traffic.

L-31-104

Measure TR-1 proposed for the build alternatives takes into consideration right-of-way constraints, safety, and feasibility in implementing any proposed mitigation. In general, left-turning vehicles experience more delay when they are waiting for sufficient gaps in the on-coming traffic to clear the intersection, creating long queues. By providing an exclusive left-turn lane and by separating these left-turn vehicles from through traffic, these queues are made shorter, and the safety and delay for the intersection as a whole (i.e., all approaches) is improved. Therefore, the average total delay at the intersection would be reduced, and level of service for the intersection would improve. The Synchro analysis conducted for this intersection demonstrated that this intersection would be improved by adding an exclusive left-turn lane. These detailed LOS analysis worksheets are provided in the appendices to the *Intersection Traffic Impact Analysis Report* (March 2017).

L-31-105

Should a build alternative be selected as the Preferred Alternative, the proposed improvements at the referenced intersection under Measure TR-1 would improve traffic operations and reduce queues. However, as stated previously, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measure TR-1 will not be implemented. In addition, there will not be any need to move the bus stop from its current location.

L-31-106

The overall intersection delay as reported is a combination of the average delay for all approaches. By reducing the approach delays for the north and southbound directions, the overall intersection delay under the build alternatives would reduce as well. Should a build alternative be selected as the Preferred Alternative, Measure TR-1 identified in the RDEIR/SDEIS would aim to reduce the impacted intersection delay from poor operating conditions (LOS E or F) under the build alternatives to the levels projected under the 2035 No Build Alternative or better. By adding an exclusive left-turn lane on the northbound and southbound approaches, the total delay at the intersection could be reduced to better than what was projected under the 2035 No Build Alternative. However, as stated previously, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measure TR-1 will not be implemented.

L-31-107

It is important to note that this intersection (No. 97, Ford Boulevard/3rd Street) was identified as impacted only under Alternative 7. There was no impact identified at this intersection under Alternative 5C.

With respect to Alternative 7, the analysis conducted for this location demonstrated that the intersection would benefit with the additional northbound right-turn lane, and the conceptual sketches illustrating the mitigation measures proposed for Alternative 7 showed that there would be a partial right-of-way acquisition needed to implement this mitigation improvement. For reference, these conceptual sketches are included in the appendices to the *Intersection Traffic Impact Analysis Report* (March 2017).

L-31-108

The row in Table 3.5-7 containing intersection ID No. 180 (3rd Street/S Gage Avenue) has been updated for consistency in this Final EIR/EIS to read “East LA (unincorp)” rather than “County”. Measure TR-1 would include improvements at this intersection under the build alternatives.

L-31-109

Conceptual sketches illustrating the recommended mitigation measures under the build alternatives showed that sliver right-of-way acquisition(s) would be necessary to implement the proposed improvements at this location. The use of these commercial properties would not be affected, as they would not be displaced as a result of the acquisition. These conceptual sketches were included as Appendix E to the *Intersection Traffic Impact Analysis Report* (March 2017). However, as stated previously, the No Build Alternative has been selected as the Preferred Alternative and therefore, these mitigation measures will not be implemented.

L-31-110

Caltrans and Metro appreciate these thoughtful suggestions intended to incentivize travelers and employers to carpool or rideshare, travel during off-peak hours, and telecommute. In order to minimize travel impacts during construction, should a build alternative be selected as the Preferred Alternative, Measure CON-TR-3 would require Caltrans and Metro to work with area transit operators to implement a Transit Subsidy Program that would provide discounted transit fares in areas impacted by construction as well as performing outreach and marketing to incentivize use of transit during construction periods. However, it should be noted that this measure is intended to address impacts during construction of the build alternatives. The types of operational programs intended to exist in perpetuity as noted in the comment are beyond the jurisdiction and authority of Caltrans and Metro to implement as part of a specific project. Often, these types of programs are administered by employers. Metro’s Rideshare/Shared Mobility

Program, at https://www.metro.net/riding/rideshare/employer-programs/, should be consulted for more information and support for employers within Los Angeles County and the community of East Los Angeles. In addition, as stated previously, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measure CON-TR-3 will not be implemented.

L-31-111

Please refer to Response to Comment L-31-110 regarding programs to incentivize travelers and employers to carpool or rideshare, travel during off-peak hours, and telecommute.

L-31-112

Construction impacts of the build alternatives are discussed in detail in Section 3.24, Construction Impacts of the RDEIR/SDEIS and this Final EIR/EIS. Measures to address construction-related impacts with regards to noise and air quality as a result of the build alternatives are described in more detail in Section 3.24.4.13, Air Quality, and 3.24.4.14, Noise. Moreover, since the No Build Alternative has been selected as the Preferred Alternative, Design Options 3A and 3B are no longer under consideration.

L-31-113

As discussed in Section 3.12, Hazardous Waste/Materials, of the RDEIR/SDEIS aerially deposited lead (ADL) is a byproduct of internal combustion engines burning lead containing fuels. Aerially deposited lead is deposited on the sides of roads and highways by passing cars and is often found in the soil adjacent to highways and roads. Elevated concentrations of aerially deposited lead may be present along existing roadways throughout the I-710 Study Area. Lead exists as a fraction of the dust ($PM_{2.5}$ and PM_{10}), which may be disturbed during construction activities of the build alternatives. The RDEIR/SDEIS and this Final EIR/EIS include measures to minimize dust and exposure to ADL during construction of the build alternatives. Specific construction dust mitigation measures, consistent with SCAQMD fugitive dust rules, are provided in Section 3.24.4.13 of the RDEIR/SDEIS, including, but not limited to, CON-AQ-1, CON-AQ-2, CON-AQ-6, CON-AQ-9, CON-AQ-10, CON-AQ-11, CON-AQ-14, and CON-AQ-17. In addition, as discussed in Section 3.12, Hazardous Waste/Materials, of the RDEIR/SDEIS and specified in Measure HW-3, should a build alternative be selected as the Preferred Alternative, prior to soil excavation, a soil investigation for aerially deposited lead (ADL) would be conducted. The analytical results of the soil sampling would assess the potential presence of hazardous contaminants and determine the appropriate handling of the soil and disposal of surplus materials to minimize exposure to ADL. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no exposure to ADL as a result of construction activities.

L-31-114

It is assumed that the commenter is referring to Los Angeles County Fire Station no. 3, located at 930 S. Eastern Avenue. No work is proposed to Eastern Avenue in this area under the build alternatives, although the on- and off-ramp to I-710 from Eastern Avenue would be reconfigured. Refer to Section 3.24.3.4, Utilities/Emergency Services, in this Final EIR/EIS which describes impacts to fire stations located within 0.5 mile of the improvements under the build alternatives. In addition, Measure CON-U&ES-1 states that, should a build alternative be selected as the Preferred Alternative, prior to and during construction, Caltrans and the Construction Contractor would coordinate all temporary ramp closures and detour plans with fire providers to minimize temporary delays to emergency response times as part of the Transportation Management Plan (TMP), including the identification of alternative routes and routes across the construction areas for emergency vehicles, developed in coordination with the affected agencies. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, CON-U&ES will not be implemented. In addition, the likelihood of a natural disaster occurring that may prevent access to and from a fire department or other emergency service provider facility is beyond the scope of a project-level CEQA/NEPA environmental document, and as such, was not evaluated within the RDEIR/SDEIS.

L-31-115

This comment states that cumulative noise and pollution impacts in East Los Angeles from existing, proposed, and potential future freeway projects need to be mitigated to the fullest extent possible in the RDEIR/SDEIS. Section 3.25, Cumulative, in the RDEIR/SDEIS and this Final EIR/EIS discusses a potential extension of the Gold Line along SR-60 (the Eastside Transit Corridor Phase 2 [Project T-76 in Table 3.25-1]) and a potential widening of I-5 between I-605 and I-710 in the East Los Angeles area (the I-5 Corridor Improvement Project [Project T-5 in Table 3.25-1]). As stated in Sections 3.25.4.12 and 3.25.4.13 of the RDEIR/SDEIS and this Final EIR/EIS, the I-710 Corridor Project may contribute to long-term cumulative air quality and noise impacts at receivers near the I-710 Corridor. Should a build alternative be selected as the Preferred Alternative, impacts related to air quality and noise would be mitigated to the maximum extent feasible as described in Section 3.13, Air Quality, and Section 3.14, Noise, of the RDEIR/SDEIS and this Final EIR/EIS, respectively. Although Caltrans has not currently identified any potential highway widening projects along SR-60 in East Los Angeles, Caltrans has a standing policy of evaluating proposed projects near any highway facilities to determine if they could interfere with possible future freeway projects. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no cumulative impacts related to the build alternatives.

L-31-116

Caltrans respectfully disagrees that the RDEIR/SDEIS is deficient and that it should be revised and recirculated. As stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Design Options 3A and 3B are no longer under consideration, and it is unnecessary to revise and recirculate an environmental document to remove alternatives or options from consideration. The motion to consider a Design Option within the East Los Angeles area was made by the County representative at the Project Committee meeting in July 2014, and the East Los Angeles LAC was briefed on the Design Options prior to performing the analysis that informed the RDEIR/SDEIS in April 2015. Please refer to Table 2.2-1 in the Final EIR/EIS for a discussion of the elements of Motion 22.1 that were addressed in the RDEIR/SDEIS and their respective locations within the document. For more details on Motion 22.1 and Community Alternative 7, please refer to Section 1.8 of this appendix. Caltrans made every effort to avoid and minimize the acquisition of homes for necessary right-of-way within the I-710 Corridor; however, some displacements were found to be unavoidable in order to construct the build alternatives. However, since the No Build Alternative has been selected as the Preferred Alternative there will be no acquisitions.

L-31-117

This comment asks (1) for information about the combined impacts (traffic, pollution, and noise) for the I-710 and Gold Line projects on East Los Angeles; (2) whether the build alternatives could impact the construction of a Gold Line subway project along Atlantic Boulevard; and (3) what the cumulative impacts are for the build alternatives and the Gold Line (i.e., would traffic numbers change?). The cumulative impact analysis in Section 3.25 of the RDEIR/SDEIS and this Final EIR/EIS includes a potential extension of Metro's Gold Line (the Eastside Transit Corridor Phase 2 [Project T-76 in Table 3.25-1]) through East Los Angeles. In 2014, Metro circulated a Draft EIS/EIR for the Eastside Transit Corridor Phase 2, which evaluated two build alternatives, an LRT alignment along SR-60 to South El Monte and an LRT alignment along Washington Boulevard to Whittier. The build alternatives have since been refined to include a Washington Boulevard LRT alternative that would place the LRT in an underground segment along Atlantic Boulevard between the current Gold Line terminus station at Atlantic Boulevard/Pomona Boulevard in East Los Angeles and the Citadel Outlets in Commerce. A reinitiated Draft EIS/EIR for the Eastside Transit Corridor Phase 2 Project will update the original Draft EIS/EIR that was released in 2014 with additional environmental analysis, including an evaluation of the environmental impacts associated with a proposed subway beneath Atlantic Boulevard in East Los Angeles. The Supplemental/Recirculated Draft EIS/EIR is anticipated to be available for public review in mid-2020.

Because the Atlantic Boulevard subway contemplated as part of the Eastside Transit Corridor Phase 2 Project would operate underground, it is not expected to result in increased noise and

pollution in East Los Angeles during operation. According to the 2014 Draft EIS/EIR, the purposes of the Eastside Transit Corridor Phase 2 Project include: (1) alleviating peak-hour congestion on the roadway network by providing transit alternatives to meet increased demand; and (2) providing additional travel options, given the high travel demand connectivity constraints present in the Eastside Transit Corridor study area. Therefore, the Eastside Transit Corridor Phase 2 Project is likely to convert some passenger vehicle trips to transit trips, thereby reducing the number of vehicle trips that would otherwise be added to the local and regional roadway networks. When released in mid-2020, the Supplemental/Recirculated Draft EIS/EIR will address any changes in traffic volumes in East Los Angeles resulting from the proposed Atlantic Boulevard subway. Because the I-710 Corridor Project build alternatives are programmed into the 2016–2040 SCAG RTP/SCS adopted by the Southern California Association of Governments (SCAG), the traffic analysis in the Supplemental/Recirculated Draft EIS/EIR for the Eastside Transit Corridor Phase 2 Project will reflect a cumulative traffic analysis that incorporates the I-710 Corridor Project build alternatives.

The traffic, noise, and dust impacts related to the construction of a subway beneath Atlantic Boulevard would depend on the type of tunneling method used. The use of a tunnel boring machine (TBM) would greatly reduce impacts in comparison to a cut-and-cover tunnel, which would require excavation of a substantial amount of material and cause disruptions for the community along Atlantic Boulevard. As the specific tunnel construction method has not yet been determined, it would be premature to speculate regarding the proposed Atlantic Boulevard subway's construction impacts.

As stated in Sections 3.25.4.12 and 3.25.4.13 of the RDEIR/SDEIS and this Final EIR/EIS, the I-710 Corridor Project may contribute to long-term cumulative air quality and noise impacts at receivers near the I-710 Corridor. In addition, as stated in Section 3.25.4.5, the I-710 Corridor Project build alternatives would contribute to adverse cumulative impacts related to traffic at specific locations near the I-710 Corridor. Should a build alternative be selected as the Preferred Alternative, impacts related to traffic, pollution, and noise would be mitigated to the maximum extent possible in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, Section 3.13, Air Quality, and Section 3.14, Noise, of the RDEIR/SDEIS and this Final EIR/EIS, respectively.

The construction timeframe for the Eastside Transit Corridor Phase 2 build alternatives is tied to available funding and remains unknown. However, since the No Build Alternative has been selected as the Preferred Alternative for the I-710 Corridor Project, there will be no cumulative short-term traffic and access impacts related to the Eastside Transit Corridor Phase 2 project.

L-31-118

Please refer to Responses to Comments L-31-4, L-31-20, and L-31-23 regarding preparation of a Health Impact Assessment.

L-31-119

The purpose of the RDEIR/SDEIS prepared for the I-710 Corridor Project was to disclose to the public and decisionmakers the environmental impacts of alternatives proposed to address the purpose and need for the project. A comprehensive traffic study of East Los Angeles is beyond the scope of the environmental process under NEPA and CEQA for the I-710 Corridor Project. However, the elements of this proposed study may be covered in part by the Gateway Cities COG Strategic Transportation Plan (June 2016) and Metro's Long Range Transportation Plan (2009).

L-31-120

Please refer to Response to Comment L-31-3 regarding the feasibility of a freeway cap design.

L-31-121

A separated freight-only corridor was proposed under Alternative 7. However, Alternative 7 has not been identified as the Preferred Alternative.

L-31-122

The Community Health Benefit Program has been developed in more detail than what was presented in the RDEIR/SDEIS and further details of that program can be found in Section 2.3.2.1 of this Final EIR/EIS. As part of that description, geographic zones (both general and priority) have been established. The Program description also indicates that in making funding recommendations, "cost-effectiveness will be emphasized, with funding priority given to those proposals that benefit the most people per dollar". Additionally, there is inherent legal and logistical difficulties in ensuring funds are deployed for their intended purpose when disbursed to individual, private citizens. For example, if the Program were to allow for individual private citizens to obtain funding for installation of an air filtration system on their home, some type of deed restriction would need to be obtained on the property in question to ensure that the improvements were made. This is not feasible and may not be a prudent use of public funds. Therefore, individual private citizens and businesses are not considered eligible applicants for Community Health Benefit Program funds. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the Lead Agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

L-31-123

Please refer to Response to Comment L-31-4 and Response to Comment L-31-122 regarding preparation of an HIA. The preparation of an HIA for East Los Angeles may be a project eligible for funding under the Community Health Benefit Program that may be implemented as a separate effort.

L-31-124

Some of the suggested mitigations and enhancement measures outlined in this comment have already been included in the project description or in the proposed avoidance, minimization, and/or mitigation measures for the build alternatives. For example, HVAC/filtration systems have been proposed for impacted sensitive receptors under Measures AQ-2 and C-8. Aesthetic treatments and landscaping have been included in the project description of the build alternatives in accordance with the I-710 Aesthetics Master Plan; refer to Section 2.3.2.1 of the RDEIR/SDEIS for more information. However, since the No Build Alternative has been selected as the Preferred Alternative for the I-710 Corridor Project these mitigation measures will not be implemented. In addition, some of the projects and elements included in this comment are not under the jurisdiction of Caltrans or Metro (including crosswalk signalization off the State Highway System and planting on local arterials), and should be referred to the Los Angeles County Department of Public Works.

L-31-125

Should a build alternative be selected as the Preferred Alternative, Measure AQ-1, as described in Section 3.13.4 of this Final EIR/EIS, would requires a funding contribution to be provided to the South Coast Air Quality Management District (SCAQMD) for the design and construction of four new air quality monitoring stations within the I-710 Corridor. Air filtration/HVAC systems have been proposed, should a build alternative be selected as the Preferred Alternative, for schools and other sensitive receptors in accordance with the specifics detailed in Measures AQ-2 and C-8 (described in detail in Sections 3.13.4 and 3.3.3.7 of this Final EIR/EIS, respectively).. However, since the No Build Alternative has been selected as the Preferred Alternative for the I-710 Corridor Project Measures AQ-1, AQ-2, and C-8 will not be implemented.

The concept of each corridor city housing and maintaining a central depot for receiving Port trucks is interesting; however, truck traffic patterns are generally dictated by the economic market for the goods being transported. Caltrans and Metro cannot, and do not have the jurisdiction, to control truck movement throughout the I-710 Corridor area.

L-31-126

This information has been made part of the project record. These comments were originally submitted on the SR-710 North Project Draft EIR/EIS, which circulated for public review in 2015. Responses to these comments were made available in the Final EIR/EIS for the project and are posted on the Caltrans District 7 website at http://www.dot.ca.gov/d7/env-docs/docs/SR710NorthProject/.

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Jeannine Pearce
SECOND DISTRICT
CITY OF LONG BEACH

RE: I-710 Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement

Dear Mr. Dougherty,

We request that the California Department of Transportation extend the comment period for the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Interstate 710 (I-710) Corridor Project to 120 days. Comments are currently due by September 22, 2017. Granting this request would allow the comment period for this national significant project to extend through November 21, 2017.

The RDEIR/SDEIS, including appendices, represents thousands of pages of highly technical data and analyses that require additional time for thorough evaluation. Extending the comment period will allow stakeholders, including our constituents, to become better informed about the project, and thus more fully engaged in the CEQA and NEPA processes. This engagement is at the heart of CEQA and NEPA's public comment processes, and could provide improvements to the project's current design, additional or revised mitigations, and other information that will help ensure the project serves as a model for transportation projects in the 21st century. L-32-1

Moreover, the current comment period for the I-710 RDEIR/SDEIS overlaps with at least two other high-profile proposals — the draft Clean Air Action Plan (CAAP) and the Draft Supplemental Environmental Impact Report for the China Shipping Container Terminal Project due on Sept 21, 2017. The current deadline places an undue burden on members of the public wishing to engage fully in all of these processes.

Robust public participation is critical to ensuring a full review of this nationally significant project. Accordingly, we appreciate your consideration of request this extension request.

Sincerely,

Councilmember Jeannine Pearce, Second District

City of Long Beach

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L-32-1

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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U-1.1 UTILITIES

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September 1, 2017

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main St. MS 16A
Los Angeles, CA 90012

Dear Mr. Kosinski,

On behalf of the Southern California Gas Company (SoCalGas), I am writing in support of Alternatives 5C and 7 of the I-710 Corridor Project. We support these two options because they take a balanced approach by allowing for both zero- and near-zero technologies in the proposed "Truck Technology Deployment Program" and "Clean Emission Freight Corridor." U-1-1

As you know, communities living near freeways face elevated health risks related to high levels of particulate emissions. The reason for these health impacts is heavy-duty trucks that run on diesel. More than 80 percent of the region's smog-forming emissions come from the transportation sector, and heavy-duty diesel trucks are the single biggest emitter. It is imperative that we as a region come together to do what we can to speed these trucks through the basin and prevent them from idling in traffic as they will continue to do if diesel trucks are denied access to the freight corridor.

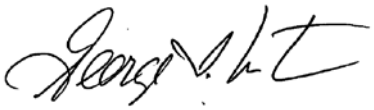
Increasing the number of trucks with near-zero emissions engines that run on renewable natural gas is another way we can immediately improve the air quality of Southern California. That's because near-zero emissions natural gas engines deliver a 90 percent reduction in smog-forming (NOx) emissions as compared to diesel. And, those same engines, when fueled by renewable natural gas, reduce greenhouse gas emissions by 80 percent. This solution will improve our air quality as well as the health of the men, women and families living near the freeway.

SoCal Gas is not only concerned about the health of families living along the I-710. We are sensitive to those who worry how their homes and neighborhoods might be impacted by the corridor project. We urge Caltrans to mitigate any negative impacts the I-710 Corridor Project may have on those living near the freeway. U-1-2

The I-710 Corridor Project should be focused on reducing emissions – not picking winners and losers when it comes to technology. We urge continued support for Alternatives 5C and 7. Should you have any questions, please do not hesitate to contact me.

SoCalGas is the nation's largest natural gas distribution utility, delivering clean, safe and reliable energy to 21.6 million consumers. Our service territory encompasses approximately 20,000 square miles in diverse terrain throughout Central and Southern California, from Visalia to the Mexican border. We have been investing in clean transportation technologies and are delivering renewable natural gas through our pipeline system to help the state achieve its ambitious environmental goals. And we're proud that SoCalGas' innovation is fueling new possibilities in California.

Regards,



George Minter
Regional Vice President, External Affairs & Environmental Strategy
Southern California Gas Company

U-1-1

The commenter's support for Alternative 5C and Alternative 7 are acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

U-1-2

Impacts to communities were analyzed in Section 3.3, Community Impacts, of the RDEIR/SDEIS. Several avoidance, minimization, and/or mitigation measures were proposed that would address potential impacts to communities, including environmental justice communities, as a result of the build alternatives within the I-710 Corridor. Please refer to Section 3.3.1.4 for a discussion of Public Health Considerations relevant to communities and neighborhoods, Section 3.3.1.6 for measures specific to impacts to community cohesion, and Section 3.3.3.7 for measures specific to impacts to environmental justice communities. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there would not be any impacts to the communities and environmental justice populations within the I-710 Corridor. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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SOUTHERN CALIFORNIA EDISON®
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October 23, 2017

VIA MESSENGER AND OVERNIGHT DELIVERY

California Department of Transportation
Attn: Ronald Kosinski RK GRD
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, California 90012

Re: Southern California Edison Company Comments on the Recirculated Draft Environmental Impact Report / Supplemental Environmental Impact Statement for the Interstate 710 Corridor Project

Dear Mr. Kosinski:

Southern California Edison Company ("SCE") appreciates the significant efforts made by the California Department of Transportation ("Caltrans"), in cooperation with the Los Angeles County Metropolitan Transportation Authority ("Metro"), the Gateway Cities Council of Governments, the Southern California Association of Governments, the Ports of Los Angeles and Long Beach ("POLA" and "POLB," respectively), and the Interstate 5 Joint Powers Authority, in proposing to improve Interstate 710 ("I-710") and the attempts to engage stakeholders throughout this process. In particular, SCE appreciates and values the years of collaboration between Caltrans, SCE, and other interested stakeholders to catalog the potential impacts of the I-710 Corridor Project ("Project") on SCE's facilities. SCE looks forward to continuing this beneficial collaboration in support of the Project's ultimate success.

SCE strongly supports the goals of the Project to: improve air quality and public safety; improve traffic safety; modernize the freeway design; address projected traffic volumes; and address projected growth in population, employment and activities related to goods movement. In furtherance of these purposes, SCE respectfully provides the following comments on the July 2017 Recirculated Draft Environmental Impact Report / Supplemental Draft Environmental Impact Statement ("RDEIR/SDEIS").

Attachment 1 to this letter provides SCE's specific comments on, and suggested edits to, the RDEIR/SDEIS. The comments made in Attachment 1 are consistent with and in addition to the comments in this letter. For ease of review and where possible, the suggestions and comments in Attachment 1 provide "redline" edits showing desired text, as well as references to the specific page number and section where that edit should be made. SCE's comments include:

- factual and technical clarifications and corrections;
- suggested language changes and comments on mitigation measures presumed applicable to SCE facilities;

- supplemental language and/or definitions in order to clarify meaning or intent; and
- additional examples and/or explanations.

Due to the sheer size of the RDEIR/SDEIS and its supporting appendices, it is unlikely that SCE captured every instance where language should be changed consistent with its comments here. To that end, SCE's comments and the specific edits implementing them are intended to provide examples of text that SCE believes should change. SCE respectfully requests Caltrans incorporate these suggested changes, as well as make additional corresponding global changes where needed for consistency and integration into the Final Recirculated Environmental Impact Report / Supplemental Environmental Impact Statement ("REIR/SEIS"). U-2-1

I. SCE SUPPORTS A CLEAN, ZERO-EMISSION FREIGHT CORRIDOR FOR THE I-710

SCE strongly supports the adoption of Alternative 7 as the preferred Project alternative. Further, SCE believes that the use of Alternative 7's dedicated freight corridor ("Freight Corridor") should be restricted to use by Zero Emission ("ZE") trucks. U-2-2

SCE is committed to the electrification of the transportation sector, as evidenced by its January 2017 Transportation Electrification ("TE") Application before the California Public Utilities Commission ("CPUC").[1] SCE's TE Application reflects a vision for accelerating transportation electrification, spanning all transportation sectors, with a particular focus on targeting pollution in disadvantaged communities that are most impacted by medium- and heavy-duty transportation.[2]

A. Alternative 7 Should be Selected Because It is the Only Alternative That Would Feasibly Accomplish the Project's Stated Goals

With respect to meeting the Project's stated purposes, Alternative 7 is clearly superior. Importantly, among all of the alternatives considered, only Alternative 7 can reasonably be expected to improve air quality and public health.[3] Further, as compared with Alternative 5C, Alternative 7 best improves traffic safety, addresses projected traffic volumes, and accommodates growth and goods movement. U-2-3

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[1] *See* Application of Southern California Edison Company (U 338-E) for Approval of its 2017 Transportation Electrification Proposals (1/20/17) ("TE Application") at 3, incorporated herein by reference and available here: http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M172/K519/172519265.PDF (last checked Oct. 15, 2017). Transportation Electrification ("TE") refers to the ongoing process of transforming the transportation sector from one that is primarily fueled by fossil fuels, to one that is fueled by clean electric power. *See id.*

[2] *See id.*

[3] *See* Section I.A. below.

1. Improves air quality and public health [4]

The RDEIR/SDEIS specifically finds Alternative 7 to be superior to Alternative 5C with respect to diesel particulate matter ("DPM," *i.e.*, "the greatest contributor to air-quality related cancer risk in the [SCAQMD] basin"[5]), nitrogen oxides ("NOx"), and health risks.[6] Further, the RDEIR/SDEIS's conclusion that Alternative 5C shows fewer impacts related to particulate matter ("PM"), carbon monoxide ("CO"), volatile organic compounds ("VOCs"), and sulphur dioxide ("SO2") is based on fatally flawed assumptions made in support of the air quality analyses.[7] Similarly, the PM estimates are also overstated.[8]

Alternative 5C is a lane-widening project, designed to increase the throughput volume of trucks, including conventional diesel trucks, along the I-710 corridor.[9] In contrast, the proposed Alternative 7's Freight Corridor would be limited to ZE/near-ZE ("NZE") trucks, which have emissions profiles a fraction of the diesel trucks currently used for drayage along the I-710.[10] Alternative 7 will likely also drive a significant increase in ZE/NZE trucks on the I-710, as evidenced by the increased vehicle miles travelled ("VMT") or "throughput" estimated for Alternative 7.[11] U-2-4

The air quality and associated public health benefits resulting from the replacement of diesel trucks under Alternative 7, both on the I-710 corridor and potentially in the region as a whole, should be given substantial weight. Alternative 7 would reduce air pollution and disproportionate health impacts to a significant number of disadvantaged communities ("DACs")

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[4] *See* RDEIR/SDEIS at Executive Summary ("ES") 5 (stated purposes of Project)

[5] *See* RDEIR/SDEIS at 1-9 ("These studies show that diesel particulate matter (DPM) is the greatest contributor to air-quality related cancer risk in the South Coast Air Basin and that approximately half of the DPM is emitted by diesel trucks using the freeway and roadway systems").

[6] *See* RDEIR/SDEIS Technical Appendix, *Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (June 2017) ("AQ Tech Study") at ES-29 ("Compared to the 2035 Alternative 1 (No Build), Alternative 7 shows fewer impacts related to DPM, NOx, and health risks than Alternative 5C.").

[7] *See* Section III.B.1.a, below.

[8] *See* Section III.B.1.b, below.

[9] *See* RDEIR/SDEIS at ES 6-8 (describing Alternative 5C).

[10] *See* RDEIR/SDEIS at ES 6-8 (describing Alternative 7); Section III.B.1., below (referencing emissions profiles of ZE/NZE trucks).

[11] *See* RDEIR/SDEIS at 3.5-105 (Table 3.5-24, comparing VMT, vehicle hours travelled ("VHT"), and vehicle hours of delay ("VHD") of the Project's alternatives), 3.3-133 (citing increase in throughput and associated VMT), 3.3-134 (same), 3.5-83 ("vehicle throughputs are projected to increase under Alternative 7").

along the I-710. [12] These DACs along the I-710 are impacted by air pollution from transportation, and in particular, from medium- and heavy-duty transportation. Electrifying vehicles that heavily use the I-710 will help meet ground-level ozone (smog) and particulate emissions reduction requirements by curbing such emissions from medium- and heavy-duty transportation.[13] Alternative 7, with its ZE/NZE Freight Corridor, is thus the only Project Alternative that can reasonably be expected to satisfy the Project's air quality and health goals.

U-2-4

2. *Improves traffic safety* [14]

As evidenced by the RDEIR/SDEIS's findings, Alternative 7 would also enhance traffic safety to a significantly greater degree than Alternative 5C. As the RDEIR/SDEIS notes, "interaction between cars and the high volume of trucks in the traffic stream on the I-710 mainline may be contributing factors to these existing accident rates."[15] Truck-related accidents have cascading impacts on traffic safety because they form bottlenecks which "lead to additional congestion, delay, and occasionally secondary accidents on the I-710 mainline and ramps as approaching

U-2-5

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[12] DACs are defined by the Office of Environmental Health Hazard Assessment's (OEHHA's) California Communities Environmental Health's Screening Tool (CalEnviroScreen 3.0, *available at* http://oehha.maps.arcgis.com/apps/webappviewer/index.html?id=4560cfbce7c745c299b2d0cbb07044f5. CalEnviroScreen 3.0 is a screening methodology, developed by the CalEPA, which can be used to help identify California communities that are disproportionately burdened by pollution and other socioeconomic factors. *See also* AB 617 (generally requiring the California Air Resources Board to monitor and develop strategy to reduce criteria air pollutants and toxic air contaminants in priority communities). Approximately 45 percent of the state's DACs are located within SCE territory and SCE serves the only two air basins in the nation that are in extreme non-attainment for ozone: San Joaquin and South Coast. *See Testimony of Southern California Edison Company in Support of its Application of Southern California Edison Company (U 338-E) For Approval of its 2017 Transportation Electrification Proposals* (1/20/17) ("TE Application Testimony"), at 12, incorporated herein by reference and *available here:* http://www3.sce.com/sscc/law/dis/dbattach5e.nsf/0/F5582C9D0A9A3659882580AE007F74A4/$FILE/A1701XXX-SCE%20TE%20Testimony%201-20-17.pdf (last checked Oct. 15, 2017).

[13] *See* Inside Edison, *Infographic: Transportation Electrification* (3/7/17) ("TE Infographic"), incorporated herein by reference and available here: *http://www.insideedison.com/stories/infographic-transportation-electrification* (last checked Oct. 15, 2017); *Transportation Electrification - Reducing Emissions, Driving Innovation* (1/20/17) ("TE REDI") at 4-6, incorporated herein by reference and available here: *https://www.edison.com/content/dam/eix/documents/our-perspective/201701-transportation-electrification-reducing-emissions-driving%20-innovation.pdf* (last checked Oct. 15, 2017).

[14] *See* RDEIR/SDEIS at ES 5 (stated purposes of Project).

[15] *See* RDEIR/SDEIS at ES-3 ("I-710 experiences elevated accident rates, exceeding the State average for similar facilities in many locations. High traffic volumes, existing freeway design, freeway congestion, and the interaction between cars and the high volume of trucks in the traffic stream on the I-710 mainline may be contributing factors to these existing accident rates"), 1-21 ("The high truck volumes may account for the severity of accidents occurring along the I-710 Corridor").

vehicles unexpectedly run into the rear ends of other vehicles."[16] Traffic safety is compromised by, among other things, "the mix of automobiles and heavy-duty trucks."[17] "Separation of trucks and general traffic would reduce the conflicts between the two and improve safety and operations on I-710."[18]

U-2-5

With its Freight Corridor, Alternative 7 effectively separates the trucks from the general traffic while Alternative 5C does not.[19] Alternative 7 is superior to Alternative 5C with respect to the Project's purpose of improving traffic safety.

3. Addresses projected traffic volumes for the 2035 horizon year[20]

Alternative 7 is superior to Alternative 5C with respect to the Project's purpose of addressing projected traffic volumes for the 2035 horizon year.

Alternative 7 would support a significantly greater degree of traffic and drayage truck throughput on the I-710 corridor.[21] As throughput increases, so does corresponding VMT.[22] In contrast, the vehicle hours of delay ("VHD") metric is punitive with larger amounts indicating longer goods movement times. With this in mind, when compared to Alternative 5C, Alternative 7 would:

U-2-6

- Increase VMT/throughput by 65 percent (215,000 miles);[23] and
- Decrease VHD by more than 53 percent (3000 hours).[24]

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[16]*See* RDEIR/SDEIS at 1-23 ("Accidents, particularly truck-related accidents, form bottlenecks as emergency response personnel temporarily close travel lanes to respond to the accident. As a result, these incidents lead to additional congestion, delay, and occasionally secondary accidents on the I-710 mainline and ramps as approaching vehicles unexpectedly run into the rear ends of other vehicles.")

[17]*See* RDEIR/SDEIS at 1-23 ("The relatively high incidence of accidents on the I-710 mainline and ramps appears to be the result of three main factors: (1) nonstandard geometrics and design features; (2) high traffic volumes; and (3) the mix of automobiles and heavy-duty trucks.")

[18] RDEIR/SDEIS at 1-23.

[19]*See* RDEIR/SDEIS at ES 6-8 (describing Alternatives 5C and 7).

[20]*See* RDEIR/SDEIS at ES 5 (stated purposes of Project).

[21]*See* RDEIR/SDEIS at 3.5-105 (Table 3.5-24, showing Alternative 7 with most increases in VMT), 3.3-133 (citing Alternative 7's increase in throughput and associated VMT), 3.3-134 (same), 3.5-83 ("vehicle throughputs are projected to increase under Alternative 7").

[22]*See* RDEIR/SDEIS at 3.5-105 (Table 3.5-24, showing Alternative 7 with most increases in VMT), 3.3-133 (citing Alternative 7's increase in throughput and associated VMT), 3.3-134 (same), 3.5-83 ("vehicle throughputs are projected to increase under Alternative 7").

[23]*See* RDEIR/SDEIS at 3.5-105 (Table 3.5-24, VMT for no build = 22,079,000, Alt. 5C = +389,000, Alt 7 = +604,000).

[24]*See* RDEIR/SDEIS at 3.5-105 (Table 3.5-24, VHT for no build = 105,800, Alt. 5C = -3,400, Alt 7 = -6,400).

The goals of increasing throughput along the I-710 and improving the air quality in the region are, in a certain sense, at odds: as throughput/VMT increase, historically, so do air emissions. It is by limiting access to the Freight Corridor to only ZE/NZE trucks that increasing throughput becomes compatible with improving air quality and public health. Importantly therefore, the only Alternative which is likely to satisfy both goals of increased throughput and improved air quality in the region is Alternative 7. U-2-6

4. Addresses projected growth in population, employment, and activities related to goods movement [25]

The Project's purpose of addressing projected growth in population, employment, and activities related to goods movement is addressed, in large part, through Alternative 7's superiority with respect to addressing projected 2035 traffic volumes discussed above. The better the projected traffic volumes are accommodated, the better will projected growth in population, employment, and goods movement be accommodated.

Further, with respect to goods movement, only Alternative 7 includes "an automated control system that will steer, brake, and accelerate the trucks under computer control while traveling on the [Freight Corridor,…] safely allowing for trucks to travel in 'platoons' (*i.e.*, groups of six-to-eight trucks) and [thus further] increasing the capacity of the freight corridor."[26] Importantly, this increases the capacity of Alternative 7's Freight Corridor from approximately 1,200 trucks per lane per hour to 1,500.[27] With its separate Freight Corridor, Alternative 7 would also reduce accidents[28] and would likely better accommodate drayage trucks ultimately employing autonomous operation and/or other driver-assisting technologies.[29] U-2-7

Alternative 7 similarly supports approximately 56 percent more construction employment than Alternative 5C and "it is anticipated that the zero-emission/near zero-emission Freight Corridor component …would generate additional indirect employment as the technology is developed and

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[25] *See* RDEIR/SDEIS at ES 5 (stated purposes of Project).

[26] *See* RDEIR/SDEIS at ES-8, 2-63 (same).

[27] *See* RDEIR/SDEIS at 2-63 (platooning will "increase the capacity of the freight corridor from a nominal 2,350 passenger car equivalents per lane per hour (pces/ln/hr) (approximately 1,200 trucks per lane per hour) (as would be assumed if the freight corridor were utilized by trucks without automated vehicle technology) to 3,000 pces/ln/hr (1,500 trucks/ln/hr) in Alternative 7").

[28] *See* RDEIR/SDEIS at ES-3 (interaction between trucks cars contributing to accidents), 1-21 (high truck volumes may account for the severity of accidents), 1-23 (relatively high incidence of accidents on the I-710 mainline and ramps due in part to mix of automobiles and heavy-duty trucks).

[29] *See* RDEIR/SDEIS at ES-8 (facilitation of automated control systems and "platooning"), 2-63.

eventually maintained within the I-710 Corridor."[30] Similarly, Alternative 7's Freight Corridor would likely spur the development of ZE/NZE trucks, creating other permanent employment not related to construction.[31]

In short, Alternative 7 should be Caltrans' preferred Project alternative. It is the only alternative likely to satisfy the Project's purposes. As the RDEIR/SDEIS unambiguously concludes, "[i]f port-related rail traffic and commuter demand are to be satisfied, additional mainline capacity improvements will be required. Alternative 7 would have a greater beneficial effect than Alternative 5C by providing dedicated lanes for freight movement within the I-710 Corridor."[32] U-2-7

B. The Alternative 7 "Clean Emissions" Freight Corridor Should be Limited to Zero Emission Vehicles with no Tailpipe Emissions

Consistent with "Alternative 7ZE" in the RDEIR/SDEIS, SCE believes no tailpipe pollutant emissions, including but not limited to any greenhouse gas ("GHG") emissions, from the onboard source of power should be emitted from trucks while travelling within the Freight Corridor. Hybrid ZE Vehicles (*e.g.*, ZE with NZE or diesel range extenders) should be permitted to travel within the Freight Corridor, provided the polluting source of onboard power is not engaged until outside of the Freight Corridor boundaries. SCE's position is thus (potentially) different than Option 7ZE as discussed in the RDEIR/SDEIS, which "restricts use of the freight corridor to exclusively ZE trucks, excluding NZE trucks."[33] U-2-8

Powering Alternative 7 via ZE technologies has the potential to act as a catalyst, incentivizing the development of new ZE technologies, driving innovation, increasing ZE market-share, and bringing down prices. In turn, this would further decrease air quality emissions and improve public health. Through Alternative 7, southern California has the opportunity to jumpstart this desirable cycle. The Freight Corridor should be limited to ZE vehicles ("ZEVs") to maximize health benefits and encourage market development of ZE technologies important for the satisfaction of California's GHG emissions reduction and air quality goals.[34] U-2-9

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[30] *See* RDEIR/SDEIS at 3.3-52 (Table 3.3-10, estimated construction employment from Project alternatives, Alt. 5C appx. 99,885 and Alt. 7 appx. 179,180).

[31] *See* RDEIR/SDEIS at 3.3-52 ("…it is anticipated that the zero-emission/near zero-emission freight corridor component of Alternative 7 would generate additional indirect employment as the technology is developed and eventually maintained within the I-710 Corridor").

[32] RDEIR/SDEIS at 3.2-20.

[33] *See* RDEIR/SDEIS at ES-9. SCE notes it is unclear whether Alternative 7ZE as described in the RDEIR/SDEIS would actually exclude NZE trucks, or simply disallow tailpipe emissions.

[34] *See* Section I.C., below (discussing TE and ZEV's beneficial support for GHG emissions reduction goals); *see also* footnote 38, *infra* (summarizing California's air quality goals).

Caltrans should establish the requirements of the ZE corridor as early as possible in order to provide goods movement companies, drayage truck manufacturers, the Ports of Long Beach and Los Angeles, utilities, key stakeholders, and potential market participants sufficient time to develop and implement the infrastructure and technology supporting this ZE-only corridor. U-2-9

While not suggested by the RDEIR/SDEIS, SCE notes that the Freight Corridor should not be initially open to all vehicles, with stricter pollution control measures phased in over time in order to eventually transition to a ZE corridor. SCE believes that there is sufficient time between now and the projected opening of this Freight Corridor to traffic in 2027 to allow for necessary market transitions, innovations, and supporting infrastructure development to support a solely ZE-powered Freight Corridor.[35] U-2-10

SCE notes that the catenary system referenced by the RDEIR/SDEIS ("Catenary") is *one* alternative electric technology, among many potential technologies, which may successfully be implemented to power the envisioned ZE Freight Corridor.[36] The Catenary, including all environmental impacts associated with its potential implementation, should be studied in RDEIR/SDEIS to remain a viable option and for comparison with the other alternatives.[37] In the event that Caltrans decides to proceed with a Catenary, additional time should be included to allow for the design and construction of the supporting infrastructure. U-2-11

C. A Uniquely ZE Freight Corridor Would Support Emissions-Free Goods Movement Electrification, Providing Important Support for Achieving California's Binding and Ambitious Environmental Goals

Satisfaction of California's broad and ambitious clean energy goals[38] requires significant investment in TE and a strong commitment to enact policies that facilitate the investment. Given

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[35] *See* RDEIR/SDEIS at 3.25-42 (projected construction schedule for Project "2020 – 2027").

[36] *See* RDEIR/SDEIS at 2-59 (brief discussion of catenary), 2-95 (same). A proven and viable technology, with historical applications in the U.S. and in other countries, preliminary feasibility studies indicate that SCE can construct the necessary power infrastructure (*e.g.*, substations, *etc.*) supporting the Catenary. While SCE believes the freight corridor should allow ZE technologies only, SCE notes that the Catenary does not envision any technology which would exclude the use of NZE vehicles on the corridor.

[37] While SCE advocates for the *description, analysis and consideration* of the Catenary in the RDEIR/SDEIS, SCE is neutral regarding the *selection* of the Catenary to support the Project's ZE freight corridor. In light of the fast changing pace of technology in the ZE space, and the considerable time that will pass before the Project's freight corridor is opened for use (approximately 10 or more years), SCE is reticent to endorse any particular ZE technology at this point in time.

[38] California's GHG reduction goals are best described in AB 32 (*Air pollution: greenhouse gases: California Global Warming Solutions Act of 2006*), SB 350 (*Clean Energy and Pollution Reduction Act of 2015*), SB 32 (*California Global Warming Solutions Act of 2006: emissions limit*), and Executive Orders S-3-05 (setting target of

the goal of reducing GHG emissions to 80 percent below 1990 levels by 2050,[39] the potential for TE to support achievement of California's climate and air quality goals is significant.

California's ability to achieve its emissions reduction targets is significantly aided by switching from fossil fuels to electrification, thus eliminating mobile source combustion of diesel, gasoline and natural gas.[40] SCE expects significant reductions in the use of natural gas will be needed to meet the state's 80 percent GHG reduction target, including uses as a vehicle fuel. Meeting California's air quality and GHG goals will be increasingly difficult (and more expensive) without significant electrification of the transportation sector.

Electricity is a low-cost fuel and the widespread production of ZEVs, and specifically ZE Class 8 trucks, is likely closer than the RDEIR/SDEIS discloses.[41] A Calstart "Commercialization Study" referenced by the RDEIR/SDEIS concludes "zero-emission capable drayage trucks can be developed, demonstrated, validated, and moved into production by a 2025 target timeline."[42] While there are issues to be addressed prior to the successful commercialization of these ZEVs,

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statewide GHG emissions 80 percent below 1990 levels by 2050) and B-30-15 (setting target of statewide GHG emissions 40 percent below 1990 levels by 2030). Air Quality goals are summarized in the South Coast Air Quality Management District, Final 2016 Air Quality Management Plan (Mar. 2017), *available at*: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp (last checked Oct. 23, 2017) at Ch. 4, p. 6 ("The most significant air quality challenge in the [South Coast] Basin, and the primary driver for the control strategy, is the need to reduce NOx emissions sufficiently to meet the upcoming ozone standard deadlines (1-hour ozone: 120 ppb by 20231 and 8-hour ozone: 80 ppb by 2024 and 75 ppb by 2032)") and the California Air Resources Board, Public Review Draft, Vision for Clean Air: A Framework for Air Quality and Climate Planning (Jun. 27, 2012), *available at*: https://www.arb.ca.gov/planning/vision/docs/vision_for_clean_air_public_review_draft.pdf (last checked Oct. 23, 2017), at 4 ("For the South Coast Air Basin, it is estimated that oxides of nitrogen, one of the key ingredients in ozone and fine particulate formation, must be reduced by around 80 percent from 2010 levels by 2023, and almost 90 percent by 2032. Similar levels of emissions reductions are likely needed in the San Joaquin Valley by 2032").

[39] *See* Executive Orders S-3-05 (setting target of statewide GHG emissions 80 percent below 1990 levels by 2050).

[40] *See generally* California Air Resources Board ("CARB"), *2017 Climate Change Scoping Plan Update, The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target* (Jan. 20, 2017), *available here*: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf. Scoping Plan's Mobile Source Strategy includes increasing ZEV buses, delivery and other trucks, and to put 4.2 million ZEVs on the roads.

[41] *See* CARB, *Advanced Clean Local Trucks, Second Workgroup Meeting* (Aug. 30, 2017), *available at* https://www.arb.ca.gov/msprog/actruck/mtg/170830arbpresentation.pdf (last checked Oct. 21, 2017) at 7, 8, and 11 (There are at least 11 manufacturers that currently offer zero emissions technologies on the trucks (pg. 7). CARB projected six transit agencies to have more than 3,000 zero emission buses by 2030 (pg. 8). Toyota demonstrating a fuel-cell drayage truck, Cummins announced an electric powertrain option, Siemens, Hydrogenics, and US Hybrid deploying heavy duty fuel-cell systems, and Tesla to reveal electric semi this September (pg. 11)).

[42] *See* RDEIR/SDEIS at 2-22 and 2-23 (*citing* Gateway Cities, Strategic Transportation Plan, *I-710 Project Zero-Emission Truck Commercialization Study, Final Report* (Nov. 20, 2013) ("Commercialization Study") at 6-2, *available at* http://www.calstart.org/Libraries/I-710_Project/I-710_Project_Zero-Emission_Truck_Commercialization_Study_Final_Report.sflb.ashx).

the Commercialization Study concluded ZEV hybrids (EVs with fuel cells or CNG) presented viable business cases for the I-710 as of 2013.[43] It is thus reasonable to assume the availability of such vehicles in support of a Freight Corridor estimated to be completed by 2027.

Moreover, ZEV technology has progressed significantly since this study's completion and is expected to further progress by 2027.[44] Given the long lead time for this Project, Caltrans should plan for the ZE technologies that will be, and not solely the technologies that are available today. U-2-12

D. Active Support for TE Along the I-710 is Needed Now

The I-710 Project offers an ideal opportunity for proactive, forward thinking action. Approximately 40 percent of the goods entering the U.S. are moved through southern California's ports and highways.[45] Transportation is responsible for approximately 39 percent of California's GHG emissions (and approximately 45 percent when considering upstream emissions from refineries),[46] 80 percent of nitrogen oxides (NOx), and 95 percent of DPM emissions.[47]

The 17.8 year average life for medium- and heavy-duty vehicles demands that the infrastructure must be in place now to support TE and market penetration of ZE trucks.[48] Every time a vehicle is purchased, there is an opportunity to convert a fossil-fuel-powered vehicle to a clean vehicle. If that opportunity is missed, the vehicle likely will not be converted to a clean vehicle for another decade or more.[49] Failing to push for electrification of vehicles using the I-710 Freight Corridor now would potentially (and unacceptably) delay cleaning up the I-710 corridor, as well as the South Coast Air Basin, beyond a generation.[50] U-2-13

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[43] *See* Commercialization Study at 6-1 and 6-2.

[44] *See* RDEIR/SDEIS at 3.25-42 (projected construction schedule for Project "2020 – 2027").

[45] *See* TE Infographic; Edison Intl. Newsroom, *SCE Files Plan for Expanding Electric Transportation* (1/23/17) ("Edison Intl., SCE TE Plan"), incorporated herein by reference and available here: http://newsroom.edison.com/releases/sce-files-plan-for-expanding-electric-transportation.

[46] *See* TE REDI at 1.

[47] *See* TE Infographic; TE REDI at 4.

[48] *See* TE Application Testimony at 7.

[49] *See* TE Application Testimony at 7.

[50] *See* TE Application Testimony at 7; California Air Resources Board, *Vision for Clean Air: A Framework for Air Quality and Climate Planning* (June 2012) at 16-19, *incorporated herein by reference and available here*: http://www.arb.ca.gov/planning/vision/docs/vision_for_clean_air_public_review_draft.pdf (last checked Oct. 15, 2017) (noting that meeting the 2023 and 2031 air quality attainment deadlines requires a faster shift to zero-emission transportation than meeting the state's greenhouse gas emission reduction goals).

With only a little more than 12 years until 2030 (the year when California has committed to meet the next phase of its GHG reduction goals), the state, utilities, and other stakeholder must act now in order to achieve the GHG reduction goals.[51] Significant electrification of the transportation sector will be required to achieve these GHG goals, while also reducing local air pollution and maintaining the reliability and affordability of the electric grid.[52]

II. THE PROJECT'S IMPACTS ON SCE'S FACILITIES

SCE understands the Project proposes to expand the I-710 Freeway from the Port of Long Beach to the SR-60 Freeway. As Caltrans is aware, SCE owns and maintains critical electric transmission and subtransmission system facilities running parallel to the I-710 Freeway. The locations and design of this infrastructure have not significantly changed since SCE's September 27, 2012 comment letter regarding this same Project.

A. SCE's Existing Facilities

In particular, between the I-405 and the SR-91 Freeways, SCE has major facilities consisting of four (4) 220 kilovolt (kV) circuits and seven (7) 66 kV circuits. North of SR-91, SCE has at least three (3) 220 kV transmission lines and approximately thirty-eight (38) 66 kV subtransmission lines, twenty-five (25) 12 kV distribution lines, eighteen (18) telecommunication lines, and at least one regional substation ("Bandini"). All of these facilities either cross, run parallel to, or are located in areas likely to be impacted by the Project.

SCE's 220 kV facilities running parallel to the I-710 Freeway between the I-405 and SR-91, are considered critical infrastructure facilities by the Federal Energy Regulatory Commission ("FERC"). These 220 kV facilities are operated under the jurisdiction of the California Independent System Operator ("CAISO") and transmit electricity for ultimate delivery to approximately 85,000 customers in the greater Long Beach area, including the Gateway Cities Council of Governments cities and the Port of Long Beach. In addition, these 220 kV line facilities provide paths for power flow during abnormal electrical system events north and east of the I-710/SR-91 interchange. It is imperative from system reliability, electric system planning, and operating perspectives that SCE maintain these four (4) 220 kV circuits. U-2-14

[51] *See* TE Application Testimony at 3, 10.

[52] *See* TE Application Testimony at 3 – 25 (describing SCE's vision for TE to reduce emissions and drive innovation).

In 2012, SCE provided Caltrans and MTA a preliminary description of SCE facilities that would be impacted by the Project.[53] Since that time, SCE has engaged in significant discussions with Caltrans and its consultants to catalog the impacts of the Project on SCE's facilities and to continue the beneficial collaboration on the necessary planning and design to resolve those issues.[54] Reflecting some of those discussions, the RDEIR/SDEIS's descriptions of the Project's impacts to SCE's facilities include:

- a summary of Alternative 5C's conflicts with and impacts to SCE facilities on RDEIR/SDEIS pages 3.4-10 to 3.4-14;
- a summary of Alternative 7's conflicts with and impacts to SCE's facilities on RDEIR/SDEIS pages 3.4-23 to 3.4-31; and
- detailed descriptions of the conflicts between the Project and SCE's facilities provided in "Utility Reports" attached as technical appendices to the RDEIR/SDEIS. The Utility Reports also contain general relocation and mitigation strategies to address impacts to SCE facilities.[55]

SCE notes that these descriptions of the potential impacts on SCE's facilities are preliminary, and may not capture the entire extent of the impacts.[56] SCE looks forward to continuing to work closely with Caltrans and its consultants to refine these descriptions (to the extent necessary) through the development of the Final REIR/SEIS and Specific Utility Relocation Plan ("SURP") for SCE's relocation work (the "Relocation Work"), as discussed in Section II.B.2., below. U-2-15

[53] *See* 2012 EIR/EIS at Appx. J (Comments and Coordination).

[54] *See* RDEIR/SDEIS at ES-13 ("To address the utility relocations, Metro has conducted detailed relocation studies to help shorten the lead time necessary to implement these relocations"), 2-20 to 2-21 (describing "Major Utility Relocations").

[55] *See Final Report, Utility Impact Report, I-710 Corridor Project, Utilities Relocation Strategies Report, Central Segment* (June 2016) ("Central Segment Utility Report") at 7, 17-38 (noting coordination with SCE); *North Utility Study, Final Draft Preliminary Strategies Report* (September 13, 2016) ("North Segment Utility Report") at 37 - 61 (same); *I-710 South End Utility Study, Project Report* (November 25, 2016) ("South Segment Utility Report") at 19 – 27 (same). The South, Central, and North Segment Utility Reports are collectively referred to as the "Utility Reports" herein.

[56] *See e.g.*, RDEIR/SDEIS at 3.4-8 ("Major Utilities" addressed in the RDEIR/SDEIS are defined, in part, as including "Power lines with voltages of 50 kilovolts or greater" and thus some distribution conflicts may not be captured by the RDEIR/SDEIS's current analyses); *see also* RDEIR/SDEIS at ES-32 ("[t]he Project design is not advanced enough to determine the specific locations of some utility relocations"); Central Segment Utility Report at 8; North Segment Utility Report at 7-8.

B. Relocation of SCE Facilities

The Utility Reports are intended to "provide information, and technical guidance, and to implement strategies to develop the design in line with the need and purpose for the [Project]."[57] "The purpose of [these studies] was to understand, and evaluate the existing conditions of all underground and overhead utilities within the project limits, and to develop mitigation measures for all utilities in conflict to support developed EIR/EIS Alternative 5C, Design Option and Alternative 7."[58]

1. Environmental analyses performed and assumptions made in the RDEIR/SDEIS regarding the relocation of SCE facilities

Among other things, and as potentially relevant to SCE's facilities, the RDEIR/SDEIS assumes that:

- "[u]nder all build alternatives, utility relocations would occur prior to project construction";[59]
- "Generally, all utility relocations are expected to occupy new or existing fee owned or easement rights of way or public rights of way";[60]
- the Project's build alternatives "would not contribute to cumulative adverse impacts related to utilities…" because the cumulative projects listed in the RDEIR/SDEIS "would occur prior to highway construction";[61] and
- "[t]he relocation of existing utilities is a component of the Project Description, and the relocated utility infrastructure is included in the project footprint/disturbance limits [and that t]he effects of the utility relocation are evaluated in this RDEIR/SDEIS, including the

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[57] *See* South Segment Utility Report at 5, 9 (utility relocation reports "supplement the EIR/EIS I-710 Corridor Study Report" and are intended to be "a comprehensive 'toolbox' that can be used as a preliminary design to develop utility relocation plans for the construction of the I-710 EIR/EIS project").

[58] *See* South Segment Utility Report at 39.

[59] *See* RDEIR/SDEIS at ES-27; South Segment Utility Report at 9 ("The majority of the mitigation measures described in this report need to be implemented before construction of the I-710 can commence.").

[60] *See* RDEIR/SDEIS at 3.4-8.

[61] *See* RDEIR/SDEIS at 3.25-66.

short-term construction effects of demolition and construction, as well as the long-term effects of operation of the new utility infrastructure."[62]

2. *Anticipated regulatory process and timeline in support of the relocation of SCE's facilities*

Consistent with the provisions of the California Environmental Quality Act ("CEQA") and CPUC General Order ("GO") 131-D, SCE intends to use the documents referenced by the Project's Final, certified and adopted REIR/SEIS, including the Utility Reports and any other relevant and available studies and/or documents, in support of any CPUC licensing required for SCE's Relocation Work.[63] The RDEIR/SDEIS generally describes Caltrans' expectations regarding the CPUC's anticipated regulatory process in support of SCE's Relocation Work on pages 2-20 through 2-21.[64] The described regulatory process suggests, and it is mutually recognized by SCE and Caltrans that additional efforts regarding the description of SCE's Relocation Work and the environmental analyses of same are required in support of any CPUC license application. U-2-16

a) Environmental analysis of SCE's Relocation Work

SCE strongly encourages Caltrans to consider the potential adverse schedule impacts that would result from the CPUC requiring additional environmental analyses of SCE's Relocation Work. Measures should be taken to minimize the potential for any such delay by completing the environmental analyses for SCE's Relocation Work prior to SCE's application for any license/permit from the CPUC. U-2-17

One option to potentially minimize such delay would be for the Final REIR/SEIS (or other document concurrently certified and relied upon by the Project approvals) to specifically

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[62] *See* RDEIR/SDEIS at 2-20; *see also* Central Segment Utility Report at 8, Table 3.3, Table 3.4-2 (assessment and descriptions of SCE fee owned property).

[63] *See* Sept. 28, 2012 Letter from A. Barnsdale (CPUC Energy Division) to R. Kosinski (Caltrans Dist. 7) regarding *Comments on the draft EIR for the I-710 Corridor Project* (asserting, in relevant part, "The [CPUC's] discretionary authority will be required by SCE to relocate any portion of the electrical infrastructure impacted by the I-710 Corridor Project").

[64] *See* RDEIR/SDEIS at 2-20 (Caltrans anticipates the CPUC will conduct an independent review of the I-710 Corridor Project EIR/EIS; make findings required by CEQA Guidelines Section 15091 [*Findings*] for each significant effect of the Project; make the findings required by CEQA Guidelines Section 15093 [*Statement of Overriding Considerations*], if necessary; file a Notice of Determination (NOD) that states it considered the EIR/EIS as prepared by the Lead Agency; and then rely on the Project EIR/EIS for the issuance of any needed permits and approvals. Also, Public Utilities Code Section 851 [*Transfer or Encumbrance of Utility Property*] requires SCE to secure CPUC approval prior to selling, leasing, assigning or otherwise disposing or encumbering property as part of the Relocation Work.).

describe the environmental impacts resulting from any necessary relocation of SCE's facilities, including those that are subject to the licensing requirements of the CPUC per GO 131-D. This description of environmental impacts specific to SCE's Relocation Work should determine each impact category for which SCE's Relocation Work was found to be "significant" and, where appropriate, assign specific mitigation measures applicable to SCE's Relocation Work.[65] The Final REIR/SEIS should explicitly confirm that SCE's Relocation Work can be accomplished within the disturbance limits established for the Project and studied in the Final REIR/SEIS.

Further, Caltrans' final Project approvals should contain findings specific to SCE's scope of work and the impacts resulting specifically therefrom (in compliance with CEQA Guidelines section 15091 and 15093, as appropriate), independent of the findings made for the Project as a whole.[66]

These separate analyses and findings are important because, if it is not sufficiently clear to the CPUC that SCE's Relocation Work has been thoroughly evaluated *before* SCE applies for any CPUC license, the CPUC may require additional environmental evaluations be undertaken in support of SCE's Relocation Work. Because Caltrans' construction schedule assumes the utility relocations, including SCE's Relocation Work, would occur prior to the Project's construction,[67] any delays associated with SCE's licensing of its Relocation Work will negatively impact the Project's estimated construction schedule. U-2-17

In light of the importance of SCE's Relocation Work to the Project's construction schedule, SCE recommends a working group be formed in support of SCE's Relocation Work, consisting of SCE, Caltrans (and its consultants), and the CPUC (if possible). Involvement of these relevant stakeholders will limit the potential for confusion and/or scheduling surprises regarding the CPUC's permitting of SCE's Relocation Work.

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[65] Because utility relocations are part of the Project description, SCE assumes that the impacts from its Relocation Work are a subset of the impacts that will be caused by the Project. Therefore, while certain impacts from SCE's Relocation Work may be less than the Project's, there should be no significant and unavoidable impacts associated with SCE's relocation work that are not similarly found to be significant and unavoidable for the Project as a whole.

[66] *See* CEQA Guidelines §§ 15091 (Findings), 15093 (Statement of Overriding Considerations).

[67] *See* RDEIR/SDEIS at ES-27.

b) Mitigation Measure U&ES-2 (Utilities)

SCE understands its facilities "would be relocated in accordance with specific Utility Relocation Plans [("SURPs")] described below in Measure U&ES-2."[68] Caltrans suggests that SCE's SURP would be developed after the certification of the Final REIR/SEIS.[69]

While Caltrans' intent regarding measure U&ES-2 is ambiguous,[70] SCE notes that measure U&ES-2 does not appear to be a "mitigation measure" *per se*, in that it is not clear that the provisions of SCE's SURP will reduce impacts from its Relocation Work below relevant thresholds of significance. Indeed, it is not currently clear which portions of SCE's Relocation Work may be significant and thus require mitigation. U-2-18

Mitigation plans, such as the SURPs contemplated under U&ES-2, may not improperly defer environmental analysis. Post-certification mitigation plans must lay out specific performance standards that must be satisfied in order to ensure that the environmental impacts disclosed in the environmental documents are not surpassed. Therefore, to serve as an effective mitigation plan, U&ES-2 should specifically enumerate the levels of environmental impacts the Final REIR/SEIS assumes will not be surpassed by SCE's Relocation Work. SCE has significant concerns that such an exercise would be ultimately successful given the current lack of detail regarding SCE's Relocation Work. U-2-19

SCE's preferred approach is that the environmental impacts from SCE's Relocation Work be sufficiently described in the Final REIR/SEIS or other environmental document(s) adopted by Caltrans at the time of the Project's approval.[71] Under such an approach, instead of a CEQA

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[68] *See* RDEIR/SDEIS at 3.4-38 – 40 (Mitigation Measure U&ES-2 (Utilities) provides, in relevant part, "Utility relocations (classified as both major and minor) would be subject to preparation of Specific Utility Relocation Plans [...which] would include the following: [1] Description of existing facilities...[; 2] Description of proposed changes/demolition of existing facilities[; 3] Identification of potential conflicts... [; 4] A description of how the potential conflicts were resolved... [; 5] A description of the proposed facilities...[; 6] A work plan that describes the nature of the construction activity... [; 7] A summary of existing and planned Utility Team Coordination Meetings... [; 8] A determination whether a community meeting would be held prior to the issuance of demolition and grading permits... [; 9] ...other applicable mitigation measures described in this [RDEIR/SDEIS], for impacts related to cultural resources, visual resources, hazardous wastes, water quality, and traffic and transportation), 3.24-46 to 48 (describing mitigation measure CON-U&ES-2 (Utilities) and the Specific Utility Relocation Plans addressing temporary construction impacts).

[69] RDEIR/SDEIS at 2-20 ("Some of the relocations will be subject to the requirements of [...GO 131-D...], which will occur after certification of the I-710 Corridor Project EIR/EIS but prior to approval of utility relocation or grading plans").

[70] *See* RDEIR/SDEIS at 3.4-38 – 40 (measure U&ES-2 is listed in section 3.4.3, "Avoidance, Minimization, and/or Mitigation Measures").

[71] *See* Section II.B.2.a, *supra.*

"mitigation measure," SCE's SURP would serve as a guidance document describing the specific construction techniques that SCE will employ in order to implement its Relocation Work in accordance with the findings and determinations of the certified Final REIR/SEIS.

SCE looks forward to assisting Caltrans in developing and executing a timely approach to address the environmental impacts associated with its Relocation Work which will satisfy the requirements of the CPUC.

U-2-19

C. Estimated Costs of the Relocation of SCE Facilities

Regarding the purported costs of SCE's Relocation Work, the Utility Reports assert:

- the "North Segment" will cost SCE approximately $8,498,001 and the Project $2,844,680 for Alternative 5C,[72] and SCE approximately $11,987,555 and the Project $19,278,543 for Alternative 7;[73]
- the "Central Segment" Project (non-SCE) costs will approximate $17,436,094 for Alternative 5C[74] and approximately $36,394,469 for Alternative 7;[75] and
- the "South Segment" SCE Relocation Work costs are not broken out but are subsumed within an estimated *total* Project utility relocation cost of $195,600,000 for Alternative 5C[76] and $192,600,000 for Alternative 7.[77]

SCE understands these estimates reflect an approximate assignment of cost based on a referenced "Freeway Master Agreement" between SCE and Caltrans.[78] SCE notes that these

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[72] *See* North Segment Utility Report at 83, 103 (total Project costs of $11,378,420 for Alternative 5C and $31,266,099 for Alternative 7).

[73] *See* North Segment Utility Report at 91, 103.

[74] *See* Central Segment Utility Report at 105.

[75] *See* Central Segment Utility Report at 106.

[76] *See* South Segment Utility Report at Ex 4-Ex-5 ($71,400,000 + $13,200,000 + $69,500,000 + $10,700,000 + $17,300,000 +$13,500,000 = $195,600,000).

[77] *See* South Segment Utility Report at Ex 4-Ex-5 ($23,200,000 + $72,300,000 + $48,700,000 + $32,100,000 + $16,300,000 = $192,600,000).

[78] *See* South Segment Utility Report at 12 (noting, with respect to the approximate assignment of Project costs, "SCE facilities operate under Freeway Master Agreement between Caltrans and SCE. The Master Contract determines liability based on the following three scenarios: [1] Caltrans/Project shall pay 100 percent of the cost of Relocations of Owners existing facilities located in a Private Right-of-Way of Owner, upon delivery by Owner to Caltrans a copy of such Private Right-of-Way concurrent with timely submission of Owner's relocation plan to Caltrans[; 2.] Owner shall pay 100 percent of the cost of Relocation of Owner's Utility Facilities originally installed within State Right-of-Way pursuant to Caltrans Encroachment permit and without benefit of a valid franchise[; or 3] In all other

costs are Caltrans' estimates, are not final, do not represent SCE's estimates of Maximum Prudent and Reasonable Cost under Public Utilities Code section 1005.5, and are subject to change in support of any licensing application for SCE's Relocation Work submitted to the CPUC. Further, all efforts supporting SCE's Relocation Work would be subject to the provisions of a Relocation Agreement to be executed between SCE and Caltrans/METRO. At a minimum, the provisions of the Relocation Agreement would establish the responsibility for Caltrans to secure for SCE equivalent fee owned property rights, non-revocable property rights, or Joint Use Agreements. SCE must be afforded a reasonable opportunity to review and approve any property rights documentation prior to their execution. Caltrans will be required to reimburse SCE for any diminished property rights. SCE also anticipates that the Relocation Agreement would ensure that any further relocation of SCE facilities would be funded by Caltrans or another third party, and that SCE's rate payers and shareholders would not be exposed to additional costs. U-2-20

III. TECHNICAL COMMENTS REGARDING THE RDEIR/SDEIS'S ENVIRONMENTAL ANALYSES

Appended hereto as Attachment 1, please find a matrix containing SCE's specific comments on the RDEIR/SDEIS, associated appendices, and supporting studies available to date. Captured within this matrix are some of the key issues which should be addressed by the Project's final environmental documents. A general summary of certain key issues is included below.

A. Alternatives

The RDEIR/SDEIS does not currently identify the preferred and/or environmentally superior project alternative, but notes that "the Final EIR/EIS…will identify the Preferred Alternative."[79] Identification of the preferred and/or environmentally superior project alternative would clarify potential Project impacts to SCE's facilities, as well as the associated environmental impacts caused by SCE's Relocation Work. U-2-21

With respect to the possible systems which may power the ZE trucks on the Freight Corridor ("Freight Corridor"),[80] SCE has performed preliminary analyses regarding the load, facility, and space requirements needed in support of an overhead catenary system. SCE has the capacity to U-2-22

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circumstances, including but not limited to Owner's existing Utility Facilities in place pursuant to a valid franchise, statue, or non-perfected claim of prescription, the cost of Relocation of Owner's existing Utility Facilities shall be borne equally by Caltrans and Owner.")

[79] *See* RDEIR/SDEIS at ES-9.

[80] *See* RDEIR/SDEIS at 2-59 ("The power systems for these electric propulsion trucks could include, but are not limited to, road-connected wayside power (e.g., overhead catenary electric power distribution system), long-range electric battery cells, as well as ZE hybrid power sources such as a fuel-cell/electric battery Range Extender Electric Vehicle (REEV)"), 2-95 (describing catenary system as part of Alternative 6, presented in the 2012 Project DEIR/EIS).

both build the infrastructure supporting the catenary and to supply power to it. The attendant benefits associated with a catenary power system (*e.g.*, improved local air quality, effective increases in range of ZEVs utilizing the Freight Corridor, compatibility with NZE technologies, *etc.*), along with any environmental impacts associated with its supporting infrastructure, should be evaluated and considered in support of the development of the Final REIR/SEIS and selection of the preferred Project alternative. U-2-22

B. The Project's Assumptions Regarding Alternative 7 Understate its Benefits while Overstating its Environmental Impacts vis-à-vis Alternative 5C

Common sense suggests that the impacts associated with Alternative 5C would be greater than those of Alternative 7. But the RDEIR/SDEIS makes various assumptions that understate Alternative 7's environmental benefits, while overstating its environmental impacts. As a result, the environmental differences between Alternatives 5C and 7 are artificially narrowed and should be revised. U-2-23

1. Air Quality Analyses

The skewing impact of the RDEIR/SDEIS's assumptions is most clearly demonstrated in the Air Quality analyses. The *Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* for the RDEIR/SDEIS makes a number of inaccurate assumptions that result in understated benefits to air quality and public health under Alternative 7.

The RDEIR/SDEIS makes clear that overall, the Project would convey specific regional air quality and health benefits.[81] However, with respect to certain pollutant emissions and their potential impact on populations residing near the I-710, the analyses find: U-2-24

> Alternative *[sic]* 5C and 7 show areas of increased impacts compared to the 2035 Alternative 1 (No Build). This is generally the result of increases in emissions resulting from greater capacity. Compared to the 2035 Alternative 1 (No Build), Alternative 7 shows fewer impacts related to

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[81] *See* RDEIR/SDEIS at ES-39 ("Air Quality/Health Risk Assessment. The I-710 Corridor Project would not be implemented and the specific benefits of the I-710 Corridor Project build alternatives would not occur under Alternative 1"), 3.3-137 ("Although there are air quality benefits associated with the build alternatives (including those associated with the Community Health Benefit Program, a programmatic component of both build alternatives), and these benefits would be experienced by the environmental justice populations that predominantly reside near the I-710 freeway, there are also near-roadway adverse impacts that would disproportionately burden these populations").

> DPM, NOx and health risks than Alternative 5C. Whereas, Alternative 5C shows fewer impacts related to PM, CO, VOC, and SO2.[82]

These conclusions are predicated on the RDEIR/SDEIS's finding that Alternative 7 would effectively move more traffic and thus, would cause greater air quality emissions when compared with Alternative 5C. Simply put, as volume of traffic increases, air emissions increase. However, as explained below, this finding, coupled with questionable assumptions regarding air quality emissions, combine to inappropriately skew Alternative 7's estimated impacts. U-2-24

a) The air quality analyses assume conventional truck emissions profiles for the ZE/NZE Freight Corridor, resulting in over-estimates of NOx, CO, VOCs, SO2 and GHGs for Alternative 7

In determining the emissions factors that formed the basis for the air quality analyses of Alternatives 5C and 7, the AQ Tech Study states:

> This analysis conservatively assumed that all criteria air pollutant *[sic]* (except for NOx) and greenhouse gas emission factors of *ZE/NZE trucks were equal to that of a conventional heavy-duty truck.* … the *NOx emission factors of the ZE/NZE trucks were reduced by a factor of 90% as compared to the conventional heavy-duty trucks*…This approach is consistent with other SCAQMD public statements. It is conservative because the presence of ZE (as opposed to NZE) would further reduce emissions.[83]

U-2-25

While this paragraph makes no reference to fuel, SCE assumes the reference to "conventional heavy-duty trucks" with respect to the Project are diesel-powered, Class 8 trucks. There are various flawed assumptions here that skew the air quality analyses and present erroneous conclusions.

First, the ZE/NZE component of Alternative 7 was given no credit with respect to the estimated CO, VOCs, SO_2, $PM_{2.5}$, PM_{10}, and GHG emissions. This means that because Alternative 7

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[82] AQ Tech Study at ES-29. "Criteria air pollutants" include Nitrogen Oxides ("NOx"), Carbon Monoxide (CO), Volatile Organic Compounds ("VOCs"), Sulphur Dioxide ("SO_2"), Particulate Matter, 2.5 microns ("$PM_{2.5}$"), and Particulate Matter, 10 microns ("PM_{10}"). *See* AQ Tech Study at ES-13 (Table ES-2, listing pollutants). DPM is "the greatest contributor to air-quality related cancer risk in the South Coast Air Basin and that approximately half of the DPM is emitted by diesel trucks using the freeway and roadway systems." *See* RDEIR/SDEIS at 1-9, 3.3-136 (decreases in cancer risks under Alternative 7 mainly due to decreases in DPM), 3.13-33 (DPM "main health risk concern").

[83] AQ Tech Study at C-27 (emphasis added), ES-16 ("…for purposes of this analysis Ramboll Environ assumed ZE/NZE trucks would be NZE with no reductions in any of the criteria air pollutants except NOx").

would effectively move more traffic, it would be penalized when compared with Alternative 5C because: (1) as the volume of traffic increases, air emissions increase; and (2) this increase in trucks was assumed to be made up of "conventional heavy-duty trucks" in lieu of ultra-low polluting ones. This assumption regarding the use of emissions profiles from conventional trucks fatally flaws the specific conclusion that Alternative 7's increased traffic flow would eclipse any reduction in SO_2 emissions resulting from the implementation of the Pavley Standard.[84] Indeed, for all criteria pollutants (save NOx, discussed below), this assumption guts the air quality benefits of Alternative 7, grossly distorting its cost/benefit analysis when compared with 5C.[85] U-2-25

Similarly, the only source of GHGs from the Project's operational phase is running exhaust.[86] The GHGs that are released by the combustion of fossil fuel in on-road vehicles include carbon dioxide ("CO_2"), methane ("CH_4"), and nitrous oxide ("N_2O"). The analysis's use of the GHG emissions profile of a conventional heavy-duty truck[87] thus fatally flaws the GHG analysis because ZEVs release no GHGs, while NZEVs generate a small fraction of the GHGs emitted by conventional diesel engines.[88] In reality, Alternative 7 does not merely "display a negligible increase in GHG emissions" as found in the RDEIR/SDEIS, [89] but rather, would drive GHG reductions considerably beyond reductions inherent in the "no build" alternative, and thus would support satisfaction of California's ambitious GHG reduction targets. U-2-26

These assumptions made by the RDEIR/SDEIS also seemingly ignore the power of Alternative 7's Freight Corridor to drive the adoption of ZE/NZE technologies and thus further reduce criteria pollutants (including NOx) and GHG emissions when compared to the lane widening proposed under Alternative 5C. U-2-27

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[84] *See* AQ Tech Study at ES-14 ("…with the implementation of the Pavley Standard…we see decreases in SO2 emissions for all future alternatives as compared to the 2012 Baseline. For 2035 Alternative 7 alone, SO2 emissions from the I-710 freeway increase in 2035…because the increase in SO2 emissions associated with increased truck traffic on the Freight Corridor are greater than the reductions in SO2 generated by the Pavley Standard.")

[85] *See* RDEIR/SDEIS at 3.3-57 ("The success of the freight corridor depends upon its ability to remove a substantial majority of diesel trucks from the freeway lanes and deliver travel and air quality benefits relative to its projected cost").

[86] *See* AQ Tech Study at 34.

[87] AQ Tech Study at C-27 ("This analysis conservatively assumed that all criteria air pollutant (except for NOx) and greenhouse gas emission factors of ZE/NZE trucks were equal to that of a conventional heavy-duty truck").

[88] *See* CARB, EMFAC2014 Volume III - Handbook for Project-level Analyses v1.0.7 (May 20, 2015), *available at*: https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf (last checked Oct. 21, 2017) at 97 ("Battery-electric vehicles (BEVs) and fuel-cell vehicles (FCVs) have no tailpipe CO2 emissions."

[89] AQ Tech Study at ES-3 (no increase in GHG emissions from Alternative 7).

With specific regard to NOx, while the RDEIR/SDEIS assumed reduced NOx emissions by a factor of 90 percent, this ignores the presence of ZEVs, which emit no NOx. Thus, if the Freight Corridor is reserved solely for ZEVs, this would substantially reduce NOx (with the only NOx emissions coming from NZE vehicles and conventional diesel trucks on the I-710 freeway but not the Freight Corridor).[90] Even short of assuming a 100 percent ZEV Freight Corridor, however, the presence of ZEVs would decrease the likely NOx emissions beyond those projected by the RDEIR/SDEIS and the technical air analyses. U-2-27

Lastly, assuming ZE/NZE emissions profiles to be equivalent to "conventional heavy-duty trucks" is unnecessary. Emissions factors and methodologies are readily available to describe likely emissions from both ZE and NZE vehicles that could have been (and should be) used to compare Alternative 7's benefits vis-à-vis Alternative 5C.[91] U-2-28

b) The air quality analyses assume an "infinite silt reservoir" and fail to account for reductions in the accepted silt loading factor thus overstating Alternative 7's emissions of PM2.5 and PM10

The RDEIR/SDEIS acknowledges that increases in entrained road dust (accounted for as PM_{10}) are likely overestimated,[92] as the methodology used for estimating these emissions assumes that roadways have an infinite amount of dust (silt) and entrained road dust emissions are directly proportional to VMT. As noted above, because Alternative 7 allows for the most increase in throughput/VMT of the I-710 corridor (a key project objective), this assumed "infinite" silt U-2-29

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[90] *See* AQ Tech Study, Appendix D, Air Dispersion Modeling, Section 7 (NZE trucks would be "alternative-fueled (*e.g.* CNG or LNG, hydrogen)"). However, the air quality analyses do not explain which emissions factors were used for the "alternative fuel" (*i.e.*, CNG, LNG, or hydrogen) or the percentages of the NZE trucks were assumed to be CNG, LNG, or hydrogen.

[91] *See e.g.*, 17 Cal. Code of Regs. 95480, *et seq.* (Low Carbon Fuel Standard) (re GHG emissions, presenting Energy Economy Ratio (gCO2e/MJ) adjusted GHG emissions for conventional, ZE, and NZE trucks); California Air Resources Board (CARB) Low Carbon Fuel Standard (LCFS) website, *available here*: https://www.arb.ca.gov/fuels/lcfs/lcfs.htm (last checked Oct. 15, 2017) (GHG emissions); Ramboll Environ, *Zero Emissions Bus Options: Analysis of 2015-2055 Fleet Costs and Emissions* (Feb. 2016), *available here*: https://media.metro.net/board/Items/2016/09_september/20160914atvcitem4.pdf (last checked Oct. 15, 2017) (NOx, PM, CH4, CO2, GHG (CO2e)); ICF International, *California Transportation Electrification Assessment, Phase 1: Final Report* (Aug. 2014; Updated Sept. 2014), *available here*: http://caletc.com/wp-content/uploads/2016/08/CalETC_TEA_Phase_1-FINAL_Updated_092014.pdf (last checked Oct. 15, 2017) (NOx); King County METRO, *Feasibility of Achieving a Carbon-Neutral or Zero-Emission Fleet* (Mar. 2017), *available here*: http://kingcounty.gov/~/media/elected/executive/constantine/news/documents/Zero_Emission_Fleet.ashx?la=en (last checked Oct. 15, 2017) (NOx, CO2, PM10).

[92] *See* AQ Tech Study at ES-14.

reservoir will tend to exaggerate Alternative 7's emissions of PM_{10} in comparison to Alternative 5C.[93]

In addition to this penalizing assumption, the California Air Resources Board ("CARB") revised the silt loading factor for freeways by approximately 25 percent.[94] This unaccounted 25 percent reduction in entrained road dust, coupled with the "infinite' silt reservoir assumption, results in overestimated of emissions of $PM_{2.5}$ and PM_{10} from Alternative 7. U-2-29

c) The defined study area fails to properly account for decreases in regional emissions and traffic, thus understating Alternative 7's benefits and potential to convert trucks to ZE/NZE technologies

The narrow geographic scope of the RDEIR/SDEIS's air quality analysis also does not capture the regional benefit of Alternative 7 to the South Coast Air Basin. As the RDEIR/SDEIS notes, railroad systems will not be able to accommodate the increase in traffic from the Ports, even if operating at maximum capacity, and thus increased truck traffic on the I-710 is inevitable.[95] Air dispersion modeling was performed using only the emissions data calculated for the I-710 mainline (and freight corridor for Alternative 7), using post-processed traffic data.[96] As such, the modeling results do not reflect changes in emissions on other nearby freeways and local arterials and roadways. Emissions on these other roadways would be expected to decrease as traffic shifts to the I-710.[97] U-2-30

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[93] *See* AQ Tech Study at ES-14; RDEIR/SDEIS at 3.13-24 (finding decrease in exhaust PM2.5 emissions greater than the sum of the increases in tire wear, brake wear, and entrained road dust emissions but increases in entrained road dust, tire wear, and brake wear outweigh the decrease in exhaust PM10), 3.13-28 (finding Alternative 5C would increase the PM10 emissions along the I-710 freeway corridor by up to 24 percent and Alternative 7 would increase the PM10 emissions along the I-710 freeway corridor by up to 51 percent).

[94] *See* AQ Tech Study at ES-14 to ES-15.

[95] *See* RDEIR/SDEIS at 1-21 ("With regard to future demand for cargo containers to be transported to and from the Ports by rail instead of truck, the I-710 Railroad Goods Movement Study (February 2009) found that while railroads have employed a variety of operational strategies to meet increased container demand from the Ports, including longer trains with higher utilization rates, *the railroad system will not be able to handle all of the cargo demand even with the rail system operating at maximum capacity*. Therefore, any additional containers would be transported via truck, which increases travel demand by truck on I-710," emphasis added)

[96] *See* AQ Tech Study at ES-18; RDEIR/SDEIS at 3.13-29 ("The emissions analysis does show that Alternative 7 incremental near-freeway emissions along the I-710 are at least three times greater than Alternative 5C when compared to the 2035 No Build Alternative.")

[97] *See* RDEIR/SDEIS at 3.5-105 (Table 3.5-24, comparing VMT, vehicle hours travelled ("VHT"), and vehicle hours of delay ("VHD") of the Project's alternatives), 3.3-133 (citing increase in throughput and associated VMT), 3.3-134 (same), 3.5-83 ("vehicle throughputs are projected to increase under Alternative 7").

In other words, the noted increase in VMT Alternative 7 would accommodate (as compared to Alternative 5C) must be assumed to come from somewhere; VMT increases along the I-710 can be assumed to accompany VMT decreases along other regional freeways and arterials.[98] Omitting the emissions benefits produced from this shift in traffic therefore understates the positive impacts of Alternative 7, which would divert the highest volume of traffic, and further convert those trips to ZE/NZE technologies.[99]

U-2-30

d) The air emissions assumptions are not merely "conservative," but rather result in an inaccurate portrayal of the benefits and environmental impacts of Alternative 7

The RDEIR/SDEIS's characterization of the assumptions described above as merely "conservative" is erroneous.[100] These air quality assumptions do not treat Alternative 5C and 7 equally, and thus cannot be explained by a desire to present the "worst-case" scenario.

Instead, in the case at hand, where no preferred Project alternative has been selected, employing assumptions which uniformly penalize one alternative against the other (in this case, penalizing Alternative 7 vis-à-vis 5C) is not appropriate. Such a practice does not aid the public or the prospective decision-makers in making an informed selection between the alternatives. Instead, as explained above, it inappropriately presents an artificially skewed picture of the benefits, environmental consequences, and costs of Alternative 7. It is therefore detrimental to a decision-maker's deliberations regarding whether Alternative 7's likely benefits outweigh its anticipated environmental consequences and warrant its costs.

U-2-31

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[98] *See id.*; AQ Tech Study at ES-29 (increased traffic capacity via Alternative 7), Tables C-2-4S to C-2-4C (showing CO2 emissions between 1,319 to 2,873 gram per mile (g/mi) for Heavy Heavy-Duty Trucks ("HHDT"), between 983 and 2,263 g/mi for medium-heavy duty trucks, and between 1,322 and 2,811 g/mi for port trucks in 2035, based on vehicle speed - these emissions could be mitigated if such trucks are replaced by ZE and/or NZE trucks).

[99] *See* RDEIR/SDEIS at 3.13-38 ("Both build alternatives include ZE/NZE trucks (4,000 HHDT for Alternative 5C and 18,350 [HHDT] for Alternative 7). As a result, ZE/NZE trucks account for approximately 22 percent of the HHDT VMT along the I-710, and the only trucks traveling along the freight corridor in Alternative 7 are ZE/NZE (approximately 67 percent of heavy-duty truck VMT along the I-710 main line and freight corridor)."); AQ Tech Study at Tables C-8-1A to 1C (assume 4,000 ZE/NZE trucks under Alternative 5C (24.64 percent of the total I-710 HHDT and 18,350 HHDT for Alternative 7). It is unclear how the Air Quality analysis accounts for emissions reductions from these ZE/NZE trucks. Surprisingly, Tables C-8-1A to C-8-1C appear to show Alternatives 5C and 7 as having the same criteria pollution mass emission reduction when: (1) Alternative 7 would generate 14,350 more (18,350 – 4,000 = 14,350) ZE/NZE HHDT than Alternative 5C; and (2) ZE/NZE trucks emit considerably less criteria pollution mass emissions than conventional heavy-duty trucks.

[100] *See* AQ Tech Study at ES-15 (PM2.5 and PM10 assumptions "conservative"), ES-18 (air dispersion modeling and assumed shifts in traffic "conservative"), ES-29 (criteria pollutant and GHG emissions "conservative"), C-27 ("This analysis *conservatively* assumed … It is *conservative* because the presence of ZE (as opposed to NZE) would further reduce emissions," emphasis added).

2. *Health Benefits*

With respect to the comparative health benefits of the build alternatives, in certain instances (decreases in cancer risk, for example), the RDEIR/SDEIS clearly and plainly presents Alternative 7 as the superior Project alternative.[101] In other instances however, Alternative 7's health benefits in comparison with those of Alternative 5C are more opaquely described, *e.g.*, "Under Alternative 5C, the maximum increase in risk is approximately three in one million. Under Alternative 7, that maximum increase in risk is less than one in one million."[102] Described alternatively, there is a more than 200 percent increased risk of cancer from Alternative 5C when compared with Alternative 7.

Alternative 7's benefits are also featured less prominently in the RDEIR/SDEIS's Executive Summary. While the Executive Summary makes prominent note of the alleged increase in exposure to people along the I-710 to "particulate matter (PM)-related morbidity and mortality health risks … particularly for Alternative 7," [103] the Executive Summary makes only passing reference to decreased cancer risks ("ZE/NZE trucks further reduce cancer risk for the build alternatives" [104]) and wholly fails to mention Alternative 7's documented superiority to Alternative 5C regarding the reduction of cancer health risks, as noted above.[105] U-2-32

Alternative 7's clear health benefits are obscured when not presented in the proper context or framed for clear comparison with Alternative 5C. The manner in which the data and conclusions are presented, especially in the Executive Summary, is critical to support the RDEIR/SDEIS's function as an informational document for the public and decision-makers, especially when

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[101] RDEIR/SDEIS at 3.3-136 ("incremental decrease in cancer risk, and the greatest decreases occur under Alternative 7, mainly due to the decrease in diesel-related mobile source air toxics (MSAT) emissions (specifically diesel particulate matter [DPM], a main driver of cancer risk)…the substantial environmental justice populations in the Study Area would generally benefit from this overall reduced cancer risk").

[102] *See e.g.*, RDEIR/SDEIS at 3.3-137 ("The increases in PM10 and PM2.5 can be attributed to entrained road dust, rather than exhaust emissions (and the modeled analyses included herein are conservative). Cancer risk is lower overall, with the exceptions of some near-roadway areas that fall within the locations of environmental justice populations. Under Alternative 5C, the maximum increase in risk is approximately three in one million. Under Alternative 7, that maximum increase in risk is less than one in one million"), 4-55 ("For Alternative 7, the increase in risk is less than one in one million. For Alternative 5C, the maximum increase in risk is approximately three in one million").

[103] RDEIR/SDEIS at ES-20.

[104] RDEIR/SDEIS at ES-20.

[105] *See* RDEIR/SDEIS at 3.3-137, 4-55. As discussed in Section II.B.1.b, above, the RDEIR/SDEIS's treatment of entrained road dust artificially magnifies the assumed impacts from PM10 and PM2.5, further skewing the presentation of the comparative health benefits of Alternative 7. *See also* RDEIR/SDEIS at 3.3-137 ("The increases in PM10 and PM2.5 can be attributed to entrained road dust, rather than exhaust emissions (and the modeled analyses included herein are conservative).")

RDEIR/SDEIS alone totals more than 1,800 pages. Only when a more accurate depiction of Alternative 7's impacts are disclosed in the RDEIR/SDEIS (as opposed to assumed impacts at levels even Caltrans acknowledges to almost certainly be overstated) can the public be presented with a more accurate and reliable depiction of Alternative 7. U-2-32

3. Alternative 7's efficacy in addressing the goals of the Project penalize it in the RDEIR/SDEIS's environmental analyses

The comparison of Alternative 7 against Alternative 5C presented in the RDEIR/SDEIS would benefit from a very clear explanation of the phenomenon whereby, due to the assumptions made, Alternative 7's documented superiority in satisfying the Project's stated purposes also significantly overstates Alternative 7's estimated environmental impacts. Specifically, because Alternative 7 would significantly *improve* traffic and congestion, VMT would increase, allegedly exacerbating certain environmental impacts associated with truck traffic flows: air quality, noise, health impacts, *etc.*[106] However, as explained herein, because the beneficial ZE and NZE characteristics of the trucks travelling on Alternative 7's Freight Corridor are largely ignored by the RDEIR/SDEIS's analyses, the presentation of Alternative 7's benefits are dramatically undercut, while, at the same time, its environmental impacts are significantly overestimated. SCE suggests that these assumptions be corrected and revised in support of the analyses presented in the Final REIR/SEIS. U-2-33

4. Energy Conclusions

Another example where the RDEIR/SDEIS seems to make incorrect assumptions that minimize the positive impacts of Alternative 7 is energy consumption. First, the Energy Technical Report asserts "both Alternative 5C and Alternative 7 result in a decrease in energy consumption in both the I-710 Study Area and the entire region" when compared against the 2035 baseline.[107] This conclusion makes sense for Alternative 7; given the NZE/ZE profile required in the Freight Corridor, less gasoline and diesel would likely be consumed.[108] It is however, counterintuitive with respect to Alternative 5C. An alternative that simply increases the number of lanes available (as well as the number of vehicles travelling on said lanes) would seemingly not decrease the amount of gasoline and diesel consumed. U-2-34

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[106] *See* Section III.B.1, above.

[107] *See* Energy Technical Report at pg. v. ("Direct energy impacts from each build alternative include reduced gasoline and diesel fuel consumption compared to the 2035 No Build Alternative (Alternative 1). The net result is that compared to the 2035 No Build Alternative, both Alternative 5C and Alternative 7 result in a decrease in energy consumption in both the I-710 Study Area and the entire region.")

[108] *See* Energy Technical Report at pg. v.

The Energy Technical Report also asserts that ZE/NZE trucks' "use of energy is not substantially changed from the traditional diesel-powered trucks" and yet, in the same paragraph, it also asserts, "[I]t is not possible to determine [ZE/NZE trucks'] effect on the overall energy demand as energy consumption factors for these advance technology trucks are currently not available."[109] First, contrary to this assertion, it is "possible to determine [ZE/NZE trucks'] effect on the overall energy demand."[110] The CARB's Low Carbon Fuel Standard ("LCFS") methodology documents the energy consumption factors from ZE/NZE trucks.[111]

U-2-34

Even assuming the assertion was accurate however, this paragraph is self-conflicting. If no conclusions can be derived from the energy consumption factors currently available for ZE/NZE trucks, then the conclusion that the energy consumption patterns of ZE/NZE trucks would be similar to traditional diesel-powered trucks is not supported by substantial evidence.[112]

Lastly, other assertions of the Energy Technical Report seem to clearly support Alternative 7:

> Without the capacity improvements proposed in the build alternatives, *congested traffic conditions* would be more prevalent throughout the Study Area and to a lesser extent, the region. *These conditions contribute to a higher energy consumption rate because vehicles use extra fuel while idling in stop-and-go traffic or moving at slow speeds through congested roadways.*[113]

U-2-35

Thus, if Alternative 7 relieves congestion, it in turn *decreases* the energy consumption rate per truck. It is therefore superior to Alternative 5C in that respect because under Alternative 7, "improvements would include ZE/NZE heavy trucks, increase average travel speeds during peak hours, remove bottlenecks, and reduce delays"[114] beyond the improvements that may come under Alternative 5C.

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[109]*See* Energy Technical Report at pg. 32-33.

[110]*See* Energy Technical Report at pg. 32-33.

[111]*See* 17 Cal. Code of Regs. 95480, *et seq.* (Low Carbon Fuel Standard) (re GHG emissions, presenting Energy Economy Ratio (gCO2e/MJ) adjusted GHG emissions for conventional, ZE, and NZE trucks); CARB LCFS website (describing LCFS standard).

[112]*See* Energy Technical Report at pg. 32-33; CEQA Guidelines § 15384 (in relevant part, defining "substantial evidence" as "(a)…enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. … Argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate, or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment does not constitute substantial evidence. (b) Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.")

[113]*See* Energy Technical Report at pg. 33 (emphasis added).

[114]*See* RDEIR/SDEIS at ES-22, 3.15-9 (same), 3.25-92 (same).

C. Sufficiently Robust and Enforceable Project Commitments on the Part of Metro/Caltrans are Needed to Ensure the Freight Corridor is Populated with ZE Vehicles Only

The Freight Corridor will require the dedication of funds and the potential adoption of mitigation measures to ensure that the assumed benefits of the Freight Corridor materialize. Specifically, special attention must be paid to technologies to monitor and enforce the ingress/egress of vehicles onto the Freight Corridor (*e.g.*, cameras, scanners, radio-frequency identification, billing, *etc.*). Further, ZE hybrids should be monitored to verify that the ZE technologies are engaged within the ZE corridor. The Freight Corridor should be maintained cognizant of the trends and developments in autonomous operation in order to preserve their potential compatibility with the Freight Corridor. U-2-36

D. The Potential for the Freight Corridor to be Operated by a Public/Private Partnership (PPP) Should be Studied and Considered

PPPs can provide a continued or improved level of service at reduced costs. If properly designed and implemented, PPPs can help governments to finance infrastructure investment in a more efficient way. With respect to the I-710 Corridor, a PPP may:

- relieve governments from certain investment funding;
- introduce competition;
- adopt efficient managerial practices/experience of private sector; and
- achieve greater efficiencies than traditional public services.

U-2-37

A PPP should be explored in order to maximize the effective operation of the Freight Corridor.

IV. CONCLUSION

SCE supports the Project's goals and appreciates this opportunity to provide comments on this important effort. SCE believes that Alternative 7 best accomplishes the objectives of the I-710 Corridor Project, since it allows for the greatest volume of traffic while simultaneously reducing air pollutant emissions in the region. Alternative 7 also has the opportunity to jumpstart a desirable cycle of innovation, investment, and emissions reductions that California needs. For the reasons stated above, SCE believes Alternative 7 should be designated as the environmentally superior alternative, and further suggests that the Freight Corridor associated with Alternative 7 be limited to use by ZE trucks. U-2-38

SCE is committed to continuing to work with Caltrans/Metro and other stakeholders towards successful resolution of the issues and completion of the Project. Should you have any questions, please contact me directly or you may contact Donald Johnson (Donald.Johnson@sce.com or (909) 274 - 3846) to set up a meeting with appropriate SCE personnel to discuss any of the comments contained herein.

SCE would support a modest extension of time to allow for either further consideration of Alternative 7, or to accept additional comments regarding the RDEIR/SDEIS. In the event additional opportunities are provided to submit comments regarding any environmental documents supporting the Project (*e.g.*, if the RDEIR/SDEIS comment period is extended and/or re-opened), SCE reserves the right to submit additional comments at that time as may be warranted. U-2-39

Sincerely,

Michael A. Backstrom

cc. (*via* overnight delivery unless otherwise indicated)

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- Ernesto Chaves, Senior Director, Countywide Planning & Development, Los Angeles County Metropolitan Transportation Authority, One Gateway Plaza, M/S 99-22-4, Los Angeles, CA 90012
- Lori Ann Guzmán, Commissioner, Port of Long Beach, P.O. Box 570, Long Beach, CA 90801
- Hasan Ikhrata, Executive Director, Southern California Association of Governments, 818 West 7th Street, 12th Floor, Los Angeles, CA 90017
- Yvette Kirrin, Executive Director, I-5 Consortium Cities Joint Powers Authority, 12700, Norwalk Boulevard, P.O. Box 1030, Norwalk, California 90651-1030
- David Libatique, Senior Director, Government Affairs, Port of Los Angeles, 425 S. Palos Verdes Street, San Pedro, CA 90731
- The Honorable Jhonny Pineda, President, Board of Directors, Gateway Cities Council of Government, 16401 Paramount Boulevard, Paramount, CA 90723
- Ron Nichols (*via* e-mail)
- Caroline Choi (*via* e-mail)
- Donald Johnson (*via* e-mail)
- Laura Renger (*via* e-mail)
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- Rey Gonzalez (*via* e-mail)
- Michael Huynh (*via* e-mail)
- Kenneth Spears (*via* e-mail)
- Kathy Yhip (*via* e-mail)

Attachment 1

SCE Comment Matrix Regarding the I-710 Corridor Project RDEIR/SDEIS

Chapter/ Section(s)	Page(s)	Identified Issue/Concern/Comment	Suggested Revision
** The comments made herein are consistent with and in addition to the comments presented in SCE's cover letter.*			
Executive Summary			
S.3.3.3 - Alternative 7: I-710 Modernization Plus Freight Corridor (Zero/Near Zero-Emission Vehicles)	8	Alternative 7's efficacy in addressing the goals of the Project penalize it in the RDEIR/SDEIS's environmental analyses due to the erroneous air quality assumptions employed.	The comparison of Alternative 7 against Alternative 5C presented in the Recirculated Draft Environmental Impact Report / Supplemental Draft Environmental Impact Statement's ("RDEIR/SDEIS") Executive Summary would benefit a very clear explanation of the phenomenon whereby, due to the air quality assumptions made, Alternative 7's documented superiority in satisfying the Project's stated purposes also significantly overstate Alternative 7's estimated environmental impacts. Specifically, because Alternative 7 would significantly improve traffic and congestion, vehicle miles travelled ("VMT") would increase, allegedly exacerbating certain environmental impacts associated with truck traffic flows: air quality, noise, health impacts, etc. However, because the beneficial zero-emission ("ZE") and near zero-emission ("NZE") characteristics of the trucks travelling on Alternative 7's dedicated ZE/NZE freight corridor ("Freight Corridor") are largely ignored by the RDEIR/SDEIS's analyses, the presentation of Alternative 7's benefits are dramatically undercut, while, at the

U-2-40

Chapter/ Section(s)	Page(s)	Identified Issue/Concern/Comment	Suggested Revision	
			same time, its environmental impacts are significantly overestimated. Unless corrected in the Final Recirculated Environmental Impact Report / Supplemental Environmental Impact Statement ("REIR/SEIS"), the air quality assumptions made and their effects should be clearly and overtly disclosed in the Final REIR/SEIS's Executive Summary and sections of analysis.	U-2-40
S.4 - Joint California Environmental Quality Act/National Environmental	9	The RDEIR/SDEIS does not currently identify the preferred and/or environmentally superior project alternative, but notes that "the Final EIR/EIS…will identify the Preferred Alternative."	Identification of the preferred and/or environmentally superior project alternative would aid in clarifying potential Project impacts to SCE's facilities, as well as the associated environmental impacts caused by SCE's work to relocate its facilities to accommodate the I-710 Project ("Relocation Work").	U-2-41
2. Project Alternatives				
2.3.2.1 Common Features of the Build Alternatives, Major Utility Relocations	2-20	"Some of the project-related utility relocations will require authorization from the California Public Utilities Commission (CPUC)." While CPUC licensing is expected, such licensing will not be confirmed until the preferred Project alternative is selected and	"Some of the project-related utility relocations will likely require authorization from the California Public Utilities Commission (CPUC)."	U-2-42

Chapter/ Section(s)	Page(s)	Identified Issue/Concern/Comment	Suggested Revision	
		more is known regarding SCE's necessary scope of work.		U-2-42
2.3.2.3. Alternative 7: I-710 Modernization Plus Freight Corridor (Zero-Emission Vehicles)	2-59 (*see also* 2-95 (Alternative 6: Alternative 5 with Addition of Four Separated Freight Movement Lanes)).	The RDEIR/SDEIS makes certain references to a "catenary" as a possible system which may power the ZE trucks on the Freight Corridor.	SCE has performed preliminary analyses regarding the load, facility, and space requirements needed in support of an overhead catenary system. SCE has the capacity to both build the infrastructure supporting the catenary and to supply power to it. The attendant benefits associated with a catenary power system (*e.g.*, improved local air quality, effective increases in range of ZEVs utilizing the Freight Corridor, compatibility with NZE technologies, *etc.*), along with any environmental impacts associated with its supporting infrastructure, should be evaluated and considered in support of the development of the Final REIR/SEIS and selection of the preferred Project alternative. In the event that Caltrans decides to proceed with a Catenary, additional time should be included to allow for the design and construction of the supporting infrastructure.	U-2-43
3. Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures				
General Comments				
All environmental sections relevant to SCE's Relocation Work		Consistent with the provisions of the California Environmental Quality Act ("CEQA") and CPUC General Order ("GO")	In order to effectively rely upon these documents for SCE's CPUC license, the I-710 Project documents should describe the specific	U-2-44

Chapter/ Section(s)	Page(s)	Identified Issue/Concern/Comment	Suggested Revision
		131-D, SCE intends to use the Final REIR/SEIS, as well as any other relevant studies and/or supplemental environmental documents, potentially including but not limited to the SCE Specific Utility Relocation Plan ("SURP"), in support of any CPUC license required for SCE's Relocation Work.	environmental impacts resulting from SCE's Relocation Work, determine each impact category for which SCE's Relocation Work was found to be "significant" and, where appropriate, assign specific mitigation measures applicable to SCE's Relocation Work. These documents should explicitly confirm that the environmental impacts from SCE's Relocation Work are captured within the total disclosed environmental impacts described for the I-710 Project as a whole. If not sufficiently clear to the CPUC that SCE's Relocation Work has been thoroughly evaluated before SCE applies for any CPUC license, the CPUC may require additional environmental evaluations be undertaken in support of SCE's Relocation Work. Because Caltrans's construction schedule assumes SCE's Relocation Work would occur prior to the Project's construction, any delays associated with SCE's licensing of its Relocation Work will likely negatively impact the Project's estimated construction schedule. In light of the importance of SCE's Relocation Work to the Project's construction schedule, SCE also recommends a working group be formed consisting of SCE, Caltrans (and its

U-2-44

Chapter/ Section(s)	Page(s)	Identified Issue/Concern/Comment	Suggested Revision	
			consultants), and the CPUC (if possible) in support of the evaluations of SCE's Relocation Work.	U-2-44
3.3. Community Impacts				
3.3.3.5 Environmental Consequences, *Conclusions*	3.3-137 (*see also* 4-55 (describing cancer risks)).	"Cancer risk is lower overall, with the exceptions of some near-roadway areas that fall within the locations of environmental justice populations. Under Alternative 5C, the maximum increase in risk is approximately three in one million. Under Alternative 7, that maximum increase in risk is less than one in one million" In certain instances in the RDEIR/SDEIS, such as the text quoted above, Alternative 7's health benefits are presented with those of Alternative 5C in a way which obscures comparison. The Final REIR/SEIS should present the relative health impacts and/or benefits of Alternatives 5C and 7 in a way which allows for their effective comparison.	"Cancer risk is lower overall, with the exceptions of some near-roadway areas that fall within the locations of environmental justice populations. Under Alternative 5C, the maximum increase in risk is approximately three in one million. Under Alternative 7, that maximum increase in risk is less than one in one million. Stated alternatively, there is a more than 200% increased risk of cancer from Alternative 5C when compared with Alternative 7."	U-2-45
3.4 Utility/Emergency Services				
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-10 to 3.4-31	Descriptions of the Project's impacts to SCE's facilities include a summary of Alternative 5C's conflicts with and impacts to SCE facilities on RDEIR/SDEIS pages 3.4-10 to	Descriptions of the potential impacts on SCE's facilities are preliminary, and may not capture the entire extent of those impacts or additional property rights which may be required in	U-2-46

Chapter/ Section(s)	Page(s)	Identified Issue/Concern/Comment	Suggested Revision	
		3.4-14 and a summary of Alternative 7's conflicts with and impacts to SCE's facilities on RDEIR/SDEIS pages 3.4-23 to 3.4-31.	support of SCE's Relocation Work. SCE anticipates continuing to work closely with Caltrans and its consultants to refine these descriptions (to the extent necessary) through the development of the Final REIR/SEIS, the SCE SURP for the Relocation Work, and any other additional document to be relied on by SCE in support of any licensing required by the CPUC.	U-2-46
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-10	"The relocation strategy proposes that the system follow the same alignment as the existing system. It would be relocated underground in a casing underneath Shoemaker Bridge, and rise up aerially on new poles between the widened I-710 mainline and the Los Angeles River access road. It would continue aerially to cross I-710 at 25th St., and then go west of the proposed southbound ramp to transition back to Willow St. and tie back into the existing system. This relocation would require engineered steel pole replacements of the existing poles."	"The relocation strategy proposes that the system follow the same alignment as the existing system. It ~~would~~ may be relocated underground in a casing underneath Shoemaker Bridge, and rise up aerially on new poles between the widened I-710 mainline and the Los Angeles River access road or go overhead to clear the spacing requirements. It would continue aerially to cross I-710 at 25th St., and then go west of the proposed southbound ramp to transition back to Willow St. and tie back into the existing system. This relocation would require engineered steel pole replacements of the existing poles, switch, and possible pole replacement, possible easements as well as multiple breaker replacements."	U-2-47

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3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-11	"…As the proposed I-710 mainline widening and northbound on-ramp from Anaheim St. would be in conflict with these systems, they would be adjusted in the same general alignment. …"	"…As the proposed I-710 mainline widening and northbound on-ramp from Anaheim St. would be in conflict with these systems, they would be overhead tubular steel poles ("TSPs") adjusted in the same general alignment. ..."	U-2-48
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-11	"The relocation strategy consists of intercepting the line between I-710 and the Los Angeles River and undergrounding it southerly to the existing utility bridge, wherein it would tie into the bridge and cross the Los Angeles River."	"The relocation strategy consists of intercepting the line between I-710 and the Los Angeles River and undergrounding it southerly to the existing utility bridge, wherein it would tie into the bridge and cross the Los Angeles River. Undergrounding SCE subtransmission facilities may cause equipment upgrades at local substations. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well."	U-2-49
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-11	"…In order to avoid multiple costly relocations of the system, the south half of the Pacific Coast Hwy. overcrossing structure would be constructed first to allow for an underground relocation in the south half of the bridge, between Harbor Ave. west of the Los Angeles River and Golden Ave. to the east."	"…In order to avoid multiple costly relocations of the system, the south half of the Pacific Coast Hwy. overcrossing structure would be constructed first to allow for an underground relocation in the south half of the bridge, between Harbor Ave. west of the Los Angeles River and Golden Ave. to the east. Alternatively, taller overhead structures may be employed in the event that undergrounding would impermissibly conflict with other utilities. In any respect, required separation and	U-2-50

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			clearance distances will be maintained between SCE facilities and other utilities."	U-2-50
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-12	"…On joint poles with this system are two other 66-kilovolt systems (S2034 and S2035) that share the same impacts and would also share the relocation strategy."	"…On joint poles with this system ~~are two~~ is one other 66-kilovolt system (~~S2034 and~~ S2035) and one 12 kilovolt system (S2034) that share the same impacts and would also share the relocation strategy."	U-2-51
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-12 to 13	"A ten-foot easement would be needed from USACE and/or LACFCD for the portion of the line under the Los Angeles River and a 20-foot easement would be needed for the portion of the line under the LADWP transmission corridor…."	"A thirty~~ten~~-foot easement would be needed from USACE and/or LACFCD for the portion of the line under the Los Angeles River and a thirty~~20~~-foot easement would be needed for the portion of the line under the LADWP transmission corridor. SCE's standard requires a 30-foot easement for underground installation of 66 kV lines. …."	U-2-52
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-13	"Therefore, the existing lines would be rerouted over to the north side of the existing tracks and relocated underground along the north side of the existing railroad corridor, using a directional bore under I-710, the LADWP transmission corridor, and the Los Angeles River. The existing overhead lines and their supports would be removed between the existing pole located at the Rayo Ave. cul-de-sac on the west to the second existing pole east of I-710 on the east. Permanent vault structures and riser poles would serve to	"Therefore, the existing lines would be rerouted over to the north side of the existing tracks and relocated underground along the north side of the existing railroad corridor, using a directional bore under I-710, the LADWP transmission corridor, and the Los Angeles River. Alternatively, overhead routing may be employed in the event that undergrounding was infeasible due to construction constraints. In any respect, required separation and clearance distances will be maintained between SCE facilities and	U-2-53

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		transition the lines back overhead. Additional right of way requirements are similar to what is discussed above ...."	other utilities. Further, SCE would likely require an easement within the railroad's right-of-way to accommodate this work, regardless of scope. The existing overhead lines and their supports would be removed between the existing pole located at the Rayo Ave. cul-de-sac on the west to the second existing pole east of I-710 on the east. Permanent vault structures and riser poles would serve to transition the lines back overhead. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well. Additional right of way requirements are similar to what is discussed above ...."	U-2-53
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-13	"... The vault would be located within the existing parking lot and would not impact the existing building or the business operation."	"...The vault would be located within the existing parking lot and would not impact the existing building or the business operation. SCE would require an easement to accommodate this work, as well as for ongoing maintenance and operations."	U-2-54
3.4.2.2 Utilities: Permanent Impacts SCE Transmission	3.4-14	"... No additional right of way would be required."	"... No additional right of way would be required. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well."	U-2-55

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3.4.2.2 Utilities: Permanent Impacts SCE Transmission	3.4-14	"… The lines would be raised across I-710 and installed along the same alignment, not necessitating additional right of way."	"… The lines would be raised across I-710 and installed along the same alignment, not necessitating additional right of way. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well."	U-2-56
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-24	"…Engineered steel poles would be required of this relocation and new utility easements would be necessary."	"… Engineered steel poles would be required of this relocation and new utility easements would be necessary. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well."	U-2-57
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-25	"… East of the river, the system would rise back up to a pole on DeForest Ave. just north of Hill St., and tie back into the existing system. S2028 is a 12-kilovolt system also on joint poles with S2027 and S2026 that crosses I-710 and the Los Angeles River at Hill St. West of the river, the system would be undergrounded at Hill St. just west of Gayle Ave., use a directional bore under the I-710 and Los Angeles River with S2027, and rise back up on an engineered steel pole on DeForest Ave. just north of Hill St. to tie back into the existing system. … The strategy is as follows: to the west, the system would be undergrounded at Hill St./	"…East of the river, the system would rise back up to a pole on DeForest Ave. just north of Hill St., and tie back into the existing system. S2028 is a 12-kilovolt system also on joint poles with S2027 and S2026 that crosses I-710 and the Los Angeles River at Hill St. West of the river, the system would be undergrounded at Hill St. just west of Gayle Ave., use a directional bore under the I-710 and Los Angeles River with S2027, and rise back up on an engineered steel pole on DeForest Ave. just north of Hill St. to tie back into the existing system. An easement from the Los Angeles County Flood Control District is likely required in support of this work.	U-2-58

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		Fashion Ave. and use a directional bore to cross I-710 and the Los Angeles River. East of the river, the system would rise back on an engineered steel pole at Hill St., just east of DeForest Ave., to tie into the existing system. … West of the river, a new pole west of Gale Ave. would be required. East of the river, a new pole between DeForest Ave. and San Francisco Ave. would be required as well. A 12-kilovolt aerial system (S2034) crossing I-710 and the Los Angeles River at the same location as S2033 would be impacted and relocated in a similar manner, but the new pole would be required between San Francisco Ave. and Golden Ave."	… The strategy is as follows: to the west, the system would be undergrounded at Hill St./ Fashion Ave. and use a directional bore to cross I-710 and the Los Angeles River. East of the river, the system would rise back on an engineered steel pole at Hill St., just east of DeForest Ave., to tie into the existing system. An easement from the Los Angeles County Flood Control District is likely required in support of this work .... West of the river, a new pole west of Gale Ave. would be required. East of the river, a new pole between DeForest Ave. and San Francisco Ave. would be required as well. A 12-kilovolt aerial system (S2034) crossing I-710 and the Los Angeles River at the same location as S2033 would be impacted and relocated in a similar manner, but the new pole would be required between San Francisco Ave. and Golden Ave. An easement from the Los Angeles County Flood Control District is likely required in support of this work."	U-2-59 U-2-60
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-26	"… Underground agreements with Caltrans within the state right of way crossing SR-91 would be required."	"… Underground agreements with Caltrans within the state right of way crossing SR-91 would be required. Subtransmission structure	U-2-61

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			height modifications will typically also require modifications to adjacent structures as well."	U-2-61
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-26	"… The lines would be relocated easterly of I-710 within the SCE Fee Parcels, with taller poles replacing the existing poles. No additional right of way would be required."	"… The lines would be relocated easterly of I-710 within the SCE Fee Parcels, with taller poles replacing the existing poles. ~~No additional right of way would be required.~~ Additional property rights are likely required in support of the undergrounding SCE facilities and/or separation from other facilities. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well."	U-2-62
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-26 to 27	"… The H-frame (see [C2006] above) would need to be undergrounded prior to this relocation."	"… The H-frame (see [C2006] above) would need to be undergrounded prior to this relocation. FAA marker balls and lighting may be required on any structures over 200 ft. above ground or, if any SCE facilities are in close proximity to an airport. For example, if necessary, the structures and wires spanning over Alternative 7's Freight Corridor may require FAA marking and lighting."	U-2-63
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-27	"… The proposed relocation would be identical to that proposed under Alternative 5C; please refer to the previous discussion."	"… The proposed relocation would be identical to that proposed under Alternative 5C; please refer to the previous discussion. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well."	U-2-64

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3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-28	".... The proposed relocation would be identical to that proposed under Alternative 5C; please refer to the previous discussion."	".... The proposed relocation would be identical to that proposed under ~~Alternative 5C~~ Alternative 7; please refer to the previous discussion."	U-2-65
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-28	"... The impacts and proposed relocation would be identical to what is discussed under Alternative 5C; please refer to that discussion above."	"... The impacts and proposed relocation would be identical to what is discussed under Alternative 5C; please refer to that discussion above. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well."	U-2-66
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-29 to 30	"...A new 20-foot-wide underground easement from LADWP would be needed within the transmission corridor, as well as a permanent encroachment permit from Caltrans as described above."	"... A new 20-foot-wide underground easement from LADWP would be needed within the transmission corridor, as well as a permanent encroachment permit from Caltrans as described above. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well."	U-2-67

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3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-30	"… The two sets of lines would share the undergrounding easements from USACE and/or LACFCD and LADWP as described above."	"… The two sets of lines would share the undergrounding easements from USACE and/or LACFCD and LADWP as described above. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well."	U-2-68
3.4.2.2 Utilities: Permanent Impacts, SCE Transmission	3.4-31	"The 66-kilovolt overhead lines (N2012) crossing I-710 along the south side of the Slauson Ave. overcrossing would be directly impacted by the proposed freeway mainline and indirectly impacted due to the CPUC-mandated minimum vertical clearance requirement of 30 feet between the proposed structure deck and existing lines which cannot be met at the crossing of the freight corridor viaduct."	"The 66-kilovolt overhead lines (N2012) crossing I-710 along the south side of the Slauson Ave. overcrossing would be directly impacted by the proposed freeway mainline and indirectly impacted due to the CPUC-mandated minimum vertical clearance requirement of 30 feet between the proposed structure deck and existing lines which cannot be met at the crossing of the freight corridor viaduct. Subtransmission structure height modifications will typically also require modifications to adjacent structures as well."	U-2-69
3.4.3 Avoidance, Minimization and/or Mitigation Measures	3.4-38 to 3.4-40	Measure U&ES-2 (Utilities) which, in general, notes that utility relocations (including SCE's Relocation Work) will be subject to Specific Utility Relocation Plans which will describe, among other things, the existing facilities, proposed changes, proposed construction activities, and any applicable mitigation measures for significant environmental impacts attendant SCE's Relocation Work.	To the extent Caltrans intends U&ES-2 to mitigate impacts from SCE's Relocation Work as may be required by CEQA, SCE notes that it is not currently clear which portions of SCE's Relocation Work may be significant and thus require mitigation. Further, mitigation plans, such as those as contemplated under U&ES-2, may not improperly defer environmental analysis. Post-certification mitigation plans	U-2-70

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			must lay out specific performance standards that must be satisfied in order to ensure that the environmental impacts disclosed in the environmental documents are not surpassed. To serve as an effective mitigation plan, U&ES-2 should specifically enumerate the levels of environmental impacts the Final REIR/SEIS assumes will not be surpassed by SCE's Relocation Work. SCE has significant concerns that such an exercise would be ultimately successful given the current lack of detail regarding SCE's Relocation Work. SCE's preferred approach is that the environmental impacts from SCE's Relocation Work be sufficiently described in the Final REIR/SEIS or other environmental document(s) adopted by Caltrans at the time of Project approval. Under such an approach, instead of a CEQA "mitigation measure," SCE's SURP would serve as a guidance document describing the specific construction techniques that SCE will employ in order to implement its Relocation Work in accordance with the findings and determinations of the certified Final REIR/SEIS.

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			SCE looks forward to assisting Caltrans in developing and executing a timely approach to address the environmental impacts associated with its Relocation Work which will satisfy the requirements of the CPUC.
3.13. Air Quality**			
*** See also comments on Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study (June 2017), below.*			
3.24. Construction Impacts			
3.24.4.4 Utilities/Emergency Services	3.24-46 to 3.24-47	Measure CON-U&ES-2 (Utilities) which, in general, notes that temporary construction impacts from SCE's Relocation Work will be subject to Specific Utility Relocation Plans which will describe, among other things, the existing facilities, proposed changes, proposed construction activities, and any applicable mitigation measures for significant environmental impacts attendant SCE's Relocation Work.	To the extent Caltrans intends CON-U&ES-2 to mitigate impacts from SCE's Relocation Work as may be required by CEQA, SCE notes that it is not currently clear which portions of SCE's Relocation Work may be significant and thus require mitigation. Further, mitigation plans, such as those as contemplated under CON-U&ES-2, may not improperly defer environmental analysis. Post-certification mitigation plans must lay out specific performance standards that must be satisfied in order to ensure that the environmental impacts disclosed in the environmental documents are not surpassed. To serve as an effective mitigation plan, CON-U&ES-2 should specifically enumerate the

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			levels of environmental impacts the Final REIR/SEIS assumes will not be surpassed by SCE's Relocation Work. SCE has significant concerns that such an exercise would be ultimately successful given the current lack of detail regarding SCE's Relocation Work. SCE's preferred approach is that the environmental impacts from SCE's Relocation Work be sufficiently described in the Final REIR/SEIS or other environmental document(s) adopted by Caltrans at the time of Project approval. Under such an approach, instead of a CEQA "mitigation measure," SCE's SURP would serve as a guidance document describing the specific construction techniques that SCE will employ in order to implement its Relocation Work in accordance with the findings and determinations of the certified Final REIR/SEIS. SCE looks forward to assisting Caltrans in developing and executing a timely approach to address the environmental impacts associated with its Relocation Work which will satisfy the requirements of the CPUC.
Technical Appendices			
Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study (June 2017) ("AQ Tech Study")			

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General	*E.g.*, ES-15, ES-18, ES-29, C-27	ES-15 (PM2.5 and PM10 assumptions "*conservative*"); ES-18 (air dispersion modeling and assumed shifts in traffic "*conservative*"); ES-29 (criteria pollutant and GHG emissions "*conservative*"); C-27 ("This analysis *conservatively* assumed … It is *conservative* because the presence of ZE (as opposed to NZE) would further reduce emissions," emphasis added).	The AQ Tech Study and RDEIR/SDEIS's characterization of the assumptions used in the Air Quality, GHG, and Health Risk Assessment as merely "*conservative*" is erroneous. These air quality assumptions do not treat Alternative 5C and 7 equally, and thus cannot be explained by a desire to present the "worst-case" scenario. Instead, in the case at hand, where no preferred Project alternative has been selected, employing assumptions which uniformly penalize one alternative against the other (in this case, penalizing Alternative 7 vis-à-vis 5C) is not appropriate. Such a practice does not aid the public or the prospective decision-makers in making an informed selection between the alternatives. Instead, it presents an artificially skewed picture of the benefits, environmental consequences, and costs of Alternative 7. The Final REIR/SEIS should re-evaluate its findings using methodologies which accurately describe likely emissions from Alternatives 5C and 7 in order to present an accurate comparison between the two.

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ES.5.2 Criteria Air Pollutant Incremental Emission Impacts	ES-14 to ES-15	"Entrained road dust, tire wear, and brake wear emissions show increases in 2035 as compared to 2012 Baseline…as these emissions are directly proportional to vehicle activity (or VMT). The entrained road dust emissions were calculated using CARB's emission factors (based on USEPA's Compilation of Air Pollution Emission Factors [AP-42]) for entrained road dust from paved roads. This methodology conservatively assumes that roadways have an infinite silt reservoir, even for heavily-traveled freeways and major arterials. As a result, entrained road dust emissions are likely overestimated. *Note: After the preparation of this report, CARB revised the silt loading factor for freeways to a lower value (approximately 25 percent lower). Initial analyses indicate that this reduces freeway entrained PM2.5 and PM10 incremental emissions for all project alternatives as compared to CEQA/NEPA baselines. These reductions are not expected to alter the conclusions of this report; however, the analyses presented in this report can be considered as conservative* [emphasis in original]."	Because Alternative 7 allows for the most increase in throughput/VMT on the I-710 corridor, this assumed "infinite" silt reservoir will tend to exaggerate Alternative 7's emissions of PM2.5 and PM10 in comparison to Alternative 5C. Thus, the assertion that CARB's revised analysis would not reasonably be expected to "alter the conclusions of this report" regarding the relative benefits of Alternative 7 compared with Alternative 5C is likely inaccurate. The Final REIR/SEIS should re-evaluate its findings using the updated CARB protocols to accurately describe likely PM2.5 and PM10 emissions in order to effectively compare Alternatives 5C and 7. Further, the Final REIR/SEIS should reconsider the use of "infinite" silt reservoirs to more accurately estimate and compare likely PM2.5 and PM10 emissions from Alternatives 5C and 7.

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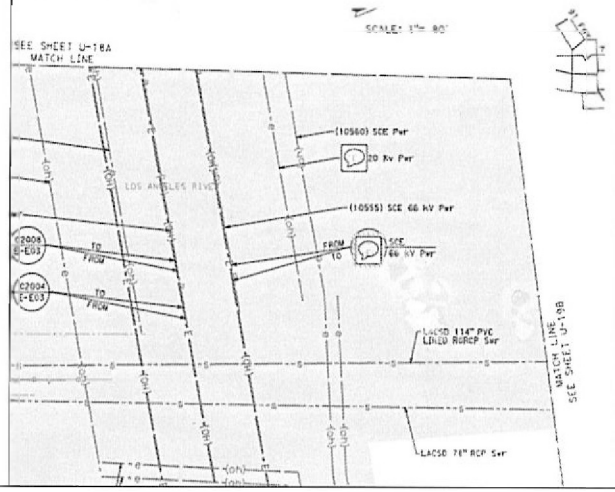
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ES. 6. I-710 Freeway Near-Roadway Health Risk and Air Quality Impacts	ES-18	"It's important to note that the air dispersion modeling was performed using only the emissions data calculated for the I-710 mainline (and freight corridor for Alternative 7), using post-processed traffic data. … As such, the modeling results do not reflect changes in emissions on the other nearby freeways and local arterials and roadways… Omitting the emissions benefits produced from this shift in traffic generally yields a conservative estimate of air quality and health impacts…"	The narrow geographic scope of the RDEIR/SDEIS air quality analysis does not capture the regional benefit of Alternative 7 to the South Coast Air Basin. The modeling results do not reflect changes in emissions on other nearby freeways and local arterials and roadways. Emissions on these other roadways would be expected to decrease as traffic shifts to the I-710. Omitting the emissions benefits produced from this shift in traffic understates the positive impacts of Alternative 7, which would divert the highest volume of traffic, and further convert more of the truck trips to ZE/NZE technologies. This skewed approach is inappropriate given the purpose of the RDEIR/SDEIS is largely to compare Alternatives 5C and 7 for the purpose of selecting the preferred Project alternative. The Final REIR/SEIS should re-evaluate its findings using methodologies which accurately describe likely shift in traffic patterns and increase in ZE/NZE vehicle trips Alternative 7's freight corridor would encourage in order to compare Alternatives 5C and 7.	U-2-74

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ES.11 AQ/GHG/HRA Results Summary Overview	ES-29	"This analysis conservatively assumed that all criteria air pollutant [*sic*] (except for NOx) and greenhouse gas emission factors of ZE/NZE trucks were equal to that of a conventional heavy-duty truck. … the NOx emission factors of the ZE/NZE trucks were reduced by a factor of 90% as compared to the conventional heavy-duty trucks…This approach is consistent with other SCAQMD public statements. It is conservative because the presence of ZE (as opposed to NZE) would further reduce emissions."	There are various erroneous and unnecessary assumptions evidenced by this assumption which skew the air quality analyses and call into question the RDEIR/SDEIS's conclusions regarding the relative cost/benefits of Alternative 7 vis-à-vis Alternative 5C. Specifically, this assumption: (1) significantly over-estimates Alternative 7's emissions of criteria pollutants, including CO, VOCs, SO2, PM2.5, and PM10; (2) significantly over-estimates Alternative 7's GHG emissions; and (3) overestimates Alternative 7's NOx emissions. Because emissions factors for both ZE and NZE trucks are readily available, there is no legitimate need to use these assumptions which disproportionately penalize Alternative 7. This is especially poignant given the purpose of the RDEIR/SDEIS is largely to compare Alternatives 5C and 7 for the purpose of selecting the preferred Project alternative. The Final REIR/SEIS should re-evaluate its findings using emissions factors and methodologies which accurately describe likely emissions from ZE and NZE vehicles in order to compare Alternatives 5C and 7.	U-2-75

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Tables	Tables C-8-1A to 1C; *see also* RDEIR/SDEIS at 3.13-38.	It is unclear how the RDEIR/SEIS and AQ Tech Study calculated the emissions reductions from the ZE/NZE trucks on the Freight Corridor. Tables C-8-1A to 1C assume 4,000 ZE/NZE trucks under Alternative 5C (24.64% of the total I-710 Heavy Heavy-Duty Trucks ("HHDT")) and 18,350 HHDT for Alternative 7 (*see* RDEIR/SDEIS at 3.13-38 ("… ZE/NZE trucks account for approximately 22 percent of the heavy-duty truck VMT along the I-710, and the only trucks traveling along the freight corridor in Alternative 7 are ZE/NZE (approximately 67 percent of heavy-duty truck VMT along the I-710 main line and freight corridor")). It is unclear how the Air Quality analysis accounts for emissions reductions from these ZE/NZE trucks. Surprisingly, Tables C-8-1A to C-8-1C appear to show Alternatives 5C and 7 as having the same criteria pollution mass emission reduction when: (1) Alternative 7 would generate 14,350 more (18,350 – 4,000 = 14,350) ZE/NZE HHDT than Alternative 5C; and (2) ZE/NZE trucks emit considerably	Please correct and/or explain this apparent discrepancy.

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		less criteria pollution mass emissions than conventional heavy-duty trucks.		U-2-76
North Utility Study, Final Draft Preliminary Strategies Report (September 13, 2016) ("North Segment Utility Report")				
4.5 Southern California Edison Company	37-61	Description of major SCE facilities within Project corridor	The descriptions of SCE facilities and property rights within and impacted by the Project corridor is subject to confirmation by SCE. While "major" facilities considered in the utility report were limited to power lines with voltages of 50 kV or greater, *all* SCE Relocation Work, including but not limited to work on lines less than 50 kV, should described within the Final REIR/SEIS as part of the Project.	U-2-77
5.1.1 Project Cost Summaries; 5.1.2 Utility Owner Cost Summaries	83, 91, 103	Description of SCE's estimated costs/share of the total utility relocation costs for both Alternatives 5C and 7 from north of Los Angeles River to SR-60 freeway.	SCE understands these estimates reflect an approximate assignment of cost based on a referenced "Freeway Master Agreement" between SCE and Caltrans. SCE notes that these costs are Caltrans' estimates, are not final, do not represent SCE's estimates of Maximum Prudent and Reasonable Cost under Public Utilities Code section 1005.5, and are subject to change in support of any licensing application for SCE's Relocation Work submitted to the CPUC. All efforts supporting SCE's Relocation Work would be subject to the provisions of a Relocation Agreement to be executed between SCE and Caltrans.	U-2-78

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Final Report, Utility Impact Report, I-710 Corridor Project, Utilities Relocation Strategies Report, Central Segment (June 2016) ("Central Segment Utility Report")				
Appendix F2 - Utility Plans Alt 7 Set (Drawing U-18B)	60	66kV and 220 kV lines at northern end labeled incorrectly. 	The line currently labelled as the 66 kV line is actually the 220 kV line, and the line currently labelled as the 220 kV line is actually the 66 kV line. The identification of SCE utility lines should be corrected as indicated here.	U-2-79

I-710 Corridor Project
SCE Comments to RDEIR/SDEIS*

Chapter/ Section(s)	Page(s)	Identified Issue/Concern/Comment	Suggested Revision	
3.4 Existing Utility Crossings; 4.1 SCE Summary	14 to 15, 17-38	Description of major SCE facilities within Project corridor	The descriptions of SCE facilities and property rights within and impacted by the Project corridor is subject to confirmation by SCE. While "major" facilities considered in the utility report were limited to power lines with voltages of 50 kV or greater, *all* SCE Relocation Work, including but not limited to work on lines less than 50 kV, should described within the Final REIR/SEIS as part of the Project.	U-2-80
5.2 Cost Estimate Summaries	105 - 106	Description of SCE's estimated costs/share of the total utility relocation costs for both Alternatives 5C and 7 from I-405 to North of Los Angeles River.	SCE understands these estimates reflect an approximate assignment of cost based on a referenced "Freeway Master Agreement" between SCE and Caltrans. SCE notes that these costs are Caltrans' estimates, are not final, do not represent SCE's estimates of Maximum Prudent and Reasonable Cost under Public Utilities Code section 1005.5, and are subject to change in support of any licensing application for SCE's Relocation Work submitted to the CPUC. All efforts supporting SCE's Relocation Work would be subject to the provisions of a Relocation Agreement to be executed between SCE and Caltrans.	U-2-81
5.2 Cost Estimate Summaries	106	Table summarizing individual costs for the central segment. In certain instances, the "Total Cost" equals the "Project Cost" plus	Please correct and/or explain this apparent discrepancy.	U-2-82

Chapter/ Section(s)	Page(s)	Identified Issue/Concern/Comment	Suggested Revision	
		the "Owner Cost." In others, it does not (*e.g.*, for electric facilities, the "Project Costs" are $36,394,469, and "Owner Costs" are $0, but the "Total Costs" are only $17,436,094).		U-2-82
I-710 South End Utility Study, Project Report (November 25, 2016) ("South Segment Utility Report")				
5.3.1 Southern California Edison	19-37	Description of major SCE facilities within Project corridor	The descriptions of SCE facilities and property rights within and impacted by the Project corridor is subject to confirmation by SCE. While "major" facilities considered in the utility report were limited to power lines with voltages of 50 kV or greater, *all* SCE Relocation Work, including but not limited to work on lines less than 50 kV, should described within the Final REIR/SEIS as part of the Project.	U-2-83
Utility Information Sheets	Exhibit 4-EX-5	Description of Project's estimated the total costs for both Alternatives 5C and 7 from Ocean Blvd. to I-405.	SCE understands these estimates reflect an approximate assignment of cost based on a referenced "Freeway Master Agreement" between SCE and Caltrans. SCE notes that these costs are Caltrans' estimates, are not final, do not represent SCE's estimates of Maximum Prudent and Reasonable Cost under Public Utilities Code section 1005.5, and are subject to change in support of any licensing application for SCE's Relocation Work submitted to the CPUC. All efforts supporting SCE's Relocation Work would be subject to	U-2-84

Chapter/ Section(s)	Page(s)	Identified Issue/Concern/Comment	Suggested Revision	
			the provisions of a Relocation Agreement to be executed between SCE and Caltrans.	U-2-84
Utility Information Sheets	Exhibit 4-EX-5	The utility relocation costs are not broken out by utility owner as in the North and Central Segment Utility Reports.	SCE suggests that the utility relocation costs be separately described for each utility, akin to the approach taken for the North and Central Segment Utility Reports.	U-2-85
Energy Technical Report (June 2017)				
Executive Summary; Environmental Consequences	v.	"Direct energy impacts from each build alternative include reduced gasoline and diesel fuel consumption compared to the 2035 No Build Alternative (Alternative 1). The net result is that compared to the 2035 No Build Alternative, both Alternative 5C and Alternative 7 result in a decrease in energy consumption in both the I-710 Study Area and the entire region."	This conclusion makes sense for Alternative 7; given the ZE/NZE profile required in the Freight Corridor, less gasoline and diesel would likely be consumed. It is however, counterintuitive with respect to Alternative 5C. An alternative that simply increases the number of lanes available (as well as the number of vehicles travelling on said lanes) would seemingly not decrease the amount of gasoline and diesel consumed. Please correct and/or explain this apparent discrepancy.	U-2-86

Chapter/ Section(s)	Page(s)	Identified Issue/Concern/Comment	Suggested Revision	
	32-33	"An important additional consideration for this project is the effect of ZE/NZE trucks on overall energy use. *While these trucks are designed to reduce emissions, their use of energy is not substantially changed from the traditional diesel-powered trucks.* Trucks that are electrically powered either have batteries that require charging or fuel cells that consume hydrogen. Trucks that are designated NZE are typically powered by engines similar to diesel engines but they burn a different fuel, such as natural gas. Thus, *while ZE/NZE trucks would greatly benefit air quality, it is not possible to determine their effect on the overall energy demand.* [emphasis added]"	Contrary to the assertion here, SCE understands it to be possible to determine ZE/NZE trucks' effect on overall energy demand via CARB's LCFS methodology documents and the energy consumption factors from ZE/NZE trucks therein. Further, the italicized statements in the excerpted paragraph conflict: if no conclusions can be derived from the energy consumption factors currently available for ZE/NZE trucks, then the conclusion that the energy consumption patterns of ZE/NZE trucks would be similar to traditional diesel powered trucks is not supported by substantial evidence. The Energy Technical Report included in the Final REIR/SEIS should use the appropriate CARB LCFS methodology to document overall energy demand. Further, this Report should revise the assertions in this paragraph to remove any conflicts as may be appropriate.	U-2-87

U-2-1

Caltrans is appreciative of Southern California Edison's (SCE) efforts to make specific and detailed comments on the RDEIR/SDEIS and acknowledges the size of the document. Where revisions are necessary based on comments from SCE and others, Caltrans will ensure that this Final EIR/EIS is internally consistent.

U-2-2

The commenter's support of Alternative 7 and restriction of the freight corridor to zero emission (ZE) trucks is acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

U-2-3

The commenter's support of Alternative 7 is acknowledged and included in the project record. An alternatives analysis was completed pursuant to CEQA and NEPA prior to, and during preparation of, the RDEIR/SDEIS. CEQA requires consideration of a range of reasonable alternatives that would achieve the basic objectives of the project, but would also avoid or substantially lessen any of the significant effects of the project. Evaluation factors for the alternatives analysis included whether the alternatives met the project's purpose and need, the technical feasibility and affordability of the alternatives, and took into account public comments and environmental impacts related to the alternatives. As stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix and to Sections 2.4 and 2.5 of Chapter 2.0 of this Final EIR/EIS for discussion of the identification of the Preferred Alternative and why Alternatives 5C and 7 were withdrawn from further consideration.

U-2-4

This comment from SCE provides an overview of more detailed comments, as cited in various footnotes to this comment. More detailed responses to comments are provided in Responses U-2-25 through U-2-28 (assumptions used in the air quality analysis) and U-2-29 (estimates of particulate matter [PM]). Please also refer to Response to Comment U-2-2 for information regarding the identification of the Preferred Alternative.

It is important to note that both build alternatives contain a programmatic element that would provide for ZE/NZE truck subsidies for use on I-710. In March 2018, the Metro Board of Directors approved Board Motion 5.1, which changed the ZE/NZE Truck Technology Deployment Program to the Phased-In Zero-Emission Truck Technology Deployment Program, which increased the

program funding target from $100 million to $200 million, and included in the Program incentives and grants investment in the acceleration of ZE technology both for long-haul trucks and freeway infrastructure. In April 2020, the Metro Board of Directors programmed $50 million in Metro-controlled funds to provide funding for the initial deployment of what is now known as the I-710 Clean Truck Program and to leverage the remaining funds required for full program implementation. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and this programmatic element will no longer be under consideration by Caltrans as a part of the I-710 Corridor Project.

An analysis of impacts to environmental justice communities was undertaken in Section 3.3.3 of the RDEIR/SDEIS, and concluded that overall, air toxics generally decrease for the build alternatives as compared to the 2035 No Build Alternative. Along the I-710 freeway, with the exception of nitrogen oxides (NO_X) and diesel-related mobile source air toxics (MSATs) emissions, exhaust emissions for the build alternatives generally increase when compared to the 2035 No Build Alternative. The increases in PM_{10} and $PM_{2.5}$ can be attributed to entrained road dust, rather than exhaust emissions. Overall, Alternative 7, in part because of the greater throughput, would have a greater impact than Alternative 5C with regard to adverse and disproportionate air quality impacts to environmental justice populations. Mitigation is proposed to address these effects and was outlined in Measure C-7 in Section 3.3.3.7 of the RDEIR/SDEIS. However, since the No Build Alternative has been selected as the Preferred Alternative, mitigation will not be necessary.

U-2-5

The commenter's support of Alternative 7 due to safety concerns from vehicle/truck conflicts is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

As discussed in Section 1.2.2 in Chapter 1.0 of the RDEIR/SDEIS, one of the purposes of the project is to improve traffic safety. While Alternative 7 proposes a dedicated freight corridor, Alternative 5C also proposes improvements to address safety and operational deficiencies and to reduce vehicle and truck interactions. These improvements would include the addition of two truck bypass lanes in each direction around the I-405 freeway-to-freeway interchange, and a lane buffer in each direction between Pacific Coast Hwy. and Shoreline Dr. In addition, it is important to note that under Alternative 7, although the freight-only corridor would be open exclusively to heavy-duty trucks, trucks would not be prohibited from using the general purpose lanes on I-710, as they do today.

U-2-6

The commenter's support of Alternative 7 due to increased throughput and improved air quality is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix

for a discussion on the identification of the Preferred Alternative. As discussed in Section 1.1, although not identified as the Preferred Alternative, Alternative 7 did provide a greater reduction in vehicle hours of delay as noted in this comment.

U-2-7

The commenter's preference for Alternative 7 as the Preferred Alternative has been included in the project record. It should be noted that although Alternative 7 has greater capacity than Alternative 5C, Alternative 5C in 2035 has a greater number of freeway segments operating at an acceptable level of service than does Alternative 7 in 2035. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative.

U-2-8

The commenter's support of Alternative 7 and recommendation that hybrid ZE vehicles should be permitted to travel within the corridor provided that the polluting source of onboard power is not engaged within the freight corridor boundaries is acknowledged and included in the project record. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative.

U-2-9

The commenter's support of Alternative 7 and restriction of the freight corridor to ZE vehicles is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

U-2-10

The commenter's opinion that the freight corridor should not initially be open to all vehicles and should solely be limited to ZE vehicles is acknowledged and included in the project record. As discussed in Section 2.3.2.3 in Chapter 2.0 of the RDEIR/SDEIS, Alternative 7 would restrict the use of the freight corridor to ZE/NZE trucks rather than conventionally powered diesel trucks. In addition, both build alternatives include programmatic components to help support the use of ZE/NZE technology in the I-710 Corridor. However, as noted above, the No Build Alternative has been selected as the Preferred Alternative and any programmatic elements would have to be implemented as part of a separate process. Please refer to Response to Comment U-2-4 regarding the programmatic elements of the build alternatives, including the I-710 Clean Truck Program.

U-2-11

The comment that a catenary system should be studied in the RDEIR/SDEIS and compared to other technology options has been included in the project record. The intent of the RDEIR/SDEIS

was not to define or identify a preferred technology to be utilized in the corridor at this time. As discussed in Section 2.3.2.3 in Chapter 2.0 of the RDEIR/SDEIS, because the future technology cannot be predicted with certainty, Alternative 7 is ZE "technology neutral" so that it could accommodate at least one type of ZE heavy-duty truck that is in commercial mass production before final design is completed (should Alternative 7 be selected as the Preferred Alternative). As described in Chapter 2.0 of the RDEIR/SDEIS, should Alternative 7 be selected as the Preferred Alternative, at the time of the first funding contribution for this program, if elements of the selected technology are beyond the scope of what was evaluated in this document, the appropriate re-evaluation and/or supplemental environmental documentation would be prepared in due course of project development pursuant to 23 CFR 771.129 under NEPA and Sections 15165 and 15164 of the State CEQA Guidelines. The further evaluation and development of any or all of these various technologies may be done via a Public-Private Partnership, as described in Section 2.1 of the RDEIR/SDEIS. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, the freight corridor will not be constructed.

U-2-12

The commenter's suggestion that Caltrans should plan for future ZE vehicle technology is acknowledged and noted for the project record. Please refer to Response to Comment U-2-11 for a discussion of why a specific technology was not analyzed in the RDEIR/SDEIS.

U-2-13

The commenter's support of conversion to ZE trucks now is acknowledged and noted for the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

U-2-14

Caltrans acknowledges the importance of the 220-kilovolt facilities running parallel to the I-710 between I-405 and SR-91 and the fact they are considered critical infrastructure facilities by the Federal Energy Regulatory Commission. The revised set of build alternatives set forth in the RDEIR/SDEIS avoided many impacts to utilities within the corridor (particularly longitudinal impacts to linear utilities) when compared to the set of build alternatives analyzed in the 2012 Draft EIR/EIS, due to feedback received from SCE and others. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to utilities.

U-2-15

Caltrans and Metro concur that the descriptions of potential impacts on SCE's facilities are preliminary. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to utilities.

U-2-16

As is standard Caltrans' practice, the engineering plans for the build alternatives that inform the technical analyses for the RDEIR/SDEIS are only developed to a status of approximately 25 to 35 percent. It would not be recommended that any type of permit be secured based on these percentage plans. These and other items were discussed at a meeting between the I-710 Corridor Project Team and SCE staff on October 18, 2017. Should a build alternative be selected as the Preferred Alternative, further environmental review be necessary once engineering plans have reached 100 percent status, the necessary analyses and re-validations would be done at that time. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no need to obtain permits from SCE.

U-2-17

Please refer to Response to Comment U-2-16 regarding the utilization of the RDEIR/SDEIS for California Public Utilities Commission (CPUC) permitting purposes. Caltrans and Metro agree that, should a build alternative be selected as the Preferred Alternative, a Working Group should be convened consisting of SCE, the I-710 Corridor Project Team, and the CPUC (if possible) in support of the utility work that would be ongoing during the final design of the build alternative. This and other items were discussed at a meeting between the I-710 Corridor Project Team and SCE staff on October 18, 2017. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be impact to utilities as a result of the I-710 Corridor Project.

U-2-18

As stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to utilities and Measure U&ES-2 will not be required or implemented.

U-2-19

Caltrans has ensured that the environmental impacts from SCE's Relocation Work be sufficiently described in this Final EIR/EIS to the greatest extent known at the current level of design of the build alternatives. Please refer to Response to Comment U-2-18 regarding Measure U&ES-2.

U-2-20

Should a build alternative be selected as the Preferred Alternative, at the time of right-of-way acquisition, and in accordance with established Caltrans' practice and policies, a Relocation Agreement would be executed with SCE. The specific information included in that Agreement would be determined during the final design and right-of-way acquisition stage of project development. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to utilities.

U-2-21

The commenter's request for identification of the Preferred Alternative in order to clarify potential impacts to SCE facilities is acknowledged and included in the project record. Public input is an important factor in the identification of the Preferred Alternative. After public input was received, in combination with other factors, Alternative 1 (No Build) was identified as the Preferred Alternative in the Final EIR/EIS. Please refer to Section 1.1 of this appendix for further discussion of the identification of the Preferred Alternative.

U-2-22

The commenter's suggestion that a catenary power system should be evaluated and considered in the RDEIR/SDEIS is acknowledged and noted for the project record. Please refer to Response to Comment U-2-11 for a discussion of why a specific technology was not analyzed in the RDEIR/SDEIS.

U-2-23

Caltrans respectfully disagrees that the environmental benefits of Alternative 7 are understated and, therefore, the differences between the two build alternatives are artificially narrowed. Please refer to the following responses to comments for specific examples.

U-2-24

Caltrans and Metro respectfully disagree with the commenter that flawed assumptions were used in the air quality analysis. Please refer to Responses to Comments U-2-25 through U-2-28, which address the assumptions used in the AQ/GHG/HRA Technical Study (2017) and are reflected in the RDEIR/SDEIS.

U-2-25

The basis for determining ZE/NZE emission factors is presented in Section 7 of Appendix C to the *Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (AQ/GHG/HRA Technical Study) (June 2017) and the associated *Addendum to the Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study* (December 2020). The emission factor and fuel type for ZE/NZE trucks was determined through discussions with the South Coast Air Quality Management District (SCAQMD), the California Air Resources Board (CARB), and engine manufacturers. The air quality analysis conservatively assumes that all ZE/NZE trucks will be NZE. NZE trucks would be non-diesel (diesel trucks have not been able to meet CARB's optional low-NO_X standard of 0.02 grams per brake horsepower-hour [gm/bhp-hr]), thereby reducing diesel particulate matter (DPM) to zero and NO_X emissions by 90 percent compared to conventional heavy-duty trucks (conventional heavy-duty trucks include light heavy-duty trucks, medium heavy-duty trucks, and heavy heavy-duty trucks. The EMFAC vehicle classes in these categories are presented in Table C1 of the AQ/GHG/HRA Technical Study. Fuel types for these vehicles are primarily diesel, but include gasoline and natural gas trucks. The distribution across various fuel types for each heavy-duty trucks category was derived from EMFAC2014, which was used to develop the emissions factors for these vehicles. Further and consistent with the CARB's EMFAC2014 emission factor program, it was conservatively assumed in the AQ/GHG/HRA Technical Study that NZE trucks would not reduce any other criteria air pollutant or greenhouse gas emissions as compared to a conventional heavy-duty truck. Additionally, no credit was taken for further tailpipe reductions for pure ZE trucks.

The AQ/GHG/HRA Technical Study also evaluates the Alternative 7-Zero Emissions Option (Alternative 7-ZE Option) in Appendix F. The Alternative 7-ZE Option has the same traffic and design features as Alternative 7, the only difference being that all ZE/NZE trucks travelling on the freight corridor in Alternative 7 were assumed to be ZE trucks in the Alternative 7-ZE Option. ZE trucks were assumed to have zero tailpipe-exhaust emissions. Therefore, the results of the air quality analysis for the Alternative 7-ZE Option do provide estimates of potential reductions in exhaust emissions of carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO_2), particulate matter less than 2.5 microns in size ($PM_{2.5}$), particulate matter less than 10 microns in size (PM_{10}), and greenhouse gas emissions associated with the proposed implementation of ZE trucks on the freight corridor. However, while there were some decreases seen in exhaust fractions of criteria air pollutants, the near-roadway incremental impacts of criteria air pollutants for Alternative 7 and the Alternative 7-ZE Option were similar. Refer to Tables F-2-1a through F-4 and Tables F-5-1 through F-5-2 in Appendix F of the AQ/GHG/HRA Technical Study for further details.

U-2-26

The analysis in the AQ/GHG/HRA Technical Study (2017) evaluates only the tailpipe or running exhaust greenhouse gas emissions from the combustion of fossil fuels and does not evaluate the lifecycle (well-to-wheel) greenhouse gas emissions. The greenhouse gas analysis is consistent with or exceeds the requirements of the Caltrans Standard Environmental Reference (SER) (available at http://www.dot.ca.gov/ser/vol1/sec3/physical/ch13energy/chap13.htm). The well-to-tank emissions can vary widely depending on technology (e.g., fuel cell, electric, or natural gas) that may be chosen by future I-710 freeway truck drivers; hence lifecycle (well-to-wheel) greenhouse gas emissions would be speculative and misleading. Chapter 4.0 of this Final EIR/EIS has been updated to provide a CEQA significance determination for greenhouse gas emissions.

U-2-27

Please refer to Response to Comment U-2-25 for details on assumptions regarding ZE/NZE emission factors. As described in Response to Comment U-2-25, the Alternative 7-ZE Option was assessed in Appendix F to the AQ/GHG/HRA Technical Study (2017), which assumed a 100 percent ZE freight corridor. The ZE truck tailpipe emission factors were assumed to be zero for all criteria air pollutants, greenhouse gases, and MSATs. The analysis found that although there were some decreases seen in exhaust fractions of criteria air pollutants, the near-roadway incremental impacts of criteria air pollutants for Alternative 7 and the Alternative 7-ZE Option were similar. Other agencies and goods movement organizations are pursuing ZE/NZE programs and goals, but there is no evidence that those programs would be positively or negatively affected by the I-710 ZE/NZE truck deployment program, should Alternative 7 be selected as the Preferred Alternative.

U-2-28

Please refer to Response to Comment U-2-25 for details on assumptions regarding ZE/NZE emission factors. As stated in Response to Comment U-2-25, the assumptions regarding ZE/NZE emission factors were developed in consultation with SCAQMD and CARB. The analysis in the AQ/GHG/HRA Technical Study (2017) does include an analysis of emissions for Alternative 7, which is conservatively analyzed with an NZE freight corridor, and the Alternative 7-ZE Option, which assumes a 100 percent ZE freight corridor.

U-2-29

As outlined in Section 2.2 of the AQ/GHG/HRA Technical Study (2017), the air quality analysis followed CARB Miscellaneous Process Methodology 7.9 for Entrained Road Travel, Paved Road Dust (available at www.arb.ca.gov/ei/ for more information), which is consistent with the United States Environmental Protection Agency's (EPA) Compilation of Air Pollutant Emission Factors

(AP-42 Chapter 13.2.1) (please refer to www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors for more information) and was used by SCAQMD in the preparation of the 2016 Air Quality Management Plan. CARB and SCAQMD previously decoupled entrained road dust emission from vehicle miles traveled (VMT) in certain situations, but those changes were made after the Draft EIR/EIS was released in 2012 and subsequent analyses began for the RDEIR/SDEIS. This methodology assumed that roadways have an infinite amount of silt and entrained road dust emissions are directly proportional to VMT. As stated in Sections ES.2.5, ES.6.2, 4.3.1, and 5.3 of the AQ/GHG/HRA Technical Study, CARB revised the silt-loading factor for freeways to a lower value (approximately 25 percent lower) after the preparation of the AQ/GHG/HRA Technical Study. The use of the revised silt-loading factor would reduce freeway-entrained $PM_{2.5}$ and PM_{10} incremental emissions for all project alternatives as compared to the CEQA and NEPA baselines. However, these reductions would not change the overall conclusions of the AQ/GHG/HRA Technical Study.

U-2-30

Air quality analyses presented in Section 3.13, Air Quality, reports findings for various geographic areas including: the I-710 Corridor; the Area of Interest (Area of Interest); and the South Coast Air Basin (Basin) (refer to Figure 1-2 of the I-710 AQ/GHG/HRA Technical Study [2017] for a depiction of these areas). Changes in traffic on the local roadway network attributable to the build alternatives are accounted for in the reporting for the Area of Interest and the Basin study areas, while results for the I-710 Corridor focus on the I-710 freeway (Alternative 5C and Alternative 7) and freight corridor (Alternative 7 only.)

When viewing traffic for the build alternatives relative to the No Build Alternative, traffic changes would be greatest on the I-710 Corridor with differences on the arterial system and other roadways being much more diffused and muted. Emissions from existing and future traffic on local arterials located within the Area of Interest are presented in the gridded mass emission plots presented in Figures 4-1a through 4-1c, Figures 4-2a through 4-2c, and Figures 4-5a through 4-5c in Appendix Q of the RDEIR/SDEIS. These figures show that emissions of NO_X, PM_{10}, $PM_{2.5}$, and DPM would generally decrease through the Area of Interest (including nearby freeways, arterials, and local roads) for the 2035 build alternatives as compared to the 2012 Baseline and the 2035 No Build Alternative, except for some locations along the I-710 freeway for PM_{10} and $PM_{2.5}$. Based on the mass emissions analysis within the Area of Interest (gridded emission plots), the greatest $PM_{2.5}$ and PM_{10} project impacts are anticipated to occur on the I-710 freeway and freight corridor. As a consequence, the air dispersion and health risk modeling appropriately focused on the I-710 Corridor.

U-2-31

Caltrans and Metro respectfully disagree with the commenter that the emissions analysis results in an inaccurate portrayal of the impacts and benefits of Alternative 7. CEQA and NEPA analyses

are generally based on incremental comparisons between the build alternative and an environmental baseline (for CEQA) and the build alternative and a No Build Alternative (for NEPA). Therefore, the majority of the emissions and health risk analyses in the RDEIR/SDEIS are presented as incremental impacts. Alternative 5C and Alternative 7 are each compared to the environmental baseline and No Build Alternative, using consistent assumptions for each alternative. Details on the assumptions used can be found in the AQ/GHG/HRA Technical Study (2017).

U-2-32

As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions. However, the build alternatives would increase cancer risk compared to the 2012 Baseline.

When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would be along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

U-2-33

As previously discussed in Response to Comment U-2-25, the assumptions used regarding ZE/NZE factors were developed in consultation with SCAQMD and CARB. The analysis presented in the AQ/GHG/HRA Technical Study (2017) and summarized in the RDEIR/SDEIS discusses the impacts that could result from Alternative 7, which is conservatively analyzed with an NZE freight corridor, and the Alternative 7-ZE Option, which assumed a 100 percent ZE freight corridor. The analysis found that although there would be some decreases seen in exhaust fractions of criteria air pollutants, the near-roadway incremental impacts of criteria air pollutants for Alternative 7 and the Alternative 7-ZE Option were similar.

U-2-34

The traffic input data for the energy analysis was corrected, resulting in differences between the build alternatives that show changes for Alternatives 5C and 7. Additionally, the Energy Technical Report has been revised to correctly analyze the energy impacts from ZE and NZE trucks based on the CARB's Low Carbon Fuel Standard (LCFS) regulations that include two factors (Energy Economy Ratio [EER] and Energy Density) that describe the relative energy consumption of electrically-powered trucks compared to diesel- and gasoline-powered trucks.

U-2-35

The Energy Technical Report revision described in Response to Comment U-2-34 correctly shows the differences in energy consumption between Alternatives 5C and 7.

U-2-36

As discussed in Section 2.3.2, Build Alternatives, in the RDEIR/SDEIS, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic component of the build alternatives. Should a build alternative be selected as the Preferred Alternative, this program would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty (Class 8) ZE/NZE trucks for use within the I-710 Corridor. To be eligible for ZE/NZE truck funding from this program, there would be minimum requirements for travel on I-710 (or on the proposed freight corridor, in the case of Alternative 7). The minimum commitment would be structured to reach the VMT estimates included in this EIR/EIS analysis, which are based on VMT averages per truck. The objective of the I-710 Clean Truck Program would be to produce 42.5 VMT per ZE/NZE truck per weekday, in aggregate, on average, for each deployment phase up to the total 4,000 ZE/NZE trucks. As with other truck funding programs, compliance could be assessed annually through a global positioning system (GPS)-based Automatic Vehicle Locator (AVL) or similar system that would log mileage within the I-710 Corridor limits. For a period of ten years after the funding is provided, a recipient truck that did not meet the annual minimum VMT requirement would be required to reimburse one-fifth of the program funding, or potentially up to the full program funding. If the recipient truck failed to meet the annual VMT requirement for two years, all program funding would have to be reimbursed. If the truck is sold during the ten-year period after funding is provided, the requirements would remain the same for the purchaser.

As discussed in Section 2.3.2.3 in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, because the future technology cannot be predicted with certainty, Alternative 7 was assumed ZE “technology neutral” so that is could accommodate at least one type of ZE heavy-duty truck that is in commercial mass production before the final design would be completed (should Alternative 7 be selected as the Preferred Alternative). Because construction would be several years away, selection of specific technology for vehicles utilizing the ZE/NZE corridor is premature at the time this Final EIR/EIS was prepared. Alternative 7 was analyzed as technology neutral so that future selection of technology would not be limited. The trucks subsidized as part of the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) under Alternative 5C are similarly considered “technology neutral” at this point in project development. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, the I-710 Clean Truck Program will not be included as a programmatic

element of the I-710 Corridor Project and will not be implemented by Caltrans as the lead agency under CEQA and NEPA. Please refer to Response to Comment U-2-4 regarding the programmatic elements of the build alternatives, including the I-710 Clean Truck Program.

U-2-37

As discussed in Section 2.1 in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, in addition to traditional sources of transportation funding such as Federal/State gas tax funds and local Measure R and Measure M sales tax funds, Metro also evaluated the potential applicability of a Public-Private Partnership for the I-710 Corridor Project build alternatives.

U-2-38

The commenter's support for Alternative 7 because it allows the greatest volume of traffic while reducing air pollution, and for its potential to jumpstart innovation, is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

U-2-39

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

U-2-40

As previously discussed in Response to Comment U-2-25, the assumptions used regarding ZE/NZE emission factors were developed in consultation with SCAQMD and CARB. The analysis presented in the AQ/GHG/HRA Technical Study (2017) and summarized in the RDEIR/SDEIS discusses the impacts that could result from Alternative 7, which was conservatively analyzed with an NZE freight corridor, and the Alternative 7-ZE Option, which assumed a 100 percent ZE freight corridor. The analysis found that although there would be some decreases seen in exhaust fractions of criteria air pollutants, the near-roadway incremental impacts of criteria air pollutants for Alternative 7 and the Alternative 7-ZE Option were similar.

U-2-41

The commenter suggests that the Preferred Alternative and/or environmentally superior alternative be identified in the EIR/EIS. Under NEPA, a Preferred Alternative is generally not identified until after the draft environmental document has been circulated and public comments have been taken into account. After comparing and weighing the benefits and impacts of all of the feasible alternatives and design options, and input during the public comment period for the RDEIR/SDIES, Alternative 1 (No Build) was identified as the Preferred Alternative. A discussion of the identification of the Preferred Alternative has been added to Chapter 2.0, Project Alternatives, of the Final EIR/EIS and Section 1.1 of this appendix. In addition, consistent with

State CEQA Guidelines Section 15126.6(e)(2), a discussion and identification of the Environmentally Superior Alternative has been added to Chapter 4.0, CEQA Evaluation, in this Final EIR/EIS.

U-2-42

The edit provided within this comment to change the noted phrase in Section 2.3.2.1 has been accepted and incorporated into this Final EIR/EIS.

U-2-43

The commenter's suggestion that a catenary power system should be evaluated and considered is acknowledged and noted for the project record. Please refer to Response to Comment U-2-11 for a discussion of why the specific technology was not analyzed in the RDEIR/SDEIS.

U-2-44

Please refer to Responses to Comments U-2-16 and U-2-17 regarding the relocation of utilities.

U-2-45

The Health Risk Assessment in the RDEIR/SDEIS evaluated the build alternatives against the 2012 Baseline and the 2035 No Build Alternative (Alternative 1). The results of the build alternatives are not evaluated against each other but are used to inform the identification of the Preferred Alternative. The suggested text revision would be misleading because the higher incremental cancer risk for the build alternatives is applicable to a very small area of the Study Area, not the Study Area in its entirety. As shown in Figure ES-7 of the AQ/GHG/HRA Technical Study (2017), the maximum modeled cancer risk (risk in one million) in the 2012, the 2035 No Build, 2035 Alternative 5C and 2035 Alternative 7 would be 1421, 57, 45, and 30, respectively. The AQ/GHG/HRA Technical Study states: "For Alternative 7, the increase in risk is less than one in one million. For Alternative 5C, the maximum increase in risk is approximately three in one million. The primary location of increased risk for Alternative 5C is along a small portion of the I-710 just south of its intersection with SR-60" (ES-20). Therefore, the suggested text revision will not be implemented.

U-2-46

Please refer to Response to Comment U-2-15 regarding utility conflicts.

U-2-47

In response to this comment, the following revision has been made to Section 3.4.2.2 of this Final EIR/EIS:

> The relocation strategy proposes that the system follow the same alignment as the existing system. It ~~would~~ may be relocated underground in a casing underneath Shoemaker Bridge, and rise up aerially on new poles between the widened I-710 mainline and the Los Angeles River access road or go overhead to clear the spacing requirements. It would continue aerially to cross I-710 at 25th St., and then go west of the proposed southbound ramp to transition back to Willow St. and tie back into the existing system. This relocation would require engineered steel pole replacements of the existing poles, switch, and possible pole replacement, and possible easements, as well as multiple breaker replacements.

U-2-48

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2. Final utility pole specifications, including selection of overhead pole type, would be determined in the specific Utility Relocation Plan and/or during final design. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to utilities.

U-2-49

In response to this comment, the following revision has been made to Section 3.4.2.2 of this Final EIR/EIS:

> The relocation strategy consists of intercepting the line between I-710 and the Los Angeles River and undergrounding it southerly to the existing utility bridge, wherein it would tie into the bridge and cross the Los Angeles River. Undergrounding SCE subtransmission facilities may require equipment upgrades at local substations. Subtransmission structure height modifications will typically also require modifications to adjacent structures.

U-2-50

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2. Final utility easement agreements, including utility distances, would be determined during utility coordination later in the design process and the drafting of specific Utility Relocation Plans. The following revisions have been made to Section 3.4.2.2 of the RDEIR/SDEIS:

> In order to avoid multiple costly relocations of the system, the south half of the Pacific Coast Hwy. overcrossing structure would be constructed first to allow for an underground relocation in the south half of the bridge, between Harbor Ave. west of the Los Angeles River and Golden Ave. to the east. Alternatively, taller overhead structures may be used for this relocation in the event that undergrounding would conflict with other utilities.

U-2-51

Metro and Caltrans thank the commenter for the correction. It is acknowledged that Conflict S2034 is a 12-kilovolt system. The following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

> On joint poles with this system ~~are two~~ is one other 66-kilovolt system~~s~~ (~~S2034 and~~ S2035) and one 12-kilovolt system (S2034) that share the same impacts and would also share the relocation strategy.

U-2-52

In response to this comment, the following edit has been made to Section 3.4.2.2 of this Final EIR/EIS:

> A 30 ~~ten~~-foot easement would be needed from USACE and/or LACFCD for the portion of the line under the Los Angeles River and a 30 ~~20~~-foot easement would be needed for the portion of the line under the LADWP transmission corridor. SCE's standard requires a 30-foot easement for underground installation of 66 kV lines…"

U-2-53

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, additional right-of-way requirements at these locations would be similar to what is discussed above for the 66-kilovolt overhead lines at Southern Ave., including utility license agreements from the UP Railroad easement requests. In addition, as discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2. Should a build alternative be selected as the Preferred Alternative, final utility easement agreements, including distances, would be determined during utility coordination later in the design process and the drafting of specific Utility Relocation Plans. The following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

> Therefore, the existing lines would be rerouted over to the north side of the existing tracks and relocated underground along the north side of the existing railroad corridor, using a directional bore under I-710, the LADWP transmission corridor, and the Los

> Angeles River. Alternatively, overhead routing may be employed in the event that undergrounding was infeasible due to construction constraints. The existing overhead lines and their supports would be removed between the existing pole located at the Rayo Ave. cul-de-sac on the west to the second existing pole east of I-710 on the east. Permanent vault structures and riser poles would serve to transition the lines back overhead. Subtransmission structure height modifications will typically also require modifications to adjacent structures. Additional right-of-way requirements are similar to what is discussed above…

U-2-54

As was discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, right-of-way requirements would include the addition of a permanent fee take or easement within the existing parcel on the northwest corner of Florence Ave./Eastern Ave. to accommodate the proposed vault structure.

U-2-55

The following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

> No additional right-of-way would be required. Subtransmission structure height modifications will typically also require modifications to adjacent structures.

U-2-56

The following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

> The lines would be raised across I-710 and installed along the same alignment, not necessitating additional right-of-way. Subtransmission structure height modifications will typically also require modifications to adjacent structures.

U-2-57

The following revisions have been made to Section 3.4.2.2 of the RDEIR/SDEIS:

> Engineered steel poles would be required of this relocation and new utility easements would be necessary. Subtransmission structure height modifications will typically also require modifications to adjacent structures.

U-2-58

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated

in accordance with specific Utility Relocation Plans described in Measure U&ES-2. Should a build alternative be selected as the Preferred Alternative, final utility easement agreements would be determined during utility coordination later in the design process and the drafting of specific Utility Relocation Plans. However, for clarity the following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

> East of the river, the system would rise back up to a pole on DeForest Ave. just north of Hill St., and tie back into the existing system. S2028 is a 12-kilovolt system also on joint poles with S2027 and S2026 that crosses I-710 and the Los Angeles River at Hill St. West of the river, the system would be undergrounded at Hill St. just west of Gayle Ave., use a directional bore under the I-710 and Los Angeles River with S2027, and rise back up on an engineered steel pole on DeForest Ave. just north of Hill St. to tie back into the existing system. Utility easements may be required in support of this work.

U-2-59

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2. Should a build alternative be selected as the Preferred Alternative, final utility easement agreements would be determined during utility coordination later in the design process and the drafting of specific Utility Relocation Plans. However, for clarity the following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

> The strategy is as follows: to the west, the system would be undergrounded at Hill St./ Fashion Ave. and use a directional bore to cross I-710 and the Los Angeles River. East of the river, the system would rise back on an engineered steel pole at Hill St., just east of DeForest Ave., to tie into the existing system. Because the system is on existing poles along Hill St., the proposed relocation would not move the system any closer to existing sensitive land uses, and would partially underground the lines. Utility easements may be required in support of this work.

U-2-60

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2. Should a build alternative be selected as the Preferred Alternative, final utility easement agreements would be determined during utility coordination later in the design process and the drafting of specific Utility Relocation Plans. However, for clarity the following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

West of the river, a new pole west of Gale Ave. would be required. East of the river, a new pole between DeForest Ave. and San Francisco Ave. would be required as well. A 12-kilovolt aerial system (S2034) crossing I-710 and the Los Angeles River at the same location as S2033 would be impacted and relocated in a similar manner, but the new pole would be required between San Francisco Ave. and Golden Ave. The relocation would not bring the system appreciably closer to Birney Elementary School or the residential neighborhoods on the east side of the Los Angeles River. Utility easements may be required in support of this work.

U-2-61

The following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

Underground agreements with Caltrans within the state right-of-way crossing SR-91 would be required. Subtransmission structure height modifications typically also requires modifications to adjacent structures.

U-2-62

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2. Should a build alternative be selected as the Preferred Alternative, final utility easement agreements would be determined during utility coordination later in the design process and the drafting of specific Utility Relocation Plans. However, for clarity the following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

The lines would be relocated easterly of I-710 within the SCE Fee Parcels, with taller poles replacing the existing poles. ~~No~~ Additional right-of-way ~~would~~ may be required in support of undergrounding the SCE facilities and/or separation from other utilities. Subtransmission structure height modifications typically also requires modifications to adjacent structures.

U-2-63

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2. Should a build alternative be selected as the Preferred Alternative, final utility plans, including safety compliance structures, would be determined during the drafting of specific Utility Relocation Plans and/or final design. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to utilities.

U-2-64

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, the proposed relocation discussed would be identical to that proposed under Alternative 5C. A similar edit has been made to the language describing the impacts under Alternative 5C. Please refer to Response to Comment U-2-52 regarding the 30-foot easement needed from the United States Army Corps of Engineers (USACE) and/or the Los Angeles County Flood Control District (LACFCD).

U-2-65

As discussed in Section 3.4.2.2 on page 3.4-28 of the RDEIR/SDEIS, the proposed relocation impacted by Alternative 7 would be identical to that proposed under Alternative 5C. However, the document erroneously references Alternative 5C earlier in the paragraph, instead of Alternative 7. The appropriate revision for consistency has been made in this Final EIR/EIS.

U-2-66

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, the proposed relocation discussed would be identical to that proposed under Alternative 5C. A similar edit has been made to the language describing the impacts under Alternative 5C. Please refer to Response to Comment U-2-53 regarding additional right-of-way requirements at the referenced locations.

U-2-67

The following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

> A new 20-foot-wide underground easement from LADWP would be needed within the transmission corridor, as well as a permanent encroachment permit from Caltrans as described above. Subtransmission structure height modifications will typically also require modifications to adjacent structures.

U-2-68

The following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

> The two sets of lines would share the undergrounding easements from USACE and/or LACFCD and LADWP as described above. Subtransmission structure height modifications will typically also require modifications to adjacent structures.

U-2-69

The following revisions have been made to Section 3.4.2.2 of this Final EIR/EIS:

Under Alternative 7, the 66-kilovolt overhead lines (N2012) crossing I-710 along the south side of the Slauson Ave. overcrossing would be directly impacted by the proposed freeway mainline and indirectly impacted due to the CPUC-mandated minimum vertical clearance requirement of 30 feet between the proposed structure deck and existing lines which cannot be met at the crossing of the freight corridor viaduct. Subtransmission structure height modifications will typically also require modifications to adjacent structures.

U-2-70

Please refer to Responses to Comments U-2-18, U-2-19, and U-2-20 regarding implementation of Measure U&ES-2.

U-2-71

Please refer to Responses to Comments U-2-18, U-2-19, and U-2-20 regarding implementation of Measure U&ES-2.

U-2-72

Caltrans and Metro respectfully disagree with the commenter that the emissions analysis results in an inaccurate portrayal of the impacts and benefits of Alternative 7. Please refer to Response to Comment U-2-31 regarding the assumptions used in the air quality analysis.

U-2-73

Please refer to Response to Comment U-2-29 regarding entrained road dust emissions. For informational purposes, the results of a revised incremental emissions analysis are presented in the table below. The table is based on the I-710 Traffic Model and shows the incremental PM emissions from the I-710 freeway for the build alternatives as compared to 2012 Baseline and 2035 No Build Alternative.

Incremental PM Emissions

		2035 Alternative 5C (lbs/day)		2035 Alternative 7 (lbs/day)	
Silt Loading	Pollutant	vs 2012 Baseline	vs 2035 No Build	vs 2012 Baseline	vs 2035 No Build
Original	PM_{10} (Total)	320	160	800	640
	$PM_{2.5}$ (Total)	-110	36	-20	130
New	PM_{10} (Total)	220	140	600	520
	$PM_{2.5}$ (Total)	-130	32	-50	110

lbs/day = pounds per day
PM = particulate matter
PM_{10} = particulate matter less than ten microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter

U-2-74

Please refer to Response to Comment U-2-30 regarding air dispersion modeling. The RDEIR/SDEIS includes emissions impact analyses for the South Coast Air Basin (Basin), the Area of Interest (i.e., communities along the I-710 Corridor) and the I-710 freeway.

U-2-75

Caltrans and Metro respectfully disagree with the commenter that the emissions analysis results in an inaccurate portrayal of the impacts and benefits of Alternative 7. Please refer to Responses to Comments U-2-25 and U-2-31 for a discussion of the assumptions used in the air quality analysis.

U-2-76

As discussed in Response to Comment U-2-25, the methodology used for evaluating the air quality, greenhouse gas, and health risk assessment impacts of ZE/NZE vehicles are presented in Section 7 of Appendix C to the AQ/GHG/HRA Technical Study (2017). Section 7 provides a description of how the emission factors and VMT by the ZE/NZE trucks were estimated.

Tables C-8-1A, C-8-1B, and C-8-1C of the AQ/GHG/HRA Technical Study show the incremental criteria air pollutant emissions for the future (2035) build alternatives as compared to the 2012 Baseline for the South Coast Air Basin (Basin), Area of Interest (Area of Interest), and the I-710 freeway, respectively. Although the number of ZE/NZE trucks travelling on the I-710 freeway would be larger under Alternative 7 as compared to Alternative 5C, the total number of overall vehicles would increase. Thus, emissions along the freeway may increase due to a greater number of trucks even though some of those trucks would be lower emitting for some pollutants.

Further, as discussed in Response to Comment U-2-25 and stated in Section 7 of Appendix C of the AQ/GHG/HRA Technical Study, it was conservatively assumed that all ZE/NZE trucks would be NZE in both build alternatives (Alternatives 5C and 7). NZE trucks would be non-diesel (as diesel trucks have not been able to meet CARB's optional low-NO_X standard of 0.02 gm/bhp-hr), thereby reducing DPM to zero and NO_X emissions by 90 percent compared to conventional heavy-duty trucks. All other criteria air pollutant emissions for NZE trucks are assumed to be the same as a conventional truck. Hence, NO_X would be the only criteria pollutant, that would have a greater reduction from the 2012 Baseline in Alternative 7 as compared to Alternative 5C. In addition, refer to the AQ/GHG/HRA Technical Study, provided in Appendix F, which includes the results for the Alternative 7 ZE-only option.

U-2-77

Please also refer to Response to Comment U-2-17 regarding the description of and potential impacts to SCE facilities. Caltrans and Metro acknowledge that SCE reserves the right to confirm

the descriptions of SCE facilities and coordinate with the Project Team regarding the property rights at a given location. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to utilities.

U-2-78

Please refer to Response to Comment U-2-20 regarding SCE's estimated costs/share of the total utility relocation costs for the build alternatives.

U-2-79

At this point in the project development process, this information in Appendix F2 of the *Utility Impact Report, Central Segment* (June 2016) will not be altered; however, this correction has been acknowledged and included in the project record.

U-2-80

Please refer to Response to Comment U-2-77 regarding the description of and impacts to SCE facilities.

U-2-81

Please refer to Response to Comment U-2-20 regarding SCE's estimated costs/share of the total utility relocation costs for the build alternatives.

U-2-82

The cost discrepancies described in the comment are acknowledged. However, as stated in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to utilities.

U-2-83

Please refer to Response to Comment U-2-77 regarding the description of and impacts to SCE facilities.

U-2-84

Please refer to Response to Comment U-2-20 regarding SCE's estimated costs/share of the total utility relocation costs for the build alternatives.

U-2-85

At this point in the EIR/EIS process, this information in the Utility Information Sheets of the *I-710 South End Utility Study Project Report* (November 2016) will not be altered; however, as stated

in Response to Comment U-2-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to utilities..

U-2-86

The Energy Technical Report was revised to calculate the potential energy impacts from ZE and NZE trucks based on the CARB's LCFS regulations that include two factors (Energy Economy Ratio [EER] and Energy Density) that describe the relative energy consumption of electrically-powered trucks compared to diesel- and gasoline-powered trucks. The conclusion now also includes the following statement: "Additionally, the use of zero emission/near zero emission (ZE/NZE) trucks instead of diesel trucks for each build alternative are factored in." Table 4.2-5 show that both Alternatives 5C and 7 would result in lower operational energy consumption compared to the No Build Alternative. As stated above that table, "Alternative 5C and 7 improvements would include ZE/NZE heavy trucks, increase average travel speeds during peak hours, remove bottlenecks, and reduce delays."

U-2-87

As described in Response to Comment U-2-86, the Energy Technical Report has been revised as suggested to use the CARB's LCFS regulations and the two energy factors (Energy Economy Ratio [EER] and Energy Density) contained within.

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THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

November 13, 2017 **EMAIL AND USPS**

Mr. Ronald Kosinski, Deputy District Director
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012
Email: ron_kosinski@dot.ca.gov

Dear Mr. Kosinski:

Recirculated Draft Environmental Impact Report/
Supplemental Draft Environmental Impact Statement for the I-710 Corridor Project

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project. Previously, a Draft EIR/EIS was released for public comment in 2012. Based on the comments received and new information, a new set of alternatives was developed and has been analyzed in the RDEIR/SDEIS. The alternatives studied in the RDEIR/SDEIS include Alternative 1 (No Build), Alternative 5C (Modernization of I-710 Freeway), and Alternative 7 (Modernization and Addition of a Clean-Emission Freight Corridor). All build alternatives proposed also include programmatic elements, including a zero emission/near zero emission truck deployment program, expanded transit services, and a community health benefit program. The Study Area includes the portion of the I-710 from Ocean Boulevard in Long Beach to State Route 60 (SR-60), a distance of approximately 19 miles. At the freeway-to-freeway interchanges, the Study Area extends east and west of the I-710 mainline for the Interstate 405 (I-405), SR-91, I-105, and I-5 interchanges. The project was undertaken to address the I-710 Corridor's mobility and safety needs and to explore possible solutions for transportation improvements.

Metropolitan is a public agency and regional water wholesaler. It comprises 26 member public agencies serving approximately 19 million people in portions of six counties in Southern California, including Los Angeles County.

Metropolitan responded to the Draft EIR/EIS for the project in a letter dated August 22, 2012 (enclosed). As stated in that letter, Metropolitan owns and operates several pipelines and facilities that cross or are within the Study Area (Location Map, enclosed), as follows: U-3-1

- The Middle Cross Feeder is a 72- to 78-inch welded steel pipe that runs east and west along Southern Avenue and crosses the I-710 just south of the Firestone Boulevard intersection.
- The Rio Hondo Pressure Control Structure and Power Plant is located near Miller Way and Frontage Road East, adjacent to the I-710.
- The Middle Feeder is a 79-inch welded steel pipe that runs east and west along Greenleaf Boulevard and crosses the I-710 at Greenleaf Boulevard.
- The West Coast Feeder is a 60-inch welded steel pipe that runs east and west along the I-105 and crosses the I-710 at the I-105 intersection.
- The Victoria-223rd Street Cross Feeder is a 45-inch precast concrete pipe that runs north and south along Alameda Street on the west side of the project.
- The Second Lower Feeder is a 78-inch pre-stressed pipe that runs east and west along Carson Street and crosses the I-710 at Carson Street.
- The Long Beach Lateral is a 30-inch welded steel pipe that runs east and west along Baker Street and crosses the I-710 at Baker Street.

U-3-1

Based on our review of the RDEIR/SDEIS, the project could interfere with Metropolitan's ongoing operation, maintenance and repair activities on our pipelines. Metropolitan requires unrestricted and unobstructed access to its facilities, to maintain and repair its system.

Metropolitan has previously reviewed conceptual plans for the proposed project for both Alternative 5C and 7. Both alternatives are conceptually acceptable subject to further review and approval of detail plans for bridge pile foundations, future encasements, appurtenant calculations, and site specific geotechnical analyses.

U-3-2

There are some discrepancies in the discussion of Metropolitan's pipelines under Section 3.4.2.2 Utilities, Permanent Impacts for Alternatives 5C and 7 (Page 3.4-18, Page 3.4-33). Please discuss Metropolitan's facilities in this section as follows:

1. Metropolitan's 30-inch Long Beach Lateral line crosses under the Los Angeles River, continuing in an east-west direction where the discharge structure and air-vac assembly are located both within existing and future Caltrans right of way. Under Alternative 5C, the valve would be relocated north of the existing MWDSC line and a new outlet to the Los Angeles River provided. Under Alternative 7, however, the proposed geometry would not provide sufficient room to relocate the discharge valve into LACFCD right of way. Therefore, under Alternative 7, the discharge valve would be relocated to the east side of the Los Angeles River, with an outlet to the river and power provided from Baker Street. The existing air-vac assembly would be relocated to Gale Avenue. Additional

U-3-3

Right-of-Way will be required. (See reference letters dated October 8, 2015 and November 2, 2016) U-3-3

2. Metropolitan's 78-inch pre-stressed concrete Second Lower Feeder pipeline runs in an east-west direction along Carson Street north of the I-710/I-405 interchange and is located under the proposed 5C and 7 Alternative footprints. It is not within direct physical conflict with the proposed improvements, and is to be protected in place. However, it may be necessary to extend the concrete encasement, or install another measure of permanent protection, depending upon the final geometry of the proposed improvements. (See reference letter dated April 28, 2016) U-3-4

3. Metropolitan's 73-inch welded steel Middle Feeder pipeline runs in an east-west direction along Greenleaf Boulevard north of the I-170/SR-91 interchange and is located under the proposed 5C and 7 Alternative footprints. It is not within direct physical conflict with the proposed improvements, and is to be protected in place. However, it may be necessary to extend the concrete encasement, or install another measure of permanent protection, depending upon the final geometry of the proposed improvements. (See reference letter dated April 28, 2016) U-3-5

4. Metropolitan's 61-inch welded steel West Coast Feeder pipeline runs in an east-west direction underneath the I-170/I-105 interchange and is located under the proposed Alternative 7 footprint. It is not within direct physical conflict with the proposed improvements, and is to be protected in place. However, it may be necessary to extend the concrete encasement, or install another measure of permanent protection, depending upon the final geometry of the proposed improvements. (See reference letter dated April 28, 2016) U-3-6

5. Metropolitan's 79-inch welded steel Middle Cross Feeder pipeline runs in an east-west direction underneath the I-170 within the existing electrical transmission corridor, south of Firestone Boulevard in the City of South Gate and is located under the proposed 5C and 7 Alternative footprints. It is not within direct physical conflict with the proposed improvements, and is to be protected in place. However, it may be necessary to extend the concrete encasement, or install another measure of permanent protection, depending upon the final geometry of the proposed improvements. (See reference letter dated September 30, 2015) U-3-7

In order to avoid potential conflicts with Metropolitan's facilities and rights-of-way, we require that any design plans for any activity in the area of Metropolitan's pipelines or facilities be submitted for our review and written approval. Approval of the project is contingent on Metropolitan's approval of design plans for portions of the proposed project that could impact our facilities. Any future design plans associated with this project should be submitted to the attention of Metropolitan's Substructures Team. Detailed prints of drawings of Metropolitan's U-3-8

pipelines and rights-of-way may be obtained by calling Metropolitan's Substructures Information Line at (213) 217-6564. U-3-8

Metropolitan encourages projects within its service area to include water conservation measures. While Metropolitan continues to build new supplies and develop means for more efficient use of current resources, projected population and economic growth will increase demands on the current system. Water conservation, reclaimed water use, stormwater use, and groundwater recharge programs are integral components to regional water supply planning. Metropolitan supports mitigation measures such as using water efficient fixtures, drought-tolerant landscaping, irrigation with stormwater and reclaimed water to offset any increase in water use associated with the proposed project.

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future documentation and plans for this project. For further assistance, please contact Ms. Lilia I. Martínez at (213) 217-5656.

Very truly yours,

Jennifer Harriger
Team Manager, Environmental Planning Section

EM/lim

Enclosures:
1) Metropolitan Comment Letter to the Draft EIR/EIS dated August 22, 2012
2) Other Metropolitan letters dated April 28, 2016; November 2, 2016; October 8, 2015; and September 30, 2015
3) Location Map

cc: Shoreh Zareh, Substructures Team

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

August 22, 2012

Mr. Ron Kosinski
Deputy District Director Environmental Studies
California Department of Transportation
100 South Main Street Mail Stop 16A
Los Angeles, California 90012

Dear Mr. Kosinski:

Interstate-710 Corridor Project Draft EIR/EIS

The Metropolitan Water District of Southern California (Metropolitan) has received the I-710 Corridor Project Draft Environmental Impact Report/Environmental Impact Statement. The California Department of Transportation (Caltrans), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), the Gateway Cities Council of Governments, the Southern California Association of Governments, the Ports of Los Angeles and Long Beach, and the Interstate 5 Joint Powers Authority, are proposing to improve Interstate 710 (I-710) in Los Angeles County between Ocean Blvd. and State Route 60 (SR-60). Major features include widening I-710 up to ten general purpose lanes (five lanes in each direction), modernize and reconfigure the I-405, SR-91 and a portion of the I-5 interchanges with I-710, modernize and reconfigure most local arterial interchanges along I-710, and provision of a separated four-lane freight corridor to be used by conventional or zero-emission trucks. This letter contains Metropolitan's response to the Draft EIR/EIS as a responsible agency.

Our review of the Draft EIR/EIS indicates Metropolitan owns and operates several pipelines and facilities that cross or are adjacent to your project:

- The Middle Cross Feeder is a 72- to 78-inch welded steel pipe that runs east and west along Southern Avenue and crosses the I-710 just south of the Firestone intersection.

- The Rio Hondo Pressure Control Structure and Power Plant is located near Miller Way and Frontage Road East, adjacent to the I-710.

- The West Coast Feeder is a 60-inch welded steel pipe that runs east and west along the I-105 and crosses the I-710 at the I-105 intersection.

- The Middle Feeder is a 72-inchwelded steel pipe that runs east and west along Greenleaf Blvd and crosses the I-710 at Greenleaf Blvd.

- The Second Lower Feeder is a 78-inch pre-stressed pipe that runs east and west along Carson Street and crosses the I-710 at Carson Street.

- The Long Beach Lateral is a 37-inch welded steel pipe that runs east and west along Baker Street and crosses the I-710 at Baker Street.

- The Victoria-223rd Street Cross Feeder is a 45-inch precast concrete pipe that runs north and south along Alameda Street on the west side of your project

Metropolitan is concerned with the potential impacts to the pipeline that may result from the construction and implementation of the proposed Project.

Development and redevelopment associated with the proposed Project must not restrict any of Metropolitan's day-to-day operations, and/or access to it facilities. Metropolitan must be allowed to maintain its rights-of-way and requires unobstructed access to its facilities and properties at all times in order to repair and maintain its system. Detailed prints of drawings of Metropolitan's pipelines and rights-of-way may be obtained by calling Metropolitan's Substructures Information Line at (213) 217-6564. To assist in preparing plans that are compatible with Metropolitan's facilities, easements, and properties, we have enclosed a copy of the "Guidelines for Developments in the Area of Facilities, Fee Properties, and /or easements of The Metropolitan Water District of Southern California." Please note that all submitted designs or plans must clearly identify Metropolitan's facilities and rights-of-way.

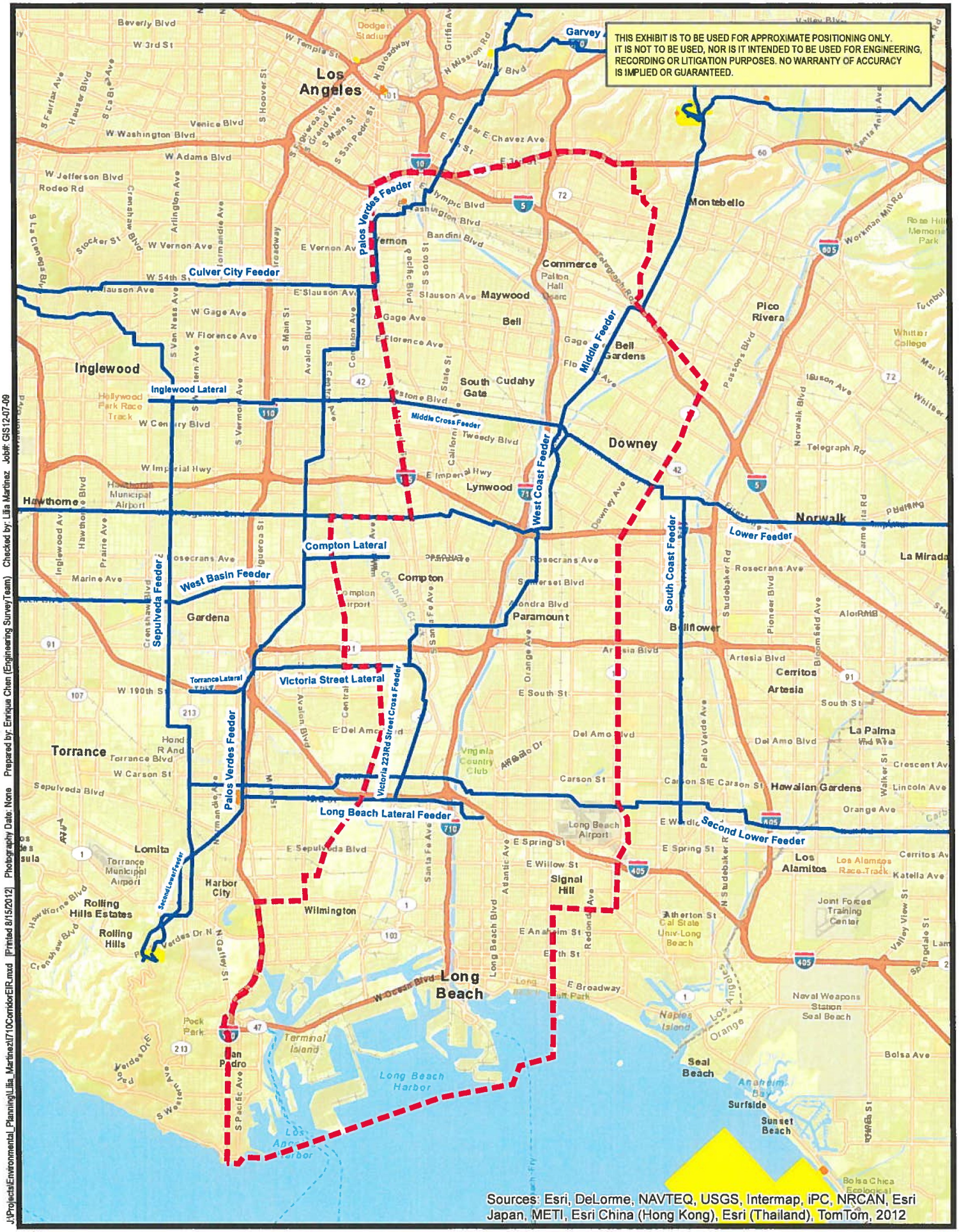
We appreciate the opportunity to provide input to your planning process. If you have any questions, please contact Mr. William Fong at (213) 217-6899.

Very truly yours,

Deirdre West
Manager, Environmental Planning Team

WF/wf
(I-710)

Enclosures: Map
Guidelines



J:\Projects\Environmental_Planning\Lilia_Martinez\I710CorridorEIR.mxd [Printed 8/15/2012] Photography Date: None Prepared by: Enrique Chen (Engineering Survey Team) Checked by: Lilia Martinez Job#: GIS12-07-09

The Metropolitan Water District of Southern California
Engineering Services Group

I-710 Corridor Project

MWD Interests

Miles
0 0.5 1 2

Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California

1. Introduction

a. The following general guidelines should be followed for the design of proposed facilities and developments in the area of Metropolitan's facilities, fee properties, and/or easements.

b. We require that 3 copies of your tentative and final record maps, grading, paving, street improvement, landscape, storm drain, and utility plans be submitted for our review and written approval as they pertain to Metropolitan's facilities, fee properties and/or easements, prior to the commencement of any construction work.

2. Plans, Parcel and Tract Maps

The following are Metropolitan's requirements for the identification of its facilities, fee properties, and/or easements on your plans, parcel maps and tract maps:

a. Metropolitan's fee properties and/or easements and its pipelines and other facilities must be fully shown and identified as Metropolitan's on all applicable plans.

b. Metropolitan's fee properties and/or easements must be shown and identified as Metropolitan's with the official recording data on all applicable parcel and tract maps.

c. Metropolitan's fee properties and/or easements and existing survey monuments must be dimensionally tied to the parcel or tract boundaries.

d. Metropolitan's records of surveys must be referenced on the parcel and tract maps.

3. Maintenance of Access Along Metropolitan's Rights-of-Way

a. Proposed cut or fill slopes exceeding 10 percent are normally not allowed within Metropolitan's fee properties or easements. This is required to facilitate the use of construction and maintenance equipment, and provide access to its aboveground and belowground facilities.

b. We require that 16-foot-wide commercial-type driveway approaches be constructed on both sides of all streets crossing Metropolitan's rights-of-way. Openings are required in any median island. Access ramps, if necessary, must be at least 16-feet-wide. Grades of ramps are normally not allowed to exceed 10 percent. If the slope of an access ramp must exceed 10 percent due to the topography, the ramp must be paved. We require a 40-foot-long level area on the driveway approach to access ramps where the ramp meets the street. At Metropolitan's fee properties, we may require fences and gates.

c. The terms of Metropolitan's permanent easement deeds normally preclude the building or maintenance of structures of any nature or kind within its easements, to ensure safety and avoid interference with operation and maintenance of Metropolitan's pipelines or other facilities. Metropolitan must have vehicular access along the easements at all times for inspection, patrolling, and for maintenance of the pipelines and other facilities on a routine basis. We require a 20-foot-wide clear zone around all above-ground facilities for this routine access. This clear zone should slope away from our facility on a grade not to exceed 2 percent. We must also have access along the easements with construction equipment. An example of this is shown on Figure 1.

d. The footings of any proposed buildings adjacent to Metropolitan's fee properties and/or easements must not encroach into the fee property or easement or impose additional loading on Metropolitan's pipelines or other facilities therein. A typical situation is shown on Figure 2. Prints of the detail plans of the footings for any building or structure adjacent to the fee property or easement must be submitted for our review and written approval as they pertain to the pipeline or other facilities therein. Also, roof eaves of buildings adjacent to the easement or fee property must not overhang into the fee property or easement area.

e. Metropolitan's pipelines and other facilities, e.g. structures, manholes, equipment, survey monuments, etc. within its fee properties and/or easements must be protected from damage by the easement holder on Metropolitan's property or the property owner where Metropolitan has an easement, at no expense to Metropolitan. If the facility is a cathodic protection station it shall be located prior to any grading or excavation. The exact location, description and way of protection shall be shown on the related plans for the easement area.

4. Easements on Metropolitan's Property

a. We encourage the use of Metropolitan's fee rights-of-way by governmental agencies for public street and utility purposes, provided that such use does not interfere with Metropolitan's use of the property, the entire width of the property is accepted into the agency's public street system and fair market value is paid for such use of the right-of-way.

b. Please contact the Director of Metropolitan's Right of Way and Land Division, telephone (213) 250-6302, concerning easements for landscaping, street, storm drain, sewer, water or other public facilities proposed within Metropolitan's fee properties. A map and legal description of the requested easements must be submitted. Also, written evidence must be submitted that shows the city or county will accept the easement for the specific purposes into its public system. The grant of the easement will be subject to Metropolitan's rights to use its land for water pipelines and related purposes to the same extent as if such grant had not been made. There will be a charge for the easement. Please note that, if entry is required on the property prior to issuance of the easement, an entry permit must be obtained. There will also be a charge for the entry permit.

5. Landscaping

Metropolitan's landscape guidelines for its fee properties and/or easements are as follows:

a. A green belt may be allowed within Metropolitan's fee property or easement.

b. All landscape plans shall show the location and size of Metropolitan's fee property and/or easement and the location and size of Metropolitan's pipeline or other facilities therein.

c. Absolutely no trees will be allowed within 15 feet of the centerline of Metropolitan's existing or future pipelines and facilities.

d. Deep-rooted trees are prohibited within Metropolitan's fee properties and/or easements. Shallow-rooted trees are the only trees allowed. The shallow-rooted trees will not be permitted any closer than 15 feet from the centerline of the pipeline, and such trees shall not be taller than 25 feet with a root spread no greater than 20 feet in diameter at maturity. Shrubs, bushes, vines, and ground cover are permitted, but larger shrubs and bushes should not be planted directly over our pipeline. Turf is acceptable. We require submittal of landscape plans for Metropolitan's prior review and written approval. (See Figure 3).

e. The landscape plans must contain provisions for Metropolitan's vehicular access at all times along its rights-of-way to its pipelines or facilities therein. Gates capable of accepting Metropolitan's locks are required in any fences across its rights-of-way. Also, any walks or drainage facilities across its access route must be constructed to AASHTO H-20 loading standards.

f. Rights to landscape any of Metropolitan's fee properties must be acquired from its Right of Way and Land Division. Appropriate entry permits must be obtained prior to any entry on its property. There will be a charge for any entry permit or easements required.

6. Fencing

Metropolitan requires that perimeter fencing of its fee properties and facilities be constructed of universal chain link, 6 feet in height and topped with 3 strands of barbed wire angled upward and outward at a 45 degree angle or an approved equal for a total fence height of 7 feet. Suitable substitute fencing may be considered by Metropolitan. (Please see Figure 5 for details).

7. Utilities in Metropolitan's Fee Properties and/or Easements or Adjacent to Its Pipeline in Public Streets

Metropolitan's policy for the alinement of utilities permitted within its fee properties and/or easements and street rights-of-way is as follows:

a. Permanent structures, including catch basins, manholes, power poles, telephone riser boxes, etc., shall not be located within its fee properties and/or easements.

b. We request that permanent utility structures within public streets, in which Metropolitan's facilities are constructed under the Metropolitan Water District Act, be placed as far from our pipeline as possible, but not closer than 5 feet from the outside of our pipeline.

c. The installation of utilities over or under Metropolitan's pipeline(s) must be in accordance with the requirements shown on the enclosed prints of Drawings Nos. C-11632 and C-9547. Whenever possible we request a minimum of one foot clearance between Metropolitan's pipe and your facility. Temporary support of Metropolitan's pipe may also be required at undercrossings of its pipe in an open trench. The temporary support plans must be reviewed and approved by Metropolitan.

d. Lateral utility crossings of Metropolitan's pipelines must be as perpendicular to its pipeline alinement as practical. Prior to any excavation our pipeline shall be located manually and any excavation within two feet of our pipeline must be done by hand. This shall be noted on the appropriate drawings.

e. Utilities constructed longitudinally within Metropolitan's rights-of-way must be located outside the theoretical trench prism for uncovering its pipeline and must be located parallel to and as close to its rights-of-way lines as practical.

f. When piping is jacked or installed in jacked casing or tunnel under Metropolitan's pipe, there must be at least two feet of vertical clearance between the bottom of Metropolitan's pipe and the top of the jacked pipe, jacked casing or tunnel. We also require that detail drawings of the shoring for the jacking or tunneling pits be submitted for our review and approval. Provisions must be made to grout any voids around the exterior of the jacked pipe, jacked casing or tunnel. If the piping is installed in a jacked casing or tunnel the annular space between the piping and the jacked casing or tunnel must be filled with grout.

g. Overhead electrical and telephone line requirements:

1) Conductor clearances are to conform to the California State Public Utilities Commission, General Order 95, for Overhead Electrical Line Construction or at a greater clearance if required by Metropolitan. Under no circumstances shall clearance be less than 35 feet.

2) A marker must be attached to the power pole showing the ground clearance and line voltage, to help prevent damage to your facilities during maintenance or other work being done in the area.

3) Line clearance over Metropolitan's fee properties and/or easements shall be shown on the drawing to indicate the lowest point of the line under the most adverse conditions including consideration of sag, wind load, temperature change, and support type. We require that overhead lines be located at least 30 feet laterally away from all above-ground structures on the pipelines.

4) When underground electrical conduits, 120 volts or greater, are installed within Metropolitan's fee property and/or easement, the conduits must be incased in a minimum of three inches of red concrete. Where possible, above ground warning signs must also be placed at the right-of-way lines where the conduits enter and exit the right-of-way.

h. The construction of sewerlines in Metropolitan's fee properties and/or easements must conform to the California Department of Health Services Criteria for the Separation of Water Mains and Sanitary Services and the local City or County Health Code Ordinance as it relates to installation of sewers in the vicinity of pressure waterlines. The construction of sewerlines should also conform to these standards in street rights-of- way.

i. Cross sections shall be provided for all pipeline crossings showing Metropolitan's fee property and/or easement limits and the location of our pipeline(s). The exact locations of the crossing pipelines and their elevations shall be marked on as-built drawings for our information.

j. Potholing of Metropolitan's pipeline is required if the vertical clearance between a utility and Metropolitan's pipeline is indicated on the plan to be one foot or less. If the indicated clearance is between one and two feet, potholing is suggested. Metropolitan will provide a representative to assists others in locating and identifying its pipeline. Two-working days notice is requested.

k. Adequate shoring and bracing is required for the full depth of the trench when the excavation encroaches within the zone shown on Figure 4.

l. The location of utilities within Metropolitan's fee property and/or easement shall be plainly marked to help prevent damage during maintenance or other work done in the area. Detectable tape over buried utilities should be placed a minimum of 12 inches above the utility and shall conform to the following requirements:

1) Water pipeline: A two-inch blue warning tape shall be imprinted with:

"CAUTION BURIED WATER PIPELINE"

2) Gas, oil, or chemical pipeline: A two-inch yellow warning tape shall be imprinted with:

"CAUTION BURIED _____ PIPELINE"

3) Sewer or storm drain pipeline: A two-inch green warning tape shall be imprinted with:

"CAUTION BURIED _____ PIPELINE"

4) Electric, street lighting, or traffic signals conduit: A two-inch red warning tape shall be imprinted with:

"CAUTION BURIED _____ CONDUIT"

5) Telephone, or television conduit: A two-inch orange warning tape shall be imprinted with:

"CAUTION BURIED _____ CONDUIT"

m. Cathodic Protection requirements:

1) If there is a cathodic protection station for Metropolitan's pipeline in the area of the proposed work, it shall be located prior to any grading or excavation. The exact location, description and manner of protection shall be shown on all applicable plans. Please contact Metropolitan's Corrosion Engineering Section, located at Metropolitan's F. E. Weymouth Softening and Filtration Plant, 700 North Moreno Avenue, La Verne, California 91750, telephone (714) 593-7474, for the locations of Metropolitan's cathodic protection stations.

2) If an induced-current cathodic protection system is to be installed on any pipeline crossing Metropolitan's pipeline, please contact Mr. Wayne E. Risner at (714) 593-7474 or (213) 250-5085. He will review the proposed system and determine if any conflicts will arise with the existing cathodic protection systems installed by Metropolitan.

3) Within Metropolitan's rights-of-way, pipelines and carrier pipes (casings) shall be coated with an approved protective coating to conform to Metropolitan's requirements, and shall be maintained in a neat and orderly condition as directed by Metropolitan. The application and monitoring of cathodic protection on the pipeline and casing shall conform to Title 49 of the Code of Federal Regulations, Part 195.

4) If a steel carrier pipe (casing) is used:

(a) Cathodic protection shall be provided by use of a sacrificial magnesium anode (a sketch showing the cathodic protection details can be provided for the designers information).

(b) The steel carrier pipe shall be protected with a coal tar enamel coating inside and out in accordance with AWWA C203 specification.

n. All trenches shall be excavated to comply with the CAL/OSHA Construction Safety Orders, Article 6, beginning with Sections 1539 through 1547. Trench backfill shall be placed in 8-inch lifts and shall be compacted to 95 percent relative compaction (ASTM D698) across roadways and through protective dikes. Trench backfill elsewhere will be compacted to 90 percent relative compaction (ASTM D698).

o. Control cables connected with the operation of Metropolitan's system are buried within streets, its fee properties and/or easements. The locations and elevations of these cables shall be shown on the drawings. The drawings shall note that prior to any excavation in the area, the control cables shall be located and measures shall be taken by the contractor to protect the cables in place.

p. Metropolitan is a member of Underground Service Alert (USA). The contractor (excavator) shall contact USA at 1-800-422-4133 (Southern California) at least 48 hours prior to starting any excavation work. The contractor will be liable for any damage to Metropolitan's facilities as a result of the construction.

8. Paramount Right

Facilities constructed within Metropolitan's fee properties and/or easements shall be subject to the paramount right of Metropolitan to use its fee properties and/or easements for the purpose for which they were acquired. If at any time Metropolitan or its assigns should, in the exercise of their rights, find it necessary to remove any of the facilities from the fee properties and/or easements, such removal and replacement shall be at the expense of the owner of the facility.

9. Modification of Metropolitan's Facilities

When a manhole or other of Metropolitan's facilities must be modified to accommodate your construction or reconstruction, Metropolitan will modify the facilities with its forces. This should be noted on the construction plans. The estimated cost to perform this modification will be given to you and we will require a deposit for this amount before the work is performed. Once the deposit is received, we will schedule the work. Our forces will coordinate the work with your contractor. Our final billing will be based on actual cost incurred, and will include materials, construction, engineering plan review, inspection, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount.

10. Drainage

a. Residential or commercial development typically increases and concentrates the peak storm water runoff as well as the total yearly storm runoff from an area, thereby increasing the requirements for storm drain facilities downstream of the development. Also, throughout the year water from landscape irrigation, car washing, and other outdoor domestic water uses flows into the storm drainage system resulting in weed abatement, insect infestation, obstructed access and other problems. Therefore, it is Metropolitan's usual practice not to approve plans that show discharge of drainage from developments onto its fee properties and/or easements.

b. If water must be carried across or discharged onto Metropolitan's fee properties and/or easements, Metropolitan will insist that plans for development provide that it be carried by closed conduit or lined open channel approved in writing by Metropolitan. Also the drainage facilities must be maintained by others, e.g., city, county, homeowners association, etc. If the development proposes changes to existing drainage features, then the developer shall make provisions to provide for replacement and these changes must be approved by Metropolitan in writing.

11. Construction Coordination

During construction, Metropolitan's field representative will make periodic inspections. We request that a stipulation be added to the plans or specifications for notification of Mr. _____ of Metropolitan's Operations Services Branch, telephone (213) 250-____, at least two working days prior to any work in the vicinity of our facilities.

12. Pipeline Loading Restrictions

a. Metropolitan's pipelines and conduits vary in structural strength, and some are not adequate for AASHTO H-20 loading. Therefore, specific loads over the specific sections of pipe or conduit must be reviewed and approved by Metropolitan. However, Metropolitan's pipelines are typically adequate for AASHTO H-20 loading provided that the cover over the pipeline is not less than four feet or the cover is not substantially increased. If the temporary cover over the pipeline during construction is between three and four feet, equipment must restricted to that which

imposes loads no greater than AASHTO H-10. If the cover is between two and three feet, equipment must be restricted to that of a Caterpillar D-4 tract-type tractor. If the cover is less than two feet, only hand equipment may be used. Also, if the contractor plans to use any equipment over Metropolitan's pipeline which will impose loads greater than AASHTO H-20, it will be necessary to submit the specifications of such equipment for our review and approval at least one week prior to its use. More restrictive requirements may apply to the loading guideline over the San Diego Pipelines 1 and 2, portions of the Orange County Feeder, and the Colorado River Aqueduct. Please contact us for loading restrictions on all of Metropolitan's pipelines and conduits.

b. The existing cover over the pipeline shall be maintained unless Metropolitan determines that proposed changes do not pose a hazard to the integrity of the pipeline or an impediment to its maintenance.

13. Blasting

a. At least 20 days prior to the start of any drilling for rock excavation blasting, or any blasting, in the vicinity of Metropolitan's facilities, a two-part preliminary conceptual plan shall be submitted to Metropolitan as follows:

b. Part 1 of the conceptual plan shall include a complete summary of proposed transportation, handling, storage, and use of explosions.

c. Part 2 shall include the proposed general concept for blasting, including controlled blasting techniques and controls of noise, fly rock, airblast, and ground vibration.

14. CEQA Requirements

a. When Environmental Documents Have Not Been Prepared

1) Regulations implementing the California Environmental Quality Act (CEQA) require that Metropolitan have an opportunity to consult with the agency or consultants preparing any environmental documentation. We are required to review and consider the environmental effects of the project as shown in the Negative Declaration or Environmental Impact Report (EIR) prepared for your project before committing Metropolitan to approve your request.

2) In order to ensure compliance with the regulations implementing CEQA where Metropolitan is not the Lead Agency, the following minimum procedures to ensure compliance with the Act have been established:

a) Metropolitan shall be timely advised of any determination that a Categorical Exemption applies to the project. The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.

b) Metropolitan is to be consulted during the preparation of the Negative Declaration or EIR.

c) Metropolitan is to review and submit any necessary comments on the Negative Declaration or draft EIR.

d) Metropolitan is to be indemnified for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

b. <u>When Environmental Documents Have Been Prepared</u>

If environmental documents have been prepared for your project, please furnish us a copy for our review and files in a timely manner so that we may have sufficient time to review and comment. The following steps must also be accomplished:

1) The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.

2) You must agree to indemnify Metropolitan, its officers, engineers, and agents for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

15. <u>Metropolitan's Plan-Review Cost</u>

a. An engineering review of your proposed facilities and developments and the preparation of a letter response

giving Metropolitan's comments, requirements and/or approval that will require 8 man-hours or less of effort is typically performed at no cost to the developer, unless a facility must be modified where Metropolitan has superior rights. If an engineering review and letter response requires more than 8 man-hours of effort by Metropolitan to determine if the proposed facility or development is compatible with its facilities, or if modifications to Metropolitan's manhole(s) or other facilities will be required, then all of Metropolitan's costs associated with the project must be paid by the developer, unless the developer has superior rights.

b. A deposit of funds will be required from the developer before Metropolitan can begin its detailed engineering plan review that will exceed 8 hours. The amount of the required deposit will be determined after a cursory review of the plans for the proposed development.

c. Metropolitan's final billing will be based on actual cost incurred, and will include engineering plan review, inspection, materials, construction, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount. Additional deposits may be required if the cost of Metropolitan's review exceeds the amount of the initial deposit.

16. Caution

We advise you that Metropolitan's plan reviews and responses are based upon information available to Metropolitan which was prepared by or on behalf of Metropolitan for general record purposes only. Such information may not be sufficiently detailed or accurate for your purposes. No warranty of any kind, either express or implied, is attached to the information therein conveyed as to its accuracy, and no inference should be drawn from Metropolitan's failure to comment on any aspect of your project. You are therefore cautioned to make such surveys and other field investigations as you may deem prudent to assure yourself that any plans for your project are correct.

17. Additional Information

Should you require additional information, please contact:

Civil Engineering Substructures Section
Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles, California 90054-0153
(213) 217-6000

JEH/MRW/lk

Rev. January 22, 1989

Encl.

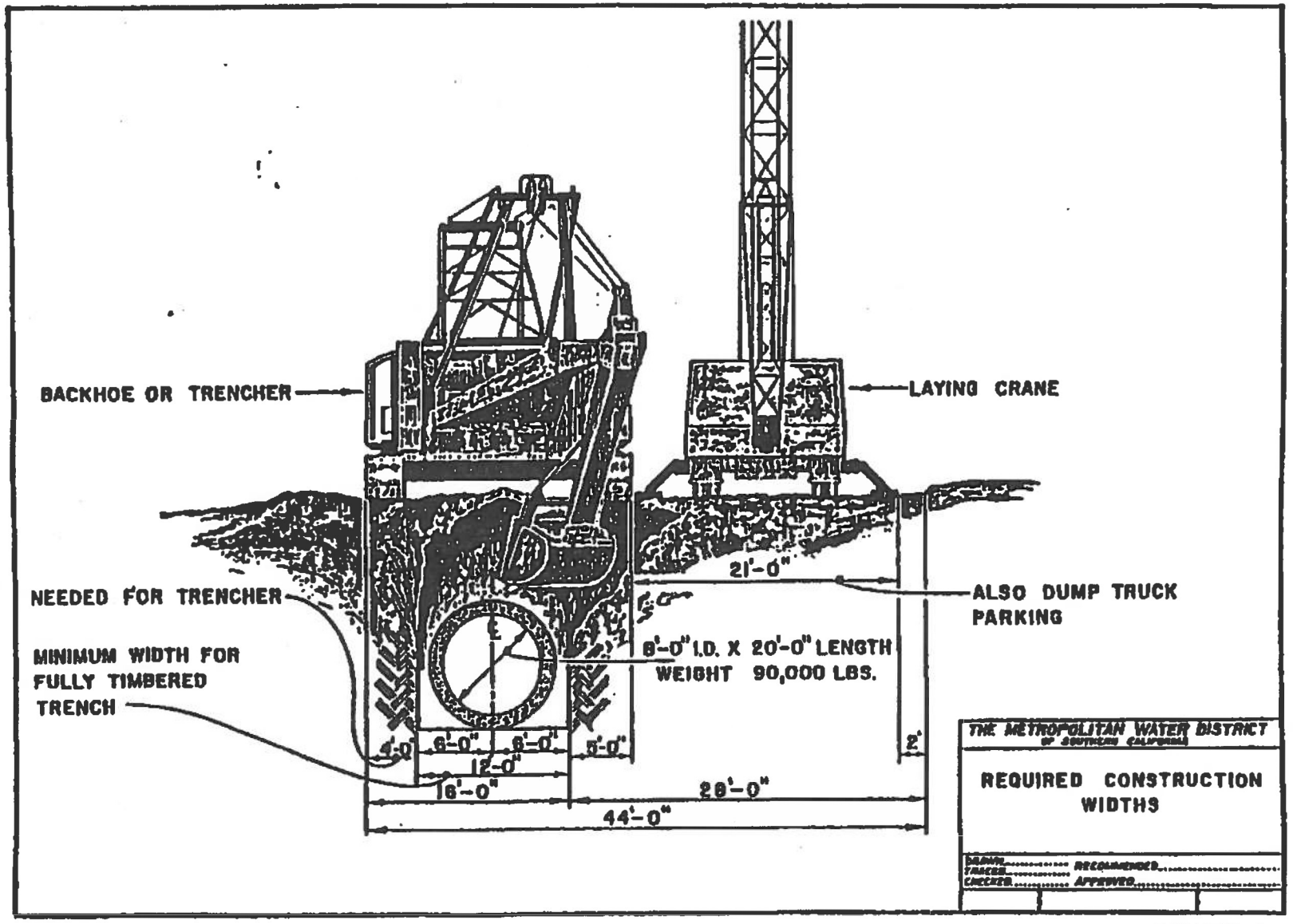
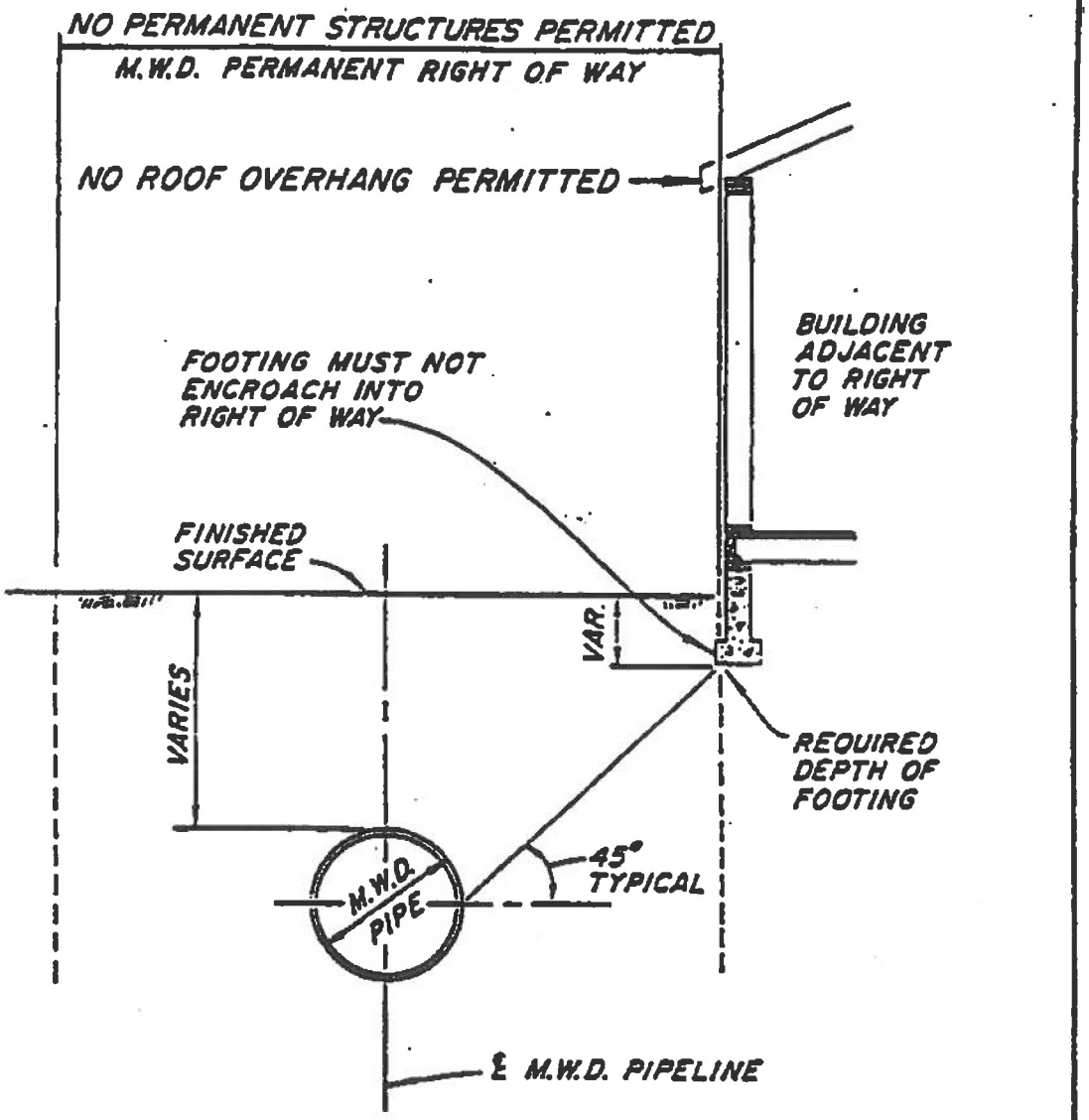

BACKHOE OR TRENCHER
LAYING CRANE
NEEDED FOR TRENCHER
MINIMUM WIDTH FOR
FULLY TIMBERED
TRENCH
21'-0"
ALSO DUMP TRUCK
PARKING
8'-0" I.D. X 20'-0" LENGTH
WEIGHT 90,000 LBS.
4'-0"
6'-0"
6'-0"
5'-0"
2'
12'-0"
16'-0"
28'-0"
44'-0"
THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA
REQUIRED CONSTRUCTION
WIDTHS
DRAWN
TRACED
CHECKED
RECOMMENDED
APPROVED

FIGURE 1



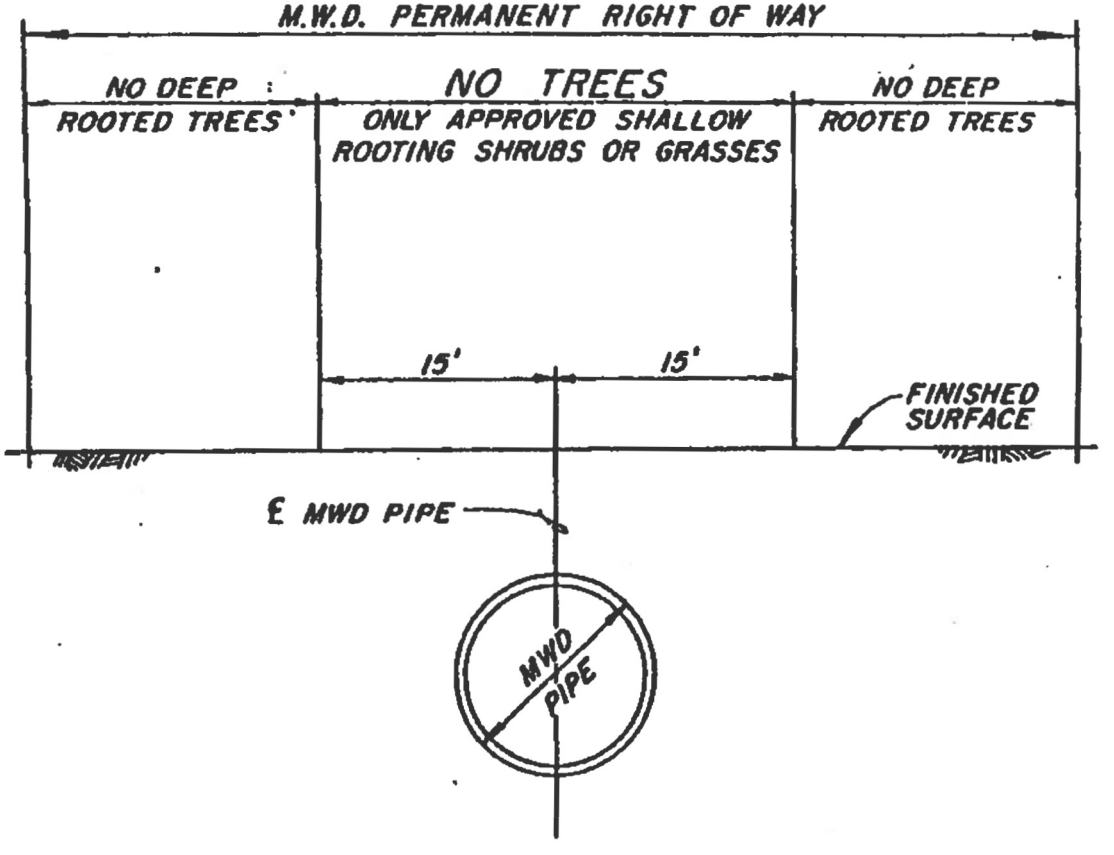
NOTE: M.W.D. PIPELINE SIZE, DEPTH, LOCATION AND WIDTH OF PERMANENT RIGHT OF WAY VARIES.

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

REQUIREMENTS FOR BUILDINGS AND FOOTINGS ADJACENT TO M.W.D. RIGHT OF WAY

DRAWN ____ RECOMMENDED ____
TRACED ____
CHECKED ____ APPROVED ____

FIGURE 2



THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

LANDSCAPE GUIDELINES FOR M.W.D. RIGHT OF WAY

DRAWN ..... RECOMMENDED .....
TRACED ..... APPROVED .....
CHECKED .....

FIGURE 3

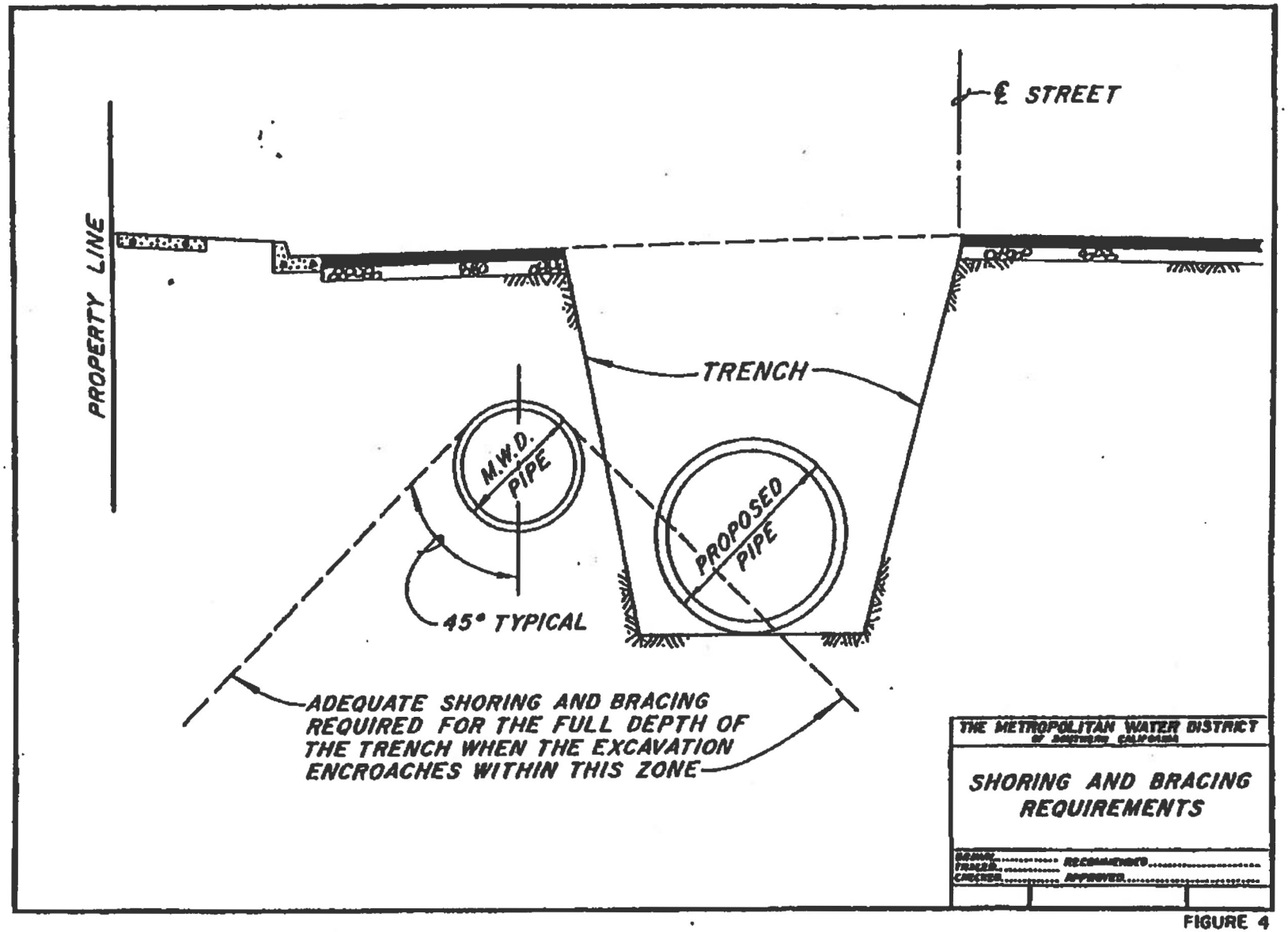
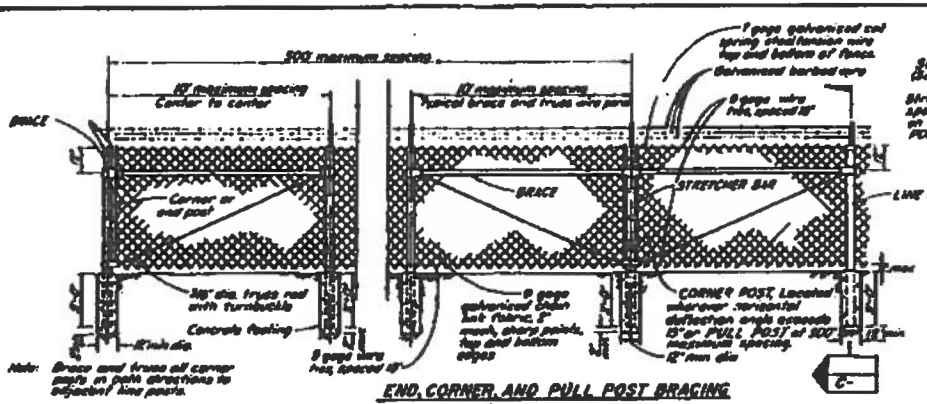
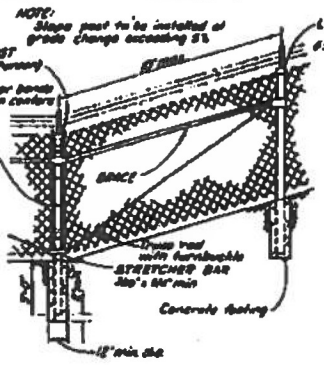

℄ STREET
PROPERTY LINE
TRENCH
M.W.D. PIPE
PROPOSED PIPE
45° TYPICAL
ADEQUATE SHORING AND BRACING REQUIRED FOR THE FULL DEPTH OF THE TRENCH WHEN THE EXCAVATION ENCROACHES WITHIN THIS ZONE
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
SHORING AND BRACING REQUIREMENTS
RECOMMENDED
APPROVED

FIGURE 4

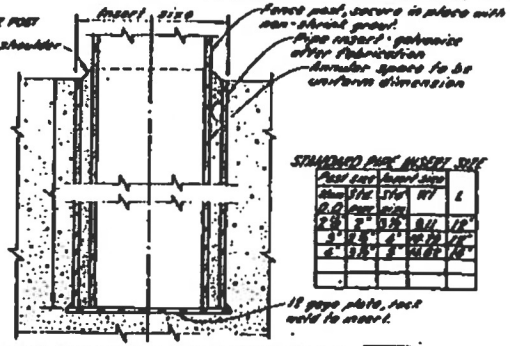
SPECIFICATIONS NO. SHEET NO.



END, CORNER, AND PULL POST BRACING
(Not to scale)



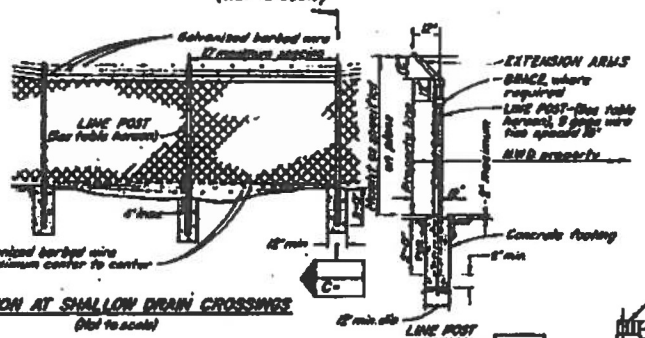
TYPICAL FENCE ON SLOPE
(Not to scale)



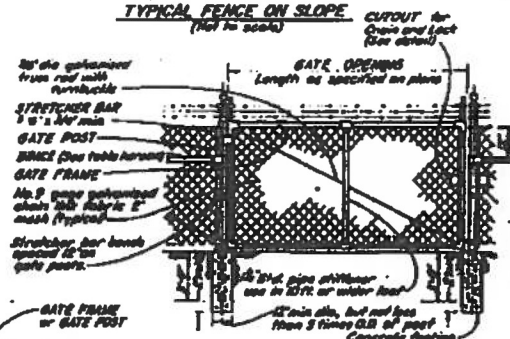
STANDARD PIPE INSERT SIZE

Post size	Insert size		
Nom.	I.D.	O.D.	L
2"	2 1/16"	2 3/8"	12"
2 1/2"	2 1/2"	2 7/8"	12"
3"	2 1/2"	3 1/2"	12"
4"	3 1/2"	4"	12"

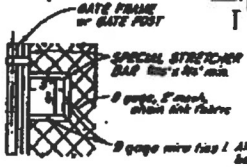
FENCE POST INSERT FOR CONCRETE WALL AND CONCRETE CURB
(Not to scale)



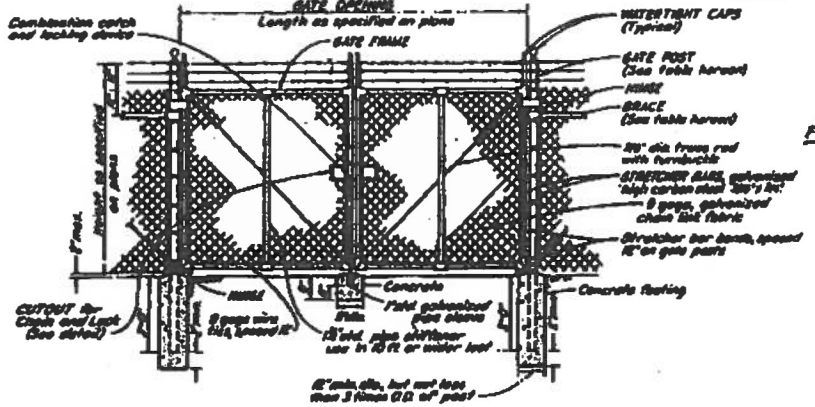
ELEVATION AT SHALLOW DRAIN CROSSINGS
(Not to scale)



SINGLE SWING GATE DETAIL
(Not to scale)



LINE POST SECTION
(Not to scale)



DOUBLE SWING GATE DETAIL
(Not to scale)

DETAIL OF CUTOUT FOR CHAIN AND LOCK
(Not to scale)

GENERAL NOTES

1. All ferrous parts and materials shall be galvanized after fabrication.
2. Adjustable tightening shall be turnbuckle or equivalent, having minimum 6" take-up.
3. Extension arms for barbed wire shall be steel, malleable iron or wrought iron and shall be attached to the top of the post with a tie wire and round head rivet. The extension arms shall carry three wires each at approximately 6" post centers in a plane approximately 45° from the vertical.
4. All gate hinges shall be heavy duty malleable iron or steel, industrial service type, 270 degree swing, of approved quality and design.
5. Secure cap to post with tie wire and round head rivet.

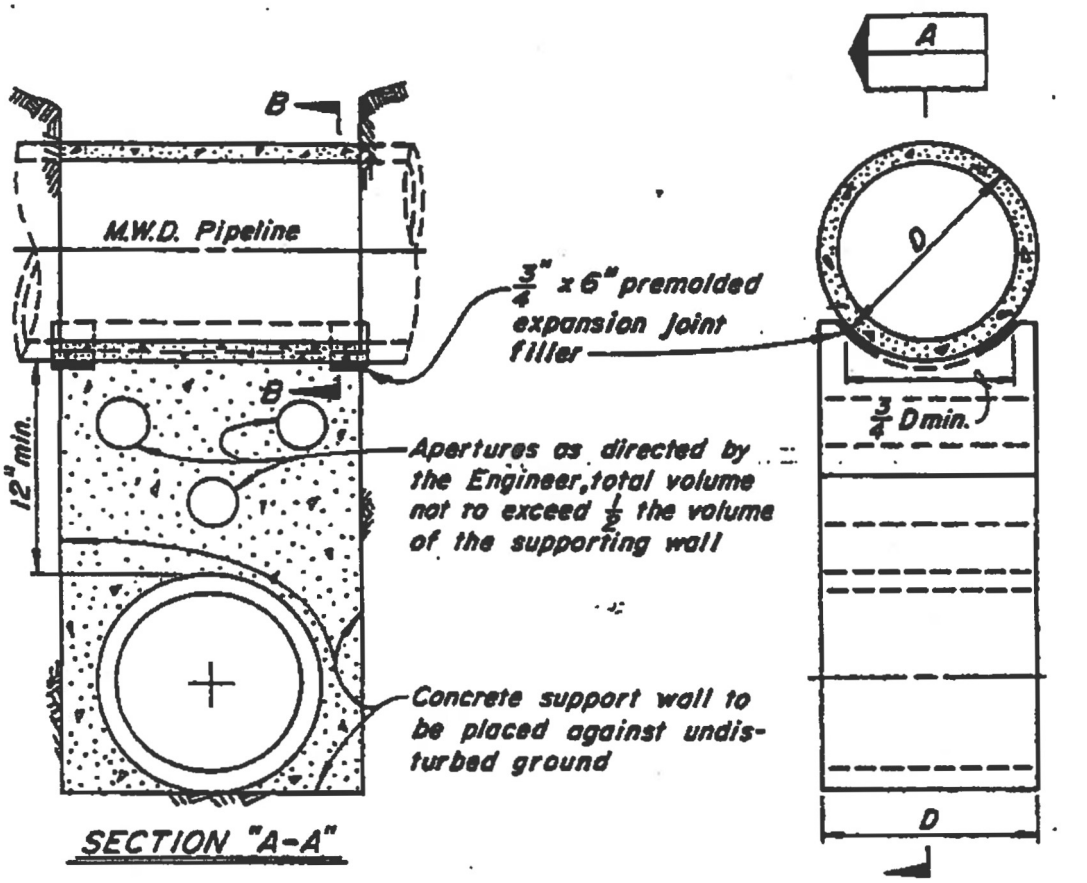
Use	Type	Nominal Size (Inches)	Actual O.D. (Inches)	Weight per foot (Pounds)
End, corner, slope, pull and gate posts for single gates 6 feet or less in width and double gates 12 feet or less in width for chain link fabric 72" inches or higher	Pipe	2½	2.875	3.79
End, corner, slope, pull and gate posts for single gates 6 feet or less in width and double gates 12 feet or less in width for chain link fabric less than 72 inches height	Pipe	2	2.375	2.69
Gate posts for single swing gates over 6 feet but not over 18 feet in width and double swing gates over 12 feet but not over 36 feet in width	Pipe	3½	4.000	9.1
Gate posts for single swing gates over 18 feet but not over 36 feet in width and double swing gates over 36 feet in width	Pipe	6	6.625	18.97
Gate posts for single swing gates over 18 feet in width and double swing gates over 36 feet in width	Pipe	8	8.625	24.70
Line posts for chain link fabric 72 inches or higher	Pipe	2	2.375	3.65
	H-Sec.	W21		
	Pipe	4W		4.10
Line posts for chain link fabric less than 72 inches in height	Pipe	1½	1.900	2.72
	H-Sec.	W15		
	Pipe	4W		2.90
Grouse	Pipe	1½	1.900	2.72
	H-Sec.	W15		
	Pipe	4W		2.90
Corner bar posts	Pipe	1½	1.900	2.72
Stiffeners for posts	Pipe	1½	1.900	2.72

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
DISTRIBUTION SYSTEM

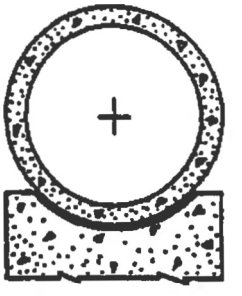
CHAIN LINK FENCE DETAILS

DESIGNED ENGINEER
DRAWN APPROVED
CHECKED
TRACED Date
LOS ANGELES

FIGURE 5



1. Supporting wall shall have a firm bearing on the subgrade and against the side of the excavation.
2. Premolded expansion joint filler per ASTM D-1751-73 to be used in support for steel pipe only.
3. If trench width is 4 feet or greater, measured along centerline of M.W.D. pipe, concrete support must be constructed.
4. If trench width is less than 4 feet, clean sand backfill, compacted to 90% density in accordance with the provisions of ASTM Standard D-1557-70 may be used in lieu of the concrete support wall.



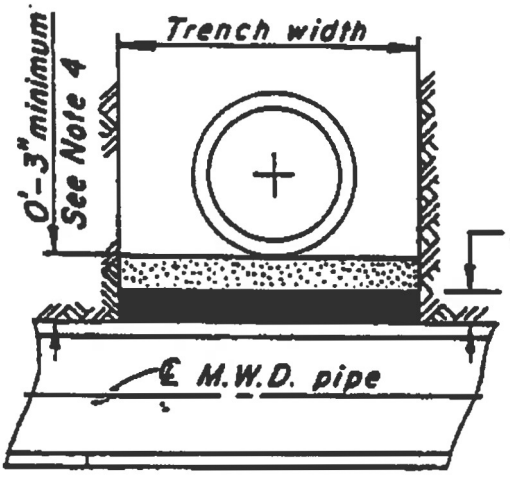
SECTION "B-B"

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

TYPICAL SUPPORT FOR M.W.D. PIPELINE

DRAWN ..... RECOMMENDED .....
TRACED .....
CHECKED ..... APPROVED .....

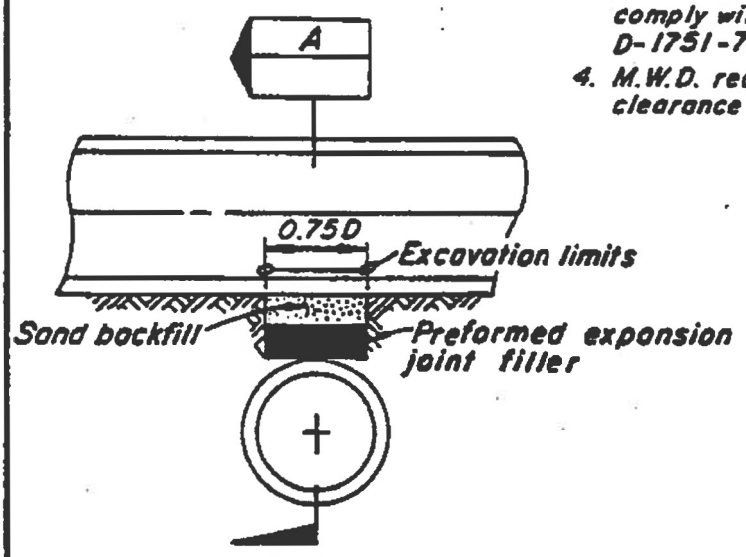
C-9547



SECTION A

NOTES

1. This method to be used where the utility line is 24" or greater in diameter and the clearance between the utility line and M.W.D. pipe is 12" or less.
2. Special protection may be required if the utility line diameter is greater than M.W.D. pipe or if the cover over the utility line to the street surface is minimal and there is 12" or less clearance between M.W.D. pipe and the utility line.
3. Preformed expansion joint filler to comply with ASTM designation D-1751-73.
4. M.W.D. requests 12" minimum clearance whenever possible.



CROSS SECTION

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

TYPICAL EXPANSION JOINT FILLER PROTECTION FOR OVERCROSSING OF M.W.D. PIPELINE

DRAWN _____ RECOMMENDED _____

TRACED _____

CHECKED _____ APPROVED _____

C-11632

11-67 SKETCHER-POST ELLSWORTH 1963

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

MWD West coast Feeder
Sta. 147+00 to 153+00
MWD Middle Feeder
Sta. 705+00 to 716+00 and
426+00 to 456+00
MWD Second Lower Feeder
Sta. 1530+00 to 1545+00
Substr. Job No. 2014-12-001

April 28, 2016

Mr. Ernesto Chavez
Project Manager
LACMTA
Highway Program
One Gateway Plaza
Los Angeles, CA 90012

Dear Mr. Chaves:

Interstate 710 Utility Study — Central Segment

Thank you for your letter dated March 31, 2016, requesting Metropolitan's signature on the Preliminary Coordination Summary for District-owned water lines located within the Central Segment beginning approximately 1400 feet northerly of the Interstate 405 (I-405) interchange and extending north approximately 8 miles to the LA River Crossing Bridge for the Interstate 710 freeway (I-710) Corridor Project.

The above conceptual project will cross and impact Metropolitan's 78-inch-inside-diameter Second Lower Feeder north of the I-405 freeway, our 73-inch-inside-diameter Middle Feeder north of the State Route 91 freeway and our 61-inch-inside-diameter West

Coast Feeder at the Interchange of the I-105/I-710 freeways in the cities of Lynwood, Paramount and Long Beach of the county of Los Angeles.

Metropolitan appreciates the opportunity to meet with you and Mark Thomas & Company (MTCo) engineering staff to discuss and provide comments on this important project. As stated in your letter, we have provided our preliminary comments and requirements at the meeting held on October 27, 2015 (see meeting notes #2) and in our email dated November 16, 2015, copies attached, for this segment of the project (Alternative 5c and 7). Under Metropolitan's policies, we are unable to sign letters of intent or summary documents as you requested. However, we will continue to work with you to review plans and specifications, as they develop in the next phase of the project.

For any further correspondence with Metropolitan relating to this project, please make reference to the Substructures Job Number shown in the upper right-hand corner of the first page of this letter. Should you require any additional information, please contact Shoreh Zareh, telephone (213) 217-6530.

Very truly yours,

Kieran M. Callanan, P.E.
Manager, Substructures Team

SZ/km
DOC 2012-14-001e

Enclosures (2)

cc: Mr. Arturo Vivar
Mark Thomas & Company
Suite 205
16795 Von Karman Avenue
Irvine, CA 92606

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

MWD Middle Cross Feeder
Sta. 11+00 to 16+00
Substr. Job No. 2014-12-001

September 30, 2015

Mr. Ernesto Chaves
LACMTA
Highway Program
One Gateway Plaza
Los Angeles, CA 90012

Dear Mr. Chaves:

I-710 Utility Study — North Segment — Alternative 7

We received an email from Mr. Marc Cooley of HDR on August 31, 2015, submitting a plan (Exhibit 6), to accommodate the proposed widening, realignment and construction of a freight corridor as part of the I-710 Freeway project located from the Los Angeles River to State Highway 60 within various cities in the county of Los Angeles.

Subsequently, we received a revised plan (Exhibit 6) on September 18, 2015, for the above described project.

1. The locations of our 79-inch-inside-diameter Middle Cross Feeder pipeline and accompanying 15-foot-wide right-of-way, as shown on the Exhibit 6 of the revised plan, are generally in agreement with our records. However, we also request that our 15-foot-wide permanent easement and fee rights-of-way be shown and identified as Metropolitan on all pertinent sheets of your plans. Enclosed for your information and use is a copy of our Right-of-Way Map 1430-01.

2. The conceptual freight corridor bridge on columns (piles) with foundations (with a minimum of 5 feet of separation from the future encasement), and pipeline future encasement extensions, as shown on Exhibit 6 of the revised plan, is generally acceptable to Metropolitan, subject to our review and written approval of detail plans of the bridge piles for its foundations, future encasements, appurtenant calculations and related grading plans. In addition, we also request that site specific geotechnical report be submitted for our review and written approval, as addressed on our email correspondence to Mr. Marc Cooley dated September 10, 2015, copy enclosed.

3. We note that the proposed right-of-way will encroach into our fee property, as shown on your Exhibit 6 of your revised plan. Appropriate rights will need to be obtained from Metropolitan for the proposed right-of-way. Please note that granting an easement is subject to Metropolitan's Board of Directors approval.

   Please contact Jeff Wynn of our Real Property Development and Management Unit, telephone (213) 217-7659 regarding the process in obtaining the necessary permit and easement for this project.

4. All costs associated with the protections and inspection of our pipeline to accommodate this project must be borne by the project proponent. Metropolitan would consider allowing you or your contractor to perform this protection design subject to our review of the design plans and inspection of our pipeline. A utility agreement should be developed between Metropolitan and the project proponent to cover cost and responsibilities.

5. We request that a stipulation be added to all pertinent sheets of your plans or specifications to notify Kevin Johansen of our Water System Operations Group, telephone (562) 713-0348, at least two working days (Monday through Thursday) prior to starting any work in the vicinity of our facilities.

We are returning a print of Exhibit 6 of your revised plan, stamped "REVIEWED — CORRECTIONS NOTED — RESUBMITTAL REQUIRED."

For any further correspondence with Metropolitan relating to this project, please make reference to the Substructures Job Number shown in the upper right-hand corner of the

first page of this letter. Should you require any additional information, please contact Ken Chung, telephone (213) 217-7670.

Very truly yours,

Shohreh Zareh, P.E.
Interim Manager
Substructures Team

KC/km
DOC 2014-12-001

Enclosures (3)

cc: Mr. Marc Cooley, P.E.
Senior Project Manager
HDR
Suite 200
3230 El Camino Real
Irvine, CA 92602

MARK THOMAS & COMPANY, INC.
Providing Engineering, Surveying and Planning Services

GATEWAY CITIES

Caltrans

Metro

Meeting Notes

Project: I-710 Utility Study, Central Segment Meeting	
Metropolitan Water District Coordination Meeting #2	
Location: Metropolitan Water District Headquarters 700 North Alameda Street Los Angeles, CA 90012-2944	Date and Time: October 27, 2015, 10:00 a.m.
Meeting Attendees: Arturo Vivar/MTCo Ann Walker/MTCo	Ben Kho/PacRIM Shohreh Zareh/MWD Ken Chung/MWD Ezequiel Montanez/MWD Mohsen Beikae/MWD
Prepared By: Ann Walker /MTCo	Date Prepared: *November 17, 2015 Revised* November 5, 2015
These notes have been prepared to the best of the writer's memory. If attendees recall differently, please contact the writer at awalker@markthomas com via email within 5 days of the prepared date above.	

1. Introductions

   Self-introductions were made.

2. I-710 Corridor Project Summary

   Arturo Vivar/MTCo, presented a brief summary of the I-710 Corridor Project and objectives discussed at the first meeting on July 9, 2015. The 2012 Draft EIR/EIS is being updated to reflect the decrease in regional traffic. The Utility Study supports the Draft Environmental Documents (EIR/EIS) being prepared by AECOM (formerly URS) and is scheduled to be finished in the summer of 2016. The Final Environmental Documents are expected to be completed in 2017.

   The goal of the Utility Study is to identify all utilities within the project area, identify utility conflicts created by the project and develop strategies to avoid major utility conflicts. The Utility Study objectives for the major utility conflicts include identifying additional right-of-way and easements needs and the costs associated with the major mitigation strategies. The responsibility of costs will be determined based on Caltrans rights and agreements.

3. Conflict Exhibit Review

   Ann Walker/MTCo presented the Central Segment utility conflict exhibits depicting the MWD utilities within the project area. Ann, MTCo, summarized the two project alternatives, Alterative 5C and Alternative 7. Both alternatives include improvements to the I-710 as well as major intersection and arterial improvements. Alternative 5C includes a truck bypass that extends from the south to Del Amo Boulevard. Alternative 7 includes a separated four lane, elevated freight corridor which parallels the I-710 and begins near the Port of Long Beach and extends northerly to the SR-60.

   Mitigation strategies for potential major utility conflicts include adjusting roadway alignment, protecting utilities in place, and/or utility relocation.

MWD provided a set of GIS maps and record drawings for each pipeline. The record drawing set included drawings that were not previously provided to MTCo.

a. Second Lower Feeder: 78-inch water main

   i. Alternative 5C
      1. Strategy: Protect-in-Place and Avoidance
      2. Proposed Mitigation:
         a. Carson St Bridge – No conflict
         b. Retaining Walls – Specify pile footings adjacent to the MWD pipeline
         c. Bridge Abutments – Relocate/Lengthen the bridge to avoid MWD pipeline
         d. NB Truck Bypass – Locate columns away from the MWD pipeline

   ii. Alternative 7
      1. Strategy: Protect-in-Place, Avoidance, and Extend Incasement
      2. Proposed Mitigation:
         a. Carson St Bridge – No conflict
         b. Retaining Walls – Specify pile footings adjacent to the MWD pipeline
         c. Extend incasement within proposed right-of-way

   iii. MWD Comments
      1. Geotechnical – See General Comments below
      2. Dominquez Gap Spreading Grounds – Incased pipe within the Spreading Grounds originally designed for scour and did not include surcharge or traffic loading. Will need to evaluate structural capacity of the existing casing within the Dominguez Gap Spreading Grounds. Most likely will need to replace or strengthen the existing casing. Alternatives to casing include a buried slab or "bridging" the Freight Corridor over the existing MWD pipeline.

b. Middle Feeder: 73-inch water main

   i. Alternative 5C
      1. Strategy: Protect-in-Place, Avoidance, and Extend Incasement
      2. Proposed Mitigation:
         a. Retaining Walls – Specify pile footings adjacent to the MWD pipeline, *manhole/tunnel structure*, and appurtenances
         b. Extend encasement within proposed right-of-way

   ii. Alternative 7
      1. Strategy: Protect-in-Place, Avoidance, and Extend Incasement
      2. Proposed Mitigation:
         a. Retaining Walls – Specify pile footings adjacent to the MWD pipeline, *manhole/tunnel structure*, and appurtenances
         b. Extend encasement within proposed right-of-way
         c. Freight Corridor – Locate columns away from the MWD pipeline

iii. MWD Comments
1. Geotechnical– See General Comments below
2. Review record drawings. Check location of existing MWD appurtenances e.g. manholes, etcetera. Identify and evaluate conflicts.

c. West Coast Feeder: 61-inch water main

MWD confirmed that there is no incasement west of the proposed Rosecrans on-ramp, beginning approximately STA 152+50.

i. Alternative 7
1. Strategy: Protect-in-Place
2. Proposed Mitigation: No Conflicts

ii. MWD Comments
1. Geotechnical– See General Comments below
2. Review record drawings. Check location of existing MWD appurtenances. Identify and evaluate conflicts. Existing manhole, air release, and vacuum valve located within existing basin, no conflict.
3. Proposed Freight Corridor located within area of the former I-710 alignment. MWD will confirm that the existing incasement was designed for traffic loading; most likely for the former I-710 alignment.
MWD Response: The existing jacked casing for the West Coast Feeder 61" WSP was designed for AASHTO H20-44 loading with the following maximum allowable cover:
Type I - 25-ft maximum cover
Type II - 40-ft maximum cover

d. General:

i. MWD Comments
1. Site specific Geotechnical Investigations required
2. Geotechnical Concerns
a. Vibration from construction activities
i. No vibration permitted within 25-feet of centerline of pipe
ii. Third Party vibration monitoring required
iii. Driven piles not permitted adjacent to MWD pipelines
b. Lateral forces from columns acting on pipeline
c. Lateral Earth Pressure
d. Differential Settlement
e. Retaining Walls – place on piles
f. Incased Pipe
i. Carrier pipe grouted to casing. Casing is structurally part of the pipe. No Sleeves.
ii. Existing incasement designed for vertical loads only. ~~The original MWD pipeline designs included an additional 20-feet to 30-feet of cover for future surcharge loads.~~

MWD Comment: Existing MWD encasements are typically designed to accommodate vertical loads such as the soil pressure and vehicle surcharge loads. The encasement are not typically designed to accommodate lateral loads or settlement.

iii. Incasement of existing pipe will require exposing the pipe. A shut down will be required for steel and prestressed pipes. ~~Reinforced Concrete Pipes may remain in service during incasement.~~
MWD Comment: A review may be conducted of the existing reinforced concrete pipes to determine if the pipeline may remain in service during the installation/modification of the incasement.

g. The integrity of the pipeline is dependent upon the confinement provided by the adjacent soils. Applies to steel and prestressed pipes.

3. Shut Downs
   a. One allowed per year per Line/Feeder
   b. Maximum duration is 7-Days
   c. Winter Season
   d. Must be scheduled 1-to-2-years in advance
4. MWD inspection of all contractor work
5. Absolute clearance from MWD pipelines is 5-feet face-to-face

- ***MTCo to review GIS maps and additional record drawings provided by MWD. Update Conflicts as needed.***
- ***MTCo to review Middle Feeder using additional record drawings provided by MWD. Check location of existing MWD appurtenances. Identify and evaluate conflicts.***
- ***Shohreh/MWD to review existing incasement of the West Coast Feeder at the proposed I-710 improvements. Confirm that the existing incasement was designed for traffic loads.***
- ***Shohreh/MWD is to review Conflict Exhibits and provide comments to MTCo prior to the next coordination meeting.***
- ***MTCo to incorporate MWD review comments prior to next coordination meeting.***
- ***MTCo to verify loads next year after Metro selects the preferred alternative.***

4. Other Impacts

R/W and easement rights – Case by Case for cost. Determination of prior rights deferred to next phase.

Costs – Need all costs. Do not need to determine cost sharing until next phase.

Assume 35% cost contingency.

- ***MTCo to prepare cost estimate for MWD review prior to next coordination meeting.***

5. Next Meeting

The next coordination meeting is tentatively scheduled for the end of November. The objective is to obtain MWD concurrence of MTCo's conflict strategy and cost estimate.

- ***MTCo to send copies of all meeting material and exhibits to MWD.***

Action Item Summary

No.	Description	Responsibility	Initially Due	Revised Due	Closed
1	Prepare meeting notes and provide copies of all MTCo meeting materials to MWD.	A.Walker/MTCo	11/05/15		11/05/15
2	Review GIS maps and additional record drawings provided by MWD. Update Conflicts as needed.	A.Walker/MTCo	11/17/15		10/29/15
3	Middle Feeder – Review additional record drawings provided by MWD. Check location of existing MWD appurtenances. Identify and evaluate conflicts.	A.Walker/MTCo	10/30/15		10/29/15
4	Review existing incasement of the West Coast Feeder at the proposed I-710 improvements. Confirm that the existing incasement was designed for traffic loads.	S. Zareh/MWD	11/10/15		11/16/15
5	Review MTCo Concept Exhibits and provide comments to MTCo prior to the next coordination meeting.	S. Zareh/MWD	11/10/15		11/16/15
6	Incorporate MWD review comments prior to next coordination meeting.	A.Walker/MTCo	11/17/15		10/29/15
7	Verify loads next year after Metro selects the preferred alternative.	A.Walker/MTCo	Fall 2016		
8	Prepare cost estimate for MWD review prior to next coordination meeting.	A.Walker/MTCo	~~11/17/15~~ *Not Required*		*N/A*

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

MWD Long Beach Lateral
Sta. 244+00 to 254+00
Substr. Job No. 2014-12-001

November 2, 2016

Mr. Matthew Reifer, P.E.
CH2M
Suite 700
6 Hutton Center Drive
Santa Ana, CA 92707

Dear Mr. Reifer:

Interstate 710 Corridor Project — Sound Wall (Package 3)

Thank you for your email dated October 5, 2016, submitting prints of the preliminary plans (Title Sheet, Sheets K-1 and L-2 through L-21) for the proposed sound wall from Los Angeles River to Interstate 405 Freeway and from Long Beach Boulevard to the State Route 91 freeway as part of Interstate 710 Freeway corridor project within various cities in the county of Los Angeles.

The location of Metropolitan's 37-inch-inside-diameter Long Beach Lateral pipeline in Baker Street, as shown on Sheet L-10 of your plans, is generally in agreement with our records. We request that our pipeline and our manhole structure (Insulating Section) be shown and fully identified as Metropolitan on all pertinent plans. Enclosed are prints of our Drawings A-2068, C-4552 and H-2291 for your information and use.

Metropolitan's Long Beach Lateral was constructed in 1939 within 223rd (Baker) Street right-of-way by virtue of the Metropolitan Water District Act (Act). Please note that all costs associated with the proposed sound wall including site specific geotechnical

analysis, protection and inspection of our facilities to accommodate this project must be borne by the project proponent.

In order for Metropolitan to evaluate the impact of the proposed 16-foot-high sound wall (SW-502/602, Segment 6) and its pile foundation on our pipeline, the following information must be submitted for our review and approval.

1. Detailed plans, showing the proposed sound wall and foundations in relation to our pipeline.

2. A site specific geotechnical report is required at the crossing, which must include, but not limited to, subsurface conditions, ground water, bedrock elevation, and lab testing results.

3. Subject to meeting the other restrictions the horizontal clearance between the proposed piles and the face of the pipeline must not be less than 5 feet. The induced differential settlements and seismically-induced lateral deformation as a result of the proposed piles and sound wall must be within allowable values for our pipeline.

4. Based on the Metropolitan Geotechnical Guidelines (copy enclosed) settlement analysis results along the affected reach of the pipeline must be submitted for our review.

5. The construction sequence for the proposed sound wall where it crosses our pipeline.

6. The procedures and specifications of all construction equipment to be used for removal, placement, and compaction of soil and pavement in the affected reach.

7. Metropolitan does not allow any procedures that could subject our pipeline to excessive impacts or vibratory loads. Also, Metropolitan does not allow any man-made induced vibration and vibratory equipment to be used in vibratory mode within a horizontal distance of 25 feet from the face of our pipeline.

We request that a stipulation be added to your plans and specifications to notify Kevin Johansen of our Water System Operations Group, telephone (562) 713-0348, at least two working days prior to starting any work in the vicinity of our facilities.

We are returning prints of Sheets K-1 and L-10 of the submitted preliminary plans, stamped "REVIEWED — CORRECTIONS NOTED — RESUBMITTAL REQUIRED."

For any further correspondence with Metropolitan relating to this project, please make reference to the Substructures Job Number shown in the upper right-hand corner of the first page of this letter. Should you require any additional information, please contact Shoreh Zareh, telephone (213) 217-6534.

Very truly yours,



Kieran M. Callanan, P.E.
Manager, Substructures Team

SZ/km
DOC 2014-12-001h

Enclosures (6)

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

MWD Long Beach Lateral
Sta. 244+00 to 254+00
Substr. Job No. 2014-12-001

October 8, 2015

Mr. Ernesto Chaves
LACMTA
Highway Program
One Gateway Plaza
Los Angeles, CA 90012

Dear Mr. Chaves:

Interstate 710 Utility Study — South Segment

We received an email from Ms. Ania Gierach of AECOM on August 27, 2015, submitting prints of your Alternatives 5C and 7 plans (four sheets), to accommodate the proposed widening, realignment and construction of a freight corridor or truck bypass as part of the Interstate 710 Freeway project located from the Los Angeles River to State Highway 60 within various cities in the county of Los Angeles.

1. The locations of our 30- and 37-inch-inside-diameter Long Beach Lateral pipeline, manhole structures and appurtenant discharge valve and structure, as shown on Alternative 5C and 7 of the plans, are generally in agreement with our records. However, we request that our 15-foot-wide permanent easement for our Long Beach Lateral pipeline and related 10-foot-wide right-of-way (permit) for our discharge valve and structure and underground discharge pipe also be shown and identified as Metropolitan on all pertinent sheets of your plans. Enclosed for your information and use are copies of our Right-of-Way Maps 1414-02 and 1414-3A.

2. The proposed relocations of our valve structure and pressure control/blowoff structure and related underground piping to accommodate the corridor or truck bypass alternatives, as shown on Alternative 5C and 7 of your plans, appears to be feasible and acceptable to Metropolitan.

3. All costs associated with the modification design, protection, and inspection of our facilities to accommodate this project must be borne by the project proponent. Please note that general cost estimate includes Metropolitan's design, inspection, administration and any required shutdown and dewatering charges. The cost may vary, depending on the actual site conditions. The relocation must be designed and constructed in accordance with Metropolitan's standard specifications and design criteria. Metropolitan would consider allowing your contractor to perform the modification and protection subject to inspection of our facilities. A utility agreement should be developed between Metropolitan and the project proponent to cover cost and responsibilities.

4. As part of our facilities relocation, Metropolitan will require new permanent easement right-of-way for the new locations of our facilities. Please also note that Metropolitan must have unrestricted access to our pipeline facilities.

5. We request that site specific geotechnical report also be submitted for our review and written approval.

6. We request that a stipulation be added to all pertinent sheets of your plans or specifications to notify Kevin Johansen of our Water System Operations Group, telephone (562) 713-0348, at least two working days (Monday through Thursday) prior to starting any work in the vicinity of our facilities.

We are returning prints of Alternatives 5C and 7 of the plans, stamped "REVIEWED — CORRECTIONS NOTED — RESUBMITTAL REQUIRED."

For any further correspondence with Metropolitan relating to this project, please make reference to the Substructures Job Number shown in the upper right-hand corner of the first page of this letter. Should you require any additional information, please contact Ken Chung, telephone (213) 217-7670.

Very truly yours,

Shohreh Zareh, P.E.
Interim Manager
Substructures Team

KC/km
DOC 2012-14-001b

Enclosures (4)

cc: Ms. Ania Gierach
Associate Project Engineer
AECOM
999 Town & Country Road
Orange, CA 92868

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

MWD Middle Cross Feeder
Sta. 11+00 to 16+00
Substr. Job No. 2014-12-001

September 30, 2015

Mr. Ernesto Chaves
LACMTA
Highway Program
One Gateway Plaza
Los Angeles, CA 90012

Dear Mr. Chaves:

I-710 Utility Study — North Segment — Alternative 7

We received an email from Mr. Marc Cooley of HDR on August 31, 2015, submitting a plan (Exhibit 6), to accommodate the proposed widening, realignment and construction of a freight corridor as part of the I-710 Freeway project located from the Los Angeles River to State Highway 60 within various cities in the county of Los Angeles.

Subsequently, we received a revised plan (Exhibit 6) on September 18, 2015, for the above described project.

1. The locations of our 79-inch-inside-diameter Middle Cross Feeder pipeline and accompanying 15-foot-wide right-of-way, as shown on the Exhibit 6 of the revised plan, are generally in agreement with our records. However, we also request that our 15-foot-wide permanent easement and fee rights-of-way be shown and identified as Metropolitan on all pertinent sheets of your plans. Enclosed for your information and use is a copy of our Right-of-Way Map 1430-01.

2. The conceptual freight corridor bridge on columns (piles) with foundations (with a minimum of 5 feet of separation from the future encasement), and pipeline future encasement extensions, as shown on Exhibit 6 of the revised plan, is generally acceptable to Metropolitan, subject to our review and written approval of detail plans of the bridge piles for its foundations, future encasements, appurtenant calculations and related grading plans. In addition, we also request that site specific geotechnical report be submitted for our review and written approval, as addressed on our email correspondence to Mr. Marc Cooley dated September 10, 2015, copy enclosed.

3. We note that the proposed right-of-way will encroach into our fee property, as shown on your Exhibit 6 of your revised plan. Appropriate rights will need to be obtained from Metropolitan for the proposed right-of-way. Please note that granting an easement is subject to Metropolitan's Board of Directors approval.

   Please contact Jeff Wynn of our Real Property Development and Management Unit, telephone (213) 217-7659 regarding the process in obtaining the necessary permit and easement for this project.

4. All costs associated with the protections and inspection of our pipeline to accommodate this project must be borne by the project proponent. Metropolitan would consider allowing you or your contractor to perform this protection design subject to our review of the design plans and inspection of our pipeline. A utility agreement should be developed between Metropolitan and the project proponent to cover cost and responsibilities.

5. We request that a stipulation be added to all pertinent sheets of your plans or specifications to notify Kevin Johansen of our Water System Operations Group, telephone (562) 713-0348, at least two working days (Monday through Thursday) prior to starting any work in the vicinity of our facilities.

We are returning a print of Exhibit 6 of your revised plan, stamped "REVIEWED — CORRECTIONS NOTED — RESUBMITTAL REQUIRED."

For any further correspondence with Metropolitan relating to this project, please make reference to the Substructures Job Number shown in the upper right-hand corner of the

first page of this letter. Should you require any additional information, please contact Ken Chung, telephone (213) 217-7670.

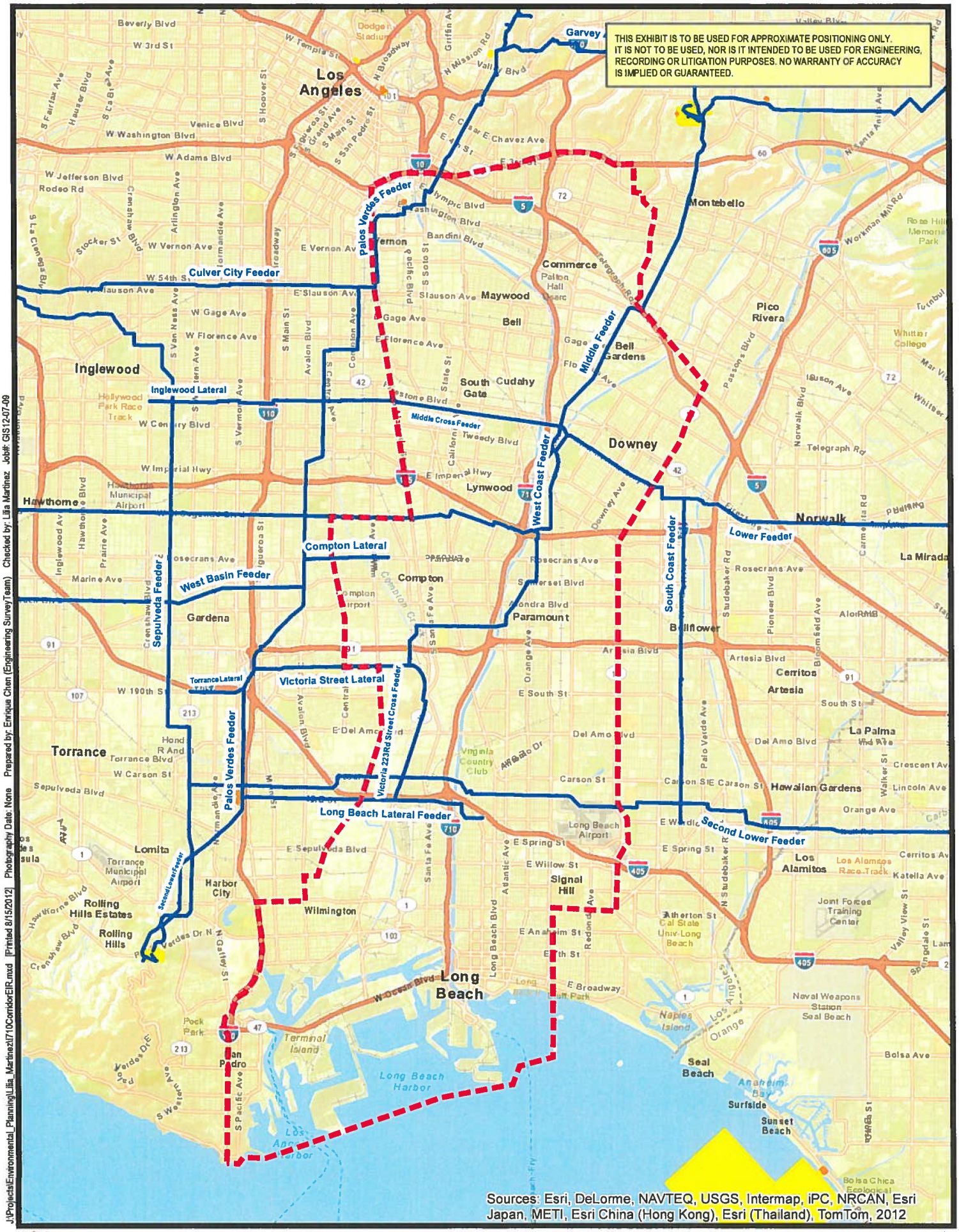
Very truly yours,

Shohreh Zareh, P.E.
Interim Manager
Substructures Team

KC/km
DOC 2014-12-001

Enclosures (3)

cc: Mr. Marc Cooley, P.E.
Senior Project Manager
HDR
Suite 200
3230 El Camino Real
Irvine, CA 92602



J:\Projects\Environmental_Planning\Lilia_Martinez\I710CorridorEIR.mxd [Printed 8/15/2012] Photography Date: None Prepared by: Enrique Chen (Engineering Survey Team) Checked by: Lilia Martinez Job#: GIS12-07-09

The Metropolitan Water District of Southern California
Engineering Services Group

I-710 Corridor Project

MWD Interests

Miles
0 0.5 1 2

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U-3-1

Caltrans and Metro acknowledge that Metropolitan Water District of Southern California's (MWDSC) facilities, as listed in the comment, could be impacted by construction of the I-710 Corridor Project build alternatives, and thank MWDSC for supplying the Location Map as an attachment to their comment submission. An analysis of potential impacts to major utilities was included in Section 3.4, Utility and Emergency Services, of the RDEIR/SDEIS. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no impacts to MWDSC facilities. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

U-3-2

Caltrans appreciates MWDSC's determination that both build alternatives are conceptually acceptable. However, as stated in Response to Comment U-3-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, utility relocation will not be necessary.

U-3-3

There are no apparent discrepancies associated with Conflict S3200B. As discussed in Section 3.4.2.2, Alternative 5C, of the RDEIR/SDEIS, the Conflict S3200B is an MWDSC facility north of Wardlow Rd. and south of the I-710/I-405 interchange. An existing 30-inch MWDSC line crosses under the Los Angeles River, continuing in the east-west direction where the discharge structure and air-vac assembly are located both within existing and future Caltrans right-of-way for the build alternatives. Under Alternative 5C, the valve would be relocated north of the existing MWDSC line and provide a new outlet to the Los Angeles River. Should Alternative 5C be selected as the Preferred Alternative, the existing air-vac assembly would be relocated to Gale Ave. In addition, as discussed in Section 3.4.2.2, Alternative 7, of the RDEIR/SDEIS, Conflict S3200B is an MWDSC facility north of Wardlow Rd. and south of the I-710/I-405 interchange. The impacts to this facility would be similar to that described above under Alternative 5C, but the proposed geometry under Alternative 7 would not provide sufficient room to relocate the discharge valve into Los Angeles County Flood Control District (LACFCD) right-of-way. Therefore, should Alternative 7 be selected as the Preferred Alternative, the discharge valve would be relocated to the east side of the Los Angeles River, with an outlet to the river and power provided from Baker St. The existing air-vac assembly would be relocated to Gale Ave. in the same manner as under Alternative 5C.

Additionally, as discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2.

Should a build alternative be selected as the Preferred Alternative, final utility easement agreements and final right-of-way needs would be determined during utility coordination later in the design process and the drafting of specific Utility Relocation Plans. However, for clarity to Conflict S3200B at Alternative 7, the following revisions have been made to Section 3.4.2.2 of the RDEIR/SDEIS:

> Therefore, under Alternative 7, the discharge valve would be relocated to the east side of the Los Angeles River, with an outlet to the river and power provided from Baker St. The existing air-vac assembly would be relocated to Gale Ave. in the same manner as under Alternative 5C. Additional right-of-way may be required. Should Alternative 7 be selected as the Preferred Alternative, if additional right-of-way becomes necessary during final design, appropriate environmental re-evaluations will be undertaken in due course of project development pursuant to 23 CFR 771.129 under NEPA and Sections 15162 and 15164 of the State CEQA Guidelines.

U-3-4

There are no apparent discrepancies associated with MWDSC's 78-inch second lower feeder pipeline utility (Conflict C3201). As discussed in the Major Utility Crossing Matrix - Build Alternative 5C and Major Utility Crossing Matrix - Build Alternative 7 of the *I-710 South End Utility Study Project Report* (November 25, 2016), the 78-inch second lower feeder pipeline utility would be protected in place under both Alternatives 5C and 7. In addition, as generally discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities identified to be in conflict with the build alternatives would either be relocated or protected in place. Should a build alternative be selected as the Preferred Alternative, further coordination would be required with each owner to confirm the conflict and disposition strategy (i.e., whether they can be protected in place or relocated).

While there are no apparent discrepancies, the following revisions have been made to Section 3.4.2.2 of the RDEIR/SDEIS to more clearly define the potential conflict associated with MWDSC's 78-inch second lower feeder pipeline with Alternative 5C and Alternative 7, respectively:

> **ALTERNATIVE 5C**
>
> An MWDSC 78-inch pre-stressed concrete second lower feeder pipeline (Conflict C3201) that runs in an east-west direction along Carson St. north of the I-710/I-405 interchange, is located under Alternative 5C. The facility would not be within direct physical conflict with the proposed improvements, and would be protected in place. However, it may be necessary to extend the concrete encasement, or install another measure of permanent protection.

ALTERNATIVE 7

An MWDSC 78-inch pre-stressed concrete second lower feeder pipeline (Conflict C3201) that runs in an east-west direction along Carson St. north of the I-710/I-405 interchange, is located under the proposed Alternative 7. It would not be within direct physical conflict with the proposed improvements, and would be protected in place as it would be under Alternative 5C. As in Alternative 5C, it may be necessary to extend the concrete encasement, or install another measure of permanent protection.

U-3-5

There are no apparent discrepancies associated with MWDSC's 73-inch welded steel middle feeder pipeline utility (Conflict C3202). As discussed in the Major Utility Crossing Matrix - Build Alternative 5C and Major Utility Crossing Matrix - Build Alternative 7 of the *I-710 South End Utility Study Project Report* (November 25, 2016), the 73-inch welded steel middle feeder pipeline utility would be protected in place under both Alternatives 5C and 7. In addition, as generally discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities identified to be in conflict with the build alternatives would either be relocated or protected in place. Should a build alternative be selected as the Preferred Alternative, further coordination would be required with each owner to confirm the conflict and disposition strategy (i.e., whether they can be protected in place or relocated).

While there are no apparent discrepancies, the following revisions have been made to Section 3.4.2.2 of the RDEIR/SDEIS to more clearly define the potential conflict associated with MWDSC's 73-inch welded steel middle feeder pipeline at Alternative 5C and Alternative 7, respectively:

ALTERNATIVE 5C

An MWDSC 73-inch welded steel middle feeder pipeline (Conflict C3202) that runs in an east-west direction along Greenleaf Blvd. north of the I-710/SR-91 interchange, is located under the proposed Alternative 5C. The facility would not be within direct physical conflict with the proposed improvements under Alternative 5C, and would be protected in place. However, it may be necessary to extend the concrete encasement, or install another measure of permanent protection.

ALTERNATIVE 7

An MWDSC 73-inch welded steel middle feeder pipeline (Conflict C3202) that runs in an east-west direction along Greenleaf Blvd. north of the I-710/SR-91 interchange, is located under the proposed Alternative 7. It would not be within direct physical conflict with the proposed improvements, and would be protected

in place as it would be under Alternative 5C. As in Alternative 5C, it may be necessary to extend the concrete encasement, or install another measure of permanent protection.

U-3-6

There are no apparent discrepancies associated with MWDSC's 61-inch welded steel west coast feeder pipeline utility (Conflict C3203). As discussed in the Major Utility Crossing Matrix - Build Alternative 5C and Major Utility Crossing Matrix - Build Alternative 7 of the *I-710 South End Utility Study Project Report* (November 25, 2016), the 61-inch welded steel west coast feeder pipeline utility would only have a conflict at Alternative 7 and would be protected in place. In addition, as generally discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities identified to be in conflict with the build alternatives would either be relocated or protected in place. Should a build alternative be selected as the Preferred Alternative, further coordination would be required with each owner to confirm the conflict and disposition strategy (i.e., whether they can be protected in place or relocated).

While there are no apparent discrepancies, the following revisions have been made to Section 3.4.2.2 of the RDEIR/SDEIS to more clearly define the potential conflict associated with MWDSC's 61-inch welded steel west coast feeder pipeline at Alternative 7:

An MWDSC 61-inch welded steel west coast feeder pipeline (Conflict C3203) that runs in an east-west direction underneath the I-710/I-105 interchange, is located under the proposed Alternative 7. It would not be within direct physical conflict with the proposed improvements, and would be protected in. As in Alternative 5C, it may be necessary to extend the concrete encasement, or install another measure of permanent protection.

U-3-7

There are no apparent discrepancies associated with Conflict N3201. As discussed in Section 3.4.2.2, Alternative 5C, of the RDEIR/SDEIS, Conflict N3201 is an MWDSC 79-inch water line located within the existing electrical transmission corridor, that crosses I-710 south of Firestone Ave. within the City of South Gate, and is located under the proposed Alternative 5C footprint. It would not be within direct physical conflict with the proposed improvements, and would be protected in place. In addition, as discussed in Section 3.4.2.2, Alternative 7, of the RDEIR/SDEIS, the Conflict N3201 located within the existing electrical transmission corridor, that crosses I-710 south of Firestone Ave., within the City of South Gate, is located under the proposed Alternative 7 footprint. It would not be within direct physical conflict with the proposed improvements, and would be protected in place as it would be under Alternative 5C. However, under Alternative 7, the concrete encasement would be extended by 110 feet to the east and 20

feet to the west of current limits. No additional permanent right-of-way requirements would be needed for the encasement extension.

Additionally, as discussed in Section 3.4.2.2 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2. Further coordination would be required with each owner to confirm the conflict and disposition strategy, which could include concrete encasement extensions or other necessary permanent protections.

U-3-8

As stated in Response to Comment U-3-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, further coordination with each utility owner, including the MWDSC, to confirm any utility conflict and disposition strategy (i.e., whether they can be protected in place or relocated) is not necessary.

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IP-1 INTERESTED PARTIES

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IP-1

C.E.H.A.J.
coalition for environmental health and justice

July 25, 2017

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement

Dear Mr. Kosinski:

We are writing to respectfully request that the California Department of Transportation extend the comment period for the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the Interstate 710 (I-710) Corridor Project to 90 days. Comments are currently due by September 22, 2017. Granting this request would allow the comment period to go through October 20, 2017. Several reasons support extending the comment period.

The Coalition for Environmental Health And Justice (CEHAJ) is diligently working to review the RDEIR/SDEIS but additional time will be necessary to fully evaluate the document. The RDEIR/SDEIS, including appendices, is well over 2600 pages. Much of this information is highly technical data. CEHAJ needs additional time to consult with experts to fully understand the findings. Extending the comment period will allow for CEHAJ as well as other stakeholders to be more informed about the project, and thus more fully engaged in the CEQA and NEPA processes. This engagement could provide improvements to the project's current design, additional or revised mitigations, and other information that is at the heart of CEQA and NEPA's public comment processes.

IP-1-1

In addition, the current comment period for the I-710 RDEIR/SDEIS overlaps with two other high-profile proposals — the draft Clean Air Action Plan (CAAP) and the Draft Supplemental Environmental Impact Report for the China Shipping Container Terminal Project due on Sept 21, 2017. CEHAJ members have been very active in the prior and current CAAP processes and will

continue to be heavily engaged and submit comments. CEHAJ members have also been very active for decades on issues related to the mitigations at the China Shipping Terminal and are currently heavily engaged in providing comments on that environmental document.

Finally, CEHAJ has a long history with this project, over a decade, and will continue to invest significant time and resources to ensure the project remains in compliance with CEQA and NEPA and serves as a model for transportation projects in the 21st century. Allowing the additional time to review the RDEIR/SDEIS will further promote these goals. IP-1-1

Thank you in advance for your consideration. We kindly request that you respond to our extension request as soon as possible.

Sincerely the below members of CEHAJ,

Ramya Sivasubramanian, Natural Resources Defense Council

Adrian Martinez, Earthjustice

Susanne Browne, Legal Aid Foundation of Los Angeles

Jaimini Parekh, Communities for a Better Environment

Sylvia Betancourt, Long Beach Alliance for Children with Asthma

Nidia Erceg, Coalition for Clean Air

T-310) 434-2300

IP-1-1

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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Brad Jensen

From: omorales@habitatla.org
Sent: Wednesday, August 02, 2017 2:50 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: oscar morales
Organization: homeowner
Phone: 3104133877
Mailing Address: 8739 Artesia Blvd
City, State: Bellflower
Zip: 90706
Comment/Question:
I live along the proposed improvement. would I have to sell my house? please advised. thank you IP-4-1

*You received this message because oscar morales submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-4-1

Caltrans and Metro thank the commenter for their input. The residence located at 8739 Artesia Blvd. in Bellflower will not be acquired in part or in full under the Preferred Alternative (Alternative 1 No Build).

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Brad Jensen

From: jim@bavco.com
Sent: Tuesday, July 25, 2017 9:16 AM
To: Brad Jensen
Cc: Reuben Garcia; reubenmgarcia@gmail.com; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Jim Purzycki
Organization: BAVCO
Phone: 310-639-5231
Mailing Address: 20435 S Susana Rd
City, State: Long Beach, CA
Zip: 90810On
Comment/Question:
On Aug 30, 2012 I had submitted comments regarding the proposed 710 widening project. I have never heard back. I just found that the Recirculated draft Environmental Impact Report was released. Again we received no notice. On review of Section 7 page 7-33 you have my contact information incorrectly noted from my letter sent as a public comment on Aug 30,2012. Someone entered the following wrong information:

BRAVO	should be as noted in letter	BAVCO
20435 S Pasadena Rd	should be as noted in letter	20435 S Susana Rd

IP-2-1

Please correct accordingly. We are a property apparently due for relocation and want to know of any upcoming meetings and events.

Thank you

*You received this message because Jim Purzycki submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-2-1

Metro and Caltrans thank the commenter for submitting this information. Metro and Caltrans regret the error. This information has been accurately updated in the Final EIR/EIS. In addition, the email address provided has been added to the e-blast list for the project.

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Brad Jensen

From: Aguirrefel@gmail.com
Sent: Friday, July 28, 2017 4:56 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: FELIPE AGUIRRE
Organization: Comite Pro Uno Inc
Phone: 3235601111
Mailing Address: 4030 E. Slauson Ave
City, State: Maywood
Zip: 90270
Comment/Question:
I want to know if the staff of metro or gateway cities or any entity associated with the eir/eis recirculated deir has taken into consideeration the exide community remedistion study especially the high amount of lead in the ground along the corrideor of cites where the l 710 freeway will be built. any coordination with DTSC or state of California . IP-3-1

*You received this message because FELIPE AGUIRRE submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-3-1

As discussed in Section 3.12.2 of the RDEIR/SDEIS, an Initial Site Assessment (ISA) was prepared for the project to determine whether construction of the build alternatives would be affected by any recorded or visible hazardous waste problems within the I-710 Corridor Project ISA Study area. The ISA included a search of government records to obtain a listing of properties or known incidents from State, Federal, or local regulatory databases for hazardous waste sites within the ISA Study Area, review of reasonably ascertainable historical information sources (aerial photographs, fire insurance maps, oil and gas maps, and topographic maps), and a site survey of the proposed right-of-way for the build alternatives to identify readily visible contamination.

Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search limited to within a one-mile radius (i.e., ASTM International [ASTM] standard) of the I-710 Corridor Project for facilities listed by regulatory agencies as potentially having environmental concerns. Additional readily accessible agency online databases were reviewed, including the California Department of Resources Recycling and Recovery (CalRecycle); Solid Waste Information System (SWIS); the California Department of Toxic Substance Control (DTSC) ENVIROSTOR database; and the State Water Resources Control Board's (SWRCB) GeoTracker database. The sites listed in Tables 3.12.1, 3.12.2, and 3.12.3 are sites identified as potentially posing potential environmental concerns. The Exide Technologies, Inc. (Exide) battery recycling facility at 2700 S Indiana St., Vernon, CA 90058 (closed since 2015) is not listed in these tables because the facility was not within nor adjacent to any of the properties that would be potentially acquired for the build alternatives. The DTSC is responsible for overseeing the cleanup of properties affected by contamination from the Exide facility. The most recent map of the cleanup area is posted on the DTSC website (https://dtsc.maps.arcgis.com/apps/webappviewer/index.html?id=d8a6b586685f46f793e39759c71be3ef; accessed January 3, 2023) and shows the status of the site assessment and cleanup of properties within the Preliminary Investigation Area for the Exide facility adjacent to I-710. None of these properties would be fully or partially acquired for the Preferred Alternative (Alternative 1 No Build).

As discussed in Section 3.12.3 of the RDEIR/SDEIS, there is potential for hazardous materials, including lead, to exist within the Study Area and be disturbed by construction on parcels fully or partially acquired or with temporary construction easements under the build alternatives. Should a build alternative be selected as the Preferred Alternative, any contamination encountered during construction and excavation activities would be properly handled, removed, remediated, and/or disposed of according to all applicable regulations. If one of the build alternatives is identified for implementation, each property of environmental concern to be acquired would require testing in order to characterize specific soil and/or groundwater contaminants on the property, and a site-specific hazardous waste remediation plan would be developed for the appropriate removal and disposal of materials. In addition, a remediation plan and site closure plan, if required, would be

implemented to clean up the site and provide for any subsequent monitoring to ensure the contamination has been remediated below regulatory thresholds. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no removal or disposal of materials. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

Public Counsel

THE PUBLIC INTEREST LAW OFFICE OF THE LOS ANGELES COUNTY AND BEVERLY HILLS BAR ASSOCIATIONS
The Southern California Affiliate of The Lawyers' Committee for Civil Rights Under Law

August 17, 2017

BY HAND DELIVERY & ELECTRONIC MAIL

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012
Ron.Kosinski@dot.ca.gov

Re: Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement Prepared for the I-710 Corridor Project

Dear Mr. Kosinski:

On behalf of The Salvation Army, Public Counsel respectfully requests a 30-day extension of the public comment period for the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement ("RDEIR/SDEIS") prepared for the I-710 Corridor Project (the "Project"). The Salvation Army owns parcel number 6332002036 in the City of Bell, and operates the Bell Shelter ("Bell Shelter" or the "Shelter"), which provides housing and other services to homeless individuals, on this parcel of land. The I-710 Corridor Project is likely have a substantial impact on The Salvation Army's property and client housing areas.

Public Counsel is the nation's largest pro bono public interest law firm, and has built a 40-year track record of fighting for the rights of low-income individuals, families, and nonprofit organizations. Public Counsel's Community Development Project maintains a specific focus on combatting Southern California's housing crisis by advancing affordable housing and inclusive, equitable development. We have dedicated significant time and resources to reviewing the RDEIR/SDEIS since its release on July 21, 2017. The RDEIR/SDEIS, together with its appendices, is over 2,600 pages long and highly technical in nature. Due to the unusual length and complexity of the document, additional time is necessary for our staff to adequately understand, assess, and submit informed comments on the Project. IP-5-1

In light of the staggering 23% surge in Los Angeles County's homeless population between 2016 and 2017, it is crucial that the public is given a meaningful opportunity to review the Project's potential impacts on population, housing, and community. The Bell Shelter has provided a critical service in the Los Angeles area for nearly 30 years, offering a home to thousands of homeless individuals in our community and enabling these individuals to achieve greater stability in their lives. Over the course of the last three decades, the Shelter has developed an effective service structure and valuable relationships with local partners, including government

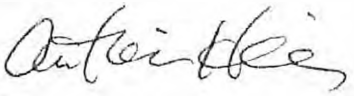
agencies and nonprofit organizations. Any kind of displacement would have a detrimental impact on these support systems, which have enabled the Salvation Army's exceptional record of success.

IP-5-1

Public Counsel appreciates the California Department of Transportation's commitment to improving quality of life for the Los Angeles community. Extending the deadline for public comments on the RDEIR/SDEIS from September 22, 2017 to October 20, 2017 will allow us to contribute to this same purpose.

Thank you for your time and attention.

Sincerely,



Antonio Hicks, Senior Staff Attorney
Public Counsel's Community Development Project

IP-5-1

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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Brad Jensen IP-6

From: mhayes23@fordham.edu
Sent: Friday, August 25, 2017 11:03 AM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Michael Hayes
Organization:
Phone: 2137046849
Mailing Address:
City, State: Los Angeles
Zip: 90026
Comment/Question:
Please no more lane widening. Itâ€™s proven to have marginal effects (if any) on traffic and is undoubtedly the least sustainable method of mitigating traffic, this incredibly short term bandaid, brings far more destruction than any sort of touted solution. Even DOT admits the failures of lane widening. IP-6-1

Consolidate cargo at the port so that it can travel unfettered by rail through Alameda Corridor. There is a tremendous opportunity to maximize the efficiency of land use by consolidating & reselling / redeveloping current BNSF / UP ROW. IP-6-2

https://www.citylab.com/transportation/2015/11/californias-dot-admits-that-more-roads-mean-more-traffic/415245/

*You received this message because Michael Hayes submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-6-1

The current design of the I-710 freeway is unable to handle current and forecast future traffic flows that are exacerbated by the mix of autos and heavy-duty trucks entering and exiting the freeway at multiple locations up and down the 19-mile corridor. The current geometrics of the freeway contribute to operational problems such as weave conditions that sap the existing capacity of the existing through lanes on the freeway. During the development of the build alternatives, traffic operational analyses (using the Transportation Research Board's *Highway Capacity Manual* [HCM] [2010 or most current version procedures) was conducted on various conceptual designs in order to test, evaluate, and optimize the performance of various concepts, including separate lanes for trucks, auxiliary lanes, through lanes, braided on- and off-ramps, and re-positioning of freeway-to-freeway connectors. This work was reviewed at numerous phases in the design development process by Caltrans, the Federal Highway Administration (FHWA), and members of the I-710 Technical Advisory Committee, which was comprised of public works directors and city engineers of the local jurisdictions that line the I-710 Corridor. The design concept and scope for Alternative 5C represents a comprehensive reconfiguration of the I-710 Corridor, which focuses on making geometric improvements that would improve the operations of the I-710 freeway, such as auxiliary lanes, truck bypass lanes, redesign of local interchanges and freeway-to-freeway interchanges to address the spacing and sequencing of on- and off- ramps, and collector-distributor roadways to separate traffic entering and exiting the freeway from through traffic. Additional through lanes are only proposed for certain segments of the freeway in combination with the proposed geometric, operational and safety design improvements in order to optimize the performance of the overall freeway, given right-of-way constraints and the need to minimize impacts to nearby residents and businesses. The results of the traffic operational analysis for the build alternatives, along with the operational performance of the future No Build Alternative, was summarized in Section 3.5 of the RDEIR/SDEIS and presented in detail in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017). This analysis indicates that the build alternatives would eliminate nearly all of the congestion bottlenecks on the I-710 freeway.

There are constraints that limit the ability of the overall rail system to handle more freight beyond a 40 percent share in the future. While there is a clear desire to increase the percentage of on-dock rail, there is not enough physical space within the marine terminals to load and build trains to meet projected demand without further physical expansion of the Ports. The San Pedro Bay Ports have recently undertaken additional rail studies to examine ways to further maximize efficiencies of terminal operations to boost train operations to the greatest extent feasible, with their goal of achieving 30–35 percent of total container volume being handled on-dock by 2035, consistent with the 2017 update to the Clean Air Action Plan.

IP-6-2

Please refer to Section 1.9 in this appendix for more information regarding the Alameda Corridor and how it relates to traffic on I-710. Caltrans and Metro do not have jurisdiction over land uses within the Ports (Ports of Los Angeles [POLA] and Long Beach [POLB]) or over redevelopment using BNSF or UP Railroad rights-of-way.

From the desk of ... Thomas Keiser August 25, 2017
203 Carlton Ave., Pasadena, CA 91103
(626) 487-5103 tomkeiser@juno.com

Ron Kosinski RK
Deputy District Director
Division of Environmental Planning
100 South Main St., MS 16A
Los Angeles, CA 90012

Re: I-710 Corridor Project
07-LA-710-PM 5.4/24.5

Dear Deputy District Director:

The proposed I-710 project will not improve traffic flow or eliminate congestion.

The project is designed to fail.

The CalTrans design builds in bottlenecks creating unsafe merging and causing congestion. IP-7-1

The CalTrans solution of adding lanes and widening freeways simply widens the footprint of the congestion.

Freeway lanes, the I-710 included, peak capacity is approximately 1,800 vehicles per lane per hour. When congestion occurs, when traffic flow breaks down, the number of vehicles past any fixed point reduces to 400-600 per hour. Add a fifth through lane to a 4 lane freeway and you increase traffic flow 400-600 vehicles per hour. IP-7-2 Add an auxiliary lane to a 4 lane freeway so traffic flow remains constant and peak capacity is maintained, and you triple traffic flow up to 6,400 vehicles per hour, 10x what adding a through lane will do.

The millions of dollars CalTrans proposes spending on the I-710 will cost the most and accomplish the least. CalTrans should spend less to accomplish more. The only significant widening, to add auxiliary lanes, IP-7-3 are bridges over the flood control channels and the bridge at the railroad yard.

For a project years in the making and years to completion, CalTrans still gets it wrong.

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability." is printed at the bottom of your letter.

I propose that be changed: "70 years of building freeways and we still don't have a clue."

Very truly yours,

THOMAS KEISER

TK/t

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IP-7-1

I-710 is part of a highly congested metropolitan roadway network and is located within the Los Angeles urbanized area, which is essentially built out. The proposed improvements included in the build alternatives, while not eliminating congestion, would improve speeds and reduce travel times on I-710, which in turn would attract more traffic to the facility relative to the No Build Alternative.

The proposed redesign of the I-710 freeway under the build alternatives would improve the geometric configuration of the freeway in order to eliminate many of the existing merge, diverge, and weave conditions that currently create congestion bottlenecks on I-710. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the reduction in congestion as a result of the build alternatives will not be realized. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-7-2

As discussed in detail in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, the current design of the I-710 freeway is outdated and unable to handle current and forecasted future traffic flows that are exacerbated by the mix of autos and heavy-duty trucks entering and exiting the freeway at multiple locations up and down the 19-mile corridor. The existing geometrics of the freeway contribute to operational problems such as weave conditions that sap the existing capacity of the existing through lanes on the freeway. During the development of the build alternatives, a detailed traffic operational analysis – using Highway Capacity Manual (HCM) procedures – was conducted on various conceptual designs in order to test, evaluate, and optimize the performance of various options and proposals, including separate lanes for trucks, auxiliary lanes, through lanes, braided on- and off-ramps, and re-positioning of freeway-to- freeway connectors. This work was reviewed at numerous stages in the design development process by Caltrans, FHWA, and members of the I-710 Technical Advisory Committee, which was comprised of public works directors and city engineers of the local jurisdictions that line the I-710 Corridor. The design concept and scope for the build alternatives represent a comprehensive reconfiguration of the I-710 Corridor, which focuses on making geometric improvements that would improve the operations of the I-710 freeway, such as: auxiliary lanes; truck by-pass lanes; redesign of local interchanges and freeway-to-freeway interchanges that would address the spacing and sequencing of on- and off-ramps; and collector-distributor roadways to separate traffic entering and exiting the freeway from through traffic. Through lanes are only proposed for certain segments of the freeway in combination with the proposed geometric, operational and safety design improvements in order to optimize the performance of the overall freeway given right-of-way constraints and the need to minimize impacts to nearby residents and businesses. The detailed results of the traffic

operational analysis for the build alternatives, along with the operational performance of the future No Build Alternative, is presented in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) and summarized in Section 3.5 of the RDEIR/SDEIS and this Final EIR/EIS.

IP-7-3

The key objective of the improvements included in the build alternatives are to improve safety and operations for the full length of the 19-mile I-710 Corridor. Please refer to Response to Comment IP-7-2 regarding the need for the build alternatives.

Brad Jensen IP-8

From: nflor007@ucr.edu
Sent: Monday, August 28, 2017 9:48 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Nelson Flores
Organization:
Phone: 8319157202
Mailing Address: 4423 AMBROSE AVE, 9
City, State: LOS ANGELES
Zip: 90027
Comment/Question:
Please do not widen the I-710. Widening freeways have little impact in reducing congestion on roads. The most recent widening, the I-405, has done nothing to relieve traffic and it has wasted billions of dollars. Consider creating a toll road or getting more shipments on trains that do not even go in traffic. IP-8-1

*You received this message because Nelson Flores submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-8-1

An option that included the tolling of trucks using the freight corridor in Alternative 7 was analyzed as part of the refinement of build alternatives early in the development of the RDEIR/SDEIS. The findings indicated that assessing a toll on trucks using the freight corridor would shift two-thirds of the truck volume out of the freight corridor and back onto the general-purpose lanes on I-710. The tolling concept was therefore removed from further consideration.

According to cargo forecasts provided by the San Pedro Bay Ports for the I-710 technical studies, the future horizon year forecast for cargo volume at the two Ports is projected to be nearly 41.4 million twenty-foot equivalents (TEUs) by 2035, compared to 14.1 million in 2012. Maximum goods movement by rail is an underlying assumption of all the alternatives analyzed in the RDEIR/SDEIS and this Final EIR/EIS.

By 2035, it is estimated that 40 percent of Port container traffic will be carried by rail, either on-dock (30.5 percent) where trains are loaded and formed within the marine terminals, or at near dock/off-dock rail facilities (9.5 percent) where containers are carried by truck to rail facilities near the Ports or within the Los Angeles region. This compares with approximately 26 percent carried by on-dock rail in 2012. While the percentage increase in on-dock rail seems small, due to the large forecast increase in total container volumes handled by the Ports, the on-dock rail container volume itself is forecast to increase over threefold.

With regard to future demand for cargo containers to be transported to and from the Ports by rail, the *Final Technical Memorandum – I-710 Railroad Goods Movement Study* (February 2009) found that although the rail operators have implemented a variety of operational strategies to meet container demand from the Ports, including using longer trains with higher utilization rates, the freight railroad system alone will not be able to handle the total container demand.

There are constraints that limit the ability of the overall rail system to handle more freight beyond a 40 percent share in the future. While there is a clear desire to increase the percentage of on-dock rail, there is not enough physical space within the marine terminals to load and build trains to meet projected demand without further physical expansion of the Ports. The San Pedro Bay Ports have recently undertaken additional rail studies to examine ways to further maximize efficiencies of terminal operations to boost train operations to the greatest extent feasible, with their goal of achieving 30–35 percent of total container volume being handled on-dock.

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Brad Jensen

From: bryanmoller@gmail.com
Sent: Wednesday, August 30, 2017 12:40 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Bryan Moller
Organization:
Phone: 3107546814
Mailing Address: 2008 E. Oris St.
City, State: Compton, CA
Zip: 90222
Comment/Question:
NOTE TO DECISION MAKERS.

This project is unnecessary as the Alameda Corridor currently operates at 25% capacity. The Alameda Corridor was constructed for the purpose of moving freight from the Ports of LA & LB and it is simply not being used.

Instead of expanding the I-710, a policy should be passed that ensures companies use the Alameda Corridor. Scrap this project and pass an Alameda Corridor usage policy.

By the Alameda Corridor Transportation Authority's own admission, they are barely meeting their debt service because the Alameda Corridor is not being used. The I-710 expansion would be a waste of taxpayer money as taxpayers already funded the underutilized Alameda Corridor. IP-9-1

Reference: http://www.presstelegram.com/general-news/20160924/alameda-corridor-dream-becomes-financial-nightmare-for-los-angeles-and-long-beach-ports

*You received this message because Bryan Moller submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-9-1

Please refer to Section 1.9 of this appendix for more information regarding the Alameda Corridor and how it relates to traffic on I-710. Metro and Caltrans do not have the jurisdiction to set policy to mandate usage of the Alameda Corridor.

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Brad Jensen

From: omoraleo@yahoo.com
Sent: Thursday, August 31, 2017 3:21 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Oscar Morales
Organization: Resident
Phone: 310-413-3877
Mailing Address: 1875 Fashion Ave
City, State: Long Beach
Zip: 90810
Comment/Question:
As a resident to the proposed plan, I am very concern the health risk associated with the construction of these developments. I also like to know if "eminent domain" is something I need to be concern about. Would I have the option to sell my property to these developers and become compensated for all other relocation coast, inconvenience, physical/handicap hardships. In addition, I called months ago and left a message on the number that you all provided with questions and nobody returned my calls. Also be mindful of the many families with young infants, children living with asthmatic conditions due to the pollution generated by the port of Long Beach, the trucks, traffic on the freeway. Please respond to my inquires as soon as possible. thank you and have a bless day!

IP-10-1

IP-10-2

IP-10-3

*You received this message because Oscar Morales submitted feedback regarding the I-710 Corridor Project.
Regards,
System
Administrator

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IP-10-1

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, and in Chapter 4.0, CEQA Evaluation, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions but no increase in cancer risk compared to the 2012 Baseline.

When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would be implemented to reduce emissions at near-roadway locations. Measure AQ-2 would require filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for the installation of solid barriers where soundwalls are not proposed and the installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-10-2

The commenter’s concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment IP-10-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no displacements will occur.

IP-10-3

Please refer to Response to Comment IP-10-1. Sensitive populations and receptors were taken into account in the air quality and environmental justice analyses prepared for the project. For more detailed information, please refer to Section 3.13, Air Quality, and Section 3.3.3, Environmental Justice, of this Final EIR/EIS.

CALIFORNIA RESOURCES CORPORATION

27200 TOURNEY ROAD, SUITE 315
SANTA CLARITA, CALIFORNIA 91355

ADAM SMITH
(818) 661-3705
adam.smith@crc.com

September 8, 2017

VIA REGULAR MAIL

Mr. Ronald Kosinski
Deputy District Director, California Department of Transportation
District 7, Division of Environmental Planning
100 South Main Street, Mail Stop 16A, Los Angeles, CA 90012

Re: Comments on the I-710 Corridor Project Revised Environmental Impact Report/Environmental Impact Statement

Dear Mr. Kosinski:

California Resources Long Beach, Inc. ("CRC"), as successor in interest to Oxy Long Beach, Inc., would like to thank Caltrans and its partner agency the Los Angeles County Metropolitan Transportation Authority ("Metro") for working with CRC to revise the proposed I-710 Corridor Project (the "Project") to reduce some impacts to CRC.

While we appreciate the Project team's commitments to work with CRC, the Revised EIR/EIS – is inadequate under the California Environmental Quality Act ("CEQA") and the National Environmental Policy Act ("NEPA") and continues to impose unreasonable and unacceptable impacts to CRC as outlined below.

Our detailed comments analyzing the deficiencies of the Revised EIR/EIS are set forth in Attachment A.

Accordingly, we believe that the Revised EIR/EIS must be revised and recirculated. CRC looks forward to reviewing the next version, and to working with Caltrans, Metro, and the Project consultant team on the revised Project design that will avoid impacts to CRC's operations. IP-11-1

Very truly yours,

Adam Smith
Vice President, Regulatory Affairs

Attachment A

THE REVISED EIR/EIS DOES NOT ADEQUATELY ADDRESS THE PROJECT'S ENVIRONMENTAL IMPACTS THAT WILL ADVERSELY AFFECT CRC'S OPERATIONS AND ASSETS

CRC's primary concerns regarding the Project are the significant environmental impacts that will have severe consequences for its oil operations and assets located near the existing I-710 freeway in Long Beach. CRC operates several oil extraction facilities in the Project Area. One of these facilities is located along a thin strip of land located between the Los Angeles River to the east and the existing I-710 freeway to the west, known as the "Pico Property." CRC leases this site from the Los Angeles County Flood Control District ("LACFCD"). CRC's operations at this site stretch from around Ocean Boulevard to Anaheim Street, and its facilities include active and inactive oil wells, pumps, storage tanks, oil pipelines, and other equipment and structures. Operation and maintenance of CRC's facilities at the Pico Property, as well as ongoing construction and expansion of these facilities, requires access along the entire property for workers and heavy trucks and machinery, and frequently involves the use of drilling rigs and associated equipment temporarily placed along various points on the site. CRC, through its subsidiary Tidelands Oil Production Company, operates a second site in the area owned by the Long Beach Gas and Oil Department, commonly referred to as the "Standard Lease," that will also be impacted by the proposed Project. This site is located just north of Anaheim Street and contains a number of active and inactive wells and other structures.

CRC's operations in Long Beach are an important part of California's energy infrastructure, deliver crucial benefits to the local community, and provide high-paying jobs for many area residents. Caltrans must take all necessary measures to ensure that the I-710 Corridor Project will avoid any impacts to CRC's operations to the maximum extent feasible. Although Caltrans states that the Project build alternatives will have serious environmental impacts that will drastically limit CRC's ability to continue its operations, the Revised EIR/EIS fails to sufficiently identify those impacts or provide crucial information about how those impacts will be mitigated. IP-11-2

The Revised EIR/EIS provides insufficient information about the proposed site(s) where CRC's facilities would be relocated, provides insufficient information about how such a relocation would be accomplished, provides no information on the total cost to relocate and thereby improperly defers any analysis of the resulting environmental impacts. The extraction and transportation of CRC's oil assets is a complex operation that requires specific site conditions. Relocating CRC's facilities is not a simple matter of providing a patchwork of properties that together might add up to the amount of land affected by the Project build alternatives. The potential relocation of CRC's facilities requires careful study to ensure that operational capacity and access is maintained to ensure CRC may continue to safely operate its facilities. Given the potential cost of this relocation, Caltrans should take all feasible measures to avoid any impacts to CRC's facilities. IP-11-3

Moving CRC's operations to a new location could also have environmental impacts, which should have been studied in the Revised EIR/EIS, since they would be a direct result of the Project. CRC's current facilities are located on sites that have operated as oil fields for more than fifty IP-11-4

years, and CRC has secured and maintained all necessary permits and approvals to continue its operations at these locations. Moving CRC's operations to a new site could potentially result in different traffic impacts, land use impacts, noise impacts, and numerous other altered environmental effects, as compared to CRC's operations in its current location, that must be evaluated. Relocating CRC's existing facilities could potentially require the modification or addition of permits or governmental approvals, which is not addressed in the Revised EIR/EIS. The Revised EIR/EIS likewise fails to include any analysis of environmental construction impacts associated with relocation of CRC's facilities to a new location, which would require dozens of construction trucks and large drilling rigs to drill new wells and ensure that the wells on CRC's existing site are safely plugged and abandoned. For any relocation that will impact CRC's facilities on the Pico Property or the Long Beach Gas and Oil property required by the Project, all necessary environmental analysis and permitting must be included as part of the I-710 Corridor Project itself. IP-11-4

In total, CRC has determined that any relocation would cost in excess of $60,000,000 and the Project proponents have done an insufficient job to date mitigating the environmental and financial impacts the Project will have on CRC's assets. As a result, the Revised EIR/EIS must be revised and recirculated. IP-11-5

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IP-11-1

Caltrans and Metro thank the commenter for providing their input. However, Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS is deficient and requires revision and recirculation. In accordance with the requirements of CEQA and NEPA, the RDEIR/SDEIS sufficiently describes and discloses the potential environmental effects of the proposed action, and proposes measures to address the effects of the build alternatives. Although Caltrans makes every effort to avoid, minimize, and/or mitigate environmental impacts resulting from build alternatives, in many cases the relocation of homes, business, and/or facilities is unavoidable, particularly in a dense and highly urbanized corridor.

IP-11-2

As discussed in Section 3.4.2.2 of the RDEIR/SDEIS, several strategies have been considered for utilities impacted as a result of the build alternatives. These strategies include (1) protection in place, (2) continuous aboveground relocation, and (3) continuous underground relocation. The relocation strategy for the facilities located on the “Standard Lease” property was developed in coordination with Long Beach Gas & Oil’s Oil Operations Manager. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no impacts to utilities. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-11-3

The South End Utility Study identifies the proposed disposition and relocation strategy for the “Tidelands” facility on the “Standard Lease” property. The study identifies the proposed location and estimated relocation costs for impacts related to the build alternatives. The corresponding right-of-way impacts under the build alternatives were identified in the RDEIR/SDEIS. A site feasibility study was conducted in cooperation with Long Beach Gas & Oil’s Oil Operations Manager.

In addition, as stated in Section 3.4.3, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2. However, as stated in Response to Comment IP-4-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impact to the “Tidelands” facility on the “Standard Lease” property.

IP-11-4

As stated in Section 3.4.3 of this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, utilities impacted as a result of the build alternatives would be relocated in accordance with specific Utility Relocation Plans described in Measure U&ES-2. As stated in Measure U&ES-2, the Specific Utility Relocation Plans would also include other applicable mitigation measures described in the RDEIR/SDEIS, for impacts related to cultural resources, visual resources, hazardous wastes, water quality, and traffic and transportation as a result of the build alternatives.

A preliminary evaluation designed to assess the feasibility of relocation of the subsurface facilities was undertaken in October 2013 and supports the conclusions in the South End Utility Study. That evaluation focused on the abandonment of some existing wells and drilling of new wells from the new surface location. The feasibility of the drilling process included an anti-collision analysis that utilized a conic uncertainty analysis. The preliminary evaluation concluded it would be feasible to re-drill the existing wells from the proposed surface location and recommended that a gyroscopic survey of the existing wells be conducted, should a build alternative be selected as the Preferred Alternative, in order to address any areas of concern wherein the proposed well paths would intersect the uncertainty radius. In addition, production rates at the proposed relocated Standard Lease facility would be expected to maintain the rates of the existing facility. Should a build alternative be selected as the Preferred Alternative, drilling and completion of the proposed production wells would be done prior to shutting in the existing wells, therefore maintaining the net production rates. In addition, it is important to note that a net increase in production could be possible with the proposed wells, since new completion methods have been developed that could enhance production. In addition, at a minimum, new surface facilities would be designed for the current production and injection rates of the existing Standard Lease facility. The facilities would be constructed prior to drilling the proposed wells so as to not impact the timing when new production wells would be brought online. However, as stated in Response to Comment IP-4-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impact to utilities.

IP-11-5

Please refer to Response to Comment IP-11-2 regarding the relocation of utilities. Mitigating any potential environmental and financial impacts to California Resources Corporation’s (CRC) facilities during the Project Approval and Environmental Documentation (PA&ED) phase would be premature and any mitigation would be implemented prior to construction should a build alternative be selected as the Preferred Alternative. However, as stated in Response to Comment IP-4-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no financial impact to CRC facilities. Please refer to Response to Comment IP-11-1 regarding recirculation of the environmental document.

9/10/17

MR. RONALD KOSINSKI RK
CALTRANS DISTRICT 7, DIVISION OF ENVIRONMENTAL PLANNING
100 SOUTH MAIN STREET, MS 16A
LOS ANGELES, CA 90012

DEAR MR. KOSINSKI,

THANK YOU FOR ALL YOUR EFFORTS AND DETAILED WORK ON THE RDEIR/SDEIS FOR THE I-710 FREEWAY. I PROPOSE THAT

METRO RAIL CONSIDERS BUILDING A RAIL LINE TO LINK THE GREEN LINE TO THE GOLD LINE. ADDITIONALLY, WHAT IF A HYBRID ALTERNATIVE WAS TO BE CONSIDERED BETWEEN ALTERNATIVE 1+5C OR 1+7? IP-12-1

TWO MAJOR RAMPS (NORTHBOUND) THAT NEED IMMEDIATE RENOVATIONS ARE I-710-IMPERIAL HIGHWAY + FLORENCE AVE; SOUTHBOUND) = FLORENCE AVENUE. IP-12-2

AGAIN, THANK YOU TO YOU + YOUR STAFF FOR ALL YOUR WORK! IP-12-3

SINCERELY,
GILMA LOPEZ

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IP-12-1

Caltrans welcomes your comment for Metro to consider building a rail line to link the Green Line to the Gold Line. Metro is considering rail alignment options for a new rail corridor in southeast Los Angeles County that would make this connection. The Eco-Rapid Transit Project, also called the West Santa Ana Branch Transit Corridor, is currently in the environmental study stage. Information on this project may be found on Metro's website at the following URL: https://www.metro.net/projects/west-santa-ana/.

IP-12-2

The commenter's request for consideration of a hybrid alternative is acknowledged and noted in the public record. As shown in Chapter 2.0, Project Alternatives, including Section 2.5 (Alternatives Considered but Eliminated from Further Discussion) of the RDEIR/SDEIS, a reasonable range of alternatives has been evaluated over the life of the project. Factors used in determining the reasonable range of alternatives for further evaluation in the RDEIR/SDEIS included whether or not the alternatives (1) failed to meet the most basic project objectives, (2) were infeasible (per State CEQA Guidelines Section 15126.6(f)(1), or (3) were unable to avoid significant environmental impacts. The range of build alternatives was developed based on input from agencies, organizations, and the general public. A discussion of the alternatives that were considered but eliminated from further discussion for the reasons listed above were included in Section 2.5 (Alternatives Considered but Eliminated from Further Discussion) of the RDEIR/SDEIS. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more information regarding the identification of the Preferred Alternative.

IP-12-3

Metro and Caltrans thank the commenter for this feedback regarding the Imperial Hwy. and Florence Ave. ramps to the northbound I-710 and the Florence Ave. to southbound I-710 ramp. This feedback has been included in the project record. Under the Preferred Alternative (Alternative 1 No Build), the Imperial Hwy. and Florence Ave. interchanges with I-710 will not be improved.

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Brad Jensen

From: juliandelao@sbcglobal.net
Sent: Monday, September 18, 2017 10:21 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Julian De La O
Organization:
Phone: (323) 333-8929
Mailing Address:
City, State:
Zip:
Comment/Question:
Good evening, thank you for allowing us to have a platform where we can write about our concerns and our opinions. I have 2 questions/concerns regarding the 710 corridor.

1. We were told that the whole project was going to be in the billions, my concern has to do with how the money is obtained. What is the plan for raising the money and who would be the most affected by it? IP-13-1

2. My second concern has to do with how the money might be spent. We were informed that the project would move forward as the money comes in. As you know, there are schools along the corridors planed location. My question is, how are you planing on spending the money? My suggestion is to spend it first on keeping our children safe and secure. Why not spend the money first in the schools and in keeping our community healthy. Our children should always come first because if the project has a difficult time raising all the money, at least we know our children will be in a healthier environment than the one they have now. IP-13-2

*You received this message because Julian De La O submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-13-1

Please refer to Section 1.3.2 of this appendix for more information regarding transportation funding in general and potential funding sources for the I-710 Corridor Project. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, funding of the project is unnecessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-13-2

Please refer to Section 1.3.3 of this appendix for more information regarding the applicability of transportation funding to other types of improvements. In addition, the Community Health Benefit Program is a programmatic component of the build alternatives that intend to make funding available for projects and outreach activities that improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

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Brad Jensen

From: brian.yanity@railpropulsion.com
Sent: Thursday, September 21, 2017 10:24 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Brian Yanity
Organization: Californians for Electric Rail
Phone: 714 519 5979
Mailing Address: 229 East Commonwealth Ave., #254 City, State: Fullerton
Zip: 92832
Comment/Question:
To whom it may concern:

I would like to express my support for Alternative 7 described in the I-710 Corridor Project RDEIR/SDEIS, with the Clean-Emission Freight Corridor. However, I would prefer the Option 7ZE, which would mandate that all trucks on the Clean-Emission Freight Corridor be zero-emissions. IP-14-1

I am pleased to see that the I-710 Corridor Project RDEIR/SDEIS discusses rail alternatives for moving freight to and from the Ports of Los Angeles and Long Beach (pages 1-38 & I-39). However, there is not enough discussion of increasing rail system capacity to meet the regionâ€™s freight movement needs, and thus reduce the amount of truck traffic on I-170. The 2009 I-710 Railroad Goods Movement Study needs to be updated as part of the I-710 Corridor Project RDEIR/SDEIS, with a goal of studying ways of aggressively shifting more freight from truck to rail. One train with double-stacked container cars can carry the equivalent of hundreds of trucks. IP-14-2

The July 2017 San Pedro Bay Ports Clean Air Action Plan update calls for expanding the use of on-dock rail by investing in improvements to the port-wide rail network, with the long-term goal of moving 50% of all cargo leaving the ports by rail, and for the continued exploration of short-haul rail. The Los Angeles region has long been a world leader in reducing emissions from port operations and transportation, and should continue this legacy by leading the way zero-emissions freight transport.

Freight rail electrification would build upon, and add value to, the large investments that the ports are making on rail infrastructure and clean technology. Used successfully all over the world for over a century, all-electric freight railroads have many advantages, and are the only proven method of zero emissions, heavy freight transport. While the up-front capital costs may be substantial, all-electric freight rail would pay for itself with significant reductions in emissions and transport energy costs.

The Alameda Corridor and the Pacific Harbor Line system around the ports could serve as a pioneering example of freight rail electrification. The Alameda Corridor is within the I-710 Study Area, and is a publically-owned rail line. It is in the public interest to reduce air pollution electrifying the trains running through populated areas. This freight rail corridor was built with enough vertical clearance for an overhead catenary wire over a double-container stacked train, along with other features designed in anticipation of future electric rail infrastructure.

Electrification of the proposed short-haul rail service between the ports and the Inland Empire, currently under study, is an opportunity for using electric locomotives though the Alameda Corridor and reducing truck traffic on the 710. All-electric locomotives dedicated to the short-haul service could go back and forth along less than 100 miles electrified track between San Pedro Bay and the Inland Empire, while conventional non-electric line-haul freight trains could continue use the same tracks.

Thank you for this opportunity to provide comment on the I-710 Corridor Project.

Best Regards,

Brian Yanity
Californians for Electric Rail
Electrical Engineer
Fullerton, CA

*You received this message because Brian Yanity submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

IP-14-1

Caltrans and Metro thank the commenter for their input. The commenter's support of Alternative 7, Option 7-ZE, is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative (Alternative 1 No Build).

IP-14-2

Generally, the purpose of the *I-710 Railroad Goods Movement Study* (2009) was to assess rail and intermodal facility capacity constraints, which could cause a diversion from rail to truck transport within the Los Angeles Basin, given an increase in San Pedro Bay Ports traffic. The study took into account the Alameda Corridor and other rail subdivisions in the area, as well as various railroad intermodal facilities (both existing and planned). The analysis concluded that it is difficult to say with certainty that operational strategies would be enough to meet growing demand, and freight railroads are nearing their efficient capacity in the Basin. It is important to note that the study explored current and future cargo trends and the ability of current and planned infrastructure to accommodate that cargo, rather than studying ways to divert more cargo to rail. Caltrans and Metro do not have the authority to mandate use of the Alameda Corridor or other rail and rail-related facilities. Please refer to Section 1.9 of this appendix for more information regarding the Alameda Corridor and how it relates to traffic on I-710.

Additionally, thank you for providing your perspective on electrification of freight rail. This subject is beyond the scope of the I-710 Corridor Project. With respect to electrification of freight rail, we refer you to the following publicly available study, which examined the benefits and costs of electrification in the SCAG region: *SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy – Task 8.3 Analysis of Freight Rail Electrification in the SCAG Region. Cambridge Systematics, Inc.; April 2012*.

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Brad Jensen

From: cspnclive@gmail.com
Sent: Monday, September 25, 2017 5:18 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Anna Erneholm
Organization: Coastal San Pedro Neighborhood Council
Phone: 310-918-8650
Mailing Address: 1840 S Gaffey Street, Box 34 City, State: San Pedro
Zip: 90731
Comment/Question:

1. In recognition that commercial interests benefit most significantly from the I 710 freight corridor, we request that you consider that the Project should be funded primarily through the commercial interests which benefit most directly such as through container and shipping fees. The I 710 Freeway in the Project area largely serves commercial freight transport to and from the Ports of Los Angeles and Long Beach, experiences great degradation from the high volume of commercial heavy-duty vehicle traffic, and must be built to accommodate the freight related commercial traffic. The public cannot reasonably be expected to pay the significant portion for goods transport, especially in consideration of the significant costs to public health already borne by the people living and working in proximity of the Project area. IP-15-1

2. Implement the Alternative 7 with Option 7ZE to include only Zero Emission technology and exclude Near Zero Emission technology for the following three reasons: IP-15-2

a. The required zero emission technologies are most likely to be reasonably feasible and implementable before project completion. Several public and private agencies are invested intensely in implementing zero emission technologies, as demonstrated by the Cities of Long Beach and Los Angeles. Further the Gateway Cities COG and Metro concluded in the year 2013 "I-710 Project Zero-Emission Truck Commercialization Study" that zero-emission capable drayage trucks can be developed, demonstrated, validated, and moved into production by a 2025 target timeline, within seven years of the Project's planned Final EIR. IP-15-3

b. The Option 7ZE, with significant improvements in freight transport, related technologies, and emission reductions resulting in great economic and public health benefits, will drive monumental economies of scale that will improve Southern California transportation systems and motivate other industries towards advancing technologies, such as may become implemented in the San Pedro Bay Clean Air Action Plan only if Option 7ZE is realized. IP-15-4

c. The technologies and methods implemented will require significant economic investment certain to greatly influence short and long term budget planning and to substantially enhance our quality of life for generations. A shorter-term investment in near zero emission technology will reduce the perceived benefits and return from a longer term and more significant investment in zero emission technology. Indeed, Port of Los Angeles tenants such as China Shipping refused to invest in newly available advanced emission reduction equipment because of recent expenditures on inferior, but previously available emission reduction equipment. Simply establishing the Zero Emission standard rather than a mix of Near Zero will provide stability in long term financial decision making and short term budgetary considerations. IP-15-5

*You received this message because Anna Erneholm submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-15-1

Please refer to Section 1.3 of this appendix for more information regarding transportation funding in general and potential funding sources for the I-710 Corridor Project build alternatives. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, funding of the project is unnecessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-15-2

The commenter's support of Alternative 7, Option 7-ZE, is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative (Alternative 1 No Build).

IP-15-3

It is important to note that the implementation of NZE trucks was included as a programmatic element of both build alternatives. Although a build alternative has not been identified as the Preferred Alternative, the Metro Board of Directors issued Board Motion 5.1, which altered the Zero Emission/Near Zero Emission Truck Technology Deployment Program to the phased-in "Zero Emission Truck Technology Development Program." This program is now known as the I-710 Clean Truck Program. Included in the motion was a provision to increase the program-funding target from $100 million to $200 million and include in the Program incentives and grants investment in the acceleration of zero emission technology both for trucks and for infrastructure. The purpose of the phased in program is to deploy near zero emissions trucks in the early phases to bring immediate air quality benefits to the I-710 Corridor and at the same time continue to sponsor the development of zero emissions trucks. The ultimate goal is to achieve zero emissions under the program. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please also refer to Section 1.3 of this appendix for more information regarding zero emissions only technology within the context of the I-710 Corridor Project.

IP-15-4

While numerous studies have been conducted as well as several pilot projects, the commercial availability of zero emissions truck technologies for Class 8 heavy, heavy duty trucks at levels sufficient to meet the operational parameters (e.g., range, multiple shift operation, payload weight capacity) for trucks using I-710 is an important milestone that has yet to be fully achieved and would depend on both public and private advancements to achieve market penetration and the economic returns to scale necessary for financial feasibility for the I-710 program. For example,

CARB's Advanced Clean Truck Regulation (2020), which requires truck manufacturers to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035, is anticipated to move the market in this direction. Both Metro and Caltrans are working closely with the two Ports to coordinate efforts on the San Pedro Bay Clean Air Action Plan and the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program). However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please also refer to Response to Comment IP-15-3 regarding the implementation of NZE trucks.

IP-15-5

In order to be effective, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) needs to be able to accommodate multiple and diverse truck travel markets. Nearly half of the heavy-duty trucks that travel on I-710 are not Port trucks. Most are operated by individual, owner-operators as opposed to large fleets operated by truck companies. As a consequence, the I-710 Truck Deployment Program is technology neutral as long as the emissions standards for eligibility under the program are met, in order to keep barriers to program entry low and to provide the flexibility necessary to serve a wide variety of heavy-duty trucks. The Phased-In Zero-Emission Truck Technology Deployment Program is structured to be implemented in phases as vehicles turn over to near-zero emissions and zero emissions. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please also refer to Response to Comment IP-15-3 regarding implementation of NZE trucks.

Brad Jensen IP-16

From: tractionry@outlook.com
Sent: Tuesday, September 26, 2017 11:18 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Ryan Snyder
Organization:
Phone: 3238739683
Mailing Address: 5947 Hereford Dr.
City, State: Los Angeles
Zip: 90022
Comment/Question:
Areas that will be impacted by this project still havnt even recovered from the Exide contamination. Metro, an environmentally accountable agency MUST stand by their reputation and push Alternative 7 as the ONLY option considerable. Heavier carcinogenic air will be the burden of many; children, elderly and healthcare systems. IP-16-1

*You received this message because Ryan Snyder submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-16-1

Caltrans and Metro thank the commenter for their input. The commenter's support of Alternative 7 is acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

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Phillips Steel
Experience the Strength
Since 1915

October 16, 2017

VIA EMAIL AND OVERNIGHT DELIVERY

Ronald Kosinski RK GAD
Deputy District Director
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Re: Pier B On-Dock Rail Support Facility Project

To Whom It May Concern:

I'm Daryl Phillips, owner of Phillips Steel, located at 1358 W. Anaheim Street, Long Beach, CA 90813. Phillips currently employs about 100 people in its Long Beach locations, virtually all of whom appear to be headed for unemployment if you implement either Alternative 5C or Alternative 7. While the upcoming unemployed may be able to locate other employment in other cities, your proposals appear to be punishing both local businesses and private citizens for what is likely a very small impact to the environment, and a directed attempt to enhance only particular special interests. IP-17-1

First, the environmental impact: increasing the freeway size from 4 to 6 lanes each way? Somehow, you have determined that allowing 50% greater traffic capacity will cut emissions by 50%? (Capacity will actually be increased more than 50% once your "Platoon" model is implemented.) *Zero emissions trucks* - more than 90% of our electricity comes from coal, nat gas and other CO2 emitting sources. The "clean" vehicles themselves use lead acid batteries, or more exotic batteries from lithium and other materials mined with child and other unjust labor practices. (See http://www.dailymail.co.uk/news/article-4764208/Child-miners-aged-four-living-hell-Earth.html for a recent discussion on child labor mining of Cobalt in the Congo.) Have you baked the social justice issues into your revised EIR, along with the massive drain on our energy grid and infrastructure? IP-17-2 IP-17-3

Special Interests - we have reviewed your stated goals, and attempted to reconcile these relative to the actual proposed action.

> Your goals - reduce pollution for the homeless, local residents and general public; ease traffic issues; increase volume and efficiency of transportation; increase overall safety; and upgrade existing/aged infrastructure. IP-17-4

Your solution - increase traffic flow by >/=50%; increase energy demand from coal and natural gas power plants (the single largest emitters of CO2 in this country); "platoon" trucks together to insure greater density of truck travel; altogether accommodate increased "population throughput" into and out of the city by 40%; expand the freeway footing by taking residents' property.

IP-17-4

Clearly, some of your stated goals are achievable by implementing any number of ideas, including those floated in the I-710 materials and "vetted" in your revised EIR. At the same time, it is clearly possible to eliminate one's cancer by burning the body. This is not an unintentional correlation. The problems facing our city and the Port are insidious, and spreading. However, we don't believe the proposed solutions result in the long term fix representative of the capabilities of our city leaders. In addition, it is difficult, if not impossible to determine the precise impact your proposals will have on individual property owners, residents, and others with the materials before us.

Who benefits from the current proposals? It appears that the largest beneficiary is EV technology. Maybe that is Volvo for electric trucks, Tesla for vehicles and the power companies supplying power to the charging stations. Yes, they all have great business plans and are in vogue with their "green" acceptance for now. At the same time, the burdens for these companies fall almost squarely on the backs of Long Beach residents.

IP-17-5

Suggestions: 1) Stay within the existing footprint of the I-710 and current on/off ramps with any improvements. 2) Research maglev types of transportation, or other somewhat exotic but highly feasible types of mass transit/transport systems. 3) Investigate short terms fixes for CO2 and particulate emissions such as afterburners, filters, restricted access to older diesel technology, etc. 4) Invest in police, fire, safety, and other measures to turn our crime and safety stats in the opposite direction. 5) Take a long term approach to the infrastructure issues: monorail, train, maglev, nuclear, etc. 6) Be specific as to what, who, why, and how LB citizens are to be affected by the proposed changes. To date, it is still unclear.

IP-17-6

Respectfully,

Daryl Phillips, President
Phillips Steel Company

cc: Mayor Robert Garcia, City of Long Beach (via email)
Mark Taylor, Chief of Staff to Mayor Garcia, City of Long Beach (via email)
City Manager Patrick West, City of Long Beach (via email)
Bonnie Lowenthal, Harbor Commissioner, Port of Long Beach (via email)
Richard Cameron, Managing Director of Planning and Environmental Affairs Port of Long Beach (via email)
Jeannine Pearce, Councilmember, City of Long Beach (via email)
Christian Kropff, Chief of Staff to Councilmember Pearce, City of Long Beach (via email)
Lena Gonzalez, First District Councilwoman, City of Long Beach (via email)
Cory Allen, Chief of Staff to Councilwoman Gonzalez, City of Long Beach (via email)
Chief of Police Robert Luna (via email)
Fire Chief Michael DuRee (via email)
Heather Tomley, Director of Environmental Planning, Port of Long Beach (via email
Ernesto Chaves, Project Manager, Metro (via email)

bcc: Paul Collins, Chair, PAC Designs (via email)
Larry Maehara, VC, Berth 55 (via email
Tony Rivera, Easy Roll-Off Services (via email)
Mike McFadden, CMAC (via email)
Jason Ficke, LB Travel Center (via email)
Tracy McCrabb, Cowelco (via email)
Gil Ficke, LB Travel Center (via email)
Vince Passanisi, Sante Fe Importers (via email)
Hartmut Schroeder, Snugtop (via email)
Sotiria Contos, Golden Star (via email)
Stan Janocha, Superior Electrical Signs (via email)
Raul Alcala, Long Beach Hose & Coupling (via email)
Steve Berns, The Berns Company (via email)

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IP-17-1

It is the policy of Caltrans in the administration of its relocation assistance program that displaced businesses and residents are “made whole” and that displaced persons shall not suffer unnecessarily as a result of programs designed to benefit the public as a whole. Businesses displaced as a result of the build alternatives may be eligible for relocation advisory services and payments. In addition, it is important to note that the analyses of employee relocations that would occur as a result of the build alternatives outlined in Section 3.3.2.4 of this Final EIR/EIS are worst-case scenarios that assume no businesses would be relocated within their original jurisdictions. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no displacements. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

Caltrans and Metro both respectfully disagree with the commenter’s assertion that the project intends to “enhance only particular special interests.” The goals and purposes of the project are outlined in detail in Section 1.2, Need and Purpose, of this Final EIR/EIS.

IP-17-2

The advanced technologies that would be applied to allow platooning of vehicles was proposed for the freight corridor, included in the design of Alternative 7, and evaluated in the RDEIR/SDEIS. Alternative 5C would not include platooning or a dedicated freight corridor, and would not include as much new roadway capacity when compared to Alternative 7. Alternative 5C would include added through lanes in some segments of I-710 as well as geometric operational improvements such as auxiliary lanes and extended acceleration and deceleration lanes that would improve roadway capacity on I-710. These improvements would eliminate congestion bottlenecks, improve speeds, and reduce the amount of idling vehicles on I-710, which in turn would be beneficial to air quality. However, many of the air quality benefits of the build alternatives would be attributable to the proposed I-710 Clean Truck Program, which would be an integral component of the build alternatives, should a build alternative be selected as the Preferred Alternative. These cleaner trucks would help reduce tailpipe emissions along I-710, primarily nitrogen oxides and diesel particulate matter from heavy-duty trucks. However, as stated in Response to Comment IP-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no improvements made to I-710.

IP-17-3

The specific type of technology that would be utilized as part of the I-710 Clean Truck Program has not yet been determined. Please refer to Section 2.3.2.1 of this Final EIR/EIS for more information regarding this program. Therefore, an analysis of battery type and associated supply chain issues would be highly speculative and far beyond the scope of this EIR/EIS. In addition, it

is important to note that since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

It is also important to note that when consulted previously, Southern California Edison has confirmed that the current and planned local electrical distribution systems and power supplies would be sufficient to accommodate the energy demands, should some type of overhead catenary, ground-level power supply, or other electrical power transmission systems be used. Should battery-powered trucks be used that would require charging facilities, it is also anticipated that current and planned local electrical distribution systems and supply would be sufficient. If the I-710 Clean Truck Program were to be implemented as a part of a separate process in the future, wherein one or more ZE/NZE technologies would be selected for implementation, coordination with Southern California Edison and other utilities would occur to ensure that the selected technology or technologies are sufficiently supported by the proper energy source and infrastructure.

IP-17-4

The commenter's summary of the "stated goals" of the project is generally accurate. Specifically, and as was stated in Section 1.2 of the RDEIR/SDEIS, the purpose of the project is to: improve air quality and public health, improve traffic safety, modernize the freeway design, accommodate projected traffic volumes, and address increased traffic volumes resulting from projected growth in population, employment, and economic activities related to goods movement.

The statement that indicates that with the build alternatives, traffic flow would increase by at least 50 percent is not accurate. Please refer to Table 4-2 in the *I-710 Corridor Project Traffic Operations Analysis Report* (Traffic Operations Analysis) (March 2017) for detailed information on average daily traffic volumes for the proposed project. Comparing Figures 5-1 to 5-2 in the Traffic Operations Analysis (2017) illustrates how traffic flows and operations in the a.m., mid-day, and p.m. peak hours would be improved on the I-710 Corridor with the build alternatives, relative to future No Build conditions. In addition, the statement that energy demand from coal and natural gas power plants would be increased is also not consistent with the conclusions of the RDEIR/SDEIS. Specifically, Section 3.15, Energy, of the Final EIR/EIS, indicates that operational direct energy consumption would decrease when compared to both 2012 existing conditions and the 2035 No Build Alternative. Indirect energy consumption would increase, but the majority of that energy would be expended for construction of the build alternatives and therefore be temporary. ZE/NZE trucks traveling in "platoons" via an automated vehicle control system would only be applicable to the freight-only corridor proposed under Alternative 7, which has not been identified as the Preferred Alternative. It is not known what the commenter means by "population throughput." Finally, modernization of the existing I-710 would unfortunately require the displacement of some adjacent residents and businesses to provide standard lane and shoulder widths, adequate sight distance, and appropriate curve radii for the build alternatives.

However, as stated in Response to Comment IP-17-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no displacements are required.

IP-17-5

As is stated in the RDEIR/SDEIS and Final EIR/EIS, and discussed in Response to Comment IP-17-3 above, the specific technology employed by the ZE/NZE trucks proposed under both build alternatives had not yet been determined at the time the RDEIR/SDEIS was circulated for public review. The improved air quality that would occur with use of the ZE/NZE vehicles within the I-710 Corridor would rightfully benefit the nearby communities and businesses that reside adjacent to the freeway. It is unclear what the commenter means by "the burdens for these companies fall almost squarely on the backs of Long Beach residents." It is acknowledged that nearly half of the I-710 Corridor Project falls within the City of Long Beach jurisdiction and, therefore, environmental impacts that occur as a result of the build alternatives would affect residents of the City. However, appropriate avoidance, minimization, and/or mitigation measures have been proposed to address these various impacts under the build alternatives.

IP-17-6

Metro and Caltrans thank the commenter for providing these suggestions. Based in part on community feedback, the No Build Alternative has been selected as the Preferred Alternative.

Alternatives 6A, 6B, and 6C, evaluated in the 2012 Draft EIR/EIS, evaluated expansion of I-710 with the addition of four separated freight-movement lanes, the design of which assumed possible future conversion (or initial construction, as feasible) of a fixed-guideway family of alternative container transport technologies, including Maglev. However, after circulation of the 2012 Draft EIR/EIS, new information regarding travel demand and truck travel patterns within the I-710 Corridor (among other things, including input from the public and affected agencies) necessitated the withdrawal of that set of alternatives. The dispersed nature of truck traffic, including the high level of transloaded traffic within the I-710 Corridor, makes fixed-guideway infrastructure generally not ideal to address travel demand within the I-710 Corridor. Also, please refer to Section 1.9 of this appendix for more information about the Alameda Corridor and how it interfaces with traffic on I-710.

Several different elements of both the project description of the build alternatives and proposed avoidance, minimization, and/or mitigation measures intend to address air quality, including particulate matter and greenhouse gases. These include the ZE/NZE trucks that would be funded by the build alternatives, filtration systems that would be installed in schools and other sensitive receptors, and solid barrier and vegetation intended to trap particulate matter, as measures to address air quality impacts as a result of the build alternatives. Restricting access to older diesel technology is not within the jurisdiction of Caltrans or Metro.

The safety improvements outlined in the project goals are intended to address traffic safety on the I-710 and adjacent roadways, rather than general crime.

During development of the I-710 Corridor Project build alternatives, an analysis was undertaken to address what was “reasonably foreseeable” in terms of accommodating Port cargo growth in the context of existing and planned infrastructure. This analysis can be found in the *I-710 Railroad Goods Movement Study* (2009). In addition, general analyses performed in support of the RDEIR/SDEIS were projected out to a horizon year of 2035 in order to adequately plan for future conditions.

Detailed information on the impacts of the proposed build alternatives was discussed in depth within the RDEIR/SDEIS and Final EIR/EIS. The commenter does not specify what specifically was unclear within the analyses. Where it was applicable, impacts were separated by city (for example, Table 3.3-12 within the RDEIR/SDEIS presented the number of relocations for each Alternative/Design Option by city).

Brad Jensen

From: CTWILLIAMS2012@YAHOO.COM
Sent: Monday, October 16, 2017 8:43 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Dr. Clyde T Williams
Organization: Citizens Coalition for A Safe Community
Phone: 3235289682
Mailing Address: 4117 Barret Road
City, State: Los Angeles
Zip: 90032-1712
Comment/Question:
Please extend current comment schedule until 11/12/2017 IP-18-1

*You received this message because Dr. Clyde T Williams submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-18-1

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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IP-19

CITY OF LOS ANGELES

PUBLIC HEARING

ON

I-710 CORRIDOR PROJECT

WEDNESDAY, OCTOBER 18, 2017

CITY OF LOS ANGELES

LOS ANGELES, CALIFORNIA

APPEARANCES

METRO:

Ernesto Chavez

Esmerelda Garcia, Facilitator

SPANISH INTERPRETERS:

Rebecca Barrantes

Ricardo Monroy

MIG:

Delia Arriag

Mark Sillings

PUBLIC SPEAKERS:

Guadalupe Arellano, Clara Solis, Andy Padilla, Pat Lara, Eddie Torres, Lourdes Caracoza, Yolanda Duarte, Maria Tecas, Jeffrey Hernandez, Lourdes Sanchez, Silvia Corona, Amalia Cotto, Mark Lopez, Juan Vazquez, Isains Hernandez, Martha S. Hernandez, Theresa Vazquez, Bertha Gonzales, Edgar Gonzalez, Stefie Alvarado, Laura Sosa, Eddie Torres, Mark Lopez, Angelica Mirelez.

LOS ANGELES, CA; WEDNESDAY, OCTOBER 18, 2017;

6:45 P.M.

-OOO-

THE COURT: Thank you. Well, good evening, everyone. My name is Ernesto Chavez. I'm with L.A. Metro. First and foremost, I want to thank you for coming out here today to learn more about this very important project, the I-710 project. Especially, I would like to thank our Board of Director Solis for inviting us tonight to give us an opportunity to listen to the community so I can provide your input. This is a very important project for Metro, for Caltrans and for all the other agencies that are supporting the project.

(Speaking in Spanish.)

MS. SOLIS: (In Spanish).

Thank you for all coming here this evening. I want to thank all of you for coming here tonight. I know that you could have many things to do, but this evening is special for us. We are delighted to be here in partnership with Metro, and I want to thank Ernesto.

(Speaking in Spanish.)

MS. SOLIS: And I also want to thank his staff, (unintelligible), and I also want to thank my staff. I want to thank Waqas, who's here. Some of you have met him. Javier, Joseph, Mary (in Spanish), and my staff please raise their hand. (In Spanish).

(Inaudible due to applause.)

MS. SOLIS: Javier's in the back. I see him. I also want to thank the advisory committee, the local advisory committee. We have Yolanda, Eddie, Tony, Carla, Martha, (unintelligible). We have other people that are here tonight.

(Speaking in Spanish.)

MS. SOLIS: Just briefly in English, if I could, I just want to say how happy I am to be here this evening, and I want to thank, first of all, Humphreys Elementary School for opening up their auditorium to us tonight.

Because of that --

(Inaudible due to applause.)

MS. SOLIS: Because it's not often that we get to have a forum this late in the evening here in East L.A., but I want to make very clear to you that one of my concerns is that we hear all voices of the people that are going to be impacted by a plan that has been in process for many, many years, and I have just been elected to represent this area in the last three years as a county board of supervisor, but I'm no stranger to East L.A.

I started representing this area back in 1994 as a state senator and as your congress woman and also representing the entire country as the cabinet member (in Spanish), serving with President Obama, and a lot of what I was involved in was helping to create jobs, trying to make sure that we always had a community at hand, but, now, in my capacity, I have to focus in on the jurisdiction, the people that I represent.

And I represent two million people. Just think about that, two million people. East L.A. is one -- a community. It's the size of maybe 125,000 people, but not all -- everyone is impacted by this project that we're going to be talking about tonight, the 710 South Freeway; right?

But we have many communities that I represent in the southeast like South Gate, Cudahy, Bell Gardens and the southern part of the Eastern part of Los

Angeles County, including the people that work in the ports, the People that drive the trucks, the people that live in our community and work in that industry but also make their livelihood by coming back and forth on the freeway, carrying the goods and services.

So how do we make sure that we represent all of those voices and we do it in a way that it is just, that is balanced. That to me is very important, and I'm glad that we're having this forum.

I don't get to attend all the meetings at night at every part of my district, but I wanted to make this very clear to you that we made a special example of extending the timeframe to allow for public comment because public comment by law has already been somewhat cut off, but because of my office and my efforts and my staff, we have worked very hard to say -- we wanted to extend that opportunity to you.

That's why we have an official legal individual who's going to be writing everything down, a kind of court reporter so to speak that will take down whatever's being said that will be part of the process. That report that will be given to Caltrans and to Metro. We will be able to have all that recorded.

That hasn't happened really previously so I have to tell you this is a first, and we want to make

sure that people understand that, but it isn't always often that we get to have things like that, but people understand this is something that we critically care about, and we do want to hear your voices, the people who live here, not people who come from outside that don't represent the area but people who are impacted that understand and hopefully give us an insight, and that's what I hope to gather from you this evening.

There's no doubt that this area has been impacted by traffic, by congestion, air pollution, by contaminants. We know that. Some of you here in the room have been helping us fight against Exide. Some of you have been helping us fight against air pollution, asthma and the fact that we also want to be in a place where we are safe and where people want to come and live here.

How do we do that? How do we work together and make that possible so that we can have a better life moving ahead? This is the first time, I think, in many, many years that we're in a different place now. The voters of Los Angeles voted last year to pass Measure M. How many of you voted for Measure M?

That was the transportation project that created funding, resources to help expand what we're going to talk about tonight and where we are going to go

in the future, but tonight we're talking about the freeway. We're talking about 710 South and what that means for the livelihood and for the environment and for people who have to live and work here.

But I want to also mention to you as my role not just as the county board of supervisor but also on the metro board. We passed because the voters said, yes, we want to invest in transportation. We want to make sure that we're not spending all our time on freeways. We want to make sure that we're reducing the pollutants, the smog, that people don't have to spend two hours in their car or driving in a truck from the port to Los Angeles and making sure that youngsters can get on bikes, ride bikes and have safety and protection for everyone and hopefully create new systems like new rail projects that will bring investment to our community, not just displacement because I know people are concerned about that but to make it fair so we understand each other and what that means.

Progress sometimes can be painful. I know that, but I also know we work together and we hear each other, and we can negotiate and talk. That's what this is about. That's why I believe we're here tonight, and I want to thank you all for coming here. I want to thank the advisory committee for being a part of this, our 710

project advisory committee. I want to thank Caltrans because Caltrans didn't have to do this.

Sometimes people don't always understand government entities like the state like Caltrans. Sometimes they are mistaken, and some of the times they have every right -- people have every right to say (in Spanish). I don't understand what's happening.

So what we're trying to do hopefully moving forward is allowing for people to understand and talk to each other not at each other but with each other, and that to me is very, very important. I have always been about making sure that we fight for environmental justice, that we fight for our communities to make sure that they're given equal treatment under the law because that's guaranteed through the constitution, but it depends on who's a part of making those decisions, and the decision has to be made by all of us, by our community, and that is very important for me and for all of us moving forward.

Tonight, I'm going to hear some good information, and if you leave today and you're still not clear on what it is that is being proposed, then you want to make sure that you let me know that, and you let us know because then I'm not doing my job adequately if you're not understanding that. There has to be an

opportunity to make sure it is broken down at a level you can fully understand and be able to express your opinions or your agreement or disagreement, but at this point it's about showing you what choices and opportunity you have. That's what this is about.

Nobody has decided. Hilda Solis hasn't decided one way or another what's going to happen. It's going to be based on collectively the people that live in the impacted area. That's what's most important in my mind, and I know we have some very expert people, professional individuals and people who care about what happens out here because I'm saying that that's why we are here.

So I want to leave you with that so you understand that the reason why we're here is not just because I said for them to come here, but there's also a commitment to work with my community, our community. Okay? So I want to make that really clear.

So please give everyone a round of applause who's come here this evening to make it possible for us, and I want to turn it now back to our M.C., and then I want to thank you.

This is an ongoing process.

(Speaking in Spanish.)

MR. CHAVEZ: Thank you very much supervisor for your support. What we're going to do now is I'm going to do an overview, a presentation that's a high level review. We have -- it's a very complex project as you can imagine. We have a lot of detailed information at the boards that you see in the -- on our wall. That's where we want to really get into the details of the project, but what I want to do here is give you a big picture of what the project is about and then allow enough time for us to do the comment, public comment, and then, of course, even more time to answer your detailed questions at the boards.

The I-710 project has some very important goals, and these are not very common goals in highway projects. Normally, in highway projects we only focus on improving the highway, but this project is special in the sense that our first goal is improve air quality and public health. It's been that way for the past ten years since the planning basis of the project, since the beginning because it was recognized through an extensive community participation process, through hearing the community in events like this that air quality was a major concern, perhaps even more than congestion itself, even though we deal with the congestion on a daily basis.

We, of course, want to improve traffic

safety. This freeway was built back in the 50's and 60's with some designs that would not be approved today, but nevertheless it's what we have. We know there's going to be growth, not just in the ports but also population and employment, that our region, Southern California, continues to grow and our traffic continues to grow as well.

I want to bring it down to this community. What are the goals of the project specifically here that we can see? What are the alternatives? Well, definitely air quality, reducing air pollutants through what we have at the clean emission truck program which I want to get to in a little more detail, improve traffic safety on the local streets and the arterial streets through another funding program that we have available that we will have available for the county, increase mobility to and from East L.A., provide air quality monitoring and other benefits through (unintelligible) program, which I'm going to explain in a little more detail, transit improvements overall and the bicycle and pedestrian facilities to provide those connections that perhaps today are either not there or they're not good enough in some cases.

The study area for the project is very big. As you can see, it basically goes from Long Beach where

the freeway starts all the way to the 60 Freeway over here, 19 miles of corridor, but it's really extended, the issue -- the congestion. There's a lot of congestion up and down the corridor. North of the 60, things change a little bit, but we -- this is our study area.

We -- as some of you know, this is not the first environmental document that we have produced, and we have put up for public comment. We had one in 2012, 2012, and we studied very similar alternatives than the ones I'm going to describe here, but we had up to 3,000 comments, believe it or not, in the 2012 environmental document.

There's a lot of very important comments that we felt we needed to address. We essentially revised or retooled the alternatives to address those comments, and that's why we have 5-C and 7 alternatives now generally to better address the traffic patterns in the corridor, to try to avoid -- reducing impacts to critical infrastructure like the L.A. River, for example, which has been such an important issue for southeast L.A., minimize property impacts to hommes, businesses and community facilities. Sorry. It's easier to talk this way.

We've updated our air quality analysis. We felt that we needed to develop these air quality --

sorry -- this zero emission truck program, and we had to update our air quality analysis to reflect that. We also incorporated a number of programmatic features. Programmatic just means that it's not a physical project. It's not a project that you build a program of funds that go towards purchasing, for example, air filtration systems for schools, and I'll explain that in a little bit more detail.

So the alternatives we have today are three. The first one is really doing nothing, which is something that we used to compare what would happen if we do something versus doing nothing and what the benefits or disbenefits (sic) are of the alternatives we do build.

We have Alternative 5C, which as you can see there, is approximately a 6.5 billion dollar alternative, that's billion with a "b." It's a modernization of the freeway. It would add capacity to the 710, and it would also modernize, I would say, the 710, to bring it up to today's standards and safety standards.

Alternative 7, it's different. We're not adding capacity to the freeway itself, but we're instead adding a, quote, four lanes, four additional lanes for trucks so that we can separate the cars from the trucks completely, and this freight corridor that we call it

would essentially be a freeway for trucks, and it would be only for clean emission trucks.

And these trucks would be the result of the zero emission truck program that I'm going to discuss in a little bit more detail in a second. That same program, although the Alternative 7 is labeled clean emissions, Alternative 5-C would also have the same program, and it could in that sense be labeled clean emissions because the program did apply to either one.

Just to give you a visual of what Alternative 5C looks like, what you see in green is the additional lane up and down the corridor, and what you see in blue are the interchanges up and down the corridor that improve -- every single interchange is being improved by the project, and those red lines that you see there at the bottom part of the map where the 405 and 710 intersect, those are truck bypass lanes that would help separate cars from the trucks as well just through that section.

And Alternative 7, as I've mentioned, we don't have green because we don't have another general purpose lane, another lane for the freeway, but we do have this red line that is essentially a parallel freeway for trucks, again, two lanes in each direction for trucks, for clean emission trucks that would take

truckers that want to go from Long Beach all the way up to either the 91 or up to the Commerce area and ability to go separate from the freeway in their own lanes, and that would help reduce, of course, the amount of accidents with trucks, just overall separate them. And, again, the alternative systems, the 6.5 billion, and this one is the ten billion dollar alternative.

Other elements of the alternatives, we have, as I've mentioned before, a zero emission or near zero emissions, clean emissions truck program. This would be a program that would be funded with agencies like AQMD, Air Quality Management District, or the California Air Resources Board.

These agencies provide funding for demonstrations but also turnover of truck fleets so we could provide incentives, money to help incentivize somebody to buy a cleaner truck instead of a regular diesel truck, and that would be made available with either one of these alternatives.

We also have a congestion relief program, and this is where metro could provide fundings with the county and to cities to do improvements at the local level, at the local streets, improving intersections, improving -- yeah, the interactions of the freeway and the intersections close to the freeway that would be

affected by traffic of course.

Transit improvements is something that Metro is looking at overall, restructuring or reconfiguring the entire metro system. We have some very good suggestions for our transit planning group on how to improve transit through all these study areas that we would be making that recommendation as part of this project.

We have bicycle and pedestrian facilities in connection with new ones, and I'll show you a picture of that that were actually introduced through Supervisor Solis's motion at our board, and I'll talk about that in a second.

We also have -- I want to make sure this is clear. There are some peak periods, what we call peak period parking restrictions. That's basically when you see -- on a major road you see a sign that says you can't park here between the hours of 6:00 and 9:00 and between the hours of 4:00 and 7:00 during the peak hour times primarily to provide another lane for people to travel and get more capacity to the road.

That's entirely a local decision so neither Metro nor Caltrans can really dictate that to the county in this case. So it's a recommendation that's in the -- evaluated in the -- for the project, but it's only that.

We have no power to implement that. The county's going to eventually have to decide, yes, we will do this; no, we will not do this, and there's no way anybody can really impose that, other than the county.

But it was introduced as a way to improve traffic flow specifically on Atlantic Boulevard, which of course sees a lot of traffic.

Community health and benefit program, this program would be, again, something that would be made available to implement projects and outreach activities to improve the air quality and public health. So these are grants to local jurisdictions.

School districts, for example, day care centers, community health providers. They can be used to purchase things, such as, filtration (unintelligible), filters, community health testing, partner upgrades for energy efficient and renewable energy projects.

These are just some examples, and we still have to flesh this out. It's not fully fleshed out. Between now and when we do the final E.I.R., we will have a lot more to -- for lack of a better way to say it, leave it alone on this one, but (unintelligible) Metro and Caltrans has made to include as part of the project.

We have both Alternatives 5-C and 7 actually provide for better traffic flow on the freeway

in the vicinity of East L.A. between the 60 Freeway and the 5 Freeway on the 710. That's better traffic flow compared to if we did nothing; right?

If you compare 5C and 7 to Alternative 1, which is doing nothing, we would have a lot better traffic flow, however, since we still see a lot of congestion even into the future in the area, we explored what we call a design option that would further reduce congestion in this segment, a little more than what we have with 5C and 7.

So these are what we call "design options." In our base, 5-C and 7, we can improve traffic flow without any property relocations being needed, however, for the design option to do that additional improvement, there are some relocations that would be required now.

Now, I just want to be very, very clear. Either of the base Alternatives 5C or 7 could move forward without selecting those design options. Furthermore, we are here today for input and if not -- input from the community, and if the design options are not supported, then there's no way that we would select that option if there's no local support for it. Absolutely no way, especially because we have a base alternative that does not have property impacts, and if we could select that and have to impacts. We would not

go with the design option that has impacts if there's no support for it. I just want to make that clear. This is a table showing the number of relocations that would be required for the design options.

3A and 3B relate to whether it's for Alternative 5C and Alternative 7. So you see 19 relocations on the residential side and 6 on the business side, and you see there's zero relocations required for our base alternatives, which, again, we would be compelled to select if there was no support for the design options from the local side.

Supervisor Solis back in 2015 introduced a motion at our metro board that actually included or added a lot of other elements, very important elements to the project.

For example, we added additional crossing over the freeway and in some cases over the river to the project. We also -- this zero emission -- full zero emission freight corridor was evaluated and included as part of that motion. It was a very important motion that allowed us to move forward to have the project's alternatives that we have right now.

This is perhaps the closest example to what that motion did in East L.A. because we added these alternatives -- or not alternatives. Sorry. This

feature of the project, which would be a new separated crossing for bikes and peds that would run parallel to the existing Humphreys Avenue bridge over the 710.

So this would allow people to cross the freeway in a safer manner because, now, they have a separate facility to do that and get from one side to another of the freeway. We have similar proposals up and down the corridor. This one just happens to be close to home here.

Just to wrap up my presentation, I want to give us a sense of where we are in the process and where we're going with this.

We started, believe it or not, back in 2008 with an E.I.R., E.I.S. for the project. We -- as I've mentioned before, we circulated a document back in 2012. We had a lot of comments from the community. We went back, and we revised the alternatives to in our minds improve those alternatives, minimize impacts, which is what we have today is a less impact for Alternatives 5C and 7.

We are going to close the comment period, the supervisor said, in a few days, and then we are going to come back to the communities with our recommendations on our preferred alternative.

It's a recommendation that we're going to

bring to all the communities. I failed to mention at the beginning we have very set up committees, advisory committees for the project. We have a graphic of that in one of the boards up there that we can explain, but we're going to get that recommendation, and we're going to hear the input from the communities on which alternative is preferrable, and then we're going to go to the M.T.A. board with that recommendation sometime probably in February or March of next year, 2018, is what we're hoping to do, and a final document would be prepared towards the end of next year.

Now, it may not be a surprise to you, but Metro -- nor Metro nor Caltrans has six billion or ten billion dollars to build the project. We just do not have that kind of money, even with the passage of Metro R, Measure M.

What we have for the project over the 30 year span of those measures, if you consider local, state and federal, funding is probably around $1 billion, $1.2 billion, which is obviously not enough to do the whole project.

So what we're going to have to do is figure out if it can be staged. If there are stages for the project, we can start doing so. We're going to start working on that. Once -- first, we need to figure out

what alternative to select just based on the purpose of the project, the funding, et cetera, and then, well, now that we've selected an alternative, what part can we build with the money we have?

Just to put it in context, I just want to give you a sense of, if we finish the E.I.R. as we expect by next year, we wouldn't be able to really start building anything anywhere in the corridor probably until 2023. That's just because, after this phase of the environmental process, we still have to go through final design, which takes a long time. It's a big complex project. So the earliest we could start really putting any kind of, as they say, shovels to the ground is 2023.

But, again, it's definitely not going to be the entire project because we don't have that funding. We simply just do not have it at this point in time. So we're going to have figure out staging, and we don't know at this point what that's going to be, but once we start coming up with ideas, we'll be back to the community to share those ideas with everyone.

(A pause in the proceedings.)

MR. CHAVEZ: This is just to reiterate the -- when and where you need to submit the comments. We have a way

to submit comments here today. We have a computer, also verbally through the testimony and, of course, online, and for more information, here are the websites that are available, and we will be here until we can -- until we're told to leave. We're here to answer your questions, of course, and, again, I highly emphasize we want to take your detailed questions at the boards because that will allow us the ability to show -- kind of point to the boards, and it's just much easier for us to answer that way.

And with that, I'm going to turn it over to Esmerelda.

(A pause in the proceedings.)

MS. GARCIA: If we can have the lights back up.

Thank you, Ernesto. So on your agenda, we have from 7:30 to 8:00 p.m. for comments and questions. I just want to review how we're going to manage that part of the agenda.

So we do have speaker cards. They were up front, and we can get you some more. They're at the front table.

Mark Sillings, if I can have you raise your hand. We'll be collecting them and have additional -- if you want to make a comment or ask questions, I have a

stack here all ready to go. I just want to go over a few ground rules and how we're going to be doing this.

We understand that there's quite a few people who would like to come to the mic and make comments. We have a court reporter who will be reporting your comments. We also have Andy Pendoley who will be jotting down questions and responses if you have any of those as well.

We want to be respectful of your time, and we want to make sure we get to all of the questions and comments so we want you to keep your comments at three minutes or less.

Rebecca Barrantes, please raise your hand. She will be our timekeeper so, if you're up here speaking, she will let you know when your few minutes are up. She'll be timing you; and, again, that's just to make sure we get to everyone. I know that we have quite a few people who want make a comment on the mic.

We also have members of the project team who are available to address any questions that might come up during the comment period. So they -- we will go to them to respond to those questions as they come up, and then at the end of the evening, the court reporter will submit all of the comments that are made at the mic to Caltrans as formal public comment.

As Ernesto stated, I want to just go back. We -- the end of the comment period is on October 23 so you have until then to make a comment just briefly. We want to go over how you can do that tonight.

If you don't want to speak in front of the group, you don't have to, but if you have a comment, you can go to the room just behind -- to my right, and there are copies of the environmental documents.

There are also computers where you can sit there and submit your question online, or you can write a comment in written form. We have sheets in the back. There's a box in that room where you need to drop off your comments and put it in that box. Caltrans will select the comments in the box tonight as part of the formal comments as well.

At the end of the comment period, we will go back to the open house so very similar to what you experienced as you walked in during the registration period. If you don't want to provide a written comment, the court reporter can also type your comments down. So if you want to give him your comments, he can also take that during the open house when we close the session.

So -- let's see. So with that, let's see. I think those are all the ground rules again. Just one last point. We want to get through everyone so -- again,

to be respectful of your time, but we also need to be out of the building so they can set up for school the next day. As you know, this is an elementary school so we'll be ending at 8:30, but we'll try to get through all the comments so we'll collect them here.

So with that, we will also -- there are also other members of an elected official's office so we have the field deputy for Congress woman Lucille Roybal-Allard, Cindy Munoz.

So with that, what I will do is call three people at a time. We don't necessarily need you to stand up the entire time. While you're waiting, just be ready to come to the podium to the mic, and we'll take your comments.

Again, Mark Sillings has blank speaker cards. If you want to come up to speak, just make sure you give that to him, and then Andy and Delia will be recording comments on the wall graphic.

So with that, our first set of speakers are Guadalupe Arellano, Clara Solis and Andy Padilla.

So Guadalupe Arellano.

MS. ARELLANO: I predicted I will be first; right? Here I am. My apologies.

So I'm just unclear. I think we're always going to be in a funnel effect. So given that the

IP-19-1

freeway north of us has halted and that's not going to go -- it doesn't matter how much we extend it right around this area because there will always be a funnel. Because it shuts down so congestion and air quality and the effect of it is always going to be an issue for people in this community. So that's 125,000 that Supervisor Solis referenced. IP-19-1

So the other issues that we have not addressed are the air quality that have taken place over time. So what are the trends that are happening?

We don't look at social, emotional issues that our students are affected by. We don't look at how this has been an issue over time. You look at our job rate and the men in our community and how they've been affected by all kinds of issues. IP-19-2

That sight, once you start digging up, it will overturn the dirt so we don't know how the air quality will affect us. We have private consultants that are digging, and Metro and Caltrans their result, what is the quality control for the research that's being done now? I think there's a lot of issues that would start to affect. IP-19-3

Current educational research shows that playtime is more critical right now. We don't have parks. We don't have trees. That has been cut down in IP-19-4

the 45 years that I've been in this community.

So how is this going to be (unintelligible) for us? They also won't be here in 23 years. My mom, my dogs have died of cancer and tumors. How do my dogs get cancer? I don't get it. So I don't think everybody is going to be able to live off filter systems.

A filter system is so limited. How do you -- I think the filter issue and the health quality options that are being provided show that there is ramifications to our health. You can't say we're going to offer project and fundings to support this. I mean, that's just telling us.

When he's talking about having air quality control for emissions and trucks, people don't all buy brand new trucks. They cannot afford it. Actually, the population is dropping. So if the population is dropping, how do we have so much more?

We have the 110 and the 605. We don't have any freeway that connects those three but the 5. We are all affected by the 5 Freeway. Regardless, unfortunately, I only care about this section because I live here. I will reside here. My mom's currently there. There are so many more issues that we have to tackle.

I'm talking about limited parking. That's

IP-19-4

IP-19-5

IP-19-6

IP-19-7

going to affect residents. You're going to create this in phases? So what if the funding doesn't come and we have another voter issue? How are you going to address that? So now we have a standstill of unfinished projects? IP-19-7

You know how long it took for the metro to be built, and in the meantime, we were all ticketed. We all had no parking. We were all covered with dust and silt. IP-19-8

I mean --

(Inaudible due to applause.)

MS. ARELLANO: You should give a one minute warning prior to the end.

Thank you.

(A pause in the proceedings.)

MS. GARCIA: Clara Solis, Andy Padilla followed by Pat Lara.

(A pause in the proceedings.)

MS. SILVERMAN: I am Clara Solis. I am a

(unintelligible) of Humphreys Elementary School. I saw Juan and Erica. Erica is a teacher here.

I have served on a 710 advisory committee, and our 2012 comments and through all our time, we've always said we don't want them to take any more homes or any more businesses in East Los Angeles.

East Los Angeles has four freeways running through it. We believe that this community has given enough. So we are opposed to -- I am opposed to Option 3, 3A and 3B. We've been organizing on Sydney, and I've talked to all the 24 residences. It's not 19. I've told them a number of times. There's ten apartments at 626 (unintelligible). That means there are 24 residences times 4.09. That's almost a hundred people that are going to be displaced by this project. IP-19-9

Every one of the residents we talked to represents -- have said they don't want to move. They don't want their homes taken. The people who live across the street and adjacent, they're concerned that the freeway is going to come closer.

They say right now they are happy. We took a vote at our Sydney neighborhood meeting. We asked everybody is anybody in favor of them taking their homes on Sydney? They said, no, we don't want our homes taken, and we should fight it.

The other thing that concerned me is the parking on the Atlantic. We talked to businesses in the past projects when they brought the same thing up. They wanted to take the park on Atlantic, and people said no. It's going to effect the residents who live behind the school. There's a kids' charter school. They're going to have trouble parking. The businesses won't get business, and they'll go down and (unintelligible) on Third Street. IP-19-10

(A pause in the proceedings.)

MS. SOLIS: So we are very concerned about this project and that there are bunch of errors in it. I mean, like the 19 houses, saying there's 19 residences, well, there's really 24. Like they did the study on moving people into other houses, and they put that East L.A. was the city of Los Angeles, and then the relocation houses were -- the majority of them were in two zip codes right next to Martin Luther King Hospital. IP-19-11

That isn't East L.A. You should look also at the neighborhoods along the corridor they looked at in -- within that neighborhood. Why is East L.A. always treated different than everywhere else? IP-19-12

Thank you.

(Inaudible due to applause.)

MS. GARCIA: (Unintelligible).

MR. PADILLA: Thank you very much. Thank you very much for inviting us to be here tonight. I personally am not happy at all with either one of those (unintelligible) that they have. I'm for zero actions on our street. IP-19-13

(Inaudible due to applause.)

MR. PADILLA: I live across the way from (unintelligible) where the houses are going to be knocked down. I've been living here for 55 years. My twin daughter and myself went to school here. My grandchildren went to school here. Now, my great grandchild is going to school here, and four them had asthma from the fumes coming out of the freeway. Okay?

Now, you're going to open up the freeway even more. Kids cannot play in the yard without all the fumes coming at them. Okay? I have said family members -- young lady had a dog that had cancer. I had four dogs I had to put down, and I didn't know why. Okay? Four dogs that I had to put down. I had to put them to sleep because it got so bad that even the doctors

couldn't understand.

So we (unintelligible). Another question I have is why is it that when we were trying to build a freeway going north, who has the power to stop that? Who was the one that actually fought for the people in the neighborhood and they didn't accomplish going that way?

But the poor community, minority community, let's go get them. They'll be given an extra few bucks for the house. They should be happy that they're getting (unintelligible). No. We're not happy. We're not happy one bit. IP-19-14

All my neighbors, not one neighbor is happy about having their home knocked down. They worked too hard, worked too long and too many hours to own something, and, now, you're going to come in, and you're going to give us all of this? That does nothing for us. It takes away business, and it takes away the fire department. It takes away all kinds of businesses that we depend on. Okay? Thank you. IP-19-15

I got one minute to say what I have to say. I got a whole lot. I'm going to say it, but I'm telling you right now, we are not going to support any kind of knocking down. (Unintelligible).

The last question that I have before they remove me is why is it that it's the minority community

that gets taken advantage of? Why is that I wonder? Try that at another neighborhood and see what happens. They're not going to put up with that, but we're --

(Inaudible due to applause.)

MR. PADILLA: And then we are moved from there without no say so. We are going to march. We are (unintelligible). I marched with Cesar Chavez. Okay? I'm proud of it because we accomplished a lot. Okay? This is not going to be Dodger Stadium all over again. Okay? This is not going to be Dodger Stadium again. Thank you for your time. Thank you for your time.

(A pause in the proceedings.)

MS. GARCIA: Pat Lara followed by Eddie Torres and Lourdes Caracoza.

MS. LARA: Hi. My name is Pat Lara, and I'm also against the project because of traffic congestion. I live on Eastern Avenue. If the project is approved, they're going to (unintelligible). Traffic is horrendous right now. It's horrible, traffic and noise and also pollution. So that's my concern. And, again, I'm against the project. IP-19-16

Thank you.

MS. GARCIA: Eddie Torres, Lourdes Caracoza and Yolanda Duarte.

(A pause in the proceedings.)

MS. GARCIA: Eddie Torres, Lourdes Caracoza and Yolanda Duarte.

MR. TORRES: I apologize to you because (unintelligible) to me, speaking from my heart, pushing the issue. It may be embarrassing to Caltrans. (Unintelligible). This is what I've got to say right now.

My name is Eddie Torres. I'm with the East L.A. Chamber of Commerce. I sit on the 710 local advisory committee.

Many of the members went on their own, purchased fliers, made fliers, passed them out (unintelligible). Myself represented the East L.A. Chamber of Commerce (unintelligible).

So I know my comments (unintelligible). I'm pleading. I'm begging you -- I live in (unintelligible). (Unintelligible). I'm constantly (unintelligible). I know people coughing up. (Unintelligible).

So don't -- don't speak up today for me, not for you. Speak up for your kids. If you don't want

to go up, a comment card -- speak up like I'm speaking, fill up a card that you can leave here, but please, if you need one, I'll bring one up to you. Come out to the back. We'll help you fill them out, but I'm asking you please make a comment, even if it's something that someone else said (unintelligible).

If you want to say because it's going to create more pollution, create more traffic. It's going take businesses away from us. If it's going to take parking away from us, anything you want to say, it's going to be recorded.

So don't worry about that because I hear a lot of times people say, oh, they already said that. No. Repeat it. The more you repeat it, the more you drive it home.

I'm going to repeat things, but I can't repeat (unintelligible). My name is Eddie Torres and (unintelligible).

MS. CARACOZA: Hi. I'm Lourdes Caracoza. I was born and raised here in East Los Angeles. Because I've been living here all my life, I know that, when there's these large projects, by the time they get to our part of town, the money runs out.

So when you talk about -- or they presented about stages, that just sent my alert off the charts

IP-19-17

because that just told me that by the time you get to my neighborhood, our neighborhood, there's not going to be funding, and then we're going to be back here being asked to compromise and to accept another version of this. IP-19-17

And that's scary because we all have family members that have been affected by the air pollution, family members that are no longer here, and we still have family members that are here and that are still being affected by the pollution.

And we're not seeing the benefits of what's being done to help with that. We're still dealing with Exide. That's going to be a ten year process if we're lucky, and I agree that's going to create other pollutants that aren't being studied in this study, and they're not being acknowledged as possibilities as well.

So it looks pretty -- and ideally it would be very nice, but because I've lived here all my life, we have to question the process, the project and the timeline, and they're already telling us there's no money.

I don't understand that. We're working on a project that's already telling us that there's not enough money, yet we're being told that there's going to be money to offset our businesses, our health conditions, our air quality. IP-19-18

There's so many conflictions (sic) within this process and this project that needs to be cleared up before it's brought into our neighborhood. IP-19-18

Thank you.

MS. GARCIA: Yolanda Duarte, Maria Tecas and Jeffrey Hernandez.

MS. DUARTE: Good evening. I too sit on the committee. I think I'm the baby on the committee. I'm the one that's been on the least amount of time, and yet I'm the oldest for sure and so my comments run in three categories: Good, bad and ugly.

The good is thank you very much for the opportunity to bring all of us here. Kudos for all of you who I know want to be watching the Dodgers, and thank you for coming, and so the good is thank you for the supervisor. Thank you to Metro. Thank you to Caltrans. Thank you to the supervisor for making this opportunity possible; but, second of all, so you know how the committee works, she brought all the experts to us so that we could make informed decisions. And we said we didn't want to do that until we heard from all of you. So that's the good.

Here's the bad.

In 2012, we told them no houses should be taken, in 2012. According to their words, they've IP-19-19

retooled the options to address the 2012 comments.

So, now, they're proposing to displace 20 of our residences and six businesses. So that to me is just horrendous. The worst areas on the graphs when you see them, look for the red and what they're trying to mitigate for risk, for safety, for health at both ends, our end and Long Beach, and both will not be completely cures with the option. IP-19-19

So I am totally against the design option. I think there are other options that are available. That's what they told us in 2012. So what's changed? You know, in 2012, they told us, they promised us, and I'm telling you now a lot of us were surprised to see this land with they're proposing to displace so many families.

The other issue that I have that hasn't been addressed, not in the report or within our discussions is the mitigation to our communities. I know IP-19-20 that there have been talks about Hollywood (unintelligible) Long Beach residences and businesses for the inconvenience, and our area always gets short shrifted every single time.

So when they run out of money or when it's a community that's easy to roll over, whatever our M.O. is, but whatever it is, we need to be thinking about how

we can be compensated and to let us know how they know it's going to be more safe.

How do they know it's going to be more safe when they haven't done safety -- when they're using the national averages for accidents? How do we -- what do we care about what the national average is? IP-19-21

What is it now? What is it now, and how can they do better, and can they assure us it will be better? So thank you very much. Please do -- this is rare that I ever support Eddie Torres publicly.

So just so you know, please, please don't be shy. Fill out the comment cards, and let us know what it is, even if it's just a question, but we need to know so that the committee, when we submit our report, we can actually say what you feel as well.

Thank you very much.

MS. GARCIA: Maria Tecas, Joe Hernandez, followed by Jeffrey Hernandez.

(A pause in the proceedings.)

MS. TECAS: Good afternoon. My name is Maria Tecas. I am (unintelligible). I live close by, and I'm a mother of three children.

What I want say is that, for example, right

here in (unintelligible) Boulevard, we just recently started acquiring the purchasing -- of putting more green areas. They put plants. They put trees, and we have more green, but what I am concerned about is that, if there is going to be a place where children can play. I'm concerned about the area's contamination and our community and our homes. IP-19-22

And, also, what I am concerned about is those homes that are there, what's going to happen to them? Are they going to -- the people that are there, are they going to have to move out? How do you say that? Are they going to move? How do you say that? Displacement. IP-19-23

Also, what I like to say is there's going to be a lot of displacement here in East L.A. For example, we are the voice. We are the voice here of our children. We are the voice of our children. Our children can't be present, but I am here.

I am here, and I'm going to be here on behalf of my children. For example, here in East L.A., what we also need, we also need more parks. We need areas that are green. That's what we need. IP-19-24

There is already a lot of contamination. There is a lot of pollution going on. The project -- the project is good. I do like that, but I'm also concerned IP-19-25

about the children. I am concerned about the children. IP-19-25

Again, we are the voice. We are the voice of our children, of our children. For example, over here on this area, there is a park, and we need more areas, more green areas.

Also, what I would like to see with this project -- this project seems to be good, but also what I would like to see is the funds. With these funds, are -- we need these funds, for example, the community funds to be invested in libraries, art and employment, places for training, training for females. IP-19-26

We also need the funds to avoid gangs. That's what we really should invest in and have the money, and also -- how do you say it? The expo? Yes, the expo. We also have to be involved. IP-19-27

We as a community, we have to be involved, and I really want to thank all of you that are here present and also the people that were involved with the community that were handing out fliers.

All of you guys went door to door, give out fliers, and I really do appreciate that, and I want to tell you, all of you that are here present, we all have to be involved. We all have to be volunteers.

I am a volunteer, and I participate a lot. My son -- my son is disabled, and he can't be here

present because he's small, but you know what? I am his voice. I speak on his behalf.

And, again, I want to thank all of you that are here present because you guys came, and really we all have to speak up.

Thank you very much.

MS. GARCIA: So we have a few -- quite a few speakers left.

Joe Hernandez, Jeffrey Hernandez followed by Lourdes Sanchez. Joe Hernandez. Joe Hernandez.

(No responses.)

MS. GARCIA: Jeffrey Hernandez. Is Jeffrey coming?

MR. HERNANDEZ: Yeah.

THE COURT: Okay. Perfect.

MR. HERNANDEZ: My name is Jeffrey Hernandez. My brother and I live adjacent on Humphreys. I live there 20 years myself.

I'm -- I am appreciative that we're getting the (unintelligible) of this meeting tonight. I appreciate the leadership of the supervisor and (unintelligible) others and everything (unintelligible) that happened.

However, it's frustrating that it was not

included to have it on East L.A. (unintelligible), and there's a pattern of that. IP-19-28

I'm opposed to the design option of 3A and 3B because they involve taking away homes; and, yes, we have to be considerate of the greater needs of the regional economy, but quite honestly, I think East L.A. has had its fair share of the burden. IP-19-29

It may be the case that some are viewing (unintelligible) additional work on the 710 has been posed as something wonderful, that is going to be positive. There are (unintelligible).

That (unintelligible) supporting this positive thing. Step outside. Wait for a moment while the sound around you declines, and you get to hear the rumble that we live with day in and day out.

Those freeways, there's nothing wrong with --

(Inaudible due to applause.)

MR. HERNANDEZ: And this is really about environmental justice. So I'm really (unintelligible) going to be put into consideration, that the will of the people who have to live with this is (unintelligible). That they impose these design options, and they will not be

(unintelligible).

There's no -- people shouldn't have to go (unintelligible) over and over again. What these freeways (unintelligible). It was a community just like this community, working class people, and, now, we have a community that's even more established.

45 years, 50 years, there's not a neighborhood that just should be further stepped on. So I am happy to see people speak out and filling out those comment cards. Thank you.

MS. GARCIA: Lourdes Sanchez followed by Silvia Corona and Amalia Cotto.

MS. SANCHEZ: Good evening. My name is Lourdes Sanchez, and I want to agree with a lot of the comments and suggestions that the previous speakers have made.

East L.A. is a very strong community. As you can see, we're all here tonight, and I think it's great that everyone came out and the supervisor and the Metro and Caltrans all came out and gave the community a second opportunity to extend the public comment because I think it's important. I never got to speak the first time, but this is great that we're given a second opportunity.

I just want to let you know the businesses on Atlantic Boulevard are being greatly affected if these

IP-19-30

changes are made. The air quality, traffic, and there's many schools. IP-19-30

If you increase the amount of cars coming in the morning, all that stays here throughout the day and in the evening when everybody comes home. This is a working community, and I think with the amount of traffic off the freeway, the amount of traffic in the residential street, double parked just to come here -- how many of you came walking? IP-19-31

(There was a show of hands.)

MS. SANCHEZ: That live nearby; right? Most of us, all came from around the area. Just to find parking, we had to go around a couple of times.

The amount of parking in the area is very, very limited. Now, the increase of cars going up and down Atlantic, and with the new hours restriction, it's going to worsen the air quality not only for the schools but the residents and the businesses.

If you notice, if you go down Atlantic Boulevard -- I don't know. That just came to me. If you notice a lot of the buildings have soot on them. We don't clean it out. It stays. The traffic every single day, traffic from the freeway is going to stay there. IP-19-32

The businesses -- most of the businesses -- the business we have on Atlantic Boulevard, it's a working class place. People work. This is a working community. People come, and the only time that they can come and really come and visit our business is during the hours of 4:00 to 6:00 because that's the time they come home, and they need -- that's the only time they can make it. They're not going to take time off from work to come to make -- to do business, and those hours will not work. IP-19-33

Also, the danger across the street from the schools in the morning and the air quality, it's all just going to sit. That's all what it's doing is sitting. My time is almost up, but I just want to say, you know, it's going to be very devastating and not only for the businesses. They're going to (unintelligible). Why? Because there is no business, and I just want to say one more thing. IP-19-34

It's going to be devastating not only for the businesses with the community as well so we do need some -- I'm glad that everyone came out and speak, and continue to have your voice heard.

Thank you.

MS. GARCIA: Silvia Corona, Amalia Cotto, followed by Mark Lopez.

MS. CORONA: Good afternoon to everyone. My name is

Silvia Corona. I've been here in the community for 42 years, and let me tell you guys.

My mom passed away seven years ago. She had a cancer. My granddaughter, she (unintelligible). She has a tumor in her brain, and my husband have Alzheimer. That's all (unintelligible). All (unintelligible) doing here.

I want to say what's going on with the representors (sic), the people voting? I know Hilda Solis has given (unintelligible) for everyone, but I want to see the people which voted for them.

Do they really represent this community? I don't think so. I want to see them really, really support East Los Angeles. All I want to happen here is (unintelligible) in East Los Angeles.

Let me tell you (unintelligible) Metro. They (unintelligible). I remember when they make the -- pick up the people in Soto (unintelligible). They say we supposed to be (unintelligible), and you know what (unintelligible). They make a point.

They dispose the information, and they're doing other things. It's not really, really right (unintelligible). Because we're so tired about this, and (unintelligible).

They want to keep the super. They want to

keep out all the people from there. They want (unintelligible) the people, the names of everyone, and we want to the Los Angeles School District because we go home to home, and we need to talk to that community and stand up. Okay. But that's enough. Everything that's (unintelligible) do, they want to do in Los Angeles. That's too much.

I want to work with the community organizations or whatever, but that's not right, not right, and I have 42 years living in this community, but that's enough. I'm living close to Indiana, and I don't know what's going to happen. That's a lot of people there, run through there. My mom is saying you need to make (unintelligible).

MS. GARCIA: Amalia Cotto followed by Mark Lopez.

MS. CORONA: Good night to all of you. Thank you for all of the representatives that are here. I was here -- I come -- my name is Amalia Cotto, and I come from the city of Commerce.

We have the freeways, the 710, and we have the 5, and we have the train, and we have everything right there. We see the trucks every single day, day and night.

My -- a year ago, they removed the tumor from my brain. I have two children with disabilities.

This school probably has a lot of kids with disabilities. I have -- there's a park in my neighborhood that's next to the freeway.

I have asked some of them are you going to put a wall, put another entrance from Washington to the 710? Nobody knows that. The park is on the bottom. The kids are playing right there. I have family members with disabilities. We have health problems like I told you. IP-19-35

The doctor told me that the tumor was inside of me for 30 years. We have right now problems. Stand up. I was here in 2008, and I can't believe they're telling us right now we don't have no money for the project? It's been seven years. What have they done? IP-19-36

And the other thing is is this good for our community? Is this going to make us feel good in five years? Ten years? Think about it. We have to think about what's best for our family, our kids.

The lady was right. We have to speak up for the kids who can't speak for themselves. They know the truth. They've done this study. They went to our neighborhoods. They study.

(Inaudible due to applause.)

MS. COTTO: People come first. We have to stand up because (unintelligible) trucks coming through. They're doing all this for the trucks. They've not doing it for us. They don't want to do a favor for us. So stand up together and tell them what you feel. IP-19-37

MS. GARCIA: We have quite a few speakers here. I'll collect the others that Mark has here and, actually, following Mark Lopez, Eddie -- I was going to ask Eddie -- you haven't spoken yet? Just so we can get through everyone, and we'll bring Eddie back at the end.

So then we'll have Mark Lopez followed by Juan Vazquez and Isains Hernandez.

(A pause in the proceedings.)

MR. LOPEZ: Hi. My name is Mark Lopez. I'm a resident of East L.A. My family first came to East L.A. in the 50's, and like probably many of your families here, my family's been displaced by freeways more than once in East L.A.

I'm also with East Yard Communities for Environmental Justice, and I've been involved with this project for nine years now.

You know, we heard the supervisor say you all decide. Who here right now gets to vote on this

project, raise your hand.

(No responses.)

MR. LOPEZ: Nobody; right? We don't get to decide. The community don't get to decide. This chart over here that has all the committees, the committees don't decide. The committee learned that they don't decide when they made a decision that Caltrans didn't like. Then they were told that they were recommending (unintelligible).

Multiple times we went (unintelligible) East L.A., South L.A., Long Beach (unintelligible) come up with a different plan that doesn't take our homes and doesn't take our jobs, that has mandatory zero emissions. IP-19-38

To us, that committee is made up of council members from all the cities voted multiple times to have alternative studies. Even Ernesto actually (unintelligible). You need to stop voting because Caltrans isn't going to do it. We are not going to take another vote; right?

So if they don't make a decision, and then Metro, they pass a motion that they explained here. What they didn't explain is that Caltrans isn't following the motion. There's multiple elements that are not following the motion. IP-19-39

So Metro doesn't make the decisions. Who makes the decisions? Homeboy Ron Kozinski right there. (Unintelligible). We want to talk to (unintelligible) and talk to the governor's office, and they said the local Caltrans, that's who you need to talk to, and the homeboy's not here tonight. IP-19-40

I also want to make sure to point out because nobody's brought this up yet. If your home is taken and you're undocumented, you are not receiving support to move. The federal government is not going to support you moving. You're out on the street. I want to make sure we know that; right? Under Trump right now, it's going not going to happen. We need to make sure that's clear. IP-19-41

I heard very different alternatives. There are No. 5C and 7. They're not different. 5-C, that's coming out of the last plan. Alternative 7, I only looked at my notes from 2012, and it looked like 6A and 6B. That's not new. It's given a new name, given a new number. It's the same old plans. IP-19-42

These options don't make sense. Everywhere (unintelligible). Elsewhere else they say we're not taking any more homes except for (unintelligible). I'm going to come back and finish my comments because my time is up. I don't want to take no one else's. IP-19-43

MS. GARCIA: Juan Vazquez followed by Isains Hernandez followed by Martha Hernandez.

MR. VAZQUEZ: Good evening. My name is Juan Vazquez. I'm the leader of the neighborhood watch on Sydney. I have meetings every month where we had informed our experience of what's happening on the houses being taken.

First of all, I'd like to say on Hilda Solis, if she was really interested in this, she would be here. If she really wanted to hear what the people were thinking, she would be here, not be told by one of her personnel that works for her. Okay?

Two, you know how much -- how many kids would be affected by this? As a school teacher myself, I just think someone said the future, you know, if you're seeing this right now, what are we going to be looking at in the future? IP-19-44

Now, the funds, they're not there. They keep telling us that, well, hopefully you'll vote for something. Hopefully someone would come up with a solution. Guess what? They're not there. Go to a meeting and somebody said, hey, usually when they come to East L.A. at that time, you know, the wallet is empty, and we always kind of get like short changed. IP-19-45

I've only been here five years. My wife is

not here to make it. As long as we're here, we're going to do the best that we can for our neighborhood, do the best we can for the kids that we work with, and there's no other option.

Do not take people's homes. You know, it's already very difficult where they're at. There is no homes to rent. Some people cannot afford to move. It's not as easy as just saying I'm going to get up, and I'm going to move. Okay?

So whatever it is, whatever you guys need to talk to, I don't think anyone is happy with the options of homes being taken. Thank you. IP-19-46

MS. GARCIA: Isains Hernandez, Julio Velasco followed by Martha Hernandez.

MR. HERNANDEZ: My name is Isains Hernandez, and I grew up right here on 1st and Humphreys. We moved in here in 1951, '52, right around there, and like most parents growing up at that time, their sons would always come to work and were not allowed to just hang out. So me and my brother got a job with my dad being -- that job throwing a newspaper, and we would throw the Examiner right on 3rd right across from King Taco and (unintelligible).

1962, 1961, right around there, I started seeing a lot of my neighborhood friends move out. Why were they moving? Because they were building the 710

Freeway, and they were building the 60 Freeway, and they always took our neighborhood apart.

My parents didn't get notified. Nobody (unintelligible) anything. They just came and took what they wanted and built that freeway. We lived with dust in our house for 12 years. You don't think people got sick from that? 12 years we lived with dust.

If you drive from Atlantic to right here to Humphreys, how many red lights do you see, red light tickets do you see here? We're being punished because they have a metro line right there, and who has $400 to pay for a ticket in this neighborhood? I don't. So I never drive that street anymore.

I go around First Street, and when you have (unintelligible) on Whittier Boulevard right there. Then I got a ticket there at four o'clock in the morning. A month later, I get ticket for $400. A year later, (unintelligible). Sorry. You're (unintelligible).

So not only were we disrespected, but if you (unintelligible) baseball season, you see kids there at that park. There must be about 20 teams practicing at the same time, and you can't fit any more people at that park. That's what we need here.

When I was growing up, at least we had a park. Now, there's nothing here. There's really

nothing. Actually, my mom, she's lived on that street, and hopefully they start building (unintelligible) shit that won't make her more sick. She's got Alzheimer's now so thank you.

(A pause in the proceedings.)

MS. GARCIA: (Unintelligible), Martha Hernandez and Theresa Vazquez.

Julio?

Okay. Martha.

MS. HERNANDEZ: My name is Martha Hernandez. I'm a resident of (unintelligible), and I'm the co-chair of the 710 (unintelligible). I'm working for you for 30 years for air quality, and I want to tell you a long story in short terms.

The (unintelligible) we had is (unintelligible). The reason the 710 never going to stop expanding is because the containers (unintelligible), and just like (unintelligible). You know what we like two (unintelligible). Either way, the traffic is already (unintelligible).

Every single avenue is an artery of the freeway connections. We just don't have (unintelligible) freeways. We have a network of freeways because it

(unintelligible) crossing from the 60 across to the 5 from right here in East Los Angeles. We just pass through.

(Unintelligible) pass through to take the containers to another city. I see it like this. (unintelligible) out of the box. We need to continue to have our (unintelligible) traffic and trucks.

I say myself do nothing and (unintelligible). (Unintelligible) would take all the trucks and every city has to have responsibility and have a depo so they can have (unintelligible) containers. IP-19-47

So the truck is not wandering around to every city would come to that depo. (Unintelligible) containers through whatever they needed and not (unintelligible).

(Unintelligible), and those cars, containers, you know? I have (unintelligible), and I have to tell them we're humans. Enough is enough. We are sick. I think of all the health issues. I think about working with air quality. I don't remember the first time I went to a meeting in Commerce. They were fighting for property, and I got up. And I got to them, and I told them (unintelligible) for air quality and (unintelligible).

You can buy a property. How many

(unintelligible) human beings. We go (unintelligible). Every city (unintelligible) we got on the same page. So you know we do think it's -- 710 is not going to take (unintelligible) more nice. It is. It is going to (unintelligible).

We have to think out of the box. We need a car and train, and every city needs a depo to receive containers, and the other side when you say (unintelligible). We have a depot and (unintelligible), and now the reason these things happen is because we have to get together. We have to come to these meetings.

Our families are sick. It's not going to get better. I don't (unintelligible). They wanted to start right here. If they say it's cleaner, they're lying. It's not right because when I look (unintelligible) monitors and every single freeway and every single school and in East Los Angeles is (unintelligible) for our kids. You know, we have to get together (unintelligible).

Thank you.

THE COURT: Theresa Vazquez, Bertha Gonzales and Edgar Gonzalez.

MS. VAZQUEZ: Hi name is Theresa Vazquez. I work with my husband. I work at (unintelligible) Humphreys, but my (unintelligible) neighborhood watch.

I want to thank (unintelligible) for being here, but also specifically my -- residents for coming together because we're the one that are our voices of this community. If we don't speak up, they don't do anything for us.

As my husband says, we've lived here for five years. I've been teaching here at Humphreys for 18 years, and I am invested in this community, and I work with -- I really want to speak up for the children as well as a lot of (unintelligible), especially the children that are in this community, the children that are for me dear to me here in Humphreys, but there's other schools in the area too. There are many schools.

And speaking of the pollutants that they talk about, I teach in a classroom. I can tell you I don't need to look at the research, research that finds evidence of these pollutants.

IP-19-48

One year I taught, I had eight students with asthma, eight. I had one student that went to the hospital. How can children learn if they cannot breathe?

The other thing is can they clean the area? (Unintelligible). We're right by the freeway. They are breathing -- go (unintelligible) all the way up to fifth grade. These contaminants are not (unintelligible). (Unintelligible) the kids at the middle school to the

high school in the area.

So they're breathing this, and we're saying (unintelligible) what are we looking at in terms (unintelligible) the children that are with us now when they can't even breathe or have cancer. We're going to have a very poorly (unintelligible) society.

Also, I want to speak up against having more traffic and the deconstruction and the construction in this area because it seems like the 710 was just worked on a little while ago for a long time, and then they're saying now we're going to tear it apart and (unintelligible). IP-19-49

I believe it is about money. It's not about us. It's not about our health. It's just about pushing money around and keeping people in Caltrans (unintelligible).

I also want to bring up the issue of Hilda Solis. She (unintelligible) want to hear what you guys have to say. I want to have an open honest dialogue, and then I watched her walk out. And I was so disappointed. I would not vote for her again, and I hate to say that. I had such trust in her when she was in office --

(Inaudible due to applause.)

MS. VAZQUEZ: If she wanted to hear (unintelligible) hearing all of our concerns. Thank you.

(A pause in the proceedings.)

MS. SILVERMAN: Bertha Gonzales, Edgar Gonzalez, followed Stephanie Alvarado.

MS. GONZALEZ: Good afternoon. I am here because I'd like to share my point of view. I live here in East Los Angeles, and as I'm here, I want to talk about that we have a lot of stress, and I also want to talk about the freeway, the freeways that we have around us.

What else do we have? We have the Metro, and, also, I want to talk about the crimes. I myself have been a victim of crime. You know what? They killed my husband. I live close by the 710 Freeway.

I also want to mention that my son -- my son is not doing well. He's not doing well with his mind. Also, I am sick with asthma.

I'd also like to say that where I live it's an area -- the area is closed, and right there in that area where I live, there is approximately four to five homes, and also in the area where I live, I also want to mention that there is a man. This man is taking advantage of the situation.

He has a trailer, and on top of that, he added two more trailers. Quite honestly, that is not right because this is right in front of my home. What is the end -- on top of this, he's (unintelligible) people to live there in these trailers.

Why are these people there? Are they paying rent or what? You know what? The parking, the parking is also another situation, and, you know, all this is causing me a lot of stress, and this is not right.

Also, one other thing I want to mention with regards to the trash. When I take my trash can out, what do I find in there? I find a lot of feces. Yes, feces inside the trash can. I just cannot pick up this trash can and take it inside my house.

I want to question, and I am, who's living there, besides adults that are living there in these trailers? You know who lives there? Children. Children are living there. Also, where do these people go to their -- where do they go to the bathroom? Where do they bathe? You know what? It's not right, and you know what? (Unintelligible).

This is not right. You know, this is causing me a lot of stress, and I am very upset about this. Why don't they just get a place like these people?

Why don't they just find and take these people and put them in a proper location? This is not right.

And you know what? We pay our taxes. Why don't they find funds for these people? Well, that's just all I want to say.

Thank you.

MS. GARCIA: Edgar Gonzalez followed by Stefie Alvarado and then Manuel (unintelligible).

(A pause in the proceedings.)

MR. GONZALEZ: Hi. So my name is Edgar Gonzalez, and I just want to give food for thought. If they're going to expand, things are going to happen; right?

They say that the money is the problem, and (unintelligible). Traffic is going to be problem. The city's going to grow. It's going to cost them. It's going to cost them (unintelligible) expense.

So I don't really (unintelligible). To a certain extent, I laugh because like money moves only in one direction. With the issue of this (unintelligible) cars being more smart and efficient and electric, maybe they can go like one more (unintelligible) specifically for (unintelligible) cars. IP-19-50

And (unintelligible) consideration for

what's happening here because I, like I said at the end of the day, what it is is it's all money, and it's going to cost them more (unintelligible), and they don't consider this. It's going to cost them even more so (unintelligible).

IP-19-50

MS. GARCIA: Stefie Alvarado and Brian (unintelligible). Sorry if I didn't pronounce it correctly.

Stefie Alvarado.

MS. ALVARADO: Hi, everybody. My name is Stefie Alvarado. I've been living here for like five years, and I like it. It's pretty calm. Everyone gets along, and this is really nice, and besides activities that I've (unintelligible) for years and never do anything about it; right?

(Unintelligible). That's all it is. There are people don't have money. That's how it is, but the reason why I'm here is because I noticed that I -- I don't know. I didn't hear (unintelligible).

So that in my mind should make me feel, and that's how I (unintelligible). (Unintelligible) that you see here. It was a choice. It was a choice. They're going to do (unintelligible) everything around. The decision is made already because they don't want to take a vote on it.

We could have been like -- okay. So there's people that do want it, and there's people that don't. There's some people that do want it that (unintelligible) people that don't.

Right now we're here because they didn't give us a chance to voice our opinion. Our opinion doesn't matter at all. That's what I get and what's been happening for years, but the reason why they shouldn't do this is because (unintelligible). Something has been happening I'm saying for years. It happened for years. It hasn't stopped. IP-19-51

So even making my comment right now about -- what I'm concerned about is it doesn't matter. That's my (unintelligible). It doesn't matter. It doesn't even matter because it just seems like it doesn't even matter. They just do what they want.

Even when we're saying we're going to lose our home, people (unintelligible) move out. You have to move out. It doesn't matter.

There's a bunch of kids right here, a bunch of kids. Okay. We're all adults; right? We get health risks. We get cancer, all of that. I'm not saying its fine, but we're all adults.

The children right here, they're barely living their life. My son is eight years old. He's a

(unintelligible) to be in high risk, and I have to move form this school just because we (unintelligible).

(Unintelligible) people's public transportation? That's why? For public transportation? Seriously, you're going to risk people's lives or somebody to get from their house to another location.

That's life. Life is hard. You have to go through traffic. You have to go through that.

(Inaudible due to applause.)

MS. ALVARADO: At one point, like for me to like all the way to -- I don't know -- like to -- or something like really far. People travel really far to get to places. It's unnecessary. (Unintelligible).

It's a bunch of kids (unintelligible) allergy, cancer and asthma. (Unintelligible) you know.

(Inaudible due to applause.)

MS. ALVARADO: (Unintelligible), money, power; right? The people that talk right here, the local families we're trying to make it out, trying to make it out of this.

Because it is hard when you start from the bottom. It's really hard, and then the people, they're

trying to take away where you live. You know, they're making it harder. They're making it harder, but that's why I'm here today to speak. It's not right that they don't care about your health.

You could die slowly. Believe it or not, (Unintelligible) a gun to our head real quick. (Unintelligible). I don't know why (unintelligible); right? It doesn't matter. That's what (Unintelligible). You guys are saying it doesn't matter.

I hope my comments today can make a change in your (unintelligible) in how you view things, how you see things that come (unintelligible) in a lot of situations, and I hope it changes your mind.

Have a good night.

(Inaudible due to applause.)

MS. GARCIA: (Unintelligible), and then we'll hear comments, and we're over our time in the agenda, but as we're wrapping up, you can ask questions of the project team, and the court reporter will be wrapping up so that, if you don't want to speak here but you want to make some comments, you can do that.

So here's the order of speakers:

Manuel Corval, Ryan Corval followed by

(unintelligible) Martinez -- I think might have been wanting to submit a comment. I'm not sure she's speaking -- followed by (unintelligible) Cardenas, and then we have Eddie and then Mark.

So Manuel and then Ryan. Are they in the room?

Manuel? Ryan? Ryan Corval?

(A pause in the proceedings.)

MS. GARCIA: Okay. Eddie (unintelligible)?

We have just some words, and then we'll end.

Laura Sosa, Eddie Torres and (unintelligible).

(A discussion was held off the record.)

MS. SILVERMAN: Laura Sosa followed by Eddie and then Mark.

(A pause in the proceedings.)

MS. SOSA: Hi. My name is Laura Sosa. I'm a teacher here at this school. I'm here to represent the

school and the children of the school. Not only that, but my son also attends this school as well as my other children.

My father lives within this community, and he spends weekends within the community. So what is it that we need to do? Think about it. Think about our schools. Here in the school, we have one small little playground.

Money needs to be allocated to building a playground where children can enjoy with grass. We only have cement or asphalt at this school. Investment needs to come back to our schools.

Again, we're taking and expanding the freeway, which I have no clue of. Knowing that my father is not too far away from here, gets me very upset to know that a petition -- it looks like a decision has been made, and that's very upsetting because in any other community that you have people -- how do I -- profession, they are well informed, and they have a vote. They have a say. I think our community is looked down upon and not looked up upon.

At this school we have children with asthma being my son. We work, live (unintelligible), right next to the freeway. So it would definitely affect us. IP-19-52

It would also affect us because taking

homes away from here affects my job at this school. That would mean that there would be less students here. So it affects my job.

Also, within our community there's other issues that are happening. My parents live across from the Dollar Tree. We called various times to the city to get that improved.

Now, right now, I don't know where they're doing the construction, but lo and behold, are we getting asphalt now at that parking lot? And we live right across. Children are there constantly as well as my parents who are retired.

We never got an advisory as exactly what was happening. So there's polluted air circulating at this time. This is the second week. I said, hey, what's going on? My dad goes I don't know. I don't know what they're building.

But it was upsetting to know that we are not notified. In other cities, it would be posted, posted as it was in Montebello. I've been informed. Here, we don't.

MS. GARCIA: Our last two speakers are Mark Lopez and Angelica Mirelez, and then we'll have some closing remarks and then visit with the staff, ask questions. You can give your comments to the court reporter.

(A pause in the proceedings.)

MR. LOPEZ: First of all, thank you for being patient and staying here late. So we're passing out (unintelligible). She has a clipboard. If you want to sign up, we're going to do another meeting for us to write her and send them to Caltrans and let them know how displeased we are with (unintelligible). So I am going to apologize for (unintelligible).

East L.A. Chamber of Commerce from the (unintelligible) 60 Freeway to Caltrans, all that (unintelligible) along with representatives from the local schools, (unintelligible) primarily Kim and (unintelligible) and found out that the parking that they want to take for bus lanes, Rapid buses between 7:00 and 9:00 (unintelligible) opportunities for people to use (unintelligible) schools and for the businesses. IP-19-53

In addition to that (unintelligible), they want to take peak parking hours from 4:00 to 6:00 on the west side of Atlantic Boulevard from Telegraph to the (unintelligible) Freeway, and we found out that in the document it says that there's additional parking for businesses that they could choose to subsidize their moving their cars (unintelligible). That doesn't make IP-19-54

any sense.

Also, how many people know (unintelligible) after four o'clock, raise your hand. So if people are coming home, where are those people to park? (Unintelligible). So Caltrans, Metro, their information, all dated. It's untrue. (Unintelligible).

IP-19-54

If you're trying to help, please sign up for this. We've got to get together. We've got everyone here. (Unintelligible) will have more support for this community.

(Unintelligible) good communities like Pasadena has pull. We don't. We can create something. Let's get together, and I promise I won't (unintelligible) also be (unintelligible). Let's call Channel 7, Channel 9, Channel 2. Let's start waking up the public officials, Caltrans.

We filed for an extension for the public comment period, and we were told no, but if Pasadena had asked for an extension, they would have been told yes. We're (unintelligible), and we're wanting to (unintelligible) courtesy of public comment period.

So if this makes you mad, sign it. Let's get together. Let's start doing what we can do for our common people. Our senator, she said from this night she wants to hear from you, but she doesn't hear from you,

then it's (unintelligible). It's not for me. It's what you guys need. You need to speak up. Please. God bless you. Thank you.

(A pause in the proceedings.)

THE RESPONDENT: Mark Lopez followed by Angelica Mirelez.

MR. LOPEZ: So the (unintelligible) product that he has, how quickly will we be on the freeway once they're done with the project and, apparently, they told them six to nine minutes. So is all of this really worth six to nine minutes? Seems like a pretty easy answer. Huh?

And then (unintelligible) the decision has been made, and I have to agree with that. In terms of the -- the decision's been made since at least like 2010, 2011 because Caltrans have been pushing what (unintelligible). IP-19-55

When you look at the state of California already asked Trump for money for projects. They asked for money for the 710, how are they asking for money when they don't know what they're going to do yet? It's because they know what they're going to do, unless we stop it; right? IP-19-56

They're going to do what they want to do

unless we make them do something different. (Unintelligible) only way to stop it. They don't want to do this meeting tonight.

People here tonight made that happen, the same way with the 710, they don't want to do a (unintelligible) 710 north, but the people here made that happen; right?

So we need to (unintelligible) want to do that because I guarantee you, if those Dodgers win the World Series, how many people going (unintelligible); right? We need the same amount of people coming out of the streets; right? We learn from other of our members and (unintelligible) from the 710. We're going to shut the freeway down. Is that what they need to see us do in order to take us serious; right?

Because I (unintelligible) costs millions of dollars; right? Hopefully that's not what we have to do; right? I saw there was a -- something in there called "clean emissions?" That's ridiculous.

Is a truck going to give out rainbows or what? There's no such thing as clean emissions unless it's zero emissions. Clean emissions don't exist. IP-19-57
Natural gas, no. That's emissions; right? It needs to be zero emissions, not a recommendation, not (unintelligible). It needs to be a policy.

So, again, everyone else is saying things are going get better, traffic will be better, less air pollution. Not acceptable. We don't need our homes? We're in a housing crisis. We don't need our jobs destroyed? We're in an economic crisis. IP-19-58

We don't need to eliminate homeless resources when we're in a homelessness crisis, and we need to make sure that it's zero emissions because we all know we're in a health crisis; right? IP-19-59 IP-19-60

So I want to make sure we (unintelligible) for the extending comment period to 120 days not 90 days. We shouldn't have a meeting tonight, and on Monday they close. That doesn't make any sense. We need more time to process; right? IP-19-61

And the reason why they've been fighting us for years on how to do the 710 is because if they listen to the community on the 710, they've got to listen to the community on the 5 when they extend the 5. They've got to listen us on the 60 when they expand the 60. They've got listen to us on the 605 when they expand the 605 because that's what's coming on the 710. That's what they've got planned; right? IP-19-62

Thank you.

MS. GARCIA: So Angelica Mirelez, our last speaker.

MS. MIRELEZ: Hello, everyone. My name is Angelica

Mirelez. I'm 22 years old. I'm born and raised in East L.A., and I came to Humphreys Elementary School. So I just came to speak for people who are in the middle of this. Their homes are in the way, and a bunch of their children are not even here to speak up for them.

You people that are putting this together, you guys want to build a freeway. You're going to pollute our air. You don't care about our kids. I don't know who I'm even speaking to who's in charge. You don't care about our kids. You don't care about me. IP-19-63

I work. I work full time. I go to school. Okay? I'm not pregnant. I'm not out here playing around, but the -- most of my community is because that's how we're set up to be. There's a small amount of us that are actually paying attention to this and actually care.

Nobody -- you guys know that the youth is not going to come here and speak for our older people.

(Inaudible due to applause.)

MS. MIRELEZ: You guys (unintelligible).

Nobody's gonna come out there (unintelligible) the street, ruining our streets because you guys don't let us do anything else. You want to take

up our space, to pollute our air. You don't care that our children are (unintelligible) cancer. Nobody even wants this to happen.

It's from the community. We didn't vote for this. We live here. We pay rent too. It's empty in here. I'm just shaking how mad I am because you guys take advantage of us because you know that the majority we don't even have homes. So we don't even come out of our houses to come meet you guys face to face. Okay?

So I hope that the little amount of people that came out today to have our voices heard, and whatever happens, you guys just remember that a lot of us out here that you guys are going to benefit from, we work. We work hard.

MS. GARCIA: So that was our last speaker. I want to call Javier Hernandez with his transportation deputy for Supervisor Solis's office to make closing remarks.

MR. HERNANDEZ: Good evening, everyone. I'm Javier Hernandez here with Supervisor Solis's office, transportation deputy.

So, first of all, I just want to say thank you on behalf of the supervisor. For those of you who were here a little bit earlier, you heard directly from the supervisor herself.

She has not made a decision on what

alternatives will be in this project until we hear from you guys, and that's exactly why this meeting was established to hear from you directly.

She had to leave a little bit early, of course, but our entire staff has been here, taking notes. Of course we have a court reporter here taking notes. He's been taking notes all night, and just trust that we will be carrying these -- your concerns, your ideas, your solutions back to the metro board to ensure that it is reflected in whatever is determined by the metro board.

I just want to say thank you from the bottom of our hearts for, of course, participating in tonight's event. We're, of course, becoming a little bit more aware and informed about this project that will impact your communities, and essentially helping us help you better.

So thank you very much for coming out today. We want to be mindful and be respectful of the staff (unintelligible), Humphreys Elementary school staff for opening --

(Inaudible due to applause.)

MR. HERNANDEZ: And then if you still have burning questions, by all means, as we start packing up, feel free

to stick around and ask questions, but we do have to be out of here in a timely manner. So thank you very much.

UNIDENTIFIED AUDIENCE MEMBER: One quick question to you. Do you want to keep believing that we are the ones that are going to make a decision and not these folks? The community's going to make a decision? You want me to believe we're going make it?

MR. HERNANDEZ: No. The metro board will make that decision.

(The proceedings were concluded at 8:48 p.m.)

PENALTY OF PERJURY CERTIFICATE

I, the undersigned, declare under penalty of perjury that I have read the foregoing transcript, and I have made any corrections, additions or deletions that I was desirous of making; that the foregoing is a true and correct transcript of my testimony contained therein.

EXECUTED this _____day of _____, 2017, at _____, _____.

_____

REPORTER'S CERTIFICATE

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

I, RONALD KIM, CSR No. 12299, Certified Shorthand Reporter for the State of California, do hereby certify;

That the deponents named in the foregoing deposition, prior to being examined, was by me first duly sworn to testify to the truth, the whole truth and nothing but the truth;

That said deposition was taken before me at the time and place therein stated and was thereafter transcribed into print under my direction and supervision, and I hereby certify the foregoing deposition is a full, true, and correct transcript of my shorthand notes so taken.

I further certify that I am not of counsel nor attorney for either of the parties hereto or in any way interested in the event of this case and that I am not related to either of the parties hereto.

WITNESS my hand this 19th day of October, 2017.



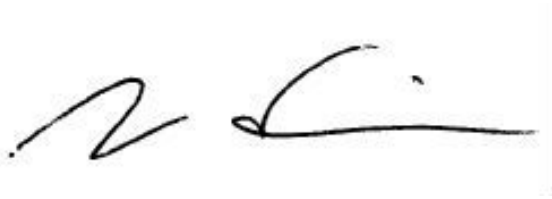
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CERTIFIED COPY CERTIFICATE

I, Ronald Kim, Certified Shorthand Reporter, No. 12299, hereby certify that the attached deposition is a correct and certified copy of the deposition of the deponent named in the foregoing deposition, taken before me at the time and place therein stated.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Covina, California, this 18th day of October, 2017.



Ronald Kim, CSR No. 12299

IP-19-1

It appears the commenter is referring to the SR-710 North Project, a separate project that is located north of the I-710 Corridor Project limits. The purpose and need of the SR-710 North Project includes completion of the regional transportation system by providing a linkage between the incomplete SR-710 freeway at Valley Blvd. in Los Angeles and the northern stub near SR-134/I-210 in Pasadena. The I-710 Corridor Project is an independent project intended to address the auto and truck traffic that travels the I-710 between the Port complex and SR-60, where nearly one-third of daily traffic is projected to exit I-710 in the 2035 No Build Alternative condition. The segment of I-710 that falls between I-5 and SR-60 is highly constrained, with land uses located close on both sides of the freeway, which limits the amount of physical improvements that can be made to I-710 through this area without right-of-way impacts. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no improvements made to I-710 between the Ports and SR-60. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-19-2

The air quality impacts of the project have been assessed and the results presented in Section 3.13 of this Final EIR/EIS. In addition, a Health Risk Assessment has been performed in support of the project, which goes beyond Caltrans' standard practices related to the analysis of environmental impacts. The commenter is likely referring to the preparation of a Health Impact Assessment (HIA), which was not conducted for the I-710 Corridor Project. Neither the Federal Highway Administration (FHWA) nor Caltrans currently has an approved methodology addressing the health impacts of freeways, and these types of assessments are an emerging practice in the transportation sector in the United States. Currently, State Departments of Transportation generally have not yet begun to implement HIAs or related tools for transportation planning, with some exceptions. For example, San Francisco's Department of Public Health has employed the use of HIAs in evaluating the health impacts of transportation projects. The State of Massachusetts passed a law requiring HIAs on new transportation projects, and at least one is known to be complete (the McGrath Highway Corridor HIA). In addition, the Caltrans Division of Research and Innovation is actively investigating the use of HIAs for transportation planning and potential applicability to Caltrans projects.[1] However, it should also be noted that there are limitations associated with the preparation and use of HIAs. According to an article published in

[1] Caltrans Division of Research and Innovation. Preliminary Investigation. 2011. Transportation-Related Use of Health Impact Assessments and Similar Tools. August 5, 2011. Website: http://www.dot.ca.gov/research/research reports/ preliminaryinvestigations/docs/public_health_ preliminary_investigation_8-5-11_revised.pdf (accessed June 25, 2018).

2000 in the British Medical Journal, “Currently there is neither an accepted gold standard nor even a simple, reliable, and evaluated method for carrying out health impact assessment” and “Several issues are unresolved in the methodology of health impact assessment…causal pathways are so complex that it is not often possible to say if an outcome will definitely be good or bad for the health of a population…The current evidence base for many health determinants is inadequate for accurately informing a process of assessment.”[2] Hence, the preparation of an Air Quality/ Health Risk Assessment for the I-710 Corridor Project was an effort to respond to the requests of the I-710 Corridor communities to study health-related impacts, while also ensuring the empirical analyses performed in support of the EIR/EIS process were factual and based on sound scientific, analytical, and/or engineering judgment.

IP-19-3

The analyses performed in support of the I-710 Corridor Project EIR/EIS were conducted in accordance with Caltrans guidance and have undergone substantive technical specialist quality control reviews.

IP-19-4

Metro and Caltrans thank the commenter for their input. Please note, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no improvements will be made to I-710 between the Ports and SR-60. However, passive park and landscape improvements are projects that may be eligible for funding under the Community Health Benefit Program, which is included in the scope of the build alternatives but, since a No Build Alternative has been selected as the Preferred Alternative, will no longer be implemented by Caltrans as the lead agency under CEQA and NEPA. Please refer to Section 1.10 of this appendix for more detailed information on the Community Health Benefit Program.

IP-19-5

Cancer risk was discussed in Section 3.13, Air Quality, of the RDEIR/SDEIS. The analysis contained in that chapter discloses that all build alternatives would generally reduce public health risk. All project alternatives show a decrease in cancer risk at all modeled receptors when compared to the 2012 Baseline. As stated in Section 3.13 of the RDEIR/SDEIS, the build alternatives would not increase cancer risk at any areas in the vicinity of the I-710 freeway compared to 2012 Baseline. These reductions are a result of the cleaner diesel trucks as required by California Air Resources Board’s (CARB) Truck and Bus rule and implementation of the Clean Trucks Program by the Ports (Port of Los Angeles and Port of Long Beach). Both 2035 build

[2] U.S. National Library of Medicine National Institutes of Health. Health Impact Assessment. May 20, 2000. Website: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1118057/ (accessed June 28, 2018).

alternatives predominantly display decreases in cancer risk with small increases within 100 meters of the I-710 when compared to the 2035 No Build Alternative. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one million.

However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the air quality improvements for portions of the I-710 corridor and the increase in risk for a small portion of the I-710 Corridor would not occur as a result of the build alternatives and no air quality-related mitigation measures will be implemented.

IP-19-6

As stated in Section 1.2.1.2, Capacity, Transportation Demand, and Safety, of the RDEIR/SDEIS, regional population is forecast to grow by 20 percent and the Study Area population is forecast to grow by 10 percent from 2012 to 2035. Employment will follow a similar pattern, with regional growth of 27 percent and Study Area employment growth of 11 percent. Growth will be lower in the Study Area because it is almost completely developed. Increases in population, employment, and goods movement between now and 2035 will lead to more traffic on the I-710 freeway and on the streets and roadways within the Study Area as a whole.

Implementation of CARB's implementation of the Truck and Bus Regulation and the Ports' Clean Truck Programs is expected to accelerate fleet turnover to newer and cleaner (model year 2010 and beyond) trucks by 2023. Further, the South Coast Air Quality Management District (SCAQMD) is implementing control measures as part of the 2016 Air Quality Management Plan (AQMP) that incentivizes the transition of the fleet to Zero Emissions/Near Zero Emissions (ZE/NZE). Since a build alternative has not been selected as the Preferred Alternative for the I-710 Corridor Project, the I-710 Clean Truck Program will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-19-7

Please refer to Section 1.6 of this appendix for more detailed information regarding the arterial parking restrictions proposed as part of the build alternatives. As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no improvements will be made to the I-710 Corridor and the arterial parking restrictions will not be implemented.

IP-19-8

Please refer to Response to Comment IP-19-7 and Section 1.6 of this appendix for more detailed information regarding the arterial parking restrictions proposed as part of the build alternatives.

IP-19-9

Caltrans and Metro thank the commenter for their input. The commenter's opposition to the displacement of residents in East Los Angeles is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and would not require any displacements. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

IP-19-10

Please refer to Response to Comment IP-19-8 regarding the arterial parking restrictions proposed as part of the build alternatives.

IP-19-11

Caltrans and Metro thank the commenter for this information, and the agencies regret the error. It is assumed that the commenter is specifically referring to the multi-unit property located at 626 S. Sydney Dr. in East Los Angeles. This property was originally identified as being a five-unit property in the *Draft Relocation Impact Report* (March 2017) and the RDEIR/SDEIS; however, the property contains ten units. This information has been acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative. Therefore, no displacement of residents or businesses from the community of East Los Angeles will occur under the Preferred Alternative.

IP-19-12

It is important to note that there would be no displacements of businesses or residents within East Los Angeles as a result of the Preferred Alternative (Alternative 1 No Build). However, it should be noted that the replacement area for the build alternatives included the displacement communities as well as adjacent cities and communities along the I-710 Corridor. The search for replacement housing was confined to this replacement area, and did not include (for example) the entire City of Los Angeles. The replacement area map included as Appendix A to the *Draft Relocation Impact Report* (March 2017) shows the location of potential replacement sites along the I-710 Corridor. The community of East Los Angeles was included on the replacement area map as a portion of unincorporated Los Angeles County and a number of potential replacement sites were identified within East Los Angeles. Appendix E to the *Draft Relocation Impact Report* listed specific replacement dwellings for sale and for lease and included a number of potential replacement residences within the three zip codes that comprise East Los Angeles. Please refer to Section 1.5 for more detail regarding the methodology used to determine replacement housing.

IP-19-13

The commenter's opposition to the build alternatives is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

IP-19-14

The commenter's opposition to displacements is acknowledged and noted in the public record. The I-710 Corridor includes communities that have a relatively high percentage of environmental justice populations (i.e., low-income and minority populations), as described in more detail in Section 3.3.3 of the RDEIR/SDEIS. Therefore, any relocations under the build alternatives, including those that are unavoidable, would affect environmental justice populations. Should a build alternative be selected as the Preferred Alternative, Measure C-7 would address environmental justice impacts by providing funding for targeted improvements that would improve air quality and public health, reduce traffic congestion, provide aesthetic/visual enhancements, and improve parks and recreation within census tracts adjacent to the I-710 that have been defined as having a high percentage of minority and/or low-income populations. However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no displacements.

IP-19-15

The commenter's opposition to displacements and concern about loss of businesses and fire stations is acknowledged and noted in the public record. Under the Preferred Alternative, no displacements of residents or businesses will occur within East Los Angeles.

IP-19-16

The commenter's opposition to the build alternatives is acknowledged and included in the project record. According to the traffic forecasting analyses performed and described in Section 3.5, Traffic, of the RDEIR/SDEIS, overall in the 2035 horizon year, traffic congestion under the build alternatives would be generally maintained or improved in the morning, midday, and evening peak periods in both directions of I-710 when compared to the future 2035 No Build Alternative. There would be degradation in level of service (LOS) with the project build alternatives at some locations, as several intersections would experience poor LOS and delay upon implementation of the build alternatives (32 intersections under the preferred Alternative 5C and 30 intersections under Alternative 7); however, should a build alternative be selected as the Preferred Alternative, mitigation in the form of traffic signal upgrades and intersection improvements would be implemented for all but two of the impacted intersections under Alternative 5C and all but four of the impacted intersections under Alternative 7. Mitigation is not proposed at these locations due to right-of-way constraints. Please refer to Section 3.5 of the Final EIR/EIS for more detailed

information as to specific locations of impacts. To address any increases in traffic noise as a result of the build alternatives, soundwalls are proposed at various locations within the I-710 Corridor, where deemed feasible and reasonable per 23 CFR 772. Please refer to Section 3.14 of the Final EIR/EIS for more detailed information on traffic noise impacts. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions.

IP-19-17

As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there is no need for project funding or more information regarding construction staging.

IP-19-18

Should a build alternative be selected as the Preferred Alternative, Caltrans and Metro would commit to funding the Community Health Benefit Program and the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) as components of any build alternative selected for implementation, and have included those programs in the Project Description of the build alternatives. However, since a build alternative has not been selected as the Preferred Alternative, these programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program, and Section 2.3.2.1 of this Final EIR/EIS for more details of these programs. In addition, since the No Build Alternative has been selected as the Preferred Alternative, no funding of the I-710 Corridor Project will be necessary.

IP-19-19

The commenter’s opposition to displacements and opposition to the design options are acknowledged and noted in the public record. Design refinements of the build alternatives to minimize acquisition of property and displacements have been ongoing since the start of project development. While great effort has been made through the design review process to minimize right-of-way impacts of the build alternatives to the greatest degree feasible, some relocations would be unavoidable in implementing 19 miles of freeway modernization. However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there is no need for right-of-way and housing and business displacements.

IP-19-20

Per Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* Federal agencies must take appropriate and necessary steps to identify and address disproportionally high and adverse effects of Federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Should a build alternative be selected as the Preferred Alternative, Measure C-7 in Section 3.3.3.7 in the RDEIR/SDEIS on p. 3.3-150, would be implemented to address disproportionate impacts to environmental justice populations and funding would be provided to local jurisdictions for targeted improvements. These improvements would be made within the United States Census Bureau census tracts adjacent to the I-710 freeway that have been identified as having a high percentage of minority and/or low-income populations compared to the County of Los Angeles, which would include tracts within East Los Angeles. However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impact to environmental justice populations as a result of the build alternatives.

IP-19-21

Actual collision data based on reporting provided by the California Highway Patrol were provided in Section 1.2.1.2 of the RDEIR/SDEIS and are collected in order to understand if existing accident rates are higher on the subject route than on similar facilities within the State, and if the types of accidents that occur help to identify the types of improvements that would be most beneficial to implement. The comparison of actual accident rates on I-710 with statewide averages for facilities of this type was performed in order to help identify where accidents are currently occurring on I-710. These calculations are performed using accident data collected by law enforcement agencies on the state roadway network and maintained in databases managed by Caltrans. As seen in Tables 1.2-4 and 1.2-5 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, State averages are used for comparison purposes. National averages are not used. This comparison of actual accident rates with statewide average accident rates is used to better understand existing travel conditions and existing accident problems on I-710. On the other hand, a safety assessment was performed using an alternative method for the future year (2035) comparison, with and without the build alternatives. This safety assessment examined issues such as the elimination of operational conflicts realized by the new freeway design, as well as proposed freeway features that separate cars and trucks in order to evaluate and compare the relative safety performance of the proposed build alternatives.

IP-19-22

The commenter’s support of park space and zero emissions is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of ZE

options. As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to play areas within the I-710 Corridor. Please note that passive park and landscape improvements may be projects eligible for funding under the Community Health Benefit Program. However, since a build alternative has not been selected as the Preferred Alternative, the Community Health Benefit Program programmatic element will not be implemented as part of this Project. Please refer to Section 1.10 of this appendix for more information on the Community Health Benefit Program.

IP-19-23

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no displacements.

IP-19-24

Please note that the build alternatives propose Measure AQ-3, where installation of solid barriers and vegetation for pollution dispersion purposes, would be implemented during final design of the build alternatives and where feasible, should a build alternative be selected as the Preferred Alternative. However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measure AQ-3 will not be implemented. Additionally, passive park and landscape improvements may be projects eligible for funding under the Community Health Benefit Program. However, since a build alternative has not been selected as the Preferred Alternative, the Community Health Benefit Program programmatic element will not be implemented as part of this Project. Please refer to Section 1.10 of this appendix for more information on the Community Health Benefit Program.

IP-19-25

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would be implemented to reduce emissions at near-roadway locations. Measure AQ-2 would provide for air filtration systems for schools near I-710. Measure AQ-3 would provide for the installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build

alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. However, since a build alternative has not been selected as the Preferred Alternative, these programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more detailed information on the Community Health Benefit Program.

IP-19-26

As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no funding will be necessary for the I-710 Corridor Project. It is important to note that since a build alternative has not been selected as the Preferred Alternative, programmatic elements included under the I-710 Corridor Project build alternatives, such as the Community Health Benefit Program, will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please also refer to Section 1.10 of this appendix for more detailed information on the Community Health Benefit Program. It is acknowledged that there are many important needs within the communities that comprise the I-710 Study Area. The I-710 Corridor Project build alternatives were developed to address some, but not necessarily all, of those needs and aimed to address the transportation, freeway safety, air quality, and air quality-related human health concerns along the I-710 freeway corridor.

IP-19-27

Please refer to Response to Comment IP-19-26 regarding the applicability of transportation funds for other non-transportation uses.

IP-19-28

Please refer to Section 1.2 of this appendix for more information regarding the public hearings held for the project. In general, Commerce was selected as the location of the public hearing for the northern end of the Study Area because of the large amount of relocation impacts that occur within the City as a result of the build alternatives.

IP-19-29

The commenter's opposition to Design Options 3A and 3B are acknowledged and included in the project record. However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Design Options 3A and 3B will not be implemented. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

IP-19-30

It is unclear what the commenter means specifically regarding effects to businesses along Atlantic Blvd. Programmatic arterial parking restrictions, including along Atlantic Blvd. between Pacific Coast Hwy. and SR-60, were originally proposed as a programmatic component of the build alternatives, but will no longer be implemented since the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.6 of this appendix for more detailed information regarding the proposed parking restrictions. In addition, no businesses on Atlantic Blvd. would not be displaced as a result of the Preferred Alternative.

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, and Chapter 4.0, CEQA Evaluation, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions but no increase in cancer risk compared to the 2012 Baseline.

When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would be implemented to reduce emissions at near-roadway locations. Measure AQ-2 would require filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for the installation of solid barriers where soundwalls are not proposed and the installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measures AQ-2 and AQ-3 will not be implemented.

IP-19-31

Forecast traffic volume increases on I-710 in East Los Angeles under both the No Build and build alternatives would be comprised of trips primarily traveling through this area, rather than destined to locations within East Los Angeles. Traffic volumes on arterial streets in the East Los Angeles area are forecast to increase on average by about 3 to 7 percent between 2012 existing conditions and the 2035 No Build Alternative, while auto traffic volume on I-710 through East Los Angeles under the No Build Alternative is forecast to decrease about one-half percent compared to 2012 existing conditions over that same time period (refer to the *Intersection Traffic Impact Analysis*

Report [March 2017]; and the *I-710 Corridor Project Traffic Operations Analysis Report* [March 2017]). This data infers that forecast increases in traffic on local streets in East Los Angeles would be a result of population and employment growth within and surrounding East Los Angeles, not as a result of proposed improvements to I-710 under the build alternatives.

IP-19-32

The commenters concern about lack of parking and air quality is acknowledged and noted in the public record. The removal of on-street parking on major arterials during peak periods under the build alternatives were detailed in Table 3.3-9 in Section 3.3, Community Impacts, of the RDEIS/SDEIS. Field observations verified that the parking demand could be adequately absorbed in off-street parking areas for uses that generate the demand (e.g., parking lots) as well as in on-street parking areas directly off these main arterials. However, the No Build Alternative has been selected as the Preferred Alternative and the programmatic parking restrictions proposed as a part of the build alternatives will not be implemented. Please refer to Section 1.6 of this appendix for more detailed information regarding the parking restrictions.

Air quality impacts were analyzed in Section 3.13, Air Quality, in the RDEIR/SDEIS. The analysis contained in that section discloses that all build alternatives would generally improve air quality. Total emissions for NO_X, PM_{10}, and $PM_{2.5}$, and DPM in the entire Area of Interest as compared to the 2012 Baseline and 2035 Alternative 1 (No Build Alternative) are presented in the gridded mass emission plots (Figures 4-1a to 4-2c in Appendix Q of the RDEIR/SDEIS). The gridded emission maps show that emissions would primarily decrease throughout the Area of Interest for NO_X, PM_{10}, and $PM_{2.5}$, when compared to the 2012 Baseline and 2035 Alternative 1 (No Build). Some increases are seen for $PM_{2.5}$ and PM_{10} at grid cells that are very close to the freeway. However, these increases would be less than SCAQMD Significance Criteria.

IP-19-33

Arterial parking restrictions, including along Atlantic Blvd. between Pacific Coast Hwy. and SR-60, were originally proposed as a programmatic component of the build alternatives. However, the No Build Alternative has been selected as the Preferred Alternative and the arterial parking restrictions proposed as a part of the build alternatives will not be implemented. Please refer to Section 1.6 of this appendix for more detailed information regarding the proposed parking restrictions.

IP-19-34

Maximum incremental impacts of particulate matter emissions and cancer risk at schools within 3 kilometers of the I-710 freeway for the build alternatives as compared to the 2012 Baseline and 2035 No Build Alternative are shown in the table below. The cancer risk estimates for schools presented in this table are conservative, as the calculations assumed residential exposure from

ages third trimester to 30 years. Since students typically attend schools from ages 5 to 18, it is likely that actual cancer risk would be lower than presented in this table below.

Further, as stated on pages 3.13-56 and 3.13-57 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, implementation of Mitigation Measure AQ-2 would result in the installation of high-efficiency filters in ventilation systems at schools located within 0.25 mile of the I-710 freeway, which would reduce indoor particulate concentrations and would further reduce cancer risks to students attending schools in the vicinity of I-710. However, since the No Build Alternative has been selected as the Preferred Alternative, Measure AQ-2 will not be implemented.

Incremental Impacts of PM and Cancer Risk

	Maximum Incremental 24-hour PM_{10} Concentration ($\mu g/m^3$)	**Maximum Incremental Annual Average PM_{10} Concentration ($\mu g/m^3$)**	**Maximum Incremental 24-hour $PM_{2.5}$ Concentration ($\mu g/m^3$)**	**Maximum Incremental Annual Average $PM_{2.5}$ Concentration ($\mu g/m^3$)**	**Maximum Incremental Cancer Risk (in one million)**
2035 Alternative 1 (No Build) Minus 2012 Baseline	1.14	0.44	0.00214	-0.0068	-7.66
2035 Alternative 5C Minus 2012 Baseline	2.15	1.10	0.10	-0.0055	-7.70
2035 Alternative 7 Minus 2012 Baseline	4.08	2.03	0.32	0.14	-7.79
2035 Alternative 5C Minus 2035 Alternative 1 (No Build)	1.45	0.68	0.33	0.15	1.15
2035 Alternative 7 Minus 2035 Alternative 1 (No Build)	3.60	1.74	0.71	0.35	-0.13

PM = particulate matter
PM_{10} = particulate matter less than ten microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter

IP-19-35

As shown in Section 3.14.5.10 of the RDEIR/SDEIS, a soundwall is proposed at Washington Blvd. and I-710 under the build alternatives. As discussed in Section 2.3, the build alternatives would involve modifications to local interchanges, streets, crossings, and frontage roads near I-710 to improve traffic safety, circulation, and access. Figure 2.3-6 shows the improvements that are proposed at the Washington Blvd./I-710 interchange under the build alternatives. However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, improvements will not be made to the Washington Blvd./I-710 interchange as a part of the build alternatives.

IP-19-36

As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, funding will not be necessary. It is important to note that generally, transportation projects are not funded until they are approved, and project approval follows the completion of the environmental document and Preferred Alternative identification process. With many projects competing for funding from the available programs every year, as well as taking into account fluctuations in revenue, potential funding opportunities and general funding landscapes are re-evaluated frequently.

IP-19-37

Metro and Caltrans acknowledge that one of the purposes of the project is to address projected growth in population, employment, and activities related to goods movement. However, other project purpose statements are to improve air quality and public health, and improve traffic safety. However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, construction of the build alternatives will not occur. For more detailed information on the Preferred Alternative identification process, please refer to Section 1.1 of this appendix.

IP-19-38

As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no business or residential displacements. Also, please refer to Section 1.3 of this appendix for more information regarding ZE/NZE technology.

IP-19-39

Caltrans and Metro both respectfully disagree that the I-710 Corridor Project is not abiding by the requirements set forth by Metro Board Motion 22.1. As set forth in the motion, several elements were adopted into the RDEIR/SDEIS analysis. The locations of those elements within the RDEIR/SDEIS and Final EIR/EIS are listed in Table 2.2-1 of the document. Several other elements of Motion 22.1 were intended to occur in parallel to, but separate from, the I-710 Corridor Project RDEIR/SDEIS process. Please refer to Section 1.8 in this appendix for more information on Motion 22.1.

IP-19-40

Caltrans is the lead agency under CEQA and NEPA and will ultimately approve a project on the State Highway System. Caltrans, Metro, and the various project funding partners have worked in close coordination with each other and with various stakeholders throughout project development.

IP-19-41

As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no business or residential displacements. It is important to note that Caltrans' Relocation Assistance Program (RAP), as established by Federal and State law, provides help to individuals, families, businesses, and others that are required to relocate as a result of a public improvement project. Its primary objective is to assist all project displacements so that they do not suffer disproportionate injury as a result of projects constructed for the benefit of the public. Federal and State laws (the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, also known as the Uniform Relocation Act or the Uniform Act, and California Government Code, Chapter 16, Section 7260, et seq.) require that relocation assistance be provided to any eligible person, business, farm, or nonprofit operation displaced because of the acquisition of real property by a public entity for public use.

IP-19-42

As indicated in Section 2.2.2 of the RDEIR/SDEIS, Alternative 5C and 7 were developed in response to a more comprehensive understanding of traffic patterns and behavior within the Study Area and beyond, particularly related to goods movement, changes in the status of major Port projects, changes in regional truck travel patterns, and in response to public input on the set of build alternatives evaluated in the Draft EIR/EIS released for public comment in 2012. At a very broad level, the two build alternatives evaluated in the RDEIR/SDEIS resemble their predecessors evaluated in the Draft EIR/EIS circulated for public review in 2012. However, from a more localized perspective, as viewed by the communities that line the I-710 Corridor, the geometric configuration of Alternative 5C is markedly different from Alternative 5A with different local interchange designs, changes in the mainline mixed flow lanes, locations of auxiliary lanes, modifications to the I-710/SR-91 freeway to freeway interchange design, repositioning of ramps and collector-distributor roads in the vicinity of the Atlantic Blvd./Bandini Blvd. complex, and different design options that would address congestion hot spots through East Los Angeles and would improve access to downtown Long Beach. While Alternative 7 retained a freight corridor, it eliminated general purpose through lanes from the I-710 freeway design, eliminated some freight corridor ramps to further reduce right-of-way impacts, and shifted several sections of the overall alignment, as compared to Alternatives 6A, 6B, and 6C. In addition, many of the local interchange and operational design improvements to I-710 identified for the newly designed Alternative 5C were also carried over into Alternative 7 to address existing design deficiencies and safety concerns on I-710. In the 2012 Draft EIR/EIS, Alternative 5A was evaluated as a standalone alternative, which included TSM/TDM/Transit/ITS improvements, arterial highway and congestion relief improvements, and widening of the mainline to include ten lanes throughout the length of the I-710 Corridor and modernization of the design. Alternative 5A also redesigned freeway-to-freeway and arterial interchanges. Alternative 5A differs from Alternative 5C, evaluated in the RDEIR/SDEIS circulated for public comment in 2017, in the ultimate number of lanes that would

be provided. Alternative 5C would provide for a widening of the mainline to eight general purpose lanes from Anaheim St. to I-405, and up to ten lanes from I-405 to Olympic Blvd. Alternative 5C would also provide truck bypass lanes in each direction around the I-710/I-405 interchange, and a lane buffer in each direction between Pacific Coast Highway and Shoreline Dr. that would address safety and operational deficiencies.

Alternative 6 and its variations were also evaluated in the 2012 Draft EIR/EIS and were principally composed of the addition of mainline lanes as well as the construction of a separated freight corridor structure. In contrast, in response to public and agency comments requesting the addition of a freight-only corridor without mainline widening, Alternative 7 would not include the addition of general purpose lanes to I-710.

Importantly, the suite of build alternatives evaluated in the 2012 Draft EIR/EIS also did not include the programmatic elements proposed in the RDEIR/SDEIS (the I-710 Clean Truck Program [referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program], the Community Health Benefit Program, the ITS/TSM/ Congestion Relief Program, and the Transit Program).

IP-19-43

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no business or residential displacements.

IP-19-44

A thorough analysis of impacts to communities, including children, can be found in Section 3.3, Community Impacts, of this Final EIR/EIS. This analysis took into account the location of schools within proximity to the proposed improvements for the build alternatives and the potential impacts to those schools. In addition, schools were determined to be "sensitive receptors" taken into account in the air quality and health risk analyses. Please refer to Section 3.13, Air Quality, of this Final EIR/EIS for more detailed information.

IP-19-45

As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, funding is unnecessary. It is important to note that one of the key purposes of holding public meetings for the project is to solicit input from the surrounding communities in different areas along the I-710 Corridor early in the project development process. While funding devoted to making transportation improvements to I-710 in East Los Angeles would help alleviate congestion and address safety issues between I-5 and SR-60, these design options

would also involve impacts to some of the residential properties next to the freeway. It is important to identify these potential trade-offs for purposes of public discussion and consideration to help inform the selection of alternatives and/or design options.

IP-19-46

The commenter's opposition to the displacement of people as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no business or residential displacements.

IP-19-47

The concept of each corridor city housing and maintaining a central depot for receiving Port trucks is interesting; however, truck traffic patterns are generally dictated by the economic market for the goods being transported. Caltrans and Metro cannot, and do not have the jurisdiction, to control truck movement throughout the I-710 Corridor area. The I-710 Corridor Project build alternatives aim to better accommodate travel, including truck travel, within the I-710 Corridor area.

IP-19-48

The commenter's concerns about pollution and asthma affecting the students who attend Humphrey Avenue Elementary School is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality. Along I-710, air quality would be improved at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions.

However, should a build alternative be selected as the Preferred Alternative, it would include measures to improve exposure to emissions at near-roadway locations, including Humphreys Avenue Elementary School. Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710, including Humphreys Avenue Elementary School. The air filters would remove pollutants from indoor air, where school children spend the majority of their time while at school. Measure AQ-3 would provide for installation of solid barriers and vegetation where feasible along I-710 to disperse pollution and reduce pollutant concentrations. However, since the No Build Alternative has been selected as the Preferred Alternative, Measures AQ-2 and AQ-3 will not be implemented. Additionally, the I-710 Corridor Community Health Benefit Program was included as a programmatic component of the build alternatives and would have taken the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related

to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

IP-19-49

The commenter is likely referring to two distinct projects that have been under construction on I-710 in recent years: the construction of a concrete median barrier that replaced a metal beam guardrail median (project cost $26 million), and the I-710 Long Life Pavement Rehabilitation Project, which is currently under construction (project cost $56 million). The installation of the concrete median barrier was necessary for safety and liability reasons and could not be deferred until the details of the Long Life Pavement Rehabilitation Project, which was not funded at the time, were known. Planning for the Long Life Pavement Rehabilitation Project began approximately one year before the median barrier project completed construction. The pavement project lowered portions of the freeway to increase bridge clearances for tall vehicles, rendering the new median too tall, and therefore, obstructing lines of sight in some areas. In those areas, the median was removed and replaced with a temporary barricade. This removal cost approximately $110,000. It was unfortunate that the two projects could not be coordinated, as Caltrans seeks to expend funding as efficiently as possible, and with as little “throw-away” work as is feasible. However, the urgent need for the median project and the unknown funding and timing of the pavement project could not be reconciled. Since the No Build Alternative has been selected as the Preferred Alternative, there will be no construction along I-710 as a part of the I-710 Corridor Project build alternatives.

IP-19-50

The commenter appears to be referring to the future efficiencies of electric vehicles as well as unanticipated costs of the I-710 Corridor Project build alternatives. The air quality and energy analyses prepared for the RDEIR/SDEIS did take into account the presence of electric autos as part of the future vehicle fleet on I-710. However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, funding is unnecessary.

IP-19-51

The Office of Supervisor Hilda Solis submitted this transcript as a formal comment and the comments herein have been responded to and included in the project record. Please refer to Section 1.2 of this appendix for more information regarding the extensive public outreach and involvement process undertaken through the life of the project. The build alternatives evaluated in the Draft EIR/EIS released for public review in 2012 were withdrawn and revised to more closely

respond to public input and comments. Caltrans and Metro are cognizant of the need to balance necessary transportation improvements with the concerns of potentially impacted communities, and have introduced mitigation measures and programmatic project elements to help address those concerns related to the build alternatives.

IP-19-52

Please refer to Response to Comment IP-19-48 the Community Health Benefit Program.

IP-19-53

Please refer to Section 1.6 of this appendix for more detailed information regarding the arterial parking restrictions proposed as part of the build alternatives. As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, these parking restrictions would no longer be implemented.

IP-19-54

Please refer to Response to Comment IP-19-53 regarding arterial parking restrictions.

IP-19-55

It is unclear what the commenter is referring to when they indicate that a decision has been made. A Preferred Alternative is not selected by Caltrans until circulation of the draft environmental document is complete and public comments have been received and taken into consideration. In addition, a project is not formally approved by Caltrans until the final Project Report is signed, after the approval of the Final EIR/EIS. Although the No Build Alternative has been selected as the Preferred Alternative, it is important to note that the suite of build alternatives evaluated in the RDEIR/SDEIS was revised in response to public and agency comments on the 2012 Draft EIR/EIS.

IP-19-56

The commenter may be referring to a list of key infrastructure projects submitted to the Trump administration via the National Governor's Association in February 2017 outlining the State's priority projects considered "important and transformative" and that should be considered for Federal funding. The I-710 Corridor Project was included on that list, which encompassed road, levee, bridge, port, transit, and water storage and recycling projects, among others. It should be

noted that this list only provides priority projects and no funding has been guaranteed or secured.[3] Based on preliminary cost estimates provided for the two build alternatives, it would be necessary to seek funding from multiple sources to fully fund either build alternative. As with all large projects such as I-710, it is envisioned that a long lead time would be required to obtain all of the necessary project funding should a build alternative be selected as the Preferred Alternative. For example, funding for the different elements included in the build alternatives such as transit improvements, zero emission trucks, local intersection improvements, freeway improvements, intelligent transportation systems, and goods movement-related projects rely on different funding programs and sources. While some local funding has been earmarked for the I-710 Corridor through Measure R and Measure M, funding for the entirety of either build alternative has not been programmed and committed. However, as stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, funding will be unnecessary.

IP-19-57

The build alternatives include programmatic components to help improve air quality in the I-710 Corridor by increasing the number of ZE/NZE trucks in the I-710 Corridor. As discussed in Section 2.3.2, Build Alternatives, in the Final EIR/EIS, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic component of the build alternatives. This program would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty (Class 8) ZE/NZE trucks for use within the I-710 Corridor. More information regarding the program is contained in Section 2.3.2.1 of the Final EIR/EIS. At Metro's Regular Board Meeting on March 1, 2018, the Metro Board approved a motion to change the ZE/NZE truck technology development program to the phased-in "Zero Emission Truck Technology Development Program." The motion includes increasing the program funding target from $100 million to $200 million, as well as the provision of incentives and grants investment to help accelerate zero emission technologies both for long-hauling trucks and for zero emission charging or fueling infrastructure within the I-710 Corridor. A motion was also approved to develop a strategic plan that is consistent with the SCAQMD plans, which would expedite the transition from diesel freight trucks to near-zero emission vehicles as soon as possible, with a goal to transitioning to zero emission vehicles as the cleanest, most reliable technologies become available.

NZE trucks would be non-diesel and would meet CARB's optional low-NO_X standard of 0.02 gm/bhp-hr, which would lower DPM to zero and NO_X emissions by 90 percent compared to

[3] Los Angeles Times. 2017. California Submits A $100-Billion Wish List Of Infrastructure Projects To Trump For Federal Funding. February 8, 2017. Website: http://www.latimes.com/ politics/essential/la-pol-ca-essential-politics-updates-california-submits-100-billion-in-1486590025-htmlstory.html# (accessed September 21, 2018).

conventional heavy-duty trucks. ZE trucks would have even lower emissions as the tailpipe emissions of all criteria air pollutant, greenhouse gas, and mobile source air toxics would be zero. It is acknowledged that all on-road vehicles, even ZE and NZE cars and trucks, emit brake/tire wear and entrained dust emissions; therefore, by 2035, these would be the dominant mobile source particulate matter emissions in the I-710 Corridor. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

In addition to the I-710 Clean Truck Program, CARB and SCAQMD are implementing programs and strategies to improve air quality near freeways. CARB is implementing several regulations such as the Truck and Bus Regulation, Pavley Standards, and Advanced Clean Cars Program to reduce emissions associated with vehicles traveling on the freeway. Besides this regulation, CARB is also in the process of developing other regulations that target buses and heavy-duty trucks such as the Innovative Clean Transit Regulation and the Advanced Clean Trucks Regulation. SCAQMD is also implementing several control measures under the 2016 Air Quality Management Plan to encourage the deployment of ZE/NZE technologies.

IP-19-58

Based on the analyses performed that were included in the RDEIR/SDEIS, air quality and traffic congestion would generally be improved with the build alternatives. Please refer to Section 3.5, Traffic, and Section 3.13, Air Quality, for more detailed information.

As stated in Response to Comment IP-19-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no displacements of business or residences.

IP-19-59

The commenter’s concern regarding the displacement or elimination of homeless services is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and will not result in the displacement or elimination of either the Salvation Army Bell Shelter or the Long Beach Multi-Service Center.

IP-19-60

The commenter’s support of zero emissions is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of ZE options.

IP-19-61

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

IP-19-62

Community input is a cornerstone of the environmental and project development processes, and because of the scope and scale of the I-710 Corridor Project, a more comprehensive public outreach framework was used. Please refer to Section 1.2 of this appendix for more detailed information on the public involvement process used for the project. The outreach framework for the I-710 Corridor Project is specific to the needs of the project, as it was a modified continuation of the outreach framework utilized on the *Major Corridor Study*, completed in 2005. Not all Caltrans projects will employ such a robust outreach framework; that decision is ultimately up to the project-specific Project Development Team. It should be noted that community feedback and comments were one of the major reasons as to why the original set of alternatives presented in the Draft EIR/EIS circulated in 2012 was withdrawn and revised.

IP-19-63

The commenter's concerns regarding air pollution and sensitive populations is acknowledged and included in the project record. As discussed in Section 3.13 of the RDEIR/SDEIS, and as shown in the maps and plots provided in Appendix Q, Air Quality/Health Risk Assessment Maps, the build alternatives would improve air quality and reduce public health risk in the Basin and the I-710 Area of Interest. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are some near-roadway locations where there would be an increase in emissions. Alternative 5C would have the fewest areas with these near-roadway impacts. A thorough analysis of impacts to communities, including children, can be found in Section 3.3, Community Impacts, of the Final EIR/EIS. This analysis took into account the location of schools within proximity to the build alternatives and the potential impacts to those schools.

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From: Kosinski, Ron J@DOT
To: Roach, Jason P@DOT
Subject: FW: 710 Corridor Project - Need safe bicycle facilities
Date: Wednesday, October 18, 2017 1:51:28 PM

Comment e-mail for our inclusion in the 710 South public comments

-----Original Message-----
From: Michael Sullivan [mailto:Michael.Sullivan@csulb.edu]
Sent: Wednesday, October 18, 2017 9:47 AM
To: Kosinski, Ron J@DOT <ron.kosinski@dot.ca.gov>
Cc: kkessener@hoardcdm.com
Subject: 710 Corridor Project - Need safe bicycle facilities

Dear Mr Kosinski,

I am very concerned about the "diverging diamond interchanges" that are proposed for Anaheim St, PCH, and Del Amo Ave. I live in North Long Beach just east of the LA River and north of Del Amo. Currently there is no safe way to bike or walk to the Del Amo Blue Line station. I literally risk my life when I have to bike there. I can't even get off my bike and walk it because there aren't sidewalks that connect the LA River bridge to the west side of the 710 underpass. It is horrific. Especially when I have my kids with me. IP-20-1

The proposed diverging diamond interchange with standard bike lanes is not an acceptable solution. We need a physically protected bike path to safely navigate over the LA River and under the 710 to the Del Amo Blue Line station. Families on bicycles should not just be given a 6 inch line of paint to separate our bodies from speeding 2 ton metal vehicles that are trying to access the high speed freeway as quickly as possible and whose speeds will be increased by the diverging diamond configuration. We need a physical barrier and/or grade separation. We need a safe route that is comfortable for all types of bicyclists, not just the fearless. IP-20-2

Sincerely,
Michael Sullivan

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IP-20-1

Bicyclists and pedestrians were a consideration in the design of all local interchanges under the build alternatives, including diverging diamond interchanges, and appropriate treatments were applied to balance vehicle, bicycle, and pedestrian use. Caltrans' *Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians* (Caltrans 2010) was used during the design process of the build alternatives to date. As discussed in Section 3.5.3.2, because, under the build alternatives, sidewalks would be improved or added, bikeways and trails would be maintained, and bicycle and pedestrian connectivity would be enhanced, the I-710 Corridor build alternatives would improve conditions for pedestrian and bicycle travel, especially along Del Amo Blvd. from Compton Creek to the east side of the Los Angeles River. In addition, as discussed in Section 2.3, with respect to "Complete Streets" improvements, inclusion of pedestrian paths (sidewalks, curb ramps, and crosswalks) and sufficient outside shoulder width to accommodate bikeways on local street crossings would be provided as part of local interchange modifications under the build alternatives. In response to the City of Long Beach's General Plan update, Class IV bikeways were incorporated as part of the build alternatives in local street designs where possible, along PCH, Anaheim, and Del Amo in the vicinity of the freeway interchanges. A Class IV separated bikeway is for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature. Although Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative, this Final EIR/EIS has been updated to reflect these modifications. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-20-2

As discussed in Section 3.5.3.1 of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Should a build alternative be selected as the Preferred Alternative, these facilities would be designed in coordination with the affected local jurisdiction and would comply with ADA requirements. The build alternatives would improve pedestrian facilities (sidewalks) by replacing the old ones that would be removed as part of the build alternatives. Bike travel would also be improved by providing new pavement on the arterial bridges that would be replaced over I-710 and the Los Angeles River. Class I Bikeways within the Study Area would be maintained with the proposed build alternatives.

The addition of the pedestrian and bicycle-only overcrossings as part of the build alternatives, proposed at locations in which gaps in freeway crossing opportunities have been identified, would also improve pedestrian and bicycle travel within the I-710 Corridor by introducing new

connectivity points traversing the I-710 and the Los Angeles River (and in the case of the Pacific Place overcrossing, the I-405 and Metro Blue Line).

Diverging diamond interchanges decrease vehicle speeds on the crossing arterials to 20–30 mph, lessening the speed differential between bikes and vehicles. Where possible, under the build alternatives, Class IV bike lanes have been integrated into the roadway design along Del Amo Blvd. between Compton Creek and the Los Angeles River since circulation of the RDEIR/SDEIS in 2017. A Class IV separated bikeway is for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature. Although Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative, this Final EIR/EIS has been updated to reflect these modifications. As noted previously, the No Build Alternative has been selected as the Preferred Alternative and none of the bicycle and pedestrian improvements noted above will be constructed.

Brad Jensen

From: claramsolis@roadrunner.com
Sent: Saturday, October 21, 2017 2:29 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Clara Solis
Organization:
Phone: 3234226446
Mailing Address:
City, State:
Zip:
Comment/Question:
How do I add a pdf?

IP-21-1

*You received this message because Clara Solis submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-21-1

Upon receipt of this comment, Ms. Solis was contacted and was able to provide the PDF attachment in question via another email address.

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Gmail Martha Hernandez <lavernemash@gmail.com>

Feedback - I-710 Corridor
1 message

Martha Hernandez <lavernemash@gmail.com> Sun, Oct 22, 2017 at 11:57 PM
To: 710eir@metro.net
Cc: "Martinez, Joseph" <jmartinez@bos.lacounty.gov>, "Rehman, Waqas" <WRehman@bos.lacounty.gov>, Lily Hernandez <lilygh@live.com>

I have a suggestion.

Martha Hernandez

E: lavernemash@gmail.com

C: (323) 633-3419

H: (323) 863-6274

Hi,

My name is Martha Hernandez, and I have been an advocate for better air quality in East Los Angeles since the 90's. I am the co-chair for the I-710 Expansion CAC for East Los Angeles. I have read your plans and proposals. I have been to several of your meetings and spoken with your engineers, consultants and representatives. I commend the work that many of you have done. However, within all these reports there is one key portion that is missing for my community.

I had brought this up back in 2015 when Metro had plan to install another LTR. East Los Angeles does not, nor has it ever had air quality monitors installed within its boundaries. I had mentioned this prior to 2015 in previous meetings before 2000. After these meetings Metro had promised air quality monitors. However, in 2015, it came to my attention that the air quality data used to determine the air within East Los Angeles were, and are, coming from locations outside of East Los Angeles borders and even across another city. It was discovered there are only two air quality monitors near East Los Angeles based on the zip codes that make up of the area of unincorporated East LA. One is located on 1630 North Main Street, Los Angeles CA 90012, which is the Los Angeles-North Main Street air quality monitoring site. The other is located on 4144 San Gabriel River Pkwy., Pico Rivera CA 90660, which is the Pico Rivera #2 air quality monitoring site. This falls S San Gabriel for zip code 90022, while zip codes 90023 and 90063 falls under an air monitoring site located under Central LA CO. East LA do not have a monitor that reads the air quality at the center of the freeways and the heart of the East Los Angeles Interchange. Please see attached map (https://drive.google.com/open?id=16wLsjdBG-o4ML8wmvTxM3ZFbCqI&usp=sharing). IP-22-1





It is my belief that before any plans are made, a detailed study with data from air quality monitors located in East Los Angeles need to be added. For this to happen, we need these monitors installed with live data available on the arb.ca.gov and airnow.gov sites. I also believe there should be a study done on the impact of carbon emission to the residents in every street. It has recently come to my attention that Google Maps, A Sense of Aclima and the Environmental Defense Fund did such a map with the city of Oakland (https://blog.aclima.io/aclima-google-edf-map-air-quality-oakland-aad28c67859b). I have attached the article, as well as the link. IP-22-2

Many things that were found for Oakland are happening in East Los Angeles, and have been happening for many decades. There are higher rates of asthma and allergies. I had found a study being done of the impact of freeway emissions in pregnant women living near the freeways. The study was of pregnant women having autistic babies. Many were found to live near freeways during their pregnancy. The emissions have been linked to cancer and heart disease. There are many other diseases that have yet to be discovered. If this can impact those of us in the now, what of those yet to be born who will carry the mutated DNA. We need to stop the bleeding before we can clean the wound, and this cannot be done without all data. IP-22-3

I also believe that East Los Angeles not only needs monitors, but air filters integrated within the sound walls of the freeways, as well as homes in the surrounding area. Air conditioners should be placed in every home impacted by the freeway emissions with an updated electrical system to sustain it. It would be ideal if the state and/or city would sponsor a contest to create solar-powered, low-energy air conditioners that can easily be connected to the IP-22-4

electric grid. This will reduce the use of energy during summer months, but also the cost to residents. These air conditioners will then be given to residents within a 7-mile radius at no cost to them. IP-22-4

Seeing that East LA has already been greatly affected by the pollutants from the freeways, money should also be invested in creating free clinics within a 7-mile radius of the freeways for those with medical needs, including the cost of medication. This is the least that we can do for those that have unknowingly been exposed to the contaminants in the air for many decades. We also need more beneficial trees that combat the pollutants. I've noticed there are many of these lilac trees being planted that not only polluting the air with pollen, but the ground with their flowers. Several of the plants being planted around the freeways agitate asthmatics and trigger allergic reactions. I wish more study is done before planting. IP-22-5 IP-22-6

I have an idea of a cargo train, which runs on a lane within the I-710 freeway, that delivers goods to ports within each city. Each city would be responsible for these ports. Trucks can drive to these ports and pick up the goods to be delivered to their destination point located within their city. This will relieve traffic on the freeways, as well as reduce the amount of accidents. This in turn reduces emissions. It will also reduce the impact and burden from East Los Angeles. This will go along with the continued expansion of the trains and subways around Los Angeles, especially West Los Angeles. IP-22-7

I believe we should stop before moving forward with the proposed options. We need to gather all current and important information before going forward with any plans. These changes need to not just impact the now, but future generations to come. We need to review all avenues and issues from all cities and residents to continue. From my experience and years living in Los Angeles, we haven't been rebuilding the freeways, but creating patches. We need to go one step further than the past builders, not make the same mistake of building with no thought to the future. This needs to be our legacy, but a legacy that will continue to benefit for many, many years to come.

Sincerely,

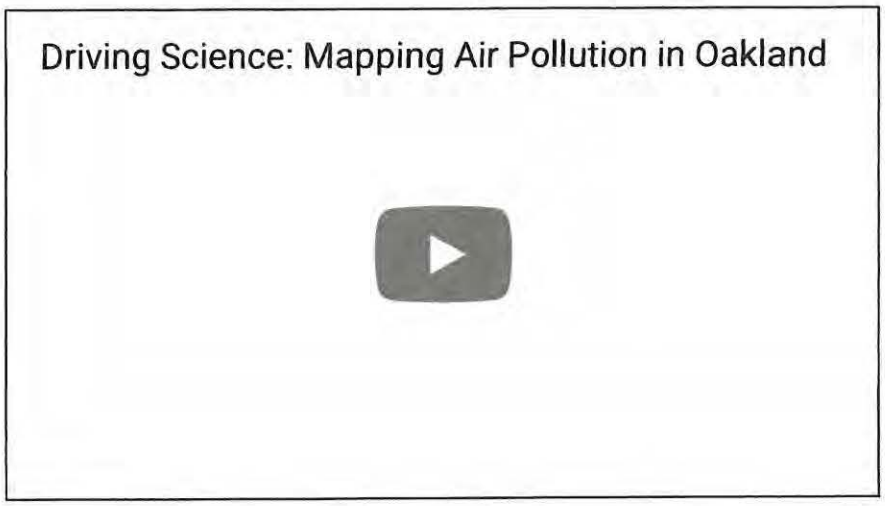
Martha Hernandez



10-25-2017

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874K

Aclima Follow
Aclima designs and deploys sensor networks that advance environmental intelligence to reveal actionable insights for people and the planet.
Jun 4 · 4 min read



Driving Science

Aclima, Google, and the Environmental Defense Fund map Oakland's air quality

Aclima, Google, the Environmental Defense Fund (EDF), and engineering researchers from The University of Texas at Austin (UT Austin) announce today the results of a year-long study measuring and mapping air pollution in West Oakland to better understand the hyperlocal influence air pollution has on our health and our climate. The scale and scope of air quality measurement conducted in this study is unprecedented.

Traditional air quality measurement is achieved by stationary monitors, of which Oakland has three of the 15 located throughout the Bay Area. These stations are staffed and managed by the local Bay Area Air Quality Management District. Our approach fills in the gaps of traditional air monitoring and brings a new layer of environmental intelligence to individuals, communities, and cities by making air measurement mobile and local.

In a data-driven future, the environment must be represented. Solving urban air pollution requires systemic solutions driven by sound science

and powered by big data. Thankfully, technology now makes it possible to fill in the gaps. By equipping Street View cars with Aclima's sensing platform, we've unlocked a new paradigm for understanding our environment.

The Study

For this study, two Street View cars covered 14,000 miles and collected millions of data points about black carbon, nitric oxide, and nitrogen dioxide between May 2015 and May 2016. We chose to focus on these pollutants because they are known to be harmful to human and planetary health. Empowered with this new information, we will work with city officials and our local partners to discover insights and find solutions to alleviate pollution hot spots around the city.

Our results—that urban air pollution can be highly variable over the length scale of city blocks—support the value of mobile measurement in mapping pollution at the street level. The resulting data set is one of the largest of its kind of single city streets. The work validates Aclima's mobile measurement platform as a scalable approach to increase our understanding of the processes that define air pollution in our communities.



Data visualization of Aclima mapping air quality in Oakland, CA. (Courtesy Aclima, Google)

The Problem



Aclima Chief Scientist, Melissa Lunden, stands with an Aclima-equipped Google Street View car used for the study. (Courtesy Aclima,Google)

The Solution

With this transformative technology, we hope to enable more people to join local, regional, and national dialogues on improvements to our air quality. We are already sharing the data with air quality scientists and our research partners at the U.S. Environmental Protection Agency. Our shared vision is to create a community of partners in scientific, business, governmental, and regulatory communities to apply the insights generated by Aclima's sensing platform to improve health in our communities.

Our next steps are to scale this effort and bring large-scale, ubiquitous pollution mapping to other cities. In September 2015, we made a commitment with Google to expand our mobile sensing to communities in Los Angeles, San Francisco, and the Central Valley and are measuring many more pollutants. So far, we've driven more than 80,000 miles together in California and we plan to share data and insights from that work in the coming months.

. . .

Oakland's multiple busy freeway corridors and booming industrial shipping sector in the Port of Oakland generate high levels of air pollution. The I-880 freeway, which services Oakland and the surrounding Bay Area, carries the greatest volume of truck traffic in all of California. The data collected could help shape the way cities and communities develop, adapt, and mitigate pollution.

Results of our work demonstrate how decisions about transportation, zoning, and land use can have profound impacts on air quality and quality of life for residents, workers, and commuters. Unfortunately, the effects of this air pollution are already felt among Oakland's population. In 2015, the overall rate of asthma emergency department visits for parts of East and West Oakland was two times the Alameda County rate. In Alameda County, the asthma hospitalization rate is nearly twice the state average and the third-highest in California. Today, more than a quarter of a million children suffer from asthma in Alameda County, where Oakland is located.

> *"At a time when millions of people are living in cities with poor air quality, mapping street-level pollution, block-by-block in real-time, provides an unprecedented tool for improving human and planetary health. Our sensing platform is a scalable solution to address major air quality monitoring gaps worldwide," said Melissa Lunden, Chief Scientist at Aclima.*

To learn more, check out Bay Area Air Quality Management District's website and stay tuned for updates on A Sense of Aclima.

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Environmental Science & Technology

Article

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High-Resolution Air Pollution Mapping with Google Street View Cars: Exploiting Big Data

Joshua S. Apte,[*,†] Kyle P. Messier,[†,‡] Shahzad Gani,[†] Michael Brauer,[§] Thomas W. Kirchstetter,[∥] Melissa M. Lunden,[⊥] Julian D. Marshall,[#] Christopher J. Portier,[†] Roel C.H. Vermeulen,[▽] and Steven P. Hamburg[‡]

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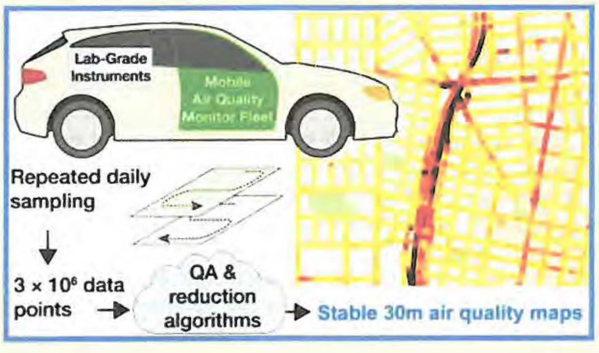
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Supporting Information

ABSTRACT: Air pollution affects billions of people worldwide, yet ambient pollution measurements are limited for much of the world. Urban air pollution concentrations vary sharply over short distances (≪1 km) owing to unevenly distributed emission sources, dilution, and physicochemical transformations. Accordingly, even where present, conventional fixed-site pollution monitoring methods lack the spatial resolution needed to characterize heterogeneous human exposures and localized pollution hotspots. Here, we demonstrate a measurement approach to reveal urban air pollution patterns at 4−5 orders of magnitude greater spatial precision than possible with current central-site ambient monitoring. We equipped Google Street View vehicles with a fast-response pollution measurement platform and repeatedly sampled every street in a 30-km^2 area of Oakland, CA, developing the largest urban air quality data set of its type. Resulting maps of annual daytime NO, NO_2, and black carbon at 30 m-scale reveal stable, persistent pollution patterns with surprisingly sharp small-scale variability attributable to local sources, up to 5−8× within individual city blocks. Since local variation in air quality profoundly impacts public health and environmental equity, our results have important implications for how air pollution is measured and managed. If validated elsewhere, this readily scalable measurement approach could address major air quality data gaps worldwide.



1. INTRODUCTION

Air pollution is a major global risk factor for ill-health and death.[1−5] Air pollution measurements are crucial for epidemiology and air quality management, but the extent of ground-based air pollution observations is limited.[5,6] For many developing-country regions, especially in populous parts of Asia and Africa, robust air quality monitoring is largely absent.[5] Even for high-income regions, ambient monitors are generally sparsely sited. For the 60% of the U.S. census urban areas with continuous regulatory monitoring, there are a mean of ∼2−5 monitors per million people and 1000 km^2 (Supporting Information (SI) Table S1). However, primary air pollutant concentrations in cities can vary sharply over short distances (∼0.01−1 km) owing to unevenly distributed emissions sources, dilution, and physicochemical transformations.[7−10] Such gradients are not well represented with routine ambient measurements, but have important implications for exposure assessment, epidemiology, air quality management, and environmental equity.[10−13]

Advances in air pollution exposure assessment techniques over the past two decades have helped address limitations of (i) data coverage and (ii) spatial resolution that are associated with central-site ambient monitoring.[10,14] These methods include satellite remote sensing (RS), chemical transport models (CTMs), land-use regression (LUR) models, and direct personal exposure measurements.[14] Each of these approaches has distinct advantages and limitations. Satellite RS instruments and CTMs

Received: February 17, 2017
Revised: April 26, 2017
Accepted: May 4, 2017
Published: June 5, 2017

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DOI: 10.1021/acs.est.7b00891
Environ. Sci. Technol. 2017, 51, 6999−7008

are spatially coarse (>1−10 km resolution), and cannot characterize the fine-scale gradients (10−300 m) that drive population exposure to local emissions such as traffic. Satellites are unable to measure some pollutants of key health concern (e.g., black carbon, ultrafine particles). Dispersion models and CTMs are only as reliable as their underlying emissions inventories, and thus cannot reveal unexpected sources. Empirical and geostatistical models such as LUR and kriging can estimate concentrations at high spatial resolution.[10,14−17] However, these models provide limited temporal information, often require local training data sets to be available or collected, and struggle to predict the tails of air pollution distributions, especially where idiosyncratic local sources exist. Alternative methods to measure how air pollution concentrations vary *within* cities and neighborhoods could complement these existing techniques and fill important data gaps.[18,19]

We explore here the potential of routine mobile monitoring with fleet vehicles for measuring time-integrated concentrations at high spatial resolution. The use of vehicles for mobile air pollution sampling dates to the 1970s or earlier,[20] and has been common since the early 2000s.[10,13,21−27] However, even purpose-built "mobile labs" are rarely deployed for extended periods, and often depend on trained research staff as drivers.[28−38] As a result, few mobile monitoring data sets have sufficient repetition frequency or statistical power to precisely reveal consistent long-term spatial patterns over wide areas. We consider here an alternative approach, equipping professionally driven fleet vehicles with air quality instruments, repeatedly sampling every street of an urban area, and applying data reduction algorithms to distill stable long-term spatial patterns from time-resolved data. This approach has been implemented for public transportation vehicles along fixed routes, including trams in Karlsruhe and Zürich.[24,29] We report here on a 1 year pilot study in the San Francisco Bay Area using extensive route-free driving representative of a broad sample of city streets. In addition to testing the feasibility of this approach at scale, we explicitly aimed to "overdesign" our sampling scheme to enable quantitative characterization of trade-offs between sampling frequency and measurement precision/accuracy. (A similar oversampling approach has been tested on shorter cycling routes in the U.S. and Belgium).[15,30,31] We demonstrate that our measurement approach is capable of precisely (±10−20% of median) revealing urban pollution gradients at very fine ~30 m scales, or 10^4−10^5× greater spatial resolution than with urban-ambient monitors. Our results corroborate current understandings and also provide new insights into the spatial variability of urban air pollution.

2. MATERIALS AND METHODS

In brief, we equipped two Google Street View (SV) mapping vehicles with an Aclima environmental intelligence fast-response pollution measurement and data integration platform (Aclima, Inc., San Francisco, CA). Using these vehicles, we repeatedly measured weekday daytime concentrations of black carbon particles (BC), NO, and NO_2 over 1 year for every road within diverse residential, commercial and industrial areas of Oakland, CA. BC, NO, and NO_2 are key health relevant pollutants whose sources include vehicular traffic, shipping, industrial combustion, cooking, and heating. The large resulting data set (3×10^6 1-Hz measurements within a 30 km^2 area; 24 000 total vehicle-km on 750 road-km) is unique among mobile monitoring studies in its very high coverage density and repeat-visit frequency (average of 31 days and 200 1-Hz measurements for each 30 m of road, SI Figure S2). Through data reduction and bootstrap resampling[32] algorithms, we compute median ± standard error (SE) annual daytime concentrations for ~21 000 unique road segments. While instantaneous pollution levels vary rapidly in on-road environments, by repeatedly sampling each road and computing long-term medians, we obtained stable, precise (±10−20%) estimates of time-integrated pollution at fine 30 m spatial scales. Overall, these data reduction methods produce maps of systematic spatial variation in long-term air pollution that are robust to the stochastic temporal variability in the underlying 1-Hz data.

2.1. Measurement Platform. Two Google Street View (SV) vehicles were equipped with the Aclima Ei measurement and data acquisition platform. This platform provides data management, quality control, and visualization functions, facilitating extensive, routine measurements. In the present configuration, monitors employed were fast-response (1 Hz) laboratory-grade analyzers: BC was measured using a photoacoustic extinctiometer, NO was measured using chemiluminescence, and NO_2 was measured using cavity-attenuation phase-shift spectroscopy. The inlet system was designed to minimize self-sampling and particle sampling losses. Further details of the instrumentation design, routine calibrations, and QA/QC protocols/algorithms are provided as SI.

2.2. Study Area Description and Sampling Protocol. Sampling during the 1 year study duration emphasized three main areas within Oakland, CA: West Oakland (WO, ~10 km^2), Downtown Oakland (DT, ~5 km^2), and East Oakland (EO, ~15 km^2). WO is bounded by major interstate highways (I-880, I-980, I-580), the fifth-largest U.S. container port, and associated rail and trucking facilities. Residential blocks are interspersed with industries in this lower-income neighborhood. DT has mixed residential and commercial mid- and high-rise buildings. EO is divided between industrial and mixed-income residential areas.

We undertook mobile monitoring on weekdays from May 28, 2015 to May 14, 2016. During routine operation, cars left garages in either Mountain View, CA or San Francisco, CA at around 9:00 AM local time and drove to Oakland, CA for ~6−8 h of driving. Barring operational constraints (e.g., maintenance), two cars were operated simultaneously on each driving day.

Drivers were provided daily driving assignments consisting of polygons (~1−5 km^2) in which the driver was tasked with driving every road at least once. Drivers were instructed to drive in the normal flow of traffic. Mean speeds were ~25 km h^{-1} on surface streets and ~88 km h^{-1} on highways. Routine sampling was conducted during all seasons. Vehicles were operated without regard to weather, except during 1−2 exceptional storms that precluded safe driving. The prevailing wind direction for the study area was from the west (~85% of all study hours; median wind speed 4 m s^{-1}). A total of 2.7 M 1-Hz observations, or 800 h, on ~16 000 unique 30 m road segments were collected in core WO+DT+EO domain. Additional monitoring incorporated interstate highways linking the study areas and car maintenance garages (~300 k 1-Hz measurements on ~4500 unique 30 m road segments). Further information about the study domain and operational considerations are provided as SI, including detailed maps (Figure S1−S2).

2.3. Data Reduction. We developed a series of data reduction algorithms to convert our data set of ~3 million instantaneous observations into estimates of median annual weekday concentrations for individual 30-m road segments. First, we accounted for the possible biases of daily diurnal variation in urban-background concentrations by applying an hourly multi-

DOI: 10.1021/acs.est.7b00891
Environ. Sci. Technol. 2017, 51, 6999−7008

plicative adjustment factor to our 1-Hz mobile data based on ambient concentrations at a regulatory fixed-site monitor in WO.[15,33,50,53] This adjustment approach makes the implicit assumption that temporal patterns are spatially invariant. This common assumption is conceptually imperfect but may be acceptable for well-mixed daytime hours.[15,33,50,53] In any case, the temporal adjustment had only a minor (±10%) impact on the observed spatial patterns in long-term concentrations, likely because the numerous repeated measurements were already balanced in space and time.

Next, we employed a "snapping" procedure to assign each 1-Hz measurement to the nearest 30 m road segment on the basis of measured GPS coordinates, thereby allowing repeated measurements along the same road to be analyzed as a group.[15] We chose to use 30 m road segments for analysis after weighing considerations of spatial resolution (smaller segments show more spatial variability) and sample size (outliers and GPS errors have proportionally greater influence when data are "thinly sliced"). A virtue of this data reduction step is that it ensures that road segments with a high number of raw 1-Hz samples (e.g., owing to low average speeds) are not over-represented in our spatial analyses: regardless of the number of 1-Hz samples, a single point estimate of concentration is produced for each road segment. We restrict our analysis to include only the ~21 000 road segments in our study domain with at least 10 unique days of measurement between 8 am and 6:59 pm local time between 28 May 2015 and 18 May 2016. The typical road segment contains ~150−250 individual 1-Hz samples collected on ~20−50 distinct days. The SI provides further details on the performance of our "snapping" and temporal adjustment algorithms (see Figures S4−S5).

For each of the ~21 000 road segments, we computed distributional parameters of repeated 1-Hz observations. Similar to some recent mobile monitoring studies,[15,30] but unlike others,[28] we explicitly chose not to filter out "peak" 1-Hz concentration measurements resulting from encounters with other vehicles' exhaust plumes in assessing spatial patterns. The frequency with which plumes occur in space and time provides valuable information about the conditions that give rise to on-road concentrations.[30] We evaluated both the median and mean as metrics of central-tendency. In initial study design, we had two a priori concerns about the possible use of the mean as a reliable metric: First, that a small number of extreme outlier observations (true concentration "peaks" or rare spurious measurements) might bias our estimation of "typical" concentrations for each road segment, and second, that if we under-sampled the tails of a skewed concentration distribution, we might not obtain stable means. Also, for a log-normal or similarly skewed distribution, median is generally a more appropriate measure of central tendency than is mean. Accordingly, we chose to use median concentrations as our core estimate of central tendency for 30 m road segments, and evaluated means in sensitivity analyses.

We used a set of bootstrap resampling procedures to quantify the effect of sample-to-sample variability and sampling error on the precision of central-tendency 30 m concentration estimates. For each individual road segment, we computed the standardized error (SE) of the median and mean concentration. As a metric of precision, we consider normalized SE: the ratio of the standard error of the median (mean) concentration to the median (mean) concentration itself (SI Table S4). On average, the normalized SE of individual 30 m median (mean) concentrations was low: respectively 20% (21%), 16% (15%), and 9% (8%) for BC, NO, and NO_2. Road segment mean concentrations were well correlated with medians (mean > median owing to positive skew, $r^2 \sim 0.6-0.9$). In sum, for our sample size, central-tendency concentrations can be estimated with good precision and minimal sampling error from stochastic variability. For large groups of road segments (e.g., all residential streets), we estimate the precision of the central tendency to be within ≪1% of the normalized SE.

The SI provides further information on bootstrapping and precision calculations, comparisons between mean and median metrics, and summary tables of raw and reduced data (SI Tables S2−S3). The distributions of all ~21 000 30 m-median road segment concentrations for NO, NO_2, and BC are positively skewed, but based on a Kolmogorov−Smirnov test do not conform to a single parametric distribution (SI Figure S6).

2.4. Stability Analysis: Monte Carlo Subsampling. We utilize a subsampling analysis to investigate whether a less intensive program of repeated monitoring can reproduce the long-term pollution patterns observed from the full data set.[15,30,31] A specific question of interest here is whether there is a point of "diminishing return," beyond which additional repeat driving provides relatively little added information.

We use Monte Carlo simulation to repeatedly subsample our full data set to systematically introduce fewer days of driving for analysis. Briefly, we randomly sample without replacement $1 \leq N \leq 50$ unique drive days at each location from our full data set. Within our core domain, the mean road segment has 31 days of sampling (10% trimmed range: 17−49 days). For each value of N, we performed 250 random draws to produce 250 subsampled "maps" of 30 m median concentrations. For road segments with fewer than N days of sampling, the "subsampling" effectively includes all observations collected over the duration of our campaign. Thus, the subsampled maps converge to the result of the full data set as N approaches the total number of unique driving days for the full measurement campaign. We compute three metrics to compare the performance of each subsampled concentration map to that of our full data set. First, as a metric of precision, we computed the r^2 between each subsampled map and the corresponding full data set of 30 m median concentrations. Second, as a metric of bias, we compute the normalized root-mean-square error (normalized RMSE, or equivalently, the coefficient of variation of the RMSE, CV-RMSE) as the square root of the mean of the squared difference between each subsampled 30 m median concentration and its corresponding median from the full data set. Third, as a metric of the temporal stability of subsampled spatial patterns, we computed the intraclass correlation (ICC) of each subsampled iteration, grouped by 30 m road segments. For this application, ICC values of 0.75−1 reflect large and systematic spatial differences, with low residual temporal variability at each location (see Section S1.5). We find that spatial variability dominates the total variability in our data set, with ICC values in the range of 0.8−0.95 for all pollutants (see SI Table S5), indicating that our observed long-term spatial patterns are robust to stochastic variability among individual 1-Hz samples.

2.5. Data Mining: Spatial Patterns. We conducted two "data mining" investigations to explore the determinants of the spatial patterns that are revealed by our mobile monitoring data, specifically (i) near-highway distance-decay relationships and (ii) the effect of local, transient sources on spatial patterns.

Distance-decay relationships for pollutant concentrations near major roadways have been documented in the literature,[5,14,35] relying predominantly on experiments along carefully selected near-highway upwind-downwind transects.[35] Here, we demon-

DOI: 10.1021/acs.est.7b00891
Environ. Sci. Technol. 2017, 51, 6999−7008

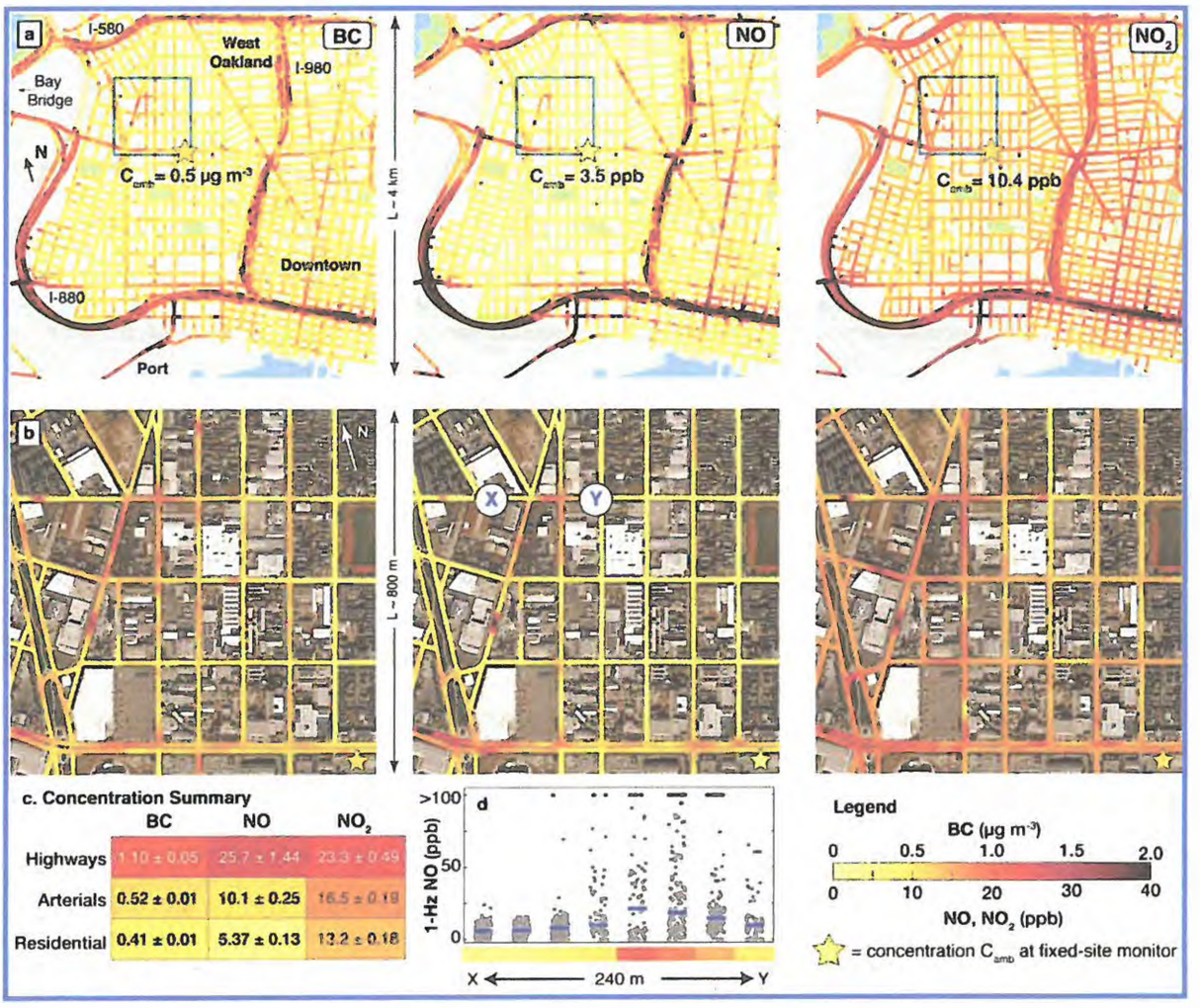
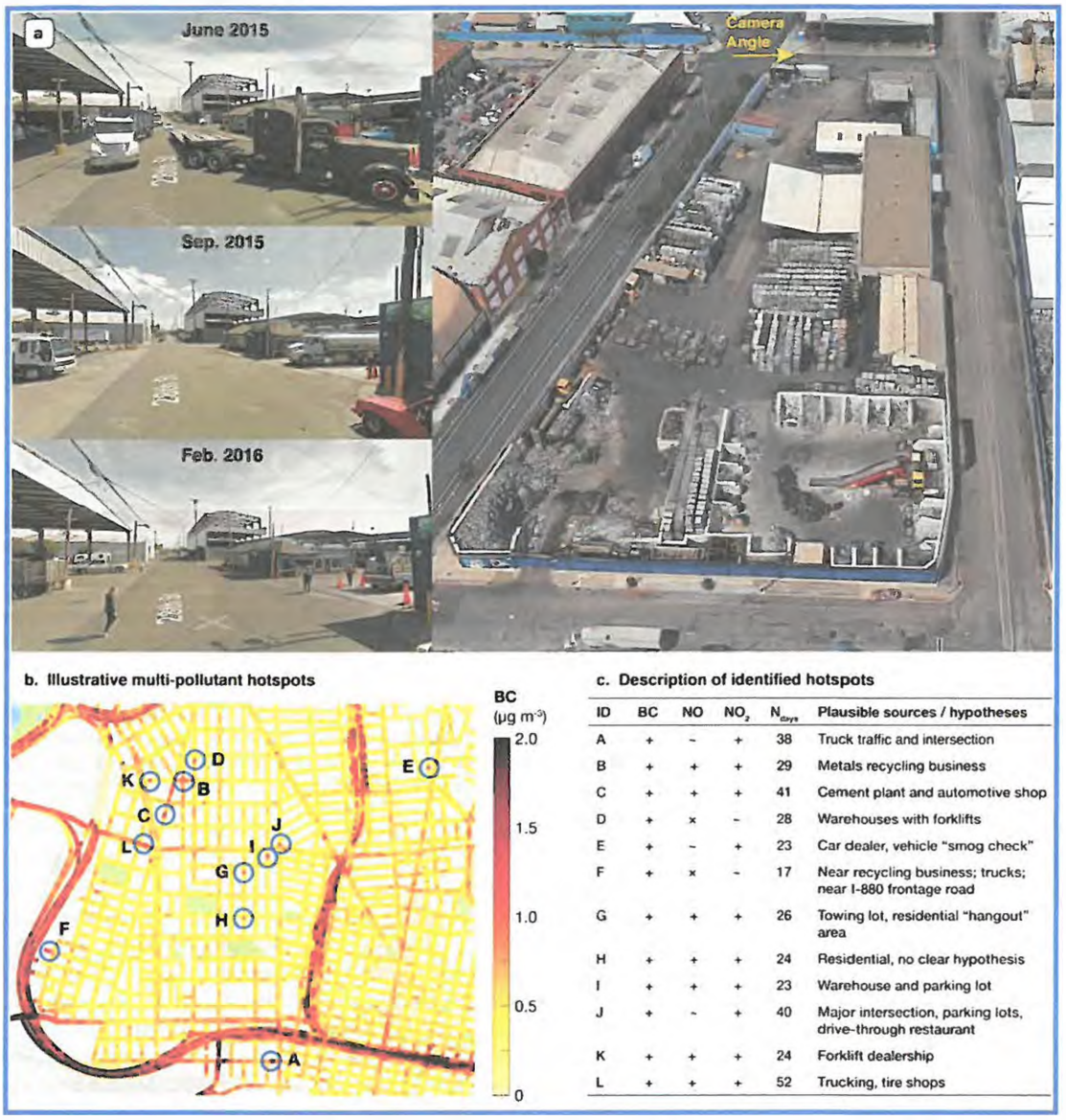


Figure 1. High-resolution mapping of time-integrated concentrations. Annual median daytime concentrations for 30 m-length road segments based on 1 year of repeated driving for a 16 km^2 domain in West Oakland [WO] and Downtown (a), and for a 0.6 km^2 industrial-residential area in WO (b). Median ± SE concentrations are tabulated by road type in c. Annual median daytime ambient concentrations C_{amb} at a regulatory fixed-site monitor in WO are plotted as shaded stars. Localized hotspots in b correspond to major intersections, industries, and businesses with truck traffic, and are interspersed with lower-income housing (see aerial image). Locations of hotspots are similar among pollutants. d, Distributions of 780 1-Hz NO measurements for a transect of eight 30 m road segments (see b, from point X to Y) to illustrate relationship between 1-Hz samples (~100 per segment over 1 year) and plotted long-term medians (colored bars, blue horizontal lines). Elevated levels near midpoint of transect are associated with operations at a metal recycler (see Figure 2). Wind rose data are provided in SI Figure S1, and show consistent westerly winds. Imagery © 2016 Google, map data © 2016 Google.

strate a "big data" approach that provides complementary information, using our full mobile data set to characterize time-averaged, isotropic (i.e., direction-independent) daytime distance-decay relationships. For every road segment within WO and DT, we computed a distance-to-nearest-highway parameter d ("spatial lag"). We bin all road segments by d, and compute the median concentration as a function of spatial lag using 50 m bins. For each pollutant we estimate a three-parameter exponential distance-decay relationship for the mean highway normalized concentration ratio as a function of spatial lag. The SI provides further detail on this fitting approach.

To investigate how localized or transient emissions sources contribute to the on-road concentrations measured by our mobile monitors, we employed a peak detection algorithm.[25,28,36,37] The basic conceptual approach uses a moving-window function to identify a localized concentration baseline, and then attributes the difference between the measured value and the baseline to short-duration concentration "peaks". We applied a 10 s moving average filter to the entire input data set to prevent spurious extreme low values in the raw data (e.g., instrument noise) from influencing the baseline determination. We established the concentration baseline for each second in this 10 s smoothed data set as the smaller of two quantities: the instantaneous value in the data set, or the p = fifth percentile concentration within a moving window of t = 120 s. By selecting the fifth percentile, the algorithm identifies a value that is representative of the cleanest local conditions, which are more influenced by the urban background than by localized sources. We chose t = 120 s to ensure that the time window was longer than the typical traffic light cycle, but short enough that the baseline concentrations on surface streets was established using measurements collected within ~1 km of each location (30 km/h for 2 min = 1 km).

DOI: 10.1021/acs.est.7b00891
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c. Description of identified hotspots

ID	BC	NO	NO_2	N_{days}	Plausible sources / hypotheses
A	+	~	+	38	Truck traffic and intersection
B	+	+	+	29	Metals recycling business
C	+	+	+	41	Cement plant and automotive shop
D	+	×	~	28	Warehouses with forklifts
E	+	~	+	23	Car dealer, vehicle "smog check"
F	+	×	~	17	Near recycling business; trucks; near I-880 frontage road
G	+	+	+	26	Towing lot, residential "hangout" area
H	+	+	+	24	Residential, no clear hypothesis
I	+	+	+	23	Warehouse and parking lot
J	+	~	+	40	Major intersection, parking lots, drive-through restaurant
K	+	+	+	24	Forklift dealership
L	+	+	+	52	Trucking, tire shops

Figure 2. Illustrative pollution hotspots. a. Street View and aerial imagery of the metals recycling cluster highlighted in Figure 4a–c. Frequent heavy-duty and medium-duty truck traffic is evident in repeated Street View images. b,c. Multipollutant hotspots (i.e., prominent local concentration outliers) were identified from BC, NO, and NO_2 median concentrations as described in SI. Twelve illustrative hotspots labeled A–L here, overlaid on the 30 m BC map in b for context. List in c enumerates possible emissions sources for each illustrative hotspot, with the following classification scheme for each pollutant: (+) indicates a prominent localized hotspot or cluster of roads where concentrations are sharply elevated above nearby background levels, (~) indicates a less prominent hotspot or cluster with moderately elevated levels, and (×) indicates the absence of a clearly discernible hotspot. Imagery © 2016 Google, map data © 2016 Google.

After establishing the baseline concentration, we derived the peak fraction parameter PF by computing (*i*) the mean baseline value over all repeated observations, and (ii) the mean 10s-smoothed observed concentration. Then, we compute PF as 1.0 minus the ratio of the mean baseline value to the mean observed concentration. Thus, PF is an indicator of the contribution to mean observed levels on each road segment of concentrations above the mean local baseline. While PF is inherently a semiquantitative indicator metric that is somewhat influenced by parameter choice, it usefully reveals spatial patterns in the density and magnitude of local, transient emissions sources. As a sensitivity analysis, we computed PF where the moving window period *t* was doubled to 4 min. For that analysis, overall spatial patterns in PF were nearly identical, but with an upward shift of 5–10% in PF: a longer window results in somewhat lower and more spatially homogeneous baseline concentrations.

3. RESULTS AND DISCUSSION

3.1. Spatial Patterns and Hotspots. Our mobile monitoring data set paints a vivid picture of within-urban pollution patterns, revealing remarkable and stable heterogeneity in daytime weekday pollutant concentrations (Figure 1, Figure S7). Figure 1b illustrates fine-scale variability in pollution for an indicative 0.6 km^2 industrial/residential zone in West Oakland (WO). Within this small area, time integrated 30-m median primary pollutant concentrations vary by >5× within individual

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Environ. Sci. Technol. 2017, 51, 6999–7008

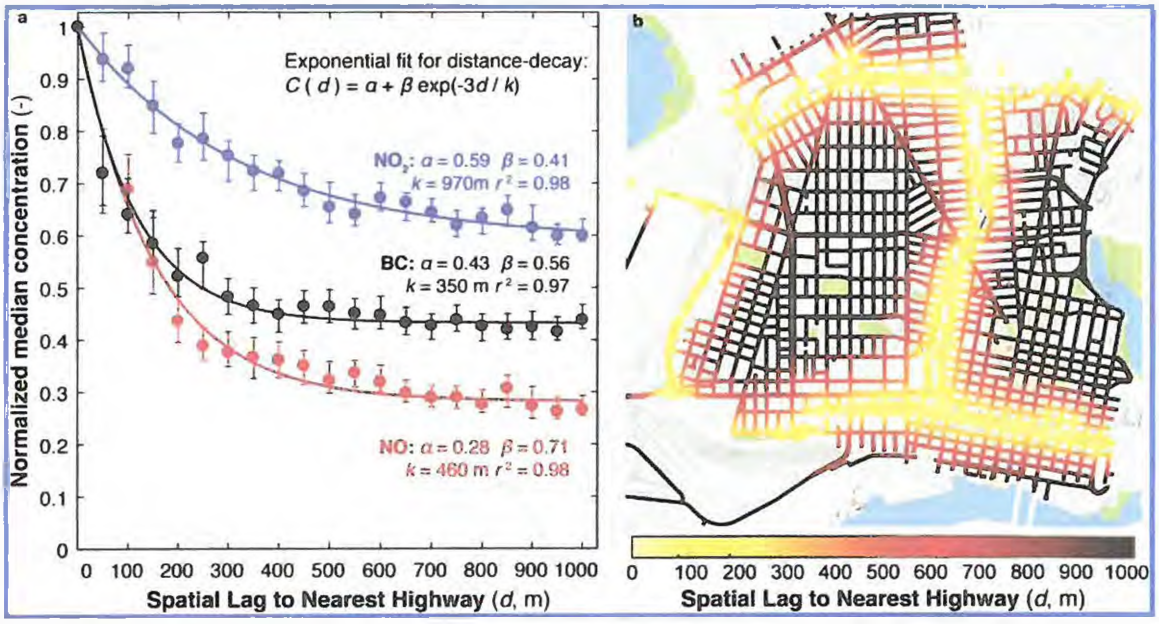


Figure 3. Decay of concentrations from major highways into city streets for WO and DT. a. Plotted points represent the ratio of median concentrations at a given distance from highways (d, "spatial lag") to median on-highway concentrations; error bars present standard error from bootstrap resampling. An unconstrained three parameter exponential model reproduces observed decay relationships with high fidelity. Here, the parameter α represents the ratio of urban-background to highway concentrations ($d \rightarrow \infty$), β represents the additional increment in pollution at near-highway conditions, and the decay parameter k governs the spatial scale of the decay process. The value of α is intermediate for BC (primary, conserved pollutant); lower for NO (consumed rapidly during daytime by reaction with O_3) and higher for NO_2 (elevated background from regional secondary photochemical conversion from NO). Data in SI demonstrate that parameter estimates are consistent among alternative fitting approaches. b. Distance-to-highway metric d for surface streets in WO and DT, computed based on the harmonic mean distance of each surface street segment to closest portion of the four major highways in the domain (see SI). Map data © 2016 Google.

city blocks, and by >8× overall, as the result of local emissions sources and traffic congestion. A surprising feature throughout our data set is the ubiquity of persistent daytime "hotspots" (length <100 m), tentatively classified as locations where concentrations of multiple pollutants exceed nearby ambient levels by 50% or more. Figure 2 presents data and plausible causes for an indicative set of hotspots based on analysis of Google Street View imagery. Examples include intersections along a major truck route, vehicle repair facilities, and industrial sites with associated truck traffic. As one indication of a localized source, most hotspots show sharp spatial "peaks" for multiple pollutants. (For the full data set, spatial patterns of 30 m-median concentrations for the three pollutants are moderately correlated, r^2: BC-NO = 0.71, NO-NO_2 = 0.57, BC-NO_2 = 0.50). The SI provides further detail on the hotspot identification scheme.

To demonstrate how hotspots consistently emerge from time-resolved data, Figure 1d shows long-term median and 1-Hz concentrations for the 240 m transect labeled X–Y in Figure 1b. Over the short length of this transect, time-integrated median NO levels rise and fall 4×. Concentrations are highest directly in front of the entrance to a metals recycling facility, where the 1-Hz distribution exhibits a large number of high NO concentrations. SV and aerial photos show a high volume of trucks and heavy equipment operating at this facility (Figure 2).

At broader spatial scales, pollutant levels differ substantially among three major road classes: highways, arterial roads, and residential streets (Figure 1). Median weekday daytime concentrations for WO and Downtown Oakland (DT) residential streets are approximately consistent with daytime observations at a regulatory fixed-site monitor in West Oakland (Figure 1c, road vs ambient: 0.41 ± 0.01 vs 0.50 $\mu g\ m^{-3}$ BC, 5.3 ± 0.11 vs 3.5 ppb NO, 13.2 ± 0.18 vs 10.4 ppb NO_2). In contrast, concentrations on busier streets and highways are substantially elevated above urban-background levels. For BC, median highway [arterial] concentrations exceed those on residential streets by a factor of 2.7 [1.3]; for NO by a factor of 4.8 [1.9]; and for NO_2 by a factor of 1.8 [1.3]. Atypically high pollutant concentrations for a given road class are evident in several areas of Figure 1, especially for NO and BC. Median concentrations on city-designated truck routes linking highways to industrial areas are 1.9–3.6× higher than on other surface streets (SI Table S6). We observe consistently higher BC and NO levels (1.5–2.0× higher) on I-880 (high truck density) than on I-580 (trucks prohibited, see SI and Figure S8).

3.2. Distance-Decay Relationships. Between the extremes of polluted freeways and cleaner residential streets, concentrations on average follow "distance-decay" relationships similar to those observed elsewhere.[3,34,35] An unconstrained three parameter exponential model, $C(d) = \alpha + \beta \exp(-3d/k)$, reproduces the concentration-distance relationship $C(d)$ with high fidelity ($r^2 \geq 0.96$, see Figure 3). Here, the isotropic parameter d reflects the distance to highways (m), the urban background parameter α represents concentrations far-from-highway ($d \rightarrow \infty$), the near-road parameter β represents the concentration increment resulting from proximity to the highway, and the decay parameter k governs the spatial scale over which concentrations relax to α. For all pollutants, estimated values of $(\alpha + \beta) \sim 1.0$, indicating that the combined contribution of the urban background and the near-highway increment approaches the levels observed on highways.

DOI: 10.1021/acs.est.7b00891
Environ. Sci. Technol. 2017, 51, 6999–7008

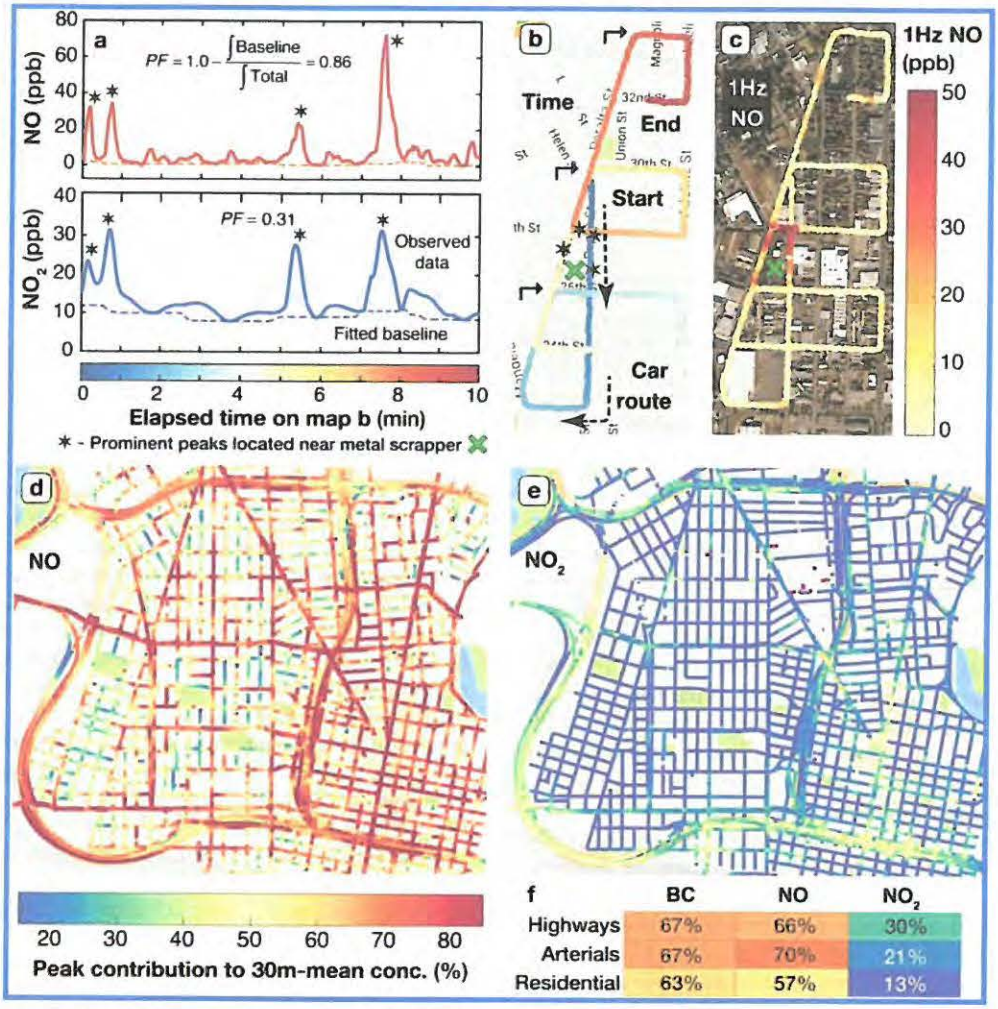


Figure 4. Identification of localized concentration peaks. a. Example 10 min time series of NO and NO_2 on afternoon of 4/22/2016. Baseline-fitting algorithm decomposes measurements (solid traces) into an ambient baseline component (dashed lines) and a high-frequency component indicative of localized pollutant sources ("peaks", difference between observation and baseline). Peak fraction PF indicates contribution of peaks to total sampled mass. PF is high for NO (low baseline, sharp peaks), and low for NO_2 (elevated ambient levels from photochemistry). Temporal progress along route indicated by blue-white-red color scale in a, and mapped in space in b. The drive route for these 10 min is a 4 km sequence of right-hand turns. As indicated by the time color scale in a and b, the starred NO peaks are spatially concentrated around a single city block with a scrap metal plant (marked × in b and c, cf. Figure 1b and Figure 2a). c, Spatial concentration profile for this example period. d,e,f. Application of peak-separation algorithm to entire data set. d,e. Blue-green-red color scale for PF quantifies fraction of mean concentration at each 30 m road segment attributable to transient peaks. f. Median PF values by road class. Imagery © 2016 Google, map data © 2016 Google.

Results in Figure 3 represent average weekday daytime decay patterns. These results reflect the average surface-street to highway concentration ratio as a function of d; as averages, they do not explore temporal differences (traffic, meteorology), the impact of wind direction, or heterogeneity among individual road segments. Interestingly, the fitted values of the parameters α and β correspond closely (within ±5%) to the results of the comprehensive meta-analysis of Karner et al. (2009).[8] Consistent with expectations about sources and atmospheric dynamics, our observed distance-decay relationships are sharpest for NO, intermediate for BC, and most shallow for NO_2. BC and NO are primary air pollutants from combustion sources. Unlike BC, NO is rapidly depleted during daylight hours by reaction with ozone ($NO + O_3 \rightarrow NO_2$, $\tau \sim 1-5$ min).[38] Because most (but not all[39,40]) daytime NO_2 is formed through secondary chemistry, spatial patterns of NO_2 tend to be more homogeneous than NO or BC. Further analysis of the robustness of our decay fitting approach and comparison with Karner et al. is provided as SI.

3.3. Localized Concentration Peaks. To further elucidate determinants of spatial patterns in air pollution, we mined the time-resolved data that underlie long-term median concentrations. The time evolution of concentrations collected by a mobile monitor reflects the superposition of (i) spatiotemporally localized concentration peaks from primary emissions and (ii) a comparatively less variable urban background condition.[28,37] Figure 4a illustrates the application of our baseline-and-peak decomposition algorithm to a 10 min excerpt from our WO mobile monitoring data. Four coincident NO and NO_2 peaks in this time series correspond in space (Figure 4b,c) to roads on the perimeter of the metals recycling facility illustrated in Figure 1b, demonstrating how spatially localized peaks are superimposed onto the urban background. For measurements at each 30 m road segment, we estimate the fractional contribution of localized

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Environ. Sci. Technol. 2017, 51, 6999−7008

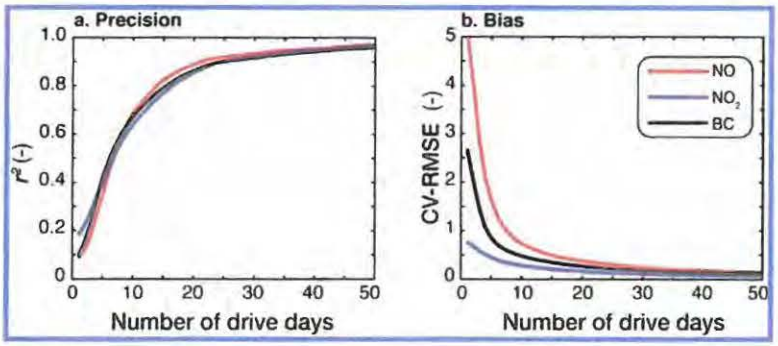


Figure 5. Scaling analysis through systematic subsampling. Using the systematic subsampling algorithm described in Section 2.4, we investigated the relationship between number of drive days and metrics of precision and bias. a. Mean subsampled r^2 as a function of 30 m-median road segment concentrations relative to the full data set, plotted as function the number of unique drive days for BC, NO, and NO_2. See SI for details of the subsampling algorithm and r^2 calculations. b. Mean subsampled coefficient of variation of root mean squared errors (CV-RMSE) versus the number of unique drive days for BC, NO, and NO_2.

sources to observed conditions ("peak fraction", PF) as 1.0 minus the ratio of the mean 30-m baseline concentration to mean 30-m observed concentration (Figure 4d–f). (Thus, at any given location, the observed 30 m median concentration is algebraically equivalent to the sum of the baseline plus peak contributions). Median values of PF are highest for NO and BC (~65%), indicating the predominant contribution of transient localized sources (e.g., traffic, industrial facilities). Spatial variations in PF values (Figure 4d) reveal that the urban background dominates NO levels on low-traffic residential streets (PF ~ 25–40%), whereas transient peaks govern concentrations on arterials (PF ~ 60–80%) and near industrial facilities. In contrast, for NO_2, PF is consistently low (~20%), reflecting the high baseline contribution from photochemistry. Future work could explore whether PF and other derived metrics (e.g., pollutant ratios) may be useful in representing the "freshness" of emissions to inform epidemiological analyses of multipollutant mixtures.

Taken in combination, our findings suggest that consistent spatial variability of air pollution exists at much finer scales than is generally detected using conventional measurements and predicted by models. Because hotspots are revealed through repeated measurement, this approach may be useful for evaluating the fine-scale performance of LUR and other models that use spatial surrogate data. We demonstrate that weekday, daytime primary pollutant levels persistently vary by a factor of 2–8× or more within neighborhoods and individual city blocks. For the median road segment, the absolute concentration difference from the single WO ambient regulatory monitor is 32% (BC), 61% (NO), and 35% (NO_2) during weekday daytime hours. Sparse monitoring networks may therefore provide an imprecise approximation and underestimate the true variability in heterogeneous population exposures.

The implications of these findings for population exposure and public health depend in part on the degree to which on-road concentrations can represent exposures. Many epidemiological studies use predicted home-address concentrations as a proxy for long-term personal exposures. These predicted home-address concentrations are often based upon models derived from roadside measurements given the ease of access to roadsides (e.g., utility poles) for monitoring. Recent research suggests that on-road concentrations can be well correlated with residential address exposures, even when on-road concentrations are higher than surrounding off-road areas owing to proximate traffic emissions.[17,41] Future work could validate the predictive power of *routine* mobile monitoring data using either residential fixed-site or personal exposure measurements.

3.4. Scaling and Future Prospects. Through systematic subsampling of our weekday daytime measurement data set, we find that 10–20 drive days (or 2–3× fewer data than collected here) are sufficient to reproduce key spatial patterns with good precision and low bias (Figure 5). The following trends hold: A small number of drive days ($N < 5$) typically results in a poor approximation of long-term spatial patterns from the full data set, with generally low precision (r^2) and high bias (CV-RMSE). However, each additional sampling day, across a year, results in a substantial improvement in r^2 and CV-RMSE. For our data set, diminishing returns for improvement in r^2 set in at ~10–20 drive days, with mean r^2 for BC and NO approaching 0.7 after 10 days of driving, and approaching 0.9 after 20–25 days of driving. Mean values of ICC (SI Figure S9) are generally high for 10 or fewer drive days, indicating that stochastic temporal variability from a small number of drive days does not obscure an overall spatially dominated pollution pattern. Similar conclusions on the number of sampling days required for convergence to stable patterns have recently been reported in studies using repeated bicycle-based BC and PM measurements.[15,30,31] Our sampling was restricted to weekday daytime conditions; in general, spatial patterns may differ at other times (nights, weekends, holidays).[42] Future work may reveal whether similar scaling considerations hold over a broader range of conditions, and in locales with less consistent meteorology than Oakland.

This study demonstrates a straightforward approach for dramatically increasing the spatial resolution with which air pollution is measured. The instrumentation costs of this technique using reference-grade monitors are perhaps comparable to those of traditional ambient monitoring. However, this routine mobile monitoring approach can provide several orders of magnitude more spatial information, albeit with lower temporal resolution. Future developments in fast-response low-cost sensor technologies could lower the costs of this approach. Moreover, in future studies, a considerably less intensive sampling scheme may provide similar results (Figure 5). Here, we employed Google SV vehicles to enable future analyses of contemporaneous 3D imagery, but other vehicle fleets (e.g., taxis, delivery vehicles, public transit) could routinely collect analogous data by repeatedly driving fixed or variable routes within a city. To facilitate scaling, our data reduction algorithms could be easily automated. Equipping ~500 such vehicles could enable high-resolution mapping of the 25 largest

DOI: 10.1021/acs.est.7b00891
Environ. Sci. Technol. 2017, 51, 6999–7008

U.S. urban areas, which in combination account for ~50% [36%] of the U.S. urban [total] population. Likewise, prior experience[12] suggests that this approach could be extended to global megacities (world's 20 largest cities have 480 M people, >10% of world urban population[43]) and to the thousands of other cities where air quality management is impaired by an absence of robust monitoring infrastructure. Future research could explore whether this approach can effectively be translated to such settings.

Routine availability of high-resolution air quality data in all major urban areas could have transformative implications for environmental management, air pollution science, epidemiology, public awareness, and policy. By highlighting localized pollution hotspots, these data may identify new opportunities for pollution control. Street-level air quality data can complement, challenge, and validate other diverse air quality data sets, including regulatory data, CTM outputs, land-use regression predictions, and remotely sensed observations. In turn, this refinement can help address exposure misclassification in epidemiological studies.[44,45] Through combination with personal GPS data on smartphone applications, rich "personal exposure analytics" become possible,[46,47] which could inform epidemiological studies and alter personal behavior, much as real-time traffic data now inform individual driving patterns. Broader societal consequences of the public awareness enabled by high-resolution pollution maps might include shifts in urban land-use decisions, regulatory actions, and in the political economy of environmental "riskscapes".

■ ASSOCIATED CONTENT

Supporting Information

The Supporting Information is available free of charge on the ACS Publications website at DOI: 10.1021/acs.est.7b00891.

Text, figures and tables with detailed information on experimental methods, QA/QC procedures, sampling protocols, data reduction/analysis techniques, supplemental analyses, and a data dictionary (PDF)

High-resolution concentration data (XLS)

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Notes

The authors declare no competing financial interest.

■ ACKNOWLEDGMENTS

We gratefully acknowledge the contributions of K. Tuxen-Bettman, A. Raman, R. Moore, L. Vincent, C. Owens, D. Herzl, O. Puryear, A. Teste, M. Gordon, B. Beveridge, L. Clark, M. Chu Baird, C. Ely, A. Roy, J. Choi, R. Alvarez, S. Fruin, D. Holstius, P. Martien, and the Google Street View and Aclima mobile platform teams. Funding was provided by a grant from Signe Ostby and Scott Cook to Environmental Defense Fund. JSA was supported by a Google Earth Engine Research Award, MML is employed by Aclima, Inc., and TWK has been an investigator on unrelated research sponsored by Aclima. Data will be made available in an interactive online archive.

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DOI: 10.1021/acs.est.7b00891
Environ. Sci. Technol. 2017, 51, 6999−7008

IP-22-1

As described in Section 3.13.4 of this Final EIR/EIS, the build alternatives propose Measure AQ-1, which would require a funding contribution to be provided to the South Coast Air Quality Management District (SCAQMD) for the design and construction of four new air quality monitoring stations within the I-710 Corridor, should a build alternative be selected as the Preferred Alternative. Should a build alternative be selected as the Preferred Alternative, the specific locations of each monitoring station would be determined in coordination with SCAQMD, as the agency tasked with regulation and monitoring of air pollution; therefore, a specific commitment to a location could not be made at the time the RDEIR/SDEIS was circulated. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, air quality impacts as a result of the build alternatives will not occur and Measure AQ-1 will not be implemented. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-22-2

Please refer to Response to Comment IP-22-1 regarding air quality monitors.

IP-22-3

Caltrans and Metro thank the commenter for providing this information regarding hyperlocal air quality mapping tools. The Air Quality/Health Risk Assessment produced in support of the I-710 Corridor Project followed approved Caltrans and FHWA methodologies and procedures. The Community Health Benefit Program, included as a programmatic element under the build alternatives, has been developed further than what was included in the RDEIR/SDEIS, and a more detailed description of that program is included in Section 2.3.2.1 of this Final EIR/EIS. Community health testing, education, and/or outreach including mobile clinics are considered eligible projects for funding via the Program, and eligible applicants are encouraged to apply. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

IP-22-4

Air filtration/HVAC systems have been proposed under the build alternatives for schools and other sensitive receptors in accordance with the specifics detailed in Measures AQ-2 and C-8 (described in detail in Sections 3.13.4 and 3.3.3.7 of this Final EIR/EIS, respectively), and would be also considered eligible projects for funding under the Community Health Benefit Program, in addition to mobile clinics, community health testing, and education. Please refer to Response to Comment IP-22-3 regarding the Community Health Benefit Program.

IP-22-5

Please refer to Response to Comment IP-22-4 regarding the Community Health Benefit Program.

IP-22-6

As stated in Response to Comment IP-22-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no landscaping will occur.

IP-22-7

Thank you for suggesting the concept of a cargo train that would run on a lane of the I-710 freeway. Since containers move in both directions to and from the Ports along I-710, it is assumed that this concept envisions a track in each direction of the I-710. In order to the connect this proposed on-freeway cargo train to stations (ports) in each of the cities, this concept would require new train tracks to be built not only on I-710 but also to connect the proposed I-710 cargo train to each of the proposed Ports (stations) in each city along I-710. These connections would require additional land to be acquired to accommodate these connecting tracks, which would impact businesses and residential properties. Also, for safety purposes, these rail tracks would need to be separated from the auto traffic traveling on the other lanes of I-710, which would require widening of the freeway to accommodate barriers between the tracks and vehicle lanes, even if the tracks were placed on an existing lane of I-710. SCAG and the Ports have studied, and are continuing to study, a variation of your concept. They are studying the implementation of “shuttle” trains traveling over the existing railroad tracks that would carry containers from the Ports to an intermodal railyard from which trucks could then haul containers destined to distribution centers and warehouses in the Inland Empire. However, there are several obstacles to implementing this concept, including the higher cost of moving containers over relatively short distances by train versus truck and the capacity of the rail system to accommodate these additional train trips.

Brad Jensen

From: planchas_1@yahoo.com
Sent: Sunday, October 22, 2017 2:13 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: James Murphy
Organization:
Phone: 3238399484
Mailing Address: 4300 Milburn Drive
City, State: Los Angeles
Zip: 90063
Comment/Question:
Haven't you been taking the land from the people who live along I-710 Corridor long enough? I remember the land that was my uncle's home before the I-710 Corridor was built, before it was the I-7 Corridor. There was plenty of land in the back of his home and for many others who had to give up a large portion of their property for this Corridor. Now you want to displace even more people? Why don't you stay out of E.L.A. and build a Corridor in your own neighborhood? IP-23-1

*You received this message because James Murphy submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-23-1

Caltrans and Metro thank the commenter for their input. The commenter's opposition to the acquisition of property as a result of the build alternatives is acknowledged and included in the project record. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no displacements. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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C.E.H.A.J.
coalition for environmental health and justice

Via U.S. Mail and Email

October 23, 2017

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012
ron_kosinski@dot.ca.gov

Re: I-710 CORRIDOR PROJECT RECIRCULATED EIR/EIS COMMENTS

Dear Mr. Kosinski:

On behalf of the Coalition for Environmental Health and Justice and the undersigned allied organizations, we submit these comments on the I-710 corridor expansion project. As you are aware, environmental justice and environmental groups have been participating in good faith in this environmental review process for more than a decade. During that time, we have been working to make sure the nation's largest freight highway project elevates the interests of the people who live, work, and attend school in the corridor — not just the interests of the freight industry and road engineers. If CALTRANS comes into these communities, spends billions of public dollars, and does not make conditions and the quality of life better, then the agency has failed.

We remain concerned that despite our years of good faith participation, CALTRANS still views the surrounding communities as adversarial to the agency's conquest to expand this road facility. This adversarial approach makes no sense because surrounding communities have simply sought an alternative that would allow CALTRANS to achieve its goals, while providing the community with assurances that it will be protected from the negative impacts this road widening project will bring.

The current recirculated document leaves much to be desired in meeting that basic, but threshold point. First, this project should not be viewed as just a road-widening conquest to ram more containers and single-passenger automobiles through the community. As such, the alternatives presented are terrible for communities in the corridor. Second, the project must include a mandatory zero emissions corridor to address the deadly pollution crisis that comes from truck tailpipes and disproportionately impacts community health. Third, the project should be designed to eliminate the displacement of homes, businesses, homeless shelters and

transitional housing. Folks should not be penalized by this project by being removed from their homes, businesses, and losing valuable resources that have no assurance of being replaced. This is especially critical with the current housing crisis in Los Angeles County. Fourth, the project must clearly and precisely commit to concrete and sufficient community benefits that alleviate the current and forecasted harms from this project and increased goods movement expansion. Finally, the project should ensure that local and disadvantaged residents are put to work building it. Until these issues are fixed, the project remains flawed.

It is vitally important, and legally required, that the environmental review documents for this project clearly and comprehensively inform decision-makers and the public about the impacts of the proposed project. The environmental documents we reviewed do not live up to this standard of allowing truly informed decision-making. We ask that the environmental review be reevaluated to address the above issues in order to create a long-term solution to improve the environment, our economy, and most importantly the surrounding communities.

Please do not hesitate to contact Taylor Thomas at (323) 263 - 2113, or tbthomas@eycej.org if you would like to set up a meeting to discuss this matter more fully.

Sincerely,

Taylor Thomas
East Yard Communities for Environmental Justice

Amanda Meza,
Investing in Place

Amy Rasmussen Cabrera,
BHC LB, Environmental Health Work Group

Ramya Sivasubramanian,
Natural Resources Defense Council

Sylvia Betancourt,
Long Beach Alliance for Children with Asthma

Susanne Browne,
Legal Aid Foundation, Los Angeles

Jorge Rivera,
Long Beach Residents Empowered

Adrian Martinez,
Earthjustice

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Communities for a Better Environment

Angelo Logan,
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Alexis Straus, EPA Region 9 Administrator
Richard Corey, California Air Resources Board
Wayne Nastri, South Coast Air Quality Management District

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C.E.H.A.J.
coalition for environmental health and justice

Via U.S. Mail and Email

October 23, 2017

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 164
Los Angeles, CA 90012
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RE: LEGAL/TECHNICAL COMMENTS ON I-710 EXPANSION PROJECT

Dear Mr. Kosinski:

On behalf of the Coalition for Environmental Health and Justice ("CEHAJ") and its individual members, we write to provide comments on the I-710 Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement and Section 4(f) Evaluation ("RDEIR/SDEIS"). We appreciate the opportunity to provide comments on the RDEIR/SDEIS. Given the inevitable regional and acute local impacts of the proposed project that will manifest for decades, it is especially important that the RDEIR/SDEIS, along with the original DEIR/DEIS, contain the necessary analysis to enable both the decision makers and the public to understand the significant environmental repercussions of the Project and prescribe mitigation measures to address significant impacts.

We remain concerned that Caltrans has set up this document to lead the public and decision makers to conclude that Alternative 5C is the best option. Unfortunately, Alternative 5C is the worst option that could be selected. Selecting Alternative 5C would disregard the significant input from communities that demand more of Caltrans than just paving a new lane in the corridor. Importantly, advancing a zero emission project is of paramount importance, in addition to the other important components included in Community Alternative 7 that would not be addressed in Alternative 5C. IP-24-1

Unfortunately, as described in further detail in this comment letter and accompanying technical reports, both the RDEIR/SDEIS as well as the original DEIR/DEIS fail to include the necessary analysis required under the California Environmental Quality Act ("CEQA") and the National Environmental Policy Act ("NEPA"). Because Caltrans has failed to correct many of the same IP-24-2

deficiencies that we raised in our previous comments, we incorporate those comments in their entirety here.[1] As a result of the inadequacies that persist in the RDEIR/SDEIS document and additional deficiencies this document contains, there still can be no meaningful public review of the Project. CEQA and NEPA accordingly require the California Department of Transportation ("Caltrans") to prepare and recirculate documents that will permit a complete understanding of the environmental issues at stake. IP-24-2

I. THE PROJECT DESCRIPTION IS INADEQUATE.

The RDEIR/SDEIS fails to address numerous Project features. These omissions skew the analysis of impacts and, thereby, undercut the validity of the entire document under CEQA and NEPA. Without a complete and accurate project description, neither the agencies nor the public can be assured that all of the project's environmental impacts have been revealed and mitigated. "An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR."[2] A complete project description is indispensable because "[a] curtailed or distorted project description may stultify the objectives of the reporting process."[3]

CEQA defines "project" as "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment."[4] CEQA requires "project" to be defined broadly.[5] While extensive detail is not necessary, the law mandates that the project description should include detail sufficient to ascertain the nature and general magnitude of environmental impacts.[6] Thus, a deficient project description renders the analysis of significant environmental impacts inherently unreliable. Excluding a description of elements necessary to the project and associated environmental impacts from those elements results in a "truncated project concept" that violates CEQA and mandates the conclusion that the lead agency did not proceed in a manner required by law.[7]

A. The Project Fails to Adequately Describe Project Components Required by Motion 22.1.

Motion 22.1 directed Caltrans to further investigate critical components of the project that Metro determined were necessary to the Environmental Impact Report for informed decision making on

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[1] *See* CEHAJ I-710 Expansion Comments (Sept. 28, 2012) https://earthjustice.sharefile.com/d-s7e4c3effe704aa78.
[2] *Cty. of Inyo v. City of L.A.*, 71 Cal. App. 3d 185, 192-93 (1977).
[3] *Id*. at 199; *see also San Joaquin Raptor/Wildlife Center v. Stanislaus Cty.*, 27 Cal. App. 4th 713, 730 (1994) ("An accurate project description is necessary for an intelligent evaluation of the potential environmental effects of a proposed activity.").
[4] 14 Cal. Code Regs. § 15378(a) [hereinafter CEQA Guidelines]; *see also id.* at § 15003(h); Pub. Res. Code § 21065.
[5] Pub. Res. Code § 21065; CEQA Guidelines § 15002(d); *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster,* 52 Ca1. App. 4th 1165, 1188 (1997).
[6] *See* CEQA Guidelines § 15124 (requirements of an EIR).
[7] *San Joaquin Raptor/Wildlife Rescue Center*, 27 Cal. App. 4th at 730; *Communities for a Better Environment v. City of Richmond*, 184 Cal. App. 4th 70, 89 (2010).

the project. The RDEIR/SDEIS fails to comply with the requirements of Motion 22.1, thereby excluding analysis of critical components of necessary elements of the project. Thus, the RDEIR/SDEIS fails as an informational document.

For example, Motion 22.1 provided that Metro staff should work with Caltrans to "include an analysis of a Zero Emission Truck procurement and operations program (Alternative 7 only) in any Public Private Partnership analysis to be done for the Project[.]"[8] Caltrans appears to have relied on its old 2013 analysis prepared by CalStart for analyzing a ZE option.[9] The CalStart study was a truck commercialization study report, and does not analyze or develop a strategy for a Zero Emission Truck procurement and operations program.[10] The RDEIR/SDEIS fails to comply with this clear directive from Metro, to prepare a report on a Zero Emissions truck procurement policy. IP-24-3

In addition, Motion 22.1 required "Geometric design for the I-710 Freight Corridor (under Alternative 7 only) that eliminates significant impacts and displacements of homes, businesses, or community resources, such as but not limited to the Bell Shelter or Senior Centers[.]"[11] Reducing impacts of displacement from the project is not one of the project objectives. Thus, it is unclear whether the project prioritized reduction of displacement impacts. IP-24-4

Finally, Motion 22.1 required "staff to work with community based partners (community groups, faith based groups and labor) on the development of a Local and Targeted Hiring Policy and PLA for construction jobs and a First Source Hiring Policy for permanent jobs created by the project. This should be completed, at the latest, by the completion of the recirculated DEIR/DEIS."[12] Yet no local hire policy was developed as part of or concurrent with the RDEIR/SDEIS, in blatant violation of Motion 22.1. The local hire policy is critical component of ensuring the economic benefits of this project will go to local communities, which have on average higher unemployment rates, and is a therefore a critical component in assessing whether the associated project goals are met. IP-24-5

B. The Description of the ZE/NZE Program is Inadequate.

The ZE/NZE program description is fatally flawed. Though the ZE/NZE program is a critical component of the proposed project, Caltrans in general terms merely describes amounts that will be invested, but provides no details on how this proposed program will be developed. Without this detail, there cannot be a full analysis of the project's impacts. IP-24-6

[8] The L.A. Cty. Metro. Transp. Auth., Bd. Rep., at 4 (Oct. 14, 2015) https://media.metro.net/projects_studies/I710/images/CAC_Presentation_2015_1029_Metro_Board_Report_Oct-2015.pdf.
[9] *See* RDEIR/SDEIS at 2-22 through 2-23.
[10] *See* CalStart Study, http://www.calstart.org/Libraries/I-710_Project/I-710_Project_Zero-Emission_Truck_Commercialization_Study_Final_Report.sflb.ashx.
[11] The L.A. Cty. Metro. Transp. Auth., Bd. Rep., at 2 (Oct. 14, 2015) https://media.metro.net/projects_studies/I710/images/CAC_Presentation_2015_1029_Metro_Board_Report_Oct-2015.pdf.
[12] *Id.* at 5.

The ZE/NZE Truck Program proposes to spend either $100 million under Alternative 5C, or $460 million under Alternative 7 for ZE/NZE trucks. In Design Option 7ZE, $1.05 billion will be spent on only ZE trucks. However, regardless of how much is spent on truck procurement, and regardless of whether those funds will be used for ZE or NZE trucking, the RDEIR/SDEIS proposes to build 20 electric charging stations ($2 mil), and ten hydrogen refueling stations ($15 mil).[13] Thus, even if the ZE Option is chosen, Caltrans proposes to build hydrogen refueling stations, and fails to analyze whether additional electric charging stations will be necessary. There is fundamental disconnect between the proposed investment into truck deployment and the necessary infrastructure development to support that growth. IP-24-6

The RDEIR/SDEIS fails to look at finance options to lower the costs of the ZE Truck Program, such as using zero interest or low interest loans to incentivize truck procurement, rather than direct subsidies. Failure to consider alternative finance options makes the ZE option astronomically expensive in comparison to other project alternatives. IP-24-7

The description of the ZE/NZE truck program fails to include a timeline, making it impossible to anticipate when the environmental benefits of truck deployment will start to accrue and how long the purported benefits of solely a voluntary incentive program under Alternative 5C will be realized. Caltrans relies on an old study from 2013 to evaluate feasibility of ZE trucks, which fails to account for recent technological developments. Caltrans concludes that: "'zero-emission capable drayage trucks can be developed, demonstrated, validated, and moved into production by a 2025 target timeline,' but there remain core issues to be addressed prior to the successful commercialization of said vehicles."[14] This conclusion is at odds with existing technological advancements. Tesla will be introducing a fully electric long-haul truck with at 200-300 mile in the near future.[15] The RDEIR/SDEIS may be substantially underestimating potential benefits from this program by assuming major project benefits from a ZE/NZE option only start accruing 2025. The public is left to guess when such benefits will accrue, because no timeline is described or included in Section 2.0 of the RDEIR/SDEIS which describes the Project Alternatives. IP-24-8

C. The Project Description for Alternative 7 Fails to Adequately Describe Lane or Shoulder Widening Components.

The description of Alternative 7 fails to disclose whether lane widths will be widened, and whether shoulders will be added to the freeway. If these components are added to Alternative 7, the project may have additional undisclosed displacement and other impacts. Public comments encouraged looking at an Alternative 7 option with dedicated truck lanes, but no freeway IP-24-9

[13] RDEIR/SDEIS at 2-21 through 2-23.
[14] RDEIR/SDEIS at 2-22 through 2-23 (citing CalStartCalstart Study).
[15] Marc Vartabedian, *Exclusive: Tesla's 'Long-Haul' Electric Truck Aims for a 200 to 300 miles on a Charge*, Reuters (Aug. 24, 2017, 12:33 PM) https://www.reuters.com/article/us-tesla-trucking-exclusive/exclusive-teslas-long-haul-electric-truck-aims-for-200-to-300-miles-on-a-charge-idUSKCN1B42GC.

widening.[16] Yet a need for the proposed project includes improper lane widths.[17] The description of Alternative 7 fails to describe whether expansion of general purpose lanes through lane or shoulder widening will be included.[18]

IP-24-9

II. THE ALTERNATIVES ANALYSIS IS FLAWED, MISLEADING, AND UNLAWFUL.

A. The Project Alternatives Lack Details Necessary to Facilitate Comments and Informed Decision-Making.

As articulated in the prior section on the project description, the failure to fully inform on the contours of the various alternatives taints the alternatives analysis and the ability of the public to provide comments. As such, Caltrans should provide greater details on the alternatives and allow a new draft period to ensure the public is apprised of all aspects of the project.

IP-24-10

B. Rejecting Community Alternative 7 Violates NEPA and CEQA.

The RDEIR/SDEIS rejected an analysis of Community Alternative 7. Caltrans makes two arguments why it does not need to analyze Community Alternative 7 – despite acknowledging it as "a comprehensive and holistic, broad-based solution to transportation issues affecting the I-710 Corridor communities."[19] First, it argues "the California Department of Transportation's (Caltrans) jurisdiction is limited to the State Highway System."[20] Second, it argues "some elements of the CA-7 alternative are much smaller in scale than the overall I-710 Corridor Project, and implementation of these elements (such as construction of bicycle lanes or pedestrian facilities), while still subject to the California Environmental Quality Act, would likely not require the preparation of a full EIR, and could be advanced more quickly individually by the agencies with jurisdiction than if they were included in the scope of the I-710 Corridor Project."[21] Neither of these arguments are persuasive.

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The Council on Environmental Quality ("CEQ") has identified the alternatives analysis as the "heart" of the EIS. Accordingly, it is crucial that Caltrans identify a properly robust set of choices for expansion of the I-710.[22] An agency must "[r]igorously explore and objectively

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[16] *See* U.S. EPA, Comment Letter: Detailed Comments at 4 (Sep. 28, 2012); RDEIR/SDEIS at 2-2 ("Among other issues, included in those comments was support for the Project Team to consider and analyze different alternatives, including a recurring request for an alternative that would add a four-lane zero emission/near zero emission (ZE/NZE) freight corridor with no expansion of general purpose lanes on I-710.").

[17] RDEIR/SDEIS, Exec. Summary at 3 ("On the I-710 freeway mainline, nonstandard weaving distances, narrow or nonexistent shoulders, narrow lane widths, varying number of through lanes, nonuniform ramp metering, and nonstandard pavement all contribute to current operational problems.").

[18] *See* RDEIR/SDEIS at 2-59.

[19] RDEIR/SDEIS at 2-5.

[20] RDEIR/SDEIS at 2-6.

[21] RDEIR/SDEIS at 2-6.

[22] *See* 40 C.F.R. § 1502.14.

evaluate all reasonable alternatives."[23] Realizing the importance of the alternatives analysis, the Project Committee directed the project staff to analyze Community Alternative 7. In addition, municipalities along the I-710 corridor have determined that a full analysis of Community Alternative 7 is important to fully informed decision-making on this project.

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Still, despite the strong support for an analysis of Community Alternative 7, Caltrans has decided it will not fully analyze Community Alternative 7.[24] This violates NEPA and CEQA.

C. Community Alternative 7 Meets the Project Objectives.

The I-710 draft EIR/EIS includes the following project objectives:

1. Improve air quality and public health;
2. Improve traffic safety;
3. Modernize design of the I-710;
4. Address projected traffic volumes; and
5. Address projected growth in population, employment and economic activity related to goods movement.

Community Alternative 7 meets all of the project objectives. First, it improves air quality and public health through advancing zero-emission freight lanes, and by proposing active transportation infrastructure and public transit as opposed to expansion of "general purpose" lanes. It also includes a mitigation program to address impacts that could result from building this project. Second, it improves traffic safety by implementing several proposals to modernize the I-710, including dedicated truck lanes, transportation demand management, and better infrastructure to ensure pedestrian and bicycling safety. Third, it modernizes the design of the I-710 by providing zero-emissions, dedicated truck lanes, in addition to safety improvements at several intersections throughout the corridor. Fourth, it addresses projected traffic volumes by providing more robust public transportation and active transportation options. This is consistent with state laws aimed at reducing greenhouse gas emissions. Finally, it addresses the growth in population, employment and economic activity related to goods movement by facilitating more transportation options beyond just driving, additional freight through adding four freight lanes, and adding additional community amenities that reduce the impacts from the heavily impactful freight industry.

Caltrans has not made any rational argument that Community Alternative 7 does not meet the project objectives. Given this, it must be studied as a reasonable alternative.

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[23] *Id.*; *see also* CEQA Guidelines § 15126.6(a) ("An EIR shall describe a range of reasonable alternatives to the project…which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.").
[24] RDEIR/SDEIS at 2-6.

D. Community Alternative 7 is a Reasonable Alternative within the Meaning of NEPA and CEQA.

Both CEQA and NEPA require environmental review documents to include a reasonable range of alternatives. The CEQA regulations require that an EIR must "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. . . , [and] must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation."[25] Indeed, "the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."[26] As described above, not only does Community Alternative 7 meet the project objectives, but it does so by lessening the significant effects of the project that will result from a widened freeway allowing more traffic rather than offsetting growth with active and public transit, accommodating more freight that will pollute the air and add noise impacts rather than requiring a dedicated zero-emission freight corridor, and displacing people and businesses.

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Further, with respect to NEPA, the CEQ has articulated that a reasonable alternative "include[s] those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant."[27] Here, CEHAJ provided evidence that Community Alternative 7 was practical and feasible from a technical and economic standpoint. In addition, CEHAJ used common sense to promote the elements. Community Alternative 7 met this test so well that the Project Committee determined that it is a matter of "common sense" to analyze Community Alternative 7 in the RDEIR/SDEIS. Caltrans would need to demonstrate either that Community Alternative 7 is not practical or feasible, or that the Project Committee, the Cities of Commerce, Bell, Long Beach and Huntington Park lacked "common sense" in promoting an analysis of this alternative.

Beyond the inability of Caltrans to demonstrate that the Project Committee and the cities supporting an analysis of Community Alternative 7 lacked "common sense," longstanding precedent in the United States Court of Appeals for the Ninth Circuit supports inclusion of Community Alternative 7. In particular, the Courts have determined:

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> An EIS will be found to be in compliance with NEPA:
>
> > when its form, content, and preparation substantially (1) provide decision-makers with an environmental disclosure sufficiently detailed to aid in the substantive decision whether to proceed with the project in the light of its environmental consequences, and (2) make available to the public, information of the proposed project's

[25] CEQA Guidelines § 15126.6(a).
[26] *Id.* § 15126.6(b).
[27] 46 Fed. Reg. 18026 (March 23, 1981).

> environmental impact and encourage public participation in the development of that information.[28]

An analysis of Community Alternative 7 is of paramount importance to meet both of these requirements. First, Community Alternative 7 helps provide the robust review necessary to help inform all stakeholders. Moreover, an expanded range of alternatives is certainly warranted for a project with an up-to $10 billion price tag, one of the most expensive road expansion projects in the nation.

Second, the public has spent significant time and resources analyzing and articulating the elements of Community Alternative 7, considering the merits of each provision of Community Alternative 7, and ultimately supporting Community Alternative 7. To not even dignify this work and careful consideration with an analysis of Community Alternative 7 in the RDEIR/SDEIS does not "encourage public participation." Rather, it diminishes the public's confidence that the I-710 EIR/EIS process truly considers the input of the impacted community, including the representative body of elected leaders that stood up to support analysis of Community Alternative 7. Those interested in participating in a truly open and technically sound process that has been promised by the agencies could become dispirited, and instead rely on other tools like protest and litigation to make sure their voices are heard. Given that Community Alternative 7 is a reasonable alternative, failure to analyze it violates state and federal laws. IP-24-15

E. Caltrans' Jurisdictional Argument is a Red Herring.

Caltrans' argument that it lacks jurisdiction over some of the components of Community Alternative 7 is inappropriate and unlawful for several reasons. First, to the extent this argument deals with the public transit enhancements of the project, LA Metro is part of the project team, so the agency that Caltrans claims has jurisdiction is deeply involved with this project. Second, Caltrans' own directives demand that the agency "develop[] integrated multimodal projects in balance with community goals, plans, and values. Addressing safety and mobility needs of bicyclists, pedestrians, and transit users in *all projects*, regardless of funding, is implicit in these objectives."[29] Third, even if promoting multimodal transportation projects is found to be somehow outside of Caltrans' jurisdiction (and the project partners are somehow not actually involved in delineating the project), that is still not a reason to exclude that analysis under NEPA and CEQA. In fact, Caltrans states "NEPA . . . clearly requires that lead agencies consider alternatives that may not be within the jurisdiction of their agency."[30] Thus, hiding behind a IP-24-16

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[28] *Coalition for Canyon Preservation v. Bowers*, 632 F.2d 774, 781 (9th Cir. 1980) (citing *Trout Unlimited v. Morton*, 509 F.2d 1276, 1282-83 (9th Cir. 1974)).

[29] Caltrans Deputy Directive DD-64-R1, Complete Streets—Integrating the Transportation System (October 2008), *available at* http://www.dot.ca.gov/hq/tpp/offices/bike/sites_files/DD-64-R1_Signed.pdf (emphasis added).

[30] *See generally* Caltrans, Alternatives Guidance, pg. 8 (Alternatives Outside of the Agency's Jurisdiction), *available at, http://www.dot.ca.gov/ser/downloads/guidance/alternative_analyfaq.pdf*. While CALTRANS does not believe the California Environmental Quality Act requires an analysis of alternatives outside of its jurisdiction, CEHAJ disagrees. But, this matter is irrelevant because the National

jurisdictional curtain cannot shield Caltrans from assessing components it feels is not under its jurisdiction.

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F. Arguments About the Size of Some Components of Community Alternative 7 Makes No Sense.

Nothing in NEPA and CEQA mentions the small scale of components as a means to reject an alternative. Besides, the proposed alternatives already include components that Caltrans considers "small" such as improvements to pedestrian facilities and bike lanes. CEHAJ understands the mobility and community needs of many along the community. Sometimes this entails large pieces of infrastructure, and sometimes this entails smaller projects. As Caltrans concedes, Community Alternative 7 is more comprehensive and holistic. CEQA and NEPA do not bar agencies from engaging in more comprehensive and holistic strategies to address mobility needs. In fact, these laws are specifically designed to achieve this objective.

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Moreover, the fact that some pieces of Community Alternative 7 may not need to undergo environmental review misses the point. Community Alternative 7 provides a comprehensive vision and solution. The components need to proceed as a package to ensure the full benefits of this holistic solution. As such, packaging them in one project makes sense to ensure all the vital components move forward together. If parts that do not require environmental review are accomplished along the way, that does not harm the overall objective of a comprehensive solution.

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Because the alternatives analysis suffers serious flaws, the RDEIR/SDEIS violates CEQA and NEPA.

III. THE DISCUSSION OF LAND USE IMPACTS IS FLAWED AND INADEQUATE.

The RDEIR/SDEIS discussion of land use impacts remains inadequate. It fails to identify and adequately discuss inconsistencies with land use plans. And even when inconsistencies are identified, the document does not discuss the impacts of those inconsistencies on the environment, nor does it discuss what can be done to reduce or avoid those impacts or provide meaningful mitigation.

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A. The RDEIR/SDEIS Does Not Provide an Adequate Discussion of the Inconsistencies of the Project Alternatives with Land Use Plans.

To comply with CEQA guidelines, the RDEIR/SDEIS must analyze and discuss inconsistencies between the proposed project and applicable land use plans as of the time that the Notice of Preparation ("NOP") was prepared.[31] Caltrans fails to do so.

Environmental Policy Act clearly requires this analysis as conceded in CALTRANS own planning document.

[31] CEQA Guidelines § 15125(d) & (e).

The conclusion in the RDEIR/SDEIS that the build alternatives are "generally consistent" with land use plans is not supported by the evidence. In fact, Caltrans admits that adoption of any build alternative would require local and regional agencies to amend their plans to reflect changes in land use and configuration of the freeway, but fails to discuss this important inconsistency.[32]

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CEQA does not require a discussion of the consistencies of build alternatives with land use plans, but rather requires a discussion of the inconsistencies.[33] Here, Caltrans asserts that the build alternatives are "generally" consistent and does not adequately discuss the inconsistencies, let alone the impact of those inconsistencies on the environment. This does not comport with the law.

Caltrans incorrectly concludes that because the freeway is contemplated by some local plans, that the build alternatives are necessarily consistent with those plans. "Although the build alternatives would impact 536 to 752 acres of land currently in other uses, because I-710 has been considered in the local General Plans since its construction as a freeway in the 1950s, the build alternatives are generally compatible with adjacent land uses."[34] Perhaps the existing freeway was considered, but that does not mean that this proposed freeway project, which displaces vital community resources and housing while a number of these jurisdictions are facing a housing crisis, would be consistent.

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The RDEIR/SDEIS is misleading where it identifies the build alternatives as consistent with a general plan, while burying inconsistencies acknowledged later. For example, with respect to consistency with the South Gate General Plan, the RDEIR/SDEIS states that the build alternatives will "preserve residential neighborhoods in the City of South Gate by avoiding residential displacements in the city."[35] To the contrary, Table 3.1-1 shows that there will be 0.29 and 0.36 acres of residential land converted to transportation land use under alternatives 5C and 7 respectively.[36] Similarly, the City of Paramount is slated to have 0.57 acres of residential land converted to transportation land use under either build alternative and 0.9 to 1.28 acres of industrial land lost, yet the RDEIR/SDEIS states that build alternatives "would not adversely impact residences or businesses."[37] With respect to East Los Angeles, the RDEIR/SDEIS states

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[32] *See, e.g.,* RDEIR/SDEIS at 3.1-54 ("While adoption of any one of the build alternatives would require SCAG, the County of Los Angeles, and several other regional and local agencies to amend their plans and/or land use maps to reflect modifications to the I-710 mainline, interchanges, arterial highways, and arterial intersections, as well as the elimination of any land uses that may need to be acquired for the project, the proposed build alternatives are generally consistent with these plans. Caltrans will need to amend its existing freeway agreements with cities where the build alternatives would add or remove connections to I-710 or I-405.").
[33] *Pfeiffer v. City of Sunnyvale City Council,* 200 Cal. App. 4th 1552, 1566 (2011); CEQA Guidelines § 15125(d) and (e).
[34] RDEIR/SDEIS at 3.1-11.
[35] *Id.* at 3.1-59.
[36] *Id.* at 3.1-14.
[37] *Id.* at 3.1-14; 3.1-58.

that the build alternatives are consistent with the community plan due to their "retaining of residential areas in East Los Angeles."[38] To the contrary, Table 3.1 shows that 0.09 to 1.77 acres of residential land use will be lost as a result of the build alternatives.[39] And in the City of Bell Gardens, the RDEIR/SDEIS states that build alternatives "would not result in business displacements within the City of Bell Gardens" yet table 3.1-1 indicates 0.27 or 0.28 acres of impacts for commercial and services for 5C and 7; and 2.17 and 1.94 acres of industrial; and 1.47 and 1.02 for residential.[40]

IP-24-21

The RDEIR/SDEIS fails to identify that the build alternatives are actually inconsistent with several of the plans, incorrectly stating they are consistent:

- California Coastal Act. Goal C states "Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners."[41] The RDEIR/SDEIS states that build alternatives "would require relocation of residences and businesses . . . some of which are located in the Coastal Zone," but that because relocations would comply with the Uniform Act, the build alternatives would not result in adverse impacts.[42]

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- City of Bell Gardens General Plan: states consistency despite 1.02 to 1.47 acres of residential land will be converted, and preserving residential property is a stated principle of the general plan. "According to the City of Bell Garden General Plan (1995), residential land uses account for the majority of land use in Bell Gardens, and the majority of housing stock is over 50 years old. As a result, the City of Bell Gardens strives to preserve the existing residential neighborhoods while promoting new development in the industrial areas to provide employment opportunities."[43]

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- As currently written, the RDEIR/SDEIS fails several of the guiding principles of the 2035 County of Los Angeles General Plan. That plan promotes working to "Coordinate an equitable sharing of public and private costs associated with providing appropriate community services and infrastructure to meet growth needs."[44] A public private partnership to fund the ZE corridor would be consistent with this goal. In addition, another policy provides working to "promote programs that support a stable and well-educated workforce."[45] A local hire policy would promote this goal, but is currently lacking in the proposed projects.

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- For some plans, the RDEIR/SDEIS fails to acknowledge inconsistencies with local policies. For instance, as CEHAJ explained in comments on the DEIR/S, the Sustainable

IP-24-25

[38] RDEIR/SDEIS at 3.1-59.
[39] *Id.* at 3.1-13.
[40] *Id.* at 3.1-56; 3.1-13.
[41] *Id.* at 3.1-60, Table 3.1-2.
[42] *Id.*
[43] *Id.* at 3.1-5.
[44] *Id.* at 3.1-21.
[45] *Id.* at 3.1-21 through 3.1-22.

Communities Strategy calls for working to "increase the efficiency of the existing transportation system" and expanding the freeway is inconsistent with this goal. IP-24-25

Finally, Table 3.1-1 Fails to provide total acres impacted for Alt. 7, Option 3B in the table.[46] IP-24-26

Moreover, Caltrans does not consider all of the relevant local and regional plans and policies that apply to the Project. For instance, the RDEIR/SDEIS fails to consider greenhouse gas elements of local plans. IP-24-27

B. The RDEIR/SDEIS Fails to Explain the Environmental Impacts of Inconsistencies with Land Use Plans.

Once inconsistencies have been identified and adequately discussed, Caltrans must discuss the impacts of those inconsistencies and what can be done to reduce or avoid those impacts.[47] Here, as discussed above, Caltrans incorrectly asserts that the build alternatives are "generally" consistent and does not discuss either the inconsistencies or the impact of those inconsistencies on the environment. Even where inconsistencies with land use plans are acknowledged, the RDEIR/SDEIS fails to analyze the environmental impacts of the inconsistencies, or as discussed in the next section to meaningfully mitigate those impacts.

For example, the RDEIR/SDEIS fails to adequately analyze the environmental impact of the following inconsistencies it identifies:

- The SCAG RCP states that build alternatives would not be consistent with "several" guiding principles and goals, but that "the build alternatives would not provide new housing or education as referenced in the RCP."[48] IP-24-28
- With respect to the SCAG RTP/SCS, the RDEIR/SDEIS states, "The build alternatives do not provide high-occupancy vehicle (HOV) gap closures or a rideshare program; therefore, the build alternatives would not be consistent with these policies in the RTP." Also, the project description does not match and the RTP would need to be amended prior to approval of the Final EIR/EIS.[49] IP-24-29
- The FTIP section acknowledges that both the RTP and RTIP will need to be amended to match the preferred alternative prior to approval of the final EIR/EIS.[50] IP-24-30
- Because "the build alternatives would result in impacts to open space and recreation land uses. Therefore, the project is not consistent with the objective" of the IRWMP. 3.1-55. IP-24-31
- With respect to the objectives of the OSHARP and OSHARTM, "The loss of recreation and open space land use associated with the build alternatives is not consistent with the objectives".[51] IP-24-32

[46] RDEIR/SDEIS at 3.1-14.
[47] CEQA Guidelines § 15125(d).
[48] RDEIR/SDEIS at 3.1-54.
[49] *Id.* at 3.1-55.
[50] *Id.*
[51] RDEIR/SDEIS at 3.1-55.

- With respect to the City of Bell General Plan, the document states: "The build alternatives would not expand public facilities in the city; however, Caltrans is working with agencies responsible for public facilities throughout the corridor to mitigate any direct impacts."[52] Despite acknowledging this inconsistency, also states that the build alternatives are consistent with the goals and policies of the General Plan. Bell General Plan Policy 10: "Expand public facilities to meet community needs and demands."[53] IP-24-33
- With respect to the City of Long Beach General Plan, "The build alternatives would also result in relocation of businesses and residents in the city, which would be inconsistent with the General Plan."[54] Confusingly, despite acknowledging this overall inconsistency, the RDEIR/SDEIS also states that build alternatives "are consistent with the adopted goals and policies in the City of Long Beach General Plan."[55] IP-24-34

Failure to analyze specific local impacts to land use is not in compliance with CEQA. For example, the City of Commerce is clear that it will oppose a project that "does not first consider the potential impacts of such facilities on the local community in which the facility will be located."[56] Yet, despite the fact that Commerce has some 280 entries in the Appendix L Parcel Acquisition table, Caltrans fails to discuss how the land use changes in the build alternatives are inconsistent with the land use plan and what impacts those inconsistencies will have. IP-24-35

The RDEIR/SDEIS does not discuss the impacts of changing land uses. The RDEIR/SDEIS acknowledges that large amounts of land will need to be converted to a different land use in order for either Project Alternative to be built. Yet Caltrans fails to describe why this significant amount of land to be converted will have a "minimal" impact on land use conversion, and furthermore fails to discuss how land use conversion will impact the environment and the people living in affected communities.[57] IP-24-36

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[52] *Id.* at 3.1-56.
[53] *Id.* at 3.1-25.
[54] *Id.* at 3.1-58.
[55] *Id.*
[56] *Id.* at 3.1-29 ("Transportation Policy 6.1: The City of Commerce will ensure that all future transportation facilities that will provide a regional benefit do not have a significant adverse impact on the community and that any such impacts are mitigated to the fullest extent possible. [...] Transportation Policy 6.2: The City of Commerce will oppose any regional public transportation improvement that does not first consider the potential impacts of such facilities on the local community in which the facility will be located.").
[57] RDEIR/SDEIS at 3.1-11 (Of the 536 to 752 acres of land that will be required for the project, "Generally, approximately 68 percent of the existing rights of way required for Alternatives 5C and 7 consist of existing transportation, utilities, and vacant land uses. Approximately 3 percent and 20 percent of existing rights of way for the build alternatives consist of existing commercial and services, and industrial uses, respectively. Additionally, approximately 3 percent of existing rights of way for the build alternatives consists of existing residential uses. Therefore, permanent impacts to land use as a result of Alternative 5C and Alternative 7 are considered minimal in terms of land use conversion.").

A total of 537 to 750+ acres of land will be converted as a result of the project. The document does not analyze what do these changes in land use mean in terms of impacts. The RDEIR/SDEIS must discuss the impacts to local housing, noise, traffic circulation, or other activities that result from changing land uses. For example, in the City of Long Beach, between 270.29 to 373.35 acres of land will be impacted by the build alternatives, including 5-6 acres of residential land.[58] The document must discuss the impacts of those land use changes. Moreover, the RDEIR/SDEIS does not discuss whether local agencies would be willing to make those changes. IP-24-37

The land use section of the RDEIR/SDEIS also fails to consider public health impacts resulting from conversion of land use. On page 3.1-15, Caltrans states that "The transportation/land use relationship is a critical one relative to public health," and "existing sensitive land uses (residences, parks, schools, etc.) directly adjacent to the I-710 are exposed to higher levels of vehicle exhaust emissions and traffic noise than occur within the overall I-710 Corridor."[59] Yet, the RDEIR/SDEIS fails to describe this relationship in any more depth or how the changes to land use will impact public health. In addition to the public health considerations related to air quality and noise and sensitive land uses, there are other health impacts, including those associated with displacement that result from reducing residential land uses in the region, that must also be analyzed. The RDEIR/SDEIS states that "Avoidance, minimization, and mitigation measures are proposed to reduce the impacts resulting from the build alternatives on existing land uses."[60] The RDEIR/SDEIS must specify what these mitigation measures are and how they will reduce impacts to public health as a result of changing land uses. IP-24-38

In addition, where the RDEIR/SDEIS adds analyses for additional plans not discussed in the DEIR/S, it nevertheless still fails to discuss the inconsistencies or their environmental impacts, or to mitigate for them. IP-24-39

C. The RDEIR/SDEIS Fails to Mitigate or Avoid Land Use Impacts.

Because Caltrans failed to identify and adequately discuss the inconsistencies and their environmental impacts, it has also failed to adequately mitigate the impacts. As explained below, Caltrans fails to provide any meaningful avoidance or mitigation efforts for impacts of the build alternatives on land use.

LU-1 is not a meaningful mitigation measure and is inadequate for both permanent impacts to land use and for issues related to inconsistency with general plans. LU-1 simply states that Caltrans will "request" that affected Cities and the County amend their General Plans "to reflect the final alignment, interchange locations, and modification of land use designations for properties that would be acquired for the project."[61] In the RDEIR/SDEIS, LU-1 was changed to clarify that the timing and processing of amendments would be at the discretion of each local jurisdiction, and that these amendments could occur "during the next cycle of amendments to IP-24-40

[58] *Id.* at 3.1-13, Table 3.1-1.
[59] *Id.* at 3.1-15.
[60] *Id.*
[61] RDEIR/SDEIS at 3.1-62.

each local jurisdiction's General Plan Circulation and Land Use Elements."[62] LU-1 also states that Caltrans will "also initiate amendments to existing freeway agreements with cities where the build alternatives would add or remove access to I-710 or Interstate 405."[63]

The proposed Caltrans request is not a mitigation measure, as it does not do anything to avoid or reduce impacts to changes in land use that occur as a result of the project. The mitigation is merely a paper exercise to achieve "consistency"; meanwhile, nothing is done to mitigate the many acres of residential land that will be converted to transportation uses. Indeed, in response to comments Caltrans acknowledges that this is not a binding mitigation measure. "Measure LU-1 was written as a request of and not a requirement on local jurisdictions such as the City of Maywood because Caltrans has no authority to require a local jurisdiction to amend its General Plan. However, in the longer term, it is to a local jurisdiction's benefit for its General Plan to reflect actual land uses such as transportation facilities."[64] IP-24-40

The RDEIR/SDEIS should analyze all feasible mitigation measures. For example, mitigation should be included to avoid or reduce changes to land use, avoid impacts to residential areas and community resources, and increase the amount of housing and access to community resources.

D. Caltrans' Response to Prior CEHAJ Comments on the DEIR/SDEIR Land Use Section is Inadequate.

CEQA § 21091 and CEQA Guideline §15088 require lead agencies to respond in writing to comments submitted by the public that raise significant environmental questions. An adequate response to comments explains why the lead agency has rejected the recommendations and objections raised in the comments and provides a good faith, reasoned analysis to support the agency's determination. The level of detail in the response should be the same as the level of detail in the comment, and conclusory statements are insufficient. Caltrans and Metro's response to CEHAJ's comment on land use is inadequate because it failed to explain the agency's basis for rejecting the recommendation or objection, provided only a general response to a specific and detailed comment, and provided only conclusory statements.

Caltrans' response to the three pages of legal comments that CEHAJ provided on the DEIR/S is a single sentence: "In response to this comment, Section 3.1.2 of the Recirculated Draft EIR/Supplemental Draft EIS has been expanded to provide more detail for the General Plan Consistency Analyses for the Study Area jurisdictions, including specific analysis of any inconsistencies."[65] Comparing section 3.1.2.3 of the DEIR/S to the RDEIR/SDEIS, it is clear that almost nothing has changed in terms of the inconsistency discussions.[66] For instance, where IP-24-41

[62] *Id.*
[63] *Id.*
[64] RDEIR/SDEIS, Appendix S, Response to Comments-Local Agency Comments, L-13-24 at 168 (responding to comment from City of Maywood calling LU-1 an unfunded mandate to local agencies, and revising the measure to show that general plan updates are a state requirement.).
[65] RDEIR/SDEIS, Appendix S, Response to Comments-Interested Parties, IP-22-44 at 783-84.
[66] DEIR/S at 3.1-47 through 3.1-50.

discussing the environmental impacts to cities affected by the build alternatives, the RDEIR/SDEIS repeats exactly the same language as was in the DEIR/S.[67]

IP-24-41

The inadequacy of this response to comment violates CEQA § 21091 and CEQA Guideline § 15088 and undermines the sufficiency of the EIR as an informational document.

IV. THE RDEIR/SDEIS ANALYSIS OF THE PROJECT'S IMPACTS ON PARKS IS INADEQUATE.

The RDEIR/SDEIS identifies 72 parks and recreation facilities within half a mile of the proposed construction.[68] Yet the RDEIR/SDEIS provides only minimal assessment of the impacts from this Project to these areas. Similarly, the Draft Section 4(f) Evaluation ("4(f) Evaluation") fails to consider potentially severe impacts to enjoyment and use of parks located directly along the proposed construction. As a result of this bald analysis, these documents fail to (1) adequately analyze the impacts to these facilities, (2) identify alternatives which would avoid or limit these impacts to parks, and (3) identify sufficient measures to minimize and mitigate the impacts. This limited analysis fails to meet the requirements of NEPA, CEQA and Section 4(f) of the Department of Transportation Act ("Section 4(f)").

IP-24-42

NEPA requires an EIS to carefully assess the impacts of a proposed project and to explore "all reasonable alternatives."[69] CEQA requires that all environmental impacts of a project be analyzed, and that no project be approved "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects."[70] Similarly, under Section 4(f) of the Department of Transportation Act, an agency overseeing a transportation project may not approve any project requiring the use of a significant public park, recreation area, wildlife and waterfowl refuge, or historic site, unless it determines that: (1) there is no prudent and feasible alternative to using the property, and (2) the project includes all possible planning to minimize harm to the property.[71]

A. The RDEIR/SDEIS and Section 4(f) Evaluation Fail to Adequately Analyze the Environmental Impacts that the Project Alternatives will have on Parks.

Here, the RDEIR/SDEIS and Section 4(f) evaluation fail to consider potential severe impacts to enjoyment and use of parks located directly along the proposed construction. The Section 4(f) analysis lacks evaluation of constructive uses of parks, as well as discussion of temporary occupancies, focusing exclusively on parks where the project would require a physical presence on park land. By incorrectly finding that there are no temporary or constructive uses, and only de minimis uses, Caltrans improperly evades the requirement to analyze prudent and feasible

IP-24-43

[67] *Compare* RDEIR/SDEIS at 3.1-56 to 3.1-59; *see* 3.1-58 (adding one sentence about impacts the City of Long Beach, "The build alternatives would not expose persons within the City of Long Beach to excessive noise.").
[68] RDEIR/SDEIS at 3.1-64 through 3.1-69.
[69] 40 C.F.R. § 1502.14 (2017).
[70] Cal. Pub. Res. Code § 21002.
[71] 23 U.S.C. § 138(a) (2015); 49 U.S.C. § 303(c) (2015).

avoidance alternatives to uses of section 4(f) properties. Thus, the document also fails to identify all possible measures to avoid, limit, and/or mitigate impacts. IP-24-43

1. The RDEIR/SDEIS and Section 4(f) Analysis Fail to Consider Potential Severe Impacts to Parks.

The document fails to adequately analyze the full extent of potential severe impacts to parks, including Julia Russ Asmus Park, Coolidge Park, Dills Park, Bandini Park, Maywood Park and others.

For example, despite its proximity to the I-710, there is no discussion in the section 4(f) document about Julia Russ Asmus Park. And the RDEIR/SDEIS conclusorily states: "Improvements to the I-710 mainline and local arterials would not result in direct impacts to the park. As indicated in the Traffic Noise Study Report (Caltrans 2016) prepared for the proposed project, sound barriers were found to be feasible under the I-710 Corridor Project Build Alternatives along the east side of I-710 that could provide noise reduction to this park and surrounding land uses."[72] Such a conclusory statement does not suffice.

Similarly, with respect to Coolidge Park, while acknowledging that "because Coolidge Park is adjacent to the study area, indirect noise, visual, and air quality impacts at Coolidge Park could result from the build alternatives following construction",[73] the RDEIR/SDEIS does not discuss these impacts in section 3.1.3. It simply concludes, "Improvements to the I-710 mainline and Artesia Blvd. would not result in direct to this park; improvements would be made within the existing right of way."[74] But in so doing, it fails to adequately discuss the impacts on noise, visual, access, and air quality could have negative impacts to park use and enjoyment. Notably, the document does not address noise and visual impacts to park's picnic area. IP-24-44

With respect to both Julia Russ Asmus Park and Coolidge Park, Caltrans uses a flawed rationale for minimizing and dismissing conclusorily potential impacts. In both cases, Caltrans concludes that "Because the focus of the park is active uses that are not particularly sensitive to indirect impacts such as noise or changes in views to/from the park," the effects of the project would not substantially impair the park's activities and functions or meaningfully reduce or remove the values of the resource.[75] Further, with respect to Coolidge Park, Caltrans also relies on the limited hours of the park to determine that increased noise, air quality, and visual impacts would not impact park use.[76] In both cases, this analysis is cursory and flawed.

[72] RDEIR/SDEIS at 3.1-78, table 3.1-5.
[73] Section 4(f) Evaluation at 72.
[74] RDEIR/SDEIS at 3.1-83, table 3.1-5.
[75] RDEIR/SDEIS, Appendix S, Response to Comments-Interested Parties at 799.
[76] Section 4(f) evaluation at 72. (According to the RDEIR: "The park does not include any amenities or features (such as wildlife habitat, a campground, or outdoor amphitheater) that would be considered highly sensitive to noise, visual, or air quality impacts. In addition, the park's hours are Monday through Friday, 12:00 to 6:00 p.m.; and Saturday, 12:00 to 4:00 p.m. Based on the nature of the amenities at the park (baseball field, basketball courts, spray pool), recreational users would most likely use the park for a limited time (e.g., a few hours during

Finally, Caltrans cannot use the fact that there are existing impacts to urban parks to avoid analyzing the additional impacts of the project. For instance, the discussion of Dills Park acknowledges noise impacts, yet states that there will not be impacts because "the park is currently located adjacent to an existing transportation facility with existing traffic noise."[77] Also, under the public health considerations, Caltrans states: "VISUAL IMPACTS. As shown in Table 3.1-4, a low visual impact to Coolidge Park, would result with implementation of the I-710 Corridor Project Build Alternatives. Similar impacts are anticipated for other parks and recreation facilities located adjacent to or in proximity of the I-710 mainline and proposed freight corridor. The visual impact of the build alternatives would be low at Maywood River Park, and the visual impact at Bandini Park would be moderately low. Because these parks are within an existing urban environment, these visual impacts are not expected to reduce the public's use of parks adjacent to I-710."[78] This faulty logic would suggest that parks already experiencing visual impacts can be worsened to an infinite degree without impact on use. IP-24-45

2. The RDEIR/SDEIS and Section 4(f) Analysis Fail to Evaluate Constructive Uses of Parks.

Section 4(f) applies to both physical taking and "constructive use" of parkland.[79] "Constructive use of park land occurs when a road significantly and adversely affects park land even though the road does not physically use the park."[80] Yet the document fails to provide an adequate discussion of the constructive uses of section 4(f) properties.

The document provides only a minimal assessment of the impacts to the 72 parks and recreation facilities within a half mile of the proposed construction. The Section 4(f) evaluation determines there will be no constructive uses of parkland, even though there will be increased noise and visual impacts on numerous of the parks; and it ignores serious disruptions to use and enjoyment both temporary and permanent at many of the park. Until Caltrans undertakes sincere inquiry into the constructive uses to these parks, it has not made the "special effort" required by 4(f). IP-24-46

baseball or basketball events, or daytime hours only to use the spray pool or picnic facilities), and would not likely spend several hours from early morning to late evening at the park. Therefore, recreational users would have limited exposure to air quality, noise, and visual impacts, and these impacts would not prevent recreational users from enjoying the active recreation activities at the park.").

[77] Section 4(f) Evaluation at 76 ("Indirect noise impacts would result from the project at Dills Park; however, the park is currently located adjacent to an existing transportation facility with existing traffic noise, which currently does not interfere with the activities, features, and attributes of the park. Additional indirect noise impacts from the project are not anticipated to result in substantial impairment of the park.).

[78] RDEIR/SDEIS at 3.1-87.

[79] 23 C.F.R. § 774.17.

[80] *Sierra Club v. Dep't of Trans.*, 948 F.2d 568, 573 (9th Cir. 1991); *see also Laguna Greenbelt, Inc. v. U.S. Dep't of Transp.*, 42 F.3d 517, 533 (9th Cir. 1994).

Caltrans' discussion of constructive uses ignores discussing 4(f) protected resources in many instances. Caltrans improperly narrows its consideration of sensitive uses to "campgrounds" and "outdoor amphitheaters." Citing a 2012 FHWA Policy Paper, Caltrans contends in the response to comments that constructive use impacts "The types of impacts that may qualify as constructive use, such as increased noise levels that would substantially interfere with the use of a noise sensitive feature such as a campground or outdoor amphitheater, are addressed in 23 CFR 774.15."[81] In the RDEIR/SDEIS, Caltrans goes on to rely on the fact that there are no campgrounds or outdoor amphitheaters in many of the parks to support its conclusion that there are not constructive use impacts.[82] But the FHWA never meant this guidance to mean constructive impacts can *only* occur where there are outdoor amphitheaters and campgrounds, merely that those are examples. To the contrary, constructive impacts can and likely will occur at the many picnic areas, playgrounds, and outdoor recreation facilities that will be impacted by the project.

IP-24-46

For the parks within a half mile of the project, there are foreseeable impacts that the RDEIR/SDEIS must address yet does not. A thorough evaluation of these impacts is necessary to understand whether a constructive use occurs.

For example, the document acknowledges that there will be "short term air quality and traffic effects" yet does not discuss what those impacts will be.[83] Therefore, the idea that those undescribed impacts will be mitigated is not a meaningful promise to the public, since the impacts are not disclosed. Additionally, the assertion that noise walls and berms will mitigate those impacts does not follow – noise walls do not mitigate air quality impacts, and in any case, Caltrans has found that for several of the parks suffering from increased noise levels, sound walls are not feasible.[84]

IP-24-47

The RDEIR/SDEIS specifically fails to consider constructive uses due to noise. According to section 4(f), 23 CFR 774.15 specifically identifies as constructive use a situation in which "[t]he projected noise level increase attributable to the project substantially interferes with . . . [e]njoyment of an urban park where serenity and quiet are significant attributes."[85] For urban parks like Coolidge park, which offer restful settings in urban areas, noise impacts may substantially interfere with enjoyment of the park.

IP-24-48

[81] RDEIR/SDEIS, Appendix S, Response to Comments-Interested Parties Comments at 797; Fed. Highway Admin., Section 4(f) Policy Paper, at 7 (July 20, 2012) https://www.environment.fhwa.dot.gov/4f/4fpolicy.pdf.
[82] RDEIR/SDEIS, Appendix S, Response to Comments-Interested Parties at 797 (Caltrans also relies on fact that there are no campgrounds or outdoor amphitheaters as part of rationale that there are no constructive uses.).
[83] *Id.*
[84] *Id.* ("Other indirect impacts such as short-term air quality and traffic effects near those resources would be substantially mitigated based on measures implemented during project construction and permanent design features of the project such as noise walls and berms.").
[85] *Id.* at 64.

In addition, while the Response to Comments acknowledges that there will be effects on Table 3 parks including "noise, air quality, and visual effects" due to "both existing uses and activities . . . as well as the effects of the I-710 Corridor Project."[86] Yet the document fails to analyze to what extent the project will have impacts above the baseline conditions, and simply includes a conclusory statement that the impacts will not substantially impair the features qualifying under Section 4(f). Nowhere is this analysis in the document. IP-24-48

For its analysis of constructive impacts under the section 4(f) analysis, Caltrans simply states the following: "The properties meeting the criteria for protection under Section 4(f) were also evaluated to determine whether the build alternatives would result in the constructive use of those properties. The detailed analyses documented in the project technical reports did not identify any proximity impacts resulting from the project that would be so severe that the activities, features, or attributes that potentially qualify those properties for protection under Section 4(f) would be substantially impaired. The proximity impacts of the build alternatives in the vicinity of properties that potentially qualify for protection under Section 4(f) would not meaningfully reduce or remove the values of those resources in terms of their Section 4(f) significance. Therefore, the build alternatives were determined not to result in constructive use of any properties potentially protected under Section 4(f)."[87] Yet the section 4(f) evaluation and the RDEIR/SDEIS do not disclose the impacts identified in the technical reports, so we cannot be sure that they will not be substantial or severe. IP-24-49

Finally, the public health considerations in the parks section of RDEIR/SDEIS is also inadequate. Caltrans must consider air quality impacts on the use and enjoyment of park resources. Numerous studies demonstrate the health impacts from exercising in areas of poor air quality,[88] and this diminished use must be analyzed, addressed, and mitigated.

3. The RDEIR/SDEIS and Section 4(f) Analysis Fail to Evaluate Temporary Uses of Parks During Construction.

The discussion of impacts and mitigation measures for temporary construction impacts to parks and temporary closures of parks during construction is also inadequate. There are a number of parks that will be subject to temporary construction easements and temporary closures under the proposed project alternatives. The documents do not adequately discuss the impacts of using park space for construction staging and for temporary closures of the parks. IP-24-50

[86] *Id.* at 797.
[87] Section 4(f) Evaluation at 2-3.
[88] *See, e.g.*, CA Air Res. Bd., *Physical Activity: Health Benefits, the Role of the Built Environmental and the Impact of Air Pollution* at 38-40 (Dec. 16, 2016), https://www.arb.ca.gov/research/vprp/physical_activity_and_health_final_161216.pdf; Jason G. Su *et. al., Does exposure to air pollution in urban parks have socioeconomic, racial or ethnic gradients?* Envtl. Res. 111:319–328 (2011), http://doi.org/10.1016/j.envres.2011.01.002; M. Jerrett *et al*., *Traffic-related Air Pollution and Obesity Formation in Children*, Envtl. Health 13:49 (2014); R. McConnell *et al*., *A Longitudinal Cohort Study of Body Mass Index and Childhood Exposure to Secondhand Tobacco Smoke and Air Pollution: The Southern California Children's Health Study*, Envtl. Health Perspectives 123:360-6 (2015).

Merely stating that vague TMPs will be implemented and that closed or TCE areas will be returned to public use after the temporary impacts are over does not satisfy the law. Caltrans must discuss the actual impacts to use and enjoyment of the park, if even for a temporary time, and include mitigation measures to minimize those impacts. IP-24-50

Some of the temporary construction impacts do not meet the criteria as set out by 23 CFR 774.13(d).[89] For instance, the TCEs and temporary closures *would* interfere with the activities or purposes of the resource on a physical basis, making those TCEs and temporary closures a temporary occupancy that requires mitigation. IP-24-51

For the many of the projects included in the cursory constructive use analysis, Caltrans improperly concludes that "[v]isual, noise, and air quality impacts would not result in substantial impairment because no severe proximity impacts at the soccer fields/greenbelt are identified in the EIR/EIS."[90] This discussion applies to five parks – Drake/Chavez Soccer Fields and Greenbelt Project, Oregon Park, Baker Street Park, 72nd Street Staging Area, and Dills Park. These parks include facilities such as playgrounds, picnic areas, soccer fields, and tot lot. First, the reference to the analysis in the EIR/EIS is inadequate, since the document is not sufficient to adequately assess the impacts. Second, the section 4(f) evaluation cannot circularly rely on the RDEIR/SDEIS, which in turn relies on the section 4(f) evaluation. By referencing to each other, the documents attempt to get away with doing no analysis. The documents must disclose the impacts to visual, noise, and air quality impacts on parks, among other impacts. IP-24-52

The section 4(f) evaluation also states that: "For the remaining resources in Table 3, a review of the technical analyses in the EIR/EIS did not identify any project-related proximity impacts that would be so severe after mitigation as to result in substantial impairment of the activities, features, and/or attributes that qualify the properties listed in Table 3 for protection under Section 4(f). Because no severe proximity impacts have been identified in the EIR/EIS, it was determined that the build alternatives would not result in the constructive use of the resources listed in Table 3."[91] IP-24-53

[89] Section 4(f) Evaluation at 16 ("A temporary occupancy is when land is temporarily used by the project, such as for temporary construction easements (TCEs) or staging areas. A temporary occupancy would not constitute a use if the following five conditions set forth in 23 CFR § 774.13(d) can be satisfied: The duration of occupancy must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land; · The scope of the work must be minor, i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal; · There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis; · The land being used must be fully restored, i.e., the resource must be returned to a condition which is at least as good as that which existed prior to the project, and · There must be documented agreement of the appropriate federal, state, or local officials having jurisdiction over the resource regarding the above conditions.").
[90] *Id.* at 75.
[91] *Id.*at 76-77.

4. By Failing to Find Constructive or Temporary Uses of 4(f) Properties, Caltrans Improperly Evades the Section 4(f) Requirement to Evaluate Avoidance Alternatives for Uses of Section 4(f) Resources.

Caltrans must assess prudent and feasible avoidance alternatives for the temporary and constructive uses imposed by the project. By incorrectly finding that there are no temporary or constructive uses, and only de minimis uses, Caltrans improperly evades the requirement to analyze prudent and feasible avoidance alternatives to uses of section 4(f) properties. The document cannot simply list parks surrounding the project under a blanket conclusion of no use or de minimis use; Caltrans must actually consider the impacts to these areas.[92] IP-24-54

5. The RDEIR/SDEIS Should Include Additional Information about Impacts to Parks.

Caltrans should explain why Parque Dos Rios will be non-functional under Alternative 7. Currently, the documents only state that Alternative 7 will require permanent incorporation of 3.21 acres of Parque Dos Rios, but that "because of the limited accessibility and functionality of the remnant parcel, the entire 8.6-acre park would be required by the project."[93] Why are the other 5.39 acres non-functional? Could they be redesigned to be functional? Furthermore, if they are non-functional, what will happen to those 5.39 acres if the project is built? IP-24-55

B. Caltrans Fails to Identify Alternatives that would Limit Impacts to Parks.

Until all of the environmental impacts to parks are identified and properly analyzed, Caltrans cannot meaningfully consider the range of alternatives that would avoid or reduce those impacts Section 4(f) requires the consideration of avoidance alternatives, which may include new alignments and design variations that would avoid the use of the Section 4(f) resource. IP-24-56

Section 4(f) permits use of a park only when there is no prudent and feasible alternative to using the park, and the project includes all possible planning to minimize the harm to the park.[94] Under Section 4(f), an alternative is "feasible" merely if it can be built "as a matter of sound engineering judgment."[95] An alternative is "prudent" so long as it does not unreasonably compromise the project's stated purpose and need, and does not produce certain "unacceptable," "severe," "extraordinary," "unique," or "unusual" impacts.[96] Thus, under Section 4(f), an agency approving a transportation project which uses parkland must consider all viable alternatives, even those not fully meeting the identified "needs" of the project:

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[92] *See City of S. Pasadena v. Slater*, 56 F. Supp. 2d 1106, 1122-23 (C.D. Cal. 1999) (granting preliminary injunction against proposed extension of 710 Freeway, where plaintiffs claimed Section 4(f) evaluation "merely repeat[ed] the same conclusion about each property without having conducted a thorough review.").
[93] Section 4(f) Evaluation at 47.
[94] 23 U.S.C. § 138(a) (2015); 49 U.S.C. § 303(a) (2015).
[95] *Id.*; *Citizens to Pres. Overton Park, Inc. v. Volpe*, 401 U.S. 402, 411 (1971).
[96] 23 C.F.R. § 774.17 (2017).

> The mere fact that a "need" for a highway has been "established" does not prove that not to build the highway would be "imprudent" . . .. To the contrary, it must be shown that the implications of not building the highway pose an "unusual situation," are "truly unusual factors," or represent cost or community disruption reaching "extraordinary magnitudes."[97]

Whatever alternative is ultimately selected must include "all possible planning" to minimize the project's harm to used parkland.[98] "All possible planning" means all reasonable measures to minimize or mitigate harm, including design modifications or goals, provision of comparable replacement land, and monetary compensation.[99]

Caltrans has not demonstrated how it has exhausted "all possible planning" to avoid and minimize these project's impacts. For example, it has not exhausted all possible alternative design modifications of a zero-emission freight corridor, that neither increase the number of general purpose lanes nor widen lanes or shoulders, to minimize impacts to Parque Dos Rios or avoid or minimize other parkland impacts. IP-24-57

C. Caltrans Fails to Identify Sufficient Measures to Minimize and Mitigate the Impacts to Parks.

Until all constructive uses and impacts have been identified and properly analyzed, measures necessary to minimize and mitigate cannot be determined. Caltrans must consider all alternatives, including both physical and constructive, including temporary uses due to construction, and any other noise, aesthetic, or other impacts which may affect the enjoyment and use of parkland. Mitigation measures should include installation of sound barriers already found to be feasible, consideration of additional safeguards to limit noise and aesthetic interference with parks including measures to limit construction impacts), and the LID practices described in section XIV (water quality impacts) of these comments. IP-24-58

Another mitigation measure is the establishment of additional parks to serve the communities affected by the project, many of which are park poor.[100] Caltrans should require considering park equity as a component of identifying the replacement park. Currently, the mitigation measures IP-24-59

[97] *Stop H-3 Ass'n v. Dole*, 740 F.2d 1442, 1455 (9th Cir. 1984), *quoting Overton Park*, 401 U.S. at 411-13.
[98] 23 U.S.C. § 138(a) (2015); 49 USC § 303(c) (2015).
[99] 23 C.F.R. § 774.17 (2017).
[100] *See, e.g.*, L.A. Cty. Dep't. of Parks & Recreation, *Los Angeles Countywide Comprehensive Park Needs Assessment* (May 9, 2016), http://file.lacounty.gov/SDSInter/dpr/245982_Attachment1-ParksNeedsAssessment_FinalReport.pdf; J. Wolch *et al.*, *Parks and Park Funding in Los Angeles: An Equity-Mapping Analysis*, Urban Geography 26(1):4–35 (2005), http://doi.org/10.2747/0272-3638.26.1.4.

include "Key considerations in identifying replacement property/properties are (1) the acreage of the replacement property/properties compared to the acres used at Parque Dos Rios, (2) whether equivalent or better recreational functionality can be provided on the replacement property/properties, and (3) whether and what connections can be provided to other recreational resources from the replacement property/properties, notably the Los Angeles River Trail."[101] Another consideration should be park equity. Caltrans should also consider the access points to the LA River for the community. Further, Caltrans should specify whether it will pay for the replacement property and describe how that will be funded. IP-24-59

The mitigation measures for physical impacts to parks should be strengthened. Caltrans should add more information in its mitigation measure for impacts to Parque Dos Rios and for replacement of the basketball court at Cesar E. Chavez Park. At Parque Dos Rios, the section (4) evaluation identifies that "there may be some interference with the protected activities, features, or attributes on a temporary basis during construction"[102] However, the mitigation measure does not address the temporary impacts during construction. Similarly, Caltrans should specify whether it will pay for the replacement of basketball court at Cesar E. Chavez park. IP-24-60

The RDEIR/SDEIS should limit the planned closures of trail crossings for the LA River and Rio Hondo Trails. Currently the section 4(f) says that the alternatives would require closures lasting from a few days to "several months" in duration.[103] A mitigation measure should specify limits on the duration of these closures, such that they do not disrupt access for longer than a specified number of days and for only the minimum period necessary. IP-24-61

Caltrans must mitigate the loss of 3.76 acres of the basin from the Dominguez Gap and DeForest Treatment Wetlands.[104] Currently, no mitigation measures for the permanent loss of these wetlands are proposed. IP-24-62

Caltrans must also do more to mitigate the removal of 7.9 acres of the West Basin during construction. Alternative 7 would require the temporary removal of 7.9 acres of the West Basin, which would be restored following construction.[105] While the mitigation states that the construction contractor will be required to return the area "to a condition as good as or better than prior to its use for construction" in consultation with the LACDPW, more can be done to specify how this area would be improved.[106] IP-24-63

Caltrans should consider additional noise mitigation where sound walls not found acoustically feasible, and discuss impacts of not abating the noise. For example, for Ralph C. Dills Park: "As indicated in the Traffic Noise Study Report (Caltrans 2016) prepared for the proposed project, under Alternative 7, there would be a substantial noise increase resulting in noise impacts. Noise IP-24-64

[101] Section 4(f) Evaluation at 48.
[102] *Id.* at 51.
[103] *Id.* at 7, table 1.
[104] *Id.* at 65.
[105] Section 4(f) Evaluation at 8.
[106] *Id.* at 66.

abatement was considered in the form of a sound wall along the proposed truck lanes; however, it has been determined to be acoustically not feasible."[107] Additionally, the discussion of public health impacts of noise does not discuss those instances where sound walls will not be added in. IP-24-64

D. Caltrans' Response to CEHAJ Comments on the Section 4(f) Analysis is Inadequate.

CEQA § 21091 and CEQA Guideline § 15088 require lead agencies to respond in writing to comments submitted by the public that raise significant environmental questions. An adequate response to comments explains why the lead agency has rejected the recommendations and objections raised in the comments and provides a good faith, reasoned analysis to support the agency's determination. The level of detail in the response should be the same as the level of detail in the comment, and conclusory statements are insufficient. Caltrans and Metro's response to CEHAJ's comment on parks and section 4(f) is inadequate because it failed to explain the agency's basis for rejecting the recommendation or objection, provided a general response to a specific and detailed comment, and provided only conclusory statements. The section 4(f) document provides no more details about constructive uses, just a summarily stated conclusory paragraph. The inadequacy of the response to comment violates CEQA § 21091 and CEQA Guideline § 15088 and undermines the sufficiency of the EIR as an informational document. IP-24-65

E. Section 6(f) Analysis is Inadequate.

Caltrans acknowledges that the Teen and Senior Center in Cesar E. Chavez park, as well as landscaping around the center, were funded by L&WCF Act funds, making impacts to those facilities ways of potentially triggering section 6(f).[108] However, Caltrans states that "The Teen and Senior Center and the area immediately around the Teen and Senior Center would not be affected by the build alternatives. Therefore, the requirements of Section 6(f) are not triggered for Cesar E. Chavez Park."[109]

This cursory dismissal of impacts, however, fails to account for potential impacts to the facility due to construction, such as air, noise, visual impacts, and the potential ongoing impacts due to the building of an on-ramp through part of the park. The analysis fails to identify both potential temporary impacts from construction as well as permanent impacts to the facilities. In addition, as Caltrans acknowledges, there will be temporary closures of the park, presumably those closures would affect the Center. More analysis and discussion is needed here to adequately assess the impacts, identify whether section 6(f) requirements are triggered, and identify alternatives to avoid them or mitigation. IP-24-66

[107] RDEIR/SDEIS at 3.1-85.
[108] RDEIR/SDEIS at 3.1-65, table 3.1-3 (Cesar E. Chavez Park is approximately 25.5 acres in size and features basketball courts, a community center, a playground, a weight room, restrooms, and picnic areas. The community center is known as The Zone Teen and Senior Center and is located in the east side of park area.).
[109] Section 4(f) analysis at 11.

V. THE RDEIR/SDEIS ANALYSIS OF CULTURAL RESOURCE IMPACTS AND MITIGATION IS INADEQUATE.

The RDEIR/SDEIS discussion of cultural resources impacts and mitigation is inadequate. For example, the document does not adequately describe the status and results of tribal consultation. It simply states "Consultation is ongoing with three individuals/tribes who have expressed interest …. Caltrans will continue to consult with tribes as construction details are developed."[110] In the RDEIR/SDEIS and accompanying technical reports on the topic, Caltrans does little to assure the public that adequate efforts have been made to reach all interested tribes, or to describe the process, substance, or results of consultation efforts. As a result, it is impossible to determine the actual impacts identified or whether the mitigations proposed in the document for cultural resources, such as CON-CUL-2, are adequate either to arrive at a mutual agreement with consulted tribes or to actually address any impacts identified. IP-24-67

In addition, CON-CUL-3 punts further description of specific mitigations for cultural resources impacts to other future documents.[111] When a project will significantly impact cultural resources or archaeological sites, the preferred manner of mitigation is preservation in place.[112] Preservation in place involves planning construction to avoid archaeological sites and other measures that protect cultural resources. In discussing cultural resources, Caltrans failed to address preservation in place and include it as an alternative. Additionally, mitigation measures for cultural resources cannot be deferred, and leaving mitigation measures for cultural resources undefined constitutes deferred mitigation. [113] These details are needed to fully assess whether the proposed mitigations will actually address the impacts. IP-24-68

Without this information and these details, the discussion of cultural resources impacts and mitigation is inadequate and fails to comply with CEQA and NEPA.

VI. THE RDEIR/SDEIS' GROWTH INDUCEMENT ANALYSIS IS INADEQUATE.

Under the CEQA, the RDEIR/SDEIS is required to "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."[114] Because this project is subject to NEPA review, the environmental impact report or assessment must present "a *detailed* statement setting forth . . . [t]he growth-inducing impact of the proposed project."[115] The conclusions, IP-24-69

[110] RDEIR/SDEIS at 3.7-17.
[111] RDEIR/SDEIS at 3.24-50 ("CON-CUL-3[] Caltrans will develop a project-level Programmatic Agreement (PA) following submittal of a Supplemental Finding of Effect document….").
[112] Pub. Res. Code § 15126.4(b)
[113] Pub. Res. Code § 15126.4(a)(1)(B); *Ballona Wetlands Land Tr. v. City of L.A.*, 201 Cal. App. 4th 455 (2011).
[114] CEQA Guidelines, § 15126.2(d); see also CEQ Regulations, § 1508.8(b) (effects to be considered include "growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate . . . .").
[115] Pub. Res. Code, §§ 21100(b)(3) (emphasis added), 21100.1(c).

findings, and determinations made regarding the growth-inducing impacts of the project must also be supported by substantial evidence.[116] Substantial evidence excludes "[a]rgument, speculation, unsubstantiated opinion or narrative, [and] evidence which is clearly erroneous or inaccurate . . . ."[117]

In preparing the RDEIR/SDEIS, Caltrans has failed to satisfy these legal requirements to explain in detail the proposed project's growth-inducing effects and to support conclusions with adequate substantial evidence. Instead, the RDEIR/SDEIS provides general, conclusory statements and opinion without proper evidentiary support. And based on these assertions, the RDEIR/SDEIS unreasonably determines there would be "no adverse growth-related effects" from any of the I-710 Corridor Project build alternatives, and as a result, no mitigation measures are required.[118] The law requires more information and detailed analysis from public agencies. Caltrans must revise the document in order to provide the public and decisionmakers with sufficient detail to make an informed decision about this project's growth-inducement impacts and to consider potential mitigation measures. Moreover, Caltrans must also provide adequate substantial evidence to support its analysis and conclusions, as required by law. IP-24-69

A. The RDEIR/SDEIS Fails to Provide Sufficient Detail and Substantial Evidence to Support Conclusions Regarding the Availability of Vacant Land to Facilitate Population and Housing Growth.

The RDEIR/SDEIS asserts that growth in population and housing within the Study Area are unlikely to be significant because "[m]ost of the cities are close to being built out and have very limited vacant land for new development."[119] The RDEIR/SDEIS maintains this assertion throughout its growth-inducement analysis.[120] Based on this assertion, Caltrans argues that the lack of vacant land on which to build additional housing within the Study Area acts as a "physical constraint[] to growth in population and housing" and in effect would control or limit any potential growth caused by the project.[121] However, Caltrans's analysis lacks the necessary information for the public and decisionmakers to assess and confirm these assertions. IP-24-70

Caltrans does not cite to any substantial evidence in the record to support this growth-inducement determination. For instance, the RDEIR/SDEIS does not provide or cite to studies and other expert reports detailing the shortage of vacant land for new housing development or

[116] See, e.g., *Bakersfield Citizens for Local Control v. City of Bakersfield*, 124 Cal.App.4th 1184, 1198 (2004).
[117] CEQA Guidelines § 15384 (substantial evidence includes "facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.").
[118] RDEIR/SDEIS at 3.2-21
[119] *Id*. at 3.2-4.
[120] See, e.g., *Id*. at 3.2-13 ("Due to the lack of vacant or less developed land within the I-710 Corridor, the build alternatives would not facilitate new development by opening up access to previously undeveloped or less developed areas."); see also RDEIR/SDEIS at 3.2-15 ("[T]he Study Area is already highly developed, and there is limited land available for new development or redevelopment.").
[121] RDEIR/SDEIS at 3.2-4.

redevelopment. And the RDEIR/SDEIS does not provide evidence to corroborate the statement that planning efforts in cities within the Study Area are focused on the reuse of existing uses. Instead, the environmental document relies on mere opinion and broad assertions concerning the availability of vacant land in the area. However, speculation and unsubstantiated opinions are not substantial evidence to support findings.[122] As noted, the failure to cite to the evidence relied upon deprives the public and decisionmakers of the ability to test that evidence to determine its adequacy. Moreover, Caltrans' failure to provide the underlying evidence supporting its findings undermines CEQA's statutory goals to allow for informed public participation and decision-making.[123]

IP-24-70

Additionally, in reaching this conclusion, the environmental document fails to provide an adequate level of detail, as required by law, to "enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project."[124] For example, the RDEIR/SDEIS does not provide the percentage and location of vacant land in cities in and around the Study Area. Instead, it leaves the public and decisionmakers to speculate about the actual amount and how Caltrans reached this conclusion. The RDEIR/SDEIS is required to address these deficiencies.

IP-24-71

B. The Surrounding Environment Includes Areas Beyond the Pre-Defined Study Area.

As a preliminary matter, in assessing the project's potential growth-inducing effects, Caltrans is required to detail the project's potential to "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the *surrounding environment*."[125] In other words, Caltrans must make decisionmakers aware of the project's broader direct and indirect growth-inducing effects "on areas outside of the boundaries of the project area."[126] Although the scope of what constitutes the "surrounding environment" to be considered is not expressly defined, CEQA must be "interpreted in such a manner as to afford the *fullest possible protection* to the environment within the reasonable scope of the statutory language."[127] Thus, Caltrans is required to consider a reasonable scope that includes a significant portion of the surrounding environment beyond the project area that would likely shoulder some of the project's growth effects.

IP-24-72

[122] Pub. Res. Code § 21082.2(c).
[123] *Berkeley Keep Jets Over the Bay Committee v. Board of Port Com'rs*, 91 Cal.App.4th 1344, 1355 (2001).
[124] *Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal.3d 376, 405 (1988); see also Pub. Res. Code, § 21100(b)(5); *Napa Citizens for Honest Government v. Napa County Bd. of Supervisors*, 91 Cal.App.4th 342, 369 (2001) ("The detail required in any particular case necessarily depends on a multitude of factors, including, but not limited to, . . . the ability to forecast the actual effects the project will have on the physical environment.").
[125] CEQA Guidelines § 15126.2(d), emphasis added.
[126] *Napa Citizens for Honest Gov't v. Napa County Bd. of Supervisors*, 91 Cal.App.4th 342, 369 (2001).
[127] CEQA Guidelines § 15003(f), emphasis added.

Contrary to CEQA's requirements, in assessing the project's growth inducing effects, the RDEIR/SDEIS constrained its review to a predetermined Study Area that excluded large portions of Los Angeles County.[128] For example, in assessing conditions and other factors that would reduce the project's potential to foster growth, the RDEIR/SDEIS confined its analysis and conclusions to these artificial boundaries, stating that "[w]ithin the *Study Area*, there are several physical constraints to growth in population and housing," "[i]n the northern part of the *Study Area*, the railroad yards and tracks also act as a constraint to growth," and "utility corridors within the *Study Area* are also a physical boundary to growth."[129] By confining the growth-impacts assessment within this artificial Study Area, Caltrans was able to ignore a significant portion of the surrounding environment near the project that would likely experience impacts from induced growth. This narrow Study Area allowed Caltrans to minimize the project's growth-inducing effects and to ultimately conclude that the project would have no significant growth impacts.[130] As a result, the RDEIR/SDEIS found that no mitigation was necessary. IP-24-72

Caltrans's constrained consideration of the "surrounding environment" is precisely what courts have rejected in other circumstances. For instance, courts have ruled against efforts to give a "project's purpose an artificially narrow definition" because doing so would allow a government agency to avoid review of certain alternatives to the proposed project.[131] Similarly, Caltrans cannot artificially constrain what constitutes the "surrounding environment" in order to help the agency avoid a robust growth-inducement analysis and to conclude that no significant growth is likely to occur and no mitigation is required. Rather, the RDEIR/SDEIS must consider the full scope of the direct and indirect impacts the surrounding area is likely to experience as a result of this project beyond the Study Area. The RDEIR/SDEIS must establish a specific, broader study area to analyze these growth effects, similar to the supplemental study areas developed for the project's health risk assessment and water quality impacts.[132] Moreover, the need to constrain review to the Study Area must be explained, if Caltrans believes growth-inducement impacts are likely to *only* occur within the general area. IP-24-73

1. A Substantial Amount of Vacant Land Exists in Parts Beyond the Study Area.

As detailed, throughout the growth analysis, Caltrans asserts that "several physical constraints to growth in population and housing" exist within the Study Area.[133] One of these main constraints is the "very limited vacant land for new development" that would control the construction of additional housing and therefore restrict population growth.[134] The RDEIR/SDEIS maintains this assertion throughout its growth analysis, asserting that because "the Study Area is already highly developed, there is limited land available for new development IP-24-74

[128] RDEIR/SDEIS at 1.
[129] *Id*. at 3.2-4, emphasis added.
[130] *Id*. at 3.2-21.
[131] *North Coast Rivers Alliance v. Kawamura*, 243 Cal.App.4th 647, 668 (2015).
[132] RDEIR/SDEIS at 1 ("Specific study areas have been established for individual analyses (e.g. health risk assessment area of interest or water quality areas.").
[133] *Id*. at 3.2-4.
[134] *Id*. at 3.2-4.

and redevelopment."[135] However, the RDEIR/SDEIS ignores other areas near the project, beyond the narrow Study Area, that would provide the necessary vacant land and other development opportunities to facilitate the reasonably foreseeable population and housing increases from the project.[136]

Although the RDEIR/SDEIS focuses on the availability of vacant land *within* the Study Area, a closer inspection of the larger surrounding environment near the project shows a substantial amount of vacant land that would facilitate increased housing development and population growth. The availability of this vacant land undermines Caltrans' assertions that housing and population growth are naturally constrained. Notably, in Los Angeles County, almost 9,000 vacant parcels of land exist with multifamily residence zoning already in place to build additional housing (see Figure 1).[137] These zoned sites have the capacity to provide between 32,000 to 72,000 housing units.

IP-24-74

[135] *Id*. at 3.2-15.
[136] *Id*. at 3.2-14 ("mobility expected to be achieved as a result of the build alternatives could have a slight influence on the demand for residential and nonresidential uses").
[137] McKinsey Global Institute, *A Tool Kit to Close California's Housing Gap: 3.5 Million Homes by 2025* (Oct. 2016), http://www.mckinsey.com/global-themes/urbanization/closing-californias-housing-gap.

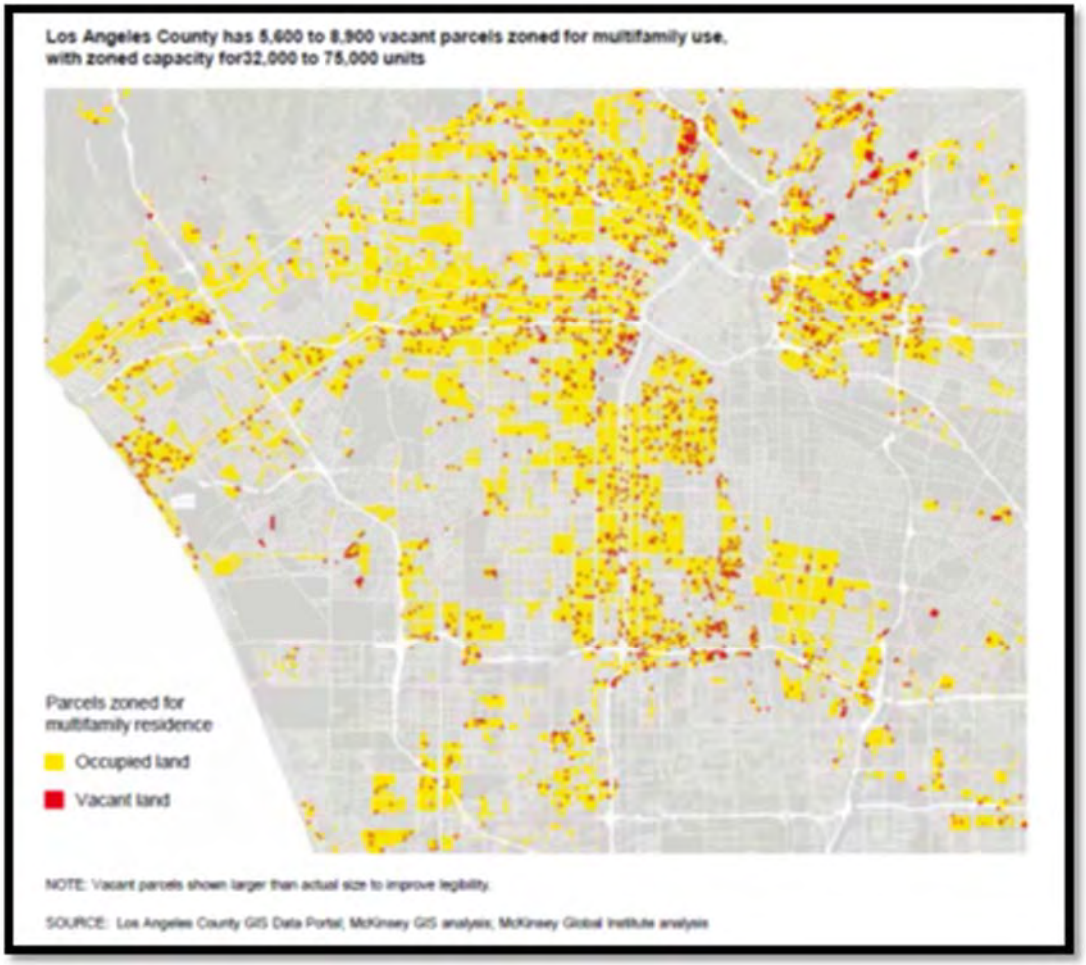


Figure 1. Vacant Parcels in Los Angeles County Zoned for Multifamily Use.

In fact, this estimate does not even account for vacant land that can be rezoned for residential use at sites both within the Study Area and in the larger surrounding areas near the project. Additionally, about 28 percent of *occupied* parcels zoned for multifamily currently utilize less than 50 percent of their capacity, and these sites have the potential to add an additional 306,000 housing units.[138]

As illustrated, available land for housing exists in the surrounding areas near the project, contradicting the RDEIR/SDEIS' assertions that the project "would not facilitate new development by opening up access to previously undeveloped or less developed areas . . . ."[139] Additionally, a significant amount of vacant land exists in areas north of the project, beyond the narrow Study Area, questioning the RDEIR/SDEIS' claim that "[i]n the northern part of the Study Area, the railroad yards and tracks also act as a constraint to growth . . . ."[140] Thus, it is

IP-24-75

[138] *Id*.
[139] RDEIR/SDEIS at 3.2-13
[140] *Id*. at 3.2-4

reasonable to expect more housing development will occur on vacant land and on already occupied land to accommodate additional population increases, driven in part by the project. IP-24-75

C. The RDEIR/SDEIS Fails to Provide Relevant Data and Information Concerning the Project's "Slight Influence" on Demand for Residential and Nonresidential Development.

This project entails the modernization of a critical piece of infrastructure in the region. Because the project will update a major freeway and improve the current level of service, one can reasonably expect this improved mobility to foster development in nearby areas. As admitted by Caltrans, "[t]he improved mobility expected to be achieved as a result of the build alternatives could have a *slight influence* on demand for residential and nonresidential uses in the cities and communities in the Gateway Cities subregion . . . ."[141] The RDEIR/SDEIS fails to actually detail the estimated amount of this "slight influence" and to explain the potential growth effects outside of the narrow Study Area. IP-24-76

Moreover, the RDEIR/SDEIS asserts the Project build alternatives "are not *expected* to influence the amount, timing, or location of growth in the Study Area."[142] Presumably, if an increased demand for residential and nonresidential development is likely to occur, one can reasonably expect such demand to also influence supply and the amount of development that occurs in the region. Once again, Caltrans fails to provide additional information and evidence in the record supporting its *expectation* that the project is unlikely to foster increased growth. IP-24-77

CEQA requires more than wishful thinking by a public agency. The public and decisionmakers are left to blindly accept as accurate the RDEIR/SDEIS' conclusions regarding growth-inducement. But speculation and unsubstantiated opinion are inadequate to support findings in an environmental review document.[143] Additional relevant information is necessary to allow for informed public participation and informed decision-making.[144] The document must be revised to provide additional detail and evidence to support these conclusions.

D. The RDEIR/SDEIS Fails to Properly Consider the Reasonably Foreseeable Significant Growth Effects from the Project's Construction, Given Its Nature and Scope

The RDEIR/SDEIS focuses largely on the potential growth effects from the project's operations at full build-out. For example, although admitting that interstate and State highways play a central role in goods movement, the RDEIR/SDEIR dismisses any increased port growth related to the project.[145] Similarly, the RDEIR/SDEIS concludes that increased vehicle mobility as a result of the project is unlikely to result in greater levels of residential and nonresidential IP-24-78

[141] *Id*. at 3.2-14 (emphasis added).
[142] *Id*.
[143] CEQA Guidelines § 15384.
[144] *Berkeley Keep Jets Over the Bay Committee v. Board of Port Com'rs*, 91 Cal.App.4th 1344, 1355 (2001).
[145] RDEIR/SDEIS at 3.2-5, 3.2-17.

development.[146] However, the environmental document provides only a cursory one-paragraph discussion of growth effects from the project's construction, claiming that growth is unlikely because construction related jobs would be filled by "the existing labor pool within the Study Area since the unemployment rate in the Study Area currently ranges from 2.8 percent to 8.1 percent."[147] This hasty analysis is inadequate.

IP-24-78

Caltrans minimizes a critical aspect of the project that is also likely to induce growth in the region: the construction of this major piece of infrastructure. The construction of this project entails substantial capital investment totaling billions of dollars for right-of-way acquisitions, utility relocation, materials, and labor.[148] A large portion of this amount will be invested in the region, and the construction of this project will require a significant labor force over an extended period of time. Indeed, infrastructure projects, such as the one proposed by Caltrans, involve not only construction workers, but also tradesmen, transportation and material hauling, in addition to other downstream job opportunities in the area.[149] In fact, an investment of just $1.3 billion dollars in infrastructure can create about *29,000* construction jobs alone, in addition to other employment opportunities in related supporting industries.[150]

IP-24-79

Yet without adequate support, the RDEIR/SDEIS speculates that local residents will likely fill these jobs due to the unemployment rate in the Study Area.[151] This assertion is pure speculation and lacks additional information. Notably, Caltrans fails to detail whether workers in the local communities have the necessary training to take-on the construction and other related jobs generated by this project. Moreover, one can reasonably expect that many workers will move into the area seeking employment opportunities created by the project. Beyond generating an increased demand for housing, the foreseeable increase in population as a result of the economic opportunities generated by this project will tax existing community service facilities and "may encourage and facilitate other activities that could significantly affect the environment . . . ."[152] Thus, the RDEIR/SDEIS fails to properly assess the direct and indirect growth effects from the construction of this project.

Indeed, the failure to adequately consider this aspect of the project also undermined the consideration of feasible mitigation measures. For example, Caltrans could have required job training programs to ensure that area workers are able to take advantage of the employment opportunities created by this project. Additionally, Caltrans could have recommended a mandatory local hiring program to reduce the potential influx of external workers into the area and instead hire local residents to help with the construction of the project. Caltrans must revise the

[146] *Id*. at 3.2-14.
[147] *Id.* at 3.24-5.
[148] *Id*. at 2-1.
[149] Anthony P. Carnevale, *Trillion Dollar Infrastructure Proposals Could Create Millions of Jobs*, Georgetown University (2017), https://cew.georgetown.edu/wp-content/uploads/trillion-dollar-infrastructure.pdf.
[150] Standard and Poors, *U.S. Infrastructure Investment: A Change to Reap More Than We Sow* (May 2014), http://images.politico.com/global/2014/05/05/sp-usinfrastructure201405.html.
[151] RDEIR/SDEIS at 3.24-5
[152] CEQA Guidelines, § 15126.2.

RDEIR/SDEIS to adequately analyze these foreseeable growth impacts from the construction of the project and to prescribe the appropriate mitigation measures. IP-24-79

VII. AN EIR MUST FULLY INFORM DECISIONS MAKERS AND THE PUBLIC OF THE ENVIRONMENTAL IMPACTS OF DISPLACEMENT AND RELOCATION. MOREOVER, AN EIR MUST CONSIDER FEASIBLE MITIGATION MEASURES TO AVOID SUCH IMPACTS.

While we commend Caltrans in its effort to analyze the Project's displacement and relocation impacts in the RDEIR/SDEIS, we also recognize that the resulting development must occur in a manner consistent with the California Environmental Quality Act and its implementing regulations. The "overriding purpose of CEQA is to ensure that agencies regulating activities that may affect the quality of the environment give primary consideration to preventing environmental damage."[153] Compliance with CEQA helps to ensure that "the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian" remains the "guiding criterion in public decisions."[154]

At the heart of CEQA is the environmental impact report (EIR).[155] It is the "primary means of achieving the Legislature's considered declaration that it is the policy of this state to 'take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state.'"[156] With an EIR, the lead agency is entrusted with the responsibility of "provid[ing] public agencies and the public in general with detailed information about the effects which a proposed project is likely to have on the environment; [listing] ways in which significant effects of such a project might be minimized; and [indicating] alternatives to such a project."[157] These requirements are real and not mere technicalities:

> "As our Supreme Court has recently emphasized, 'The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been taken into account. For the EIR to serve these goals it must present information in such a manner that the foreseeable impacts of pursuing the project can actually be understood and weighed, and the public must be given an adequate

[153] *Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal. App. 4th 99, 117 (*Save Our Peninsula Committee*).
[154] *See* Pub. Res. Code § 21001, subd. (d).
[155] *See Laurel Heights Improvement Association v. Regents of University of California* (1988) 47 Cal.3d 376, 392 (*Laurel Heights*).
[156] *Id*. (*citing* Pub. Res. Code § 21001, subd. (a)).
[157] Pub. Res. Code § 21061; *see* CEQA Guidelines, § 15002, subd. (a).

> opportunity to comment on that presentation before the decision to go forward is made.'"[158]

Importantly, once the impacts are identified:

> "Public Resources Code section 21081 requires a public agency to make certain specific findings attesting to its consideration of the need for the mitigation measures identified in the EIR. The findings must be supported by substantial evidence in the record. If the project has a significant effect on the environment, the agency may approve the project only upon finding that it has 'eliminated or substantially lessens significant effects on the environment where feasible' and that any unavoidable significant effects on the environment are 'acceptable due to overriding concerns …'"[159]

When an EIR fails to fully inform both decisions makers and the public of the environmental consequences of, mitigation for, and alternatives to a proposed project, and provide the public with an adequate opportunity to comment on that information, the EIR fails to comply with the letter and spirit of CEQA.

The informational benefit of an EIR is its primary function. Judicial review of an EIR is based on an abuse of discretion standard, which "is established if the agency has not proceeded in a manner required by law or if the determination or decision is not supported by substantial evidence."[160] Specifically, a "prejudicial abuse of discretion occurs 'if the failure to include relevant information precludes informed decision making and informed public participation, thereby thwarting the statutory goals of the EIR process.'"[161] To reach this conclusion, courts undergo a pragmatic analysis involving "an evaluation of whether the discussion of environmental impacts reasonably sets forth sufficient information to foster informed public participation and to enable decision makers to consider the environmental factors necessary to make a reasoned decision."[162] If the EIR does not serve as an informational document, it fails to comply with the letter and spirit of CEQA.

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[158] *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal. App. 4th 70, 79 & 80 (*Communities for a Better Environment*) (*citing Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal. 4th 412, 449 & 450).
[159] *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners of the City of Oakland* (2001) 91 Cal. App. 4th 1344, 1354 & 55 (*Berkeley Keep Jets Over the Bay Committee*) (*citing* Pub. Res. Code § 21081 & CEQA Guidelines, §§ 15091, 15092, subd. (b)(2)(A) & (B)).
[160] Pub. Res. Code § 21168.5.
[161] *Berkeley Keep Jets Over the Bay Committee*, *supra*, 91 Cal. App. 4th at p. 1355.
[162] *Id*., at p. 1356; *see also San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal. App. 4th 645, 654 (*San Joaquin Raptor*) (*citing Association of Irritated Residents v. County of Madera* (2003) 107 Cal. App .4th 1383, 1390) ["When assessing the legal sufficiency of an EIR, the reviewing court focuses on adequacy, completeness and a good faith effort at full disclosure."].

As discussed below, the RDEIR/SDEIS fails to include sufficient information to provide meaningful review of the displacement and relocation impacts of the Project. Moreover, the RDEIR's analysis of related mitigation measures is legally insufficient. These legal deficiencies in the RDEIR/SDEIS are "so fundamentally and basically inadequate and conclusory in nature that" they fail to comply with CEQA and its implementing regulations.[163] The Draft EIR must therefore be revised and recirculated to comply with CEQA.[164]

IP-24-80

A. The RDEIR/SDEIS Fails to Accurately Describe Displacement Impacts, Relocation Impacts and Mitigation Measures for the Multi-Service Center in Long Beach, which would be displaced by Alternative 7.

Since 1997, the Multi-Service Center (MSC) has been located at 1301-1327 W. 12th Street in Long Beach. The MSC is critical to assisting the needs of homeless persons in Long Beach. Led by the Long Beach Health Department, the Multi-Service Center facility houses 12 public and private partner organizations working together to promote self-sufficiency and rebuild the lives of those experiencing homelessness. Annually, the MSC averages 26,000 client visits, making this facility the primary point of entry for persons seeking homeless services assistance in Long Beach. Services range from basic amenities of shower, laundry, mail and message center, to street outreach, van shuttle, transportation, medical care, mental health services, substance abuse treatment, HIV/AIDS services, integrated case management and housing coordination. The mission of the MSC is to provide comprehensive supportive services to promote progress towards permanent housing and self-sufficiency, by creating a community where health, safety and well-being are established.[165] The MSC recently completed a $2 million renovation in 2014, which expanded the medical clinic, classrooms and community rooms.[166]

Alternative 7 would displace the MSC.[167] Despite the proposed displacement of this vital community resource, the RDEIR/SDEIS fails to include adequate analysis of relocation impacts or feasible mitigation measures. The RDEIR/SDEIS lacks analysis regarding the critical nature of the MSC to homeless persons in the region and the land use challenges of relocating such a sensitive facility. Moreover, there is no analysis regarding the impacts to the 26,000 clients who visit the MSC each year. The RDEIR/SDEIS merely states, "relocation of this facility would require a comprehensive relocation plan and include changes to zoning and other issues that would make the move difficult. Early planning for a replacement site would be required, as well as obtaining public input for city planning commission approval for a replacement location."[168] Despite this statement, the RDEIR/SDEIS fails to identify potential sites for relocation in the City of Long Beach and it fails to mention the great likelihood of land use appeals from the Planning Commission to the City Council, which would create additional barriers to

IP-24-81

[163] *See* CEQA Guidelines, § 15088.5, subd. (a)(4).
[164] *See Mountain Lion Coalition v. Fish and Game Commission* (1980) 214 Cal. App. 3d 1043, 1052 (*Mountain Lion Coalition*).
[165] *See Homeless Services: About Us*, Long Beach Health and Human Serv. http://www.longbeach.gov/health/services/directory/homeless-services/about-us/.
[166] Draft Relocation Impact Report, March 2017, at p. 87.
[167] RDEIR/SDEIS at 3.3-40.
[168] RDEIR/SDEIS at 3.3-40.

relocation.[169] The RDEIR/SDEIS also fails to include any analysis regarding the local and regional impacts of displacing the MSC if Long Beach fails to approve a new site. And, the RDEIR/SDEIS does not consider mitigation measures to allow the MSC to remain in its current location. IP-24-81

The Community Impact Statement acknowledges that the MSC is in a census tract that exceeds the Los Angeles County average percentage for both minority and low-income persons and that the facility serves minority and low-income residents, as well as other vulnerable and disadvantaged populations.[170] The Community Impact Statement then goes on to make a conclusory and unsupported statement that "[a]lthough these relocation impacts would be predominantly borne by environmental justice populations… these impacts would not represent a disproportionate adverse impact to environmental justice communities.[171] This conclusory statement is contradictory to the analysis that precedes it. If displacement of the MSC will primarily impact low income communities of color, then there *will be* adverse impacts to environmental justice populations and this must be analyzed and mitigated in the RDEIR. IP-24-82

This lack of analysis and deferred analysis denies the public an opportunity to review and comment on the displacement and relocation impacts to the MSC, as well as mitigation measures, before environmental review is finalized. The RDEIR/SDEIS is inadequate because it fails to identify and analyze significant environmental effects of the proposed project on the MSC and it fails to consider feasible measures which could minimize significant adverse impacts.[172] The RDEIR/SDEIS must therefore be revised and recirculated. IP-24-83

B. The RDEIR/SDEIS Fails to Accurately Describe Displacement Impacts, Relocation Impacts and Mitigation Measures for the Bell Shelter, which would be displaced by Alternative 7.

The Bell Shelter is one of the largest homeless shelters in the country and provides shelter and meals for up to 350 individuals, emergency shelter, mental health and substance abuse treatment, prevention education, English as a second language classes, computer training, job referrals, and treatment programs."[173] Alternative 7 would require the acquisition of property and displacement of the transitional housing structures at Bell Shelter.[174]

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[169] Members of CEHAJ have been informed in meetings with Caltrans over the past year that it is likely that relocation of the MSC would have to occur outside the City of Long Beach, as there may be no place to relocate it to in Long Beach. Despite these statements in meetings with Caltrans, the RDEIR/SDEIS includes no mention of this, nor does it examine potential sites for relocation in Long Beach or elsewhere. Relocation of the MSC outside the City of Long Beach would be devastating to the 26,000 clients who visit the MSC each year. Relocation outside the City would also have regional impacts, which have not been analyzed in the RDEIR.
[170] Second Revised Community Impact Statement, July 2017, at 6-68 & 6-69.
[171] *Id*. at 6-69.
[172] *See* CEQA Guidelines, § 15126.2, subd. (a); *id*.,§ 21061, subd. (a)(1).
[173] *See* Second Revised Final Community Impact Statement, July 2017, at 4.3-19.
[174] RDEIR/SDEIS at 3.3-32.

The displacement of Bell Shelter's transitional housing structures is proposed without analyzing the impacts this would have on the residents of this facility (and other homeless persons in the region), especially in light of our current housing crisis in Los Angeles County. The RDEIR/SDEIS also fails to analyze the availability of transitional housing in the area, identification of available and appropriate sites for relocation of such a sensitive land use, the land use challenges of relocating such a sensitive land use and potential mitigation measures to keep the Bell Shelter in its existing location. IP-24-84

The Community Impact Statement acknowledges that the Bell Shelter is in a census tract that exceeds the Los Angeles County average percentage for both minority and low-income persons and that the facility serves minority and low-income residents, as well as other vulnerable and disadvantaged populations.[175] The Community Impact Statement then goes on to make a conclusory and unsupported statement that "[a]lthough these relocation impacts would be predominantly borne by environmental justice populations… these impacts would not represent a disproportionate adverse impact to environmental justice communities.[176] This conclusory statement is contradictory to the analysis that precedes it. If displacement of the Bell Shelter would primarily impact low income communities of color, then there *will be* adverse impacts to environmental justice populations and this must be analyzed and mitigated in the RDEIR. IP-24-85

The missing and deferred analysis regarding the impacts to the Bell Shelter denies the public an opportunity to review and comment on the relocation impacts and feasible mitigation measures before the environmental documents for this Project are finalized. The RDEIR/SDEIS is inadequate because it fails to identify and analyze significant environmental effects of the proposed Project on the Bell Shelter and it fails to consider feasible measures which could minimize significant adverse impacts.[177] The RDEIR/SDEIS must therefore be revised and recirculated. IP-24-86

C. The RDEIR/SDEIS Fails to Accurately Describe Displacement Impacts, Relocation Impacts and Mitigation Measures for Homes in Commerce and Compton, which would be Displaced by the Project.

Depending upon which build version of the Project is selected (Alternative 5C or 7), the Project will include up to 140 residential displacements for approximately 560 residents.[178] The majority of these will occur in Commerce and Compton.[179] The RDEIR/SDEIS states that for the majority of the Study Area, residential displacements, given the present market conditions, do not indicate the need for the construction of replacement housing.[180] The Draft Relocation Impact report states that "[r]esearch shows that at the time of this study, adequate relocation resources exist in the project area and surrounding communities for residences."[181]

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[175] Second Revised Community Impact Statement, July 2017, at 6-68 & 6-69.
[176] *Id*. at 6-69.
[177] *See* CEQA Guidelines, § 15126.2, subd. (a); *id*.,§ 21061, subd. (a)(1).
[178] RDEIR/SDEIS Executive Summary at 12; RDEIR/SDEIS at 3.3-63.
[179] RDEIR, Executive Summary at 32.
[180] RDEIR, Executive Summary at 12.
[181] Draft Relocation Impact Report, March 2017, at 4.

However, these conclusory statements are in direct contradiction to our current and well documented housing crisis in Los Angeles County where vacancy rates are low, rents are rapidly rising, incomes are not keeping pace with rising rents, affordable housing supply is extremely limited and displacement is rapidly happening throughout the region.[182] Moreover, the RDEIR's conclusion that adequate relocation resources exist also contradict with the analysis throughout the RDEIR, where the RDEIR/SDEIS finds that such resources are *not* available. For example, the RDEIR/SDEIS states that "[s]ome of these displaced residences are in areas (mainly the Cities of Commerce and Compton) where there is insufficient replacement housing available. Therefore, it will not be possible to relocate all displaced residents within their community or an area within reasonable proximity to their community. For this reason, the construction of replacement housing in these areas may be necessary."[183] IP-24-87

Furthermore, according to the Community Impact Statement, "the City of Commerce is primarily built out and limited vacant land is available."[184] As a result of the relocations of Commerce residents, the City of Commerce would experience adverse impacts to community character and cohesion as a result of these relocations."[185]

The RDEIR/SDEIS also acknowledges that the Study Area cities, including Commerce and Compton, are considered to be highly cohesive based on the factors of median age, ethnic homogeneity, high tenure of residents, above-average household size, high percentage of transit-dependent population and percentage of elderly residents.[186] Therefore, displacement of residents will have significant impacts on those families. Displacement and the correlating loss of social cohesion can cause increased stress, decreased access to jobs, income and job benefits, IP-24-88

[182] *See Los Angeles County Renters in Crisis: A Call for Action,* CA Housing Partnership (May 2017), http://1p08d91kd0c03rlxhmhtydpr.wpengine.netdna-cdn.com/wp-content/uploads/2017/05/Los-Angeles-County-2017.pdf; (This Report explains that Los Angeles County needs to produce 551,807 more affordable units to house residents who are currently on the edge of homelessness. Moreover, there has been a 32 percent increase in rents in the County and a 3 percent decrease in real median income since 2000. Finally, the Los Angeles County poverty rate jumps to more than 25 percent, meaning one in four Angelenos is officially poor, when local housing costs are considered.); *See also, California's Housing Crisis – It's Even Worse Than You Think*, KCET (August 2017), https://www.kcet.org/shows/socal-connected/californias-housing-crisis-its-even-worse-than-you-think; *And, Why SoCal is at a tipping point in its housing affordability crisis*, KPCC (Aug. 29, 2017), https://www.scpr.org/news/2017/08/29/75035/a-deeper-dive-into-las-housing-affordability-crisi/

[183] RDEIR, Executive Summary at 32; s*ee Also,* RDEIR/SDEIS Executive Summary at 36, which states that the Project will displace substantial numbers of existing homes and people necessitating the construction of replacement housing.

[184] Second Revised Final Community Impact Statement, July 2017, at 4.7-1.

[185] RDEIR/SDEIS at 3.3-47.

[186] RDEIR/SDEIS at 3.3-19.

psychological impacts and poor mental health.[187] "Residents have disclosed symptoms of stress, loss, grief, and poorer mental health following housing displacement and relocation.[188]

Oddly, the RDEIR/SDEIS also makes a conclusory and contradictory statement that "the build alternatives would not result in adverse effects to public health related to social cohesion." This conclusion is contradictory to the analysis and other statements in the RDEIR, as discussed above.[189]

IP-24-88

The RDEIR/SDEIS finds that adequate relocation options do not exist for the mobile homes in Compton that will be displaced.[190] The RDEIR/SDEIS states that Housing of Last Resort may have to be considered for relocating affected residential properties such as mobile homes.[191] The Draft Relocation Impact Report states that there are "no adequate relocation resources" for residential tenants or mobile homes.[192] However, the RDEIR/SDEIS provides no information about how, where or when replacement housing will be provided. And, there is no specific analysis regarding mitigating these impacts to prevent displacement.

IP-24-89

The RDEIR/SDEIS has not fully analyzed the impacts of residential displacements and relocations, it has not identified potential sites for relocation, it has not contextualized the difficulty of relocations in light of our current housing crisis and it has not analyzed feasible mitigation measures to prevent residential displacements. Finally, the RDEIR/SDEIS has not studied a version of the Project that would eliminate residential displacements.

IP-24-90

The RDEIR/SDEIS relies in a conclusory manner on the application of the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act to address displacements.[193] This reliance is problematic in many ways. First, there is no analysis regarding the difficulty of relocations in the Study Area and the likelihood of relocations in the same community. Second, if relocation to another community is likely, there is no analysis regarding the impacts this will have on displaced families. Third, we have been informed by Caltrans representatives in Sacramento that Caltrans will not provide relocation assistance to undocumented families who are displaced by the Project unless the Federal Highway Administration (FHWA) approves such relocation assistance.[194] While we strongly disagree with Caltrans's interpretation of relocation

IP-24-91

[187] RDEIR/SDEIS at 3.3-48
[188] RDEIR/SDEIS at 3.3-48.
[189] RDEIR/SDEIS at 3.3-50.
[190] RDEIR/SDEIS Executive Summary at 12.
[191] RDEIR/SDEIS at 3.3-68.
[192] Draft Relocation Impact Report, March 2017, at 30.
[193] RDEIR/SDEIS at 3.3-49.
[194] Attorneys with the Legal Aid Foundation of Los Angeles (LAFLA) have had multiple conversations with Ms. Joann Georgallis, Assistant Chief Counsel to Caltrans in Sacramento, regarding this issue. Ms. Georgallis informed LAFLA attorneys that Caltrans will not pay for relocation assistance for undocumented families who are displaced by a federally funded project unless the Federal Highway Administration (FHWA) approves the payment of relocation

laws,[195] Caltrans cannot rely on relocation assistance as a mitigation measure for undocumented families when Caltrans has informed us that undocumented families may not receive such assistance. IP-24-91

The inconsistent, deferred and lacking relocation impacts analysis in the RDEIR/SDEIS denies the public an opportunity to review and comment on relocation and displacement impacts. The RDEIR/SDEIS is also inadequate because it fails to consider feasible measures which could minimize significant adverse impacts to the homes in Commerce and Compton. The RDEIR/SDEIS must therefore be revised and recirculated. IP-24-92

D. The RDEIR/SDEIS Fails to Comply with the Requirements of Metro Motion 22.1 with Respect to Eliminating Displacement.

The RDEIR/SDEIS fails to comply with the anti-displacement requirements of Metro Motion 22.1. Motion 22.1 was developed in conjunction with community stakeholders, including CEHAJ members, to ensure that the RDEIR/SDEIS included analysis of critical Project components. Motion 22.1 requires "Geometric design for the I-710 Freight Corridor (under Alternative 7 only) that eliminates significant impacts and displacements of homes, businesses, or community resources, such as but not limited to the Bell Shelter or Senior Centers[.]" While the RDEIR/SDEIS has some right of way avoidance analysis in section 3.3-55, it is cursory at best and does not meet the informational requirements of CEQA. Moreover, the limited analysis in the RDEIR/SDEIS does not satisfy the anti-displacement requirements of Motion 22.1 because both Alternatives 5C and 7 include displacement of homes, transitional housing, homeless service facilities and other vital community resources. Accordingly, the RDEIR/SDEIS fails to comply with the requirements of Motion 22.1, thereby excluding analysis of critical components deemed necessary elements of the Project. Thus, the RDEIR/SDEIS fails as an informational document. For this reason as well, the RDEIR/SDEIS must be revised and recirculated. IP-24-93

VIII. THE RDEIR/SDEIS FAILS TO CONSIDER LOCAL AND TARGETED HIRING REQUIREMENTS AS FEASIBLE MITIGATION MEASURES. SUCH MEASURES ARE LEGALLY PERMISSIBLE AND SHOULD HAVE BEEN INCLUDED IN THE RDEIR.

An EIR must "include feasible measures which could minimize significant adverse impacts."[196] Importantly, *"[w]ith some projects, the only feasible mitigation for cumulative impacts may*

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assistance. Ms. Georgallis also informed LAFLA attorneys that she has reached out to FHWA multiple times to discuss this issue, but she has not received a reply.

[195] When a project is funded by both state and federal funds, a displaced person is entitled to receive the maximum relocation assistance allowed under *either* state or federal law. *United Auto Workers v. Dep't of Transp.,* 20 Cal. App. 4th 1462, 1471 (1993). While federal law prohibits the payment of relocation assistance to "unlawful alien[s]", California law permits such payments. *Compare* 42 U.S.C. § 4605(a) and Cal. Gov. Code § 7260(c). Displaced families should therefore be eligible for relocation assistance pursuant to California State relocation law.

[196] *See* CEQA Guidelines § 15126.4(a)(1).

involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis."[197] Furthermore, "a public agency may use discretionary powers provided by such other law for the purpose of mitigating or avoiding a significant effect on the environment subject to the express or implied constraints or limitations that may be provided by law."[198] Clearly, "it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects."[199]

The RDEIR/SDEIS states that a key component of the proposed Project is economic development.[200] "With regard to economic development, the Gateway Cities Sub-region experiences high levels of unemployment and poverty. In September 2016, unemployment rates in the Study Area ranged from 2.8 to 8.1 percent of the workforce within the affected communities, which in some cases is higher than Los Angeles County (5.2 percent) and State (5.5 percent) unemployment rates. Highway congestion causes delays affecting personal mobility and goods movement and results in increased economic costs."[201]

Depending upon which Project alternative is selected, the Project would create between 99,885 to 179,180 new jobs.[202] Moreover, it is anticipated that Alternative 7 would generate even more jobs as a result of ZE technology development.[203]

According to the RDEIR, the I-710 Corridor is home to a large proportion of minority and low-income populations.[204] As of the 2010 Census, the I-710 Corridor Project Study Area was 85.6 percent non-White. In contrast, Los Angeles County was 72.2 percent non-White and the State of California was 59.9 percent non-White.[205] Moreover, according to the 2010-2014 American Community Survey, 22.8 percent of I-710 Corridor residents live in households that fall below the Federal poverty threshold. Within Los Angeles County, 18.7 percent of households fall below the Federal poverty level and in California, as a whole, 15.3 percent of the households fall below the Federal poverty level.[206] Without a local and targeted hiring policy, low income residents of color who live along the Project's corridor will not benefit from the economic development opportunities created by the project. IP-24-94

Utilizing local and targeted hiring measures has the additional benefit of reducing vehicle miles traveled to work, which reduces greenhouse gas emissions. "With California's population IP-24-95

[197] *See* CEQA Guidelines 15130(c) (emphasis added).
[198] Pub. Res. Code § 21004.
[199] Pub. Res. Code § 21002.
[200] RDEIR/SDEIS Executive Summary at 4.
[201] RDEIR/SDEIS Executive Summary at 4; *See also* RDEIR/SDEIS at 3.3-31.
[202] RDEIR/SDEIS at 3.3-51.
[203] RDEIR/SDEIS at 3.3.52.
[204] RDEIR/SDEIS at 3.3-77.
[205] *Id.*
[206] RDEIR/SDEIS at 3.3-77.

increasing and housing becoming less affordable, surface level transportation has increased as residents are commuting farther to work.[207]

The RDEIR/SDEIS fails to include any analysis regarding whether the jobs that will be created by the Project will actually benefit the low-income minority residents who reside in the impacted cities along the Project's Corridor. If job creation is not specifically targeted to local and disadvantaged residents residing in the impacted communities along the Project's Corridor, there is no basis for assuming that the jobs created will actually benefit residents of the impacted communities. Moreover, without local and targeted hiring provisions, the jobs created by the Project will result in increased traffic, as a result of increased commuters into the area. This, in turn, will have significant and additional environmental impacts on traffic, air quality and greenhouse gas emissions.

IP-24-95

In addressing air quality and traffic impacts, the South Coast Air Quality Management District (SCAQMD) encourages local hiring provisions, which support a jobs/housing balance. SCAQMD's guidance documents state that:

> "Residents in urban areas in the South Coast basin have become increasingly concerned with increased traffic congestion and the failure of the region to achieve state and federal clean air standards. The concept of 'jobs/housing balance' is based on the premise that the number of vehicle trips and vehicle miles traveled (VMT) can be reduced when sufficient jobs are available locally to balance the employment demands of the community, and when commercial services are convenient to residential areas. . . . The AQMD and the SCAG both embrace jobs/housing balance as a viable tool available to local governments to reduce air pollution."[208]

The RDEIR/SDEIS states that the majority of corridor residents work outside the cities in which they reside and they have significant commute times. Within the City of Bell, 90% of working residents work outside the City and the mean commute time is 29.4 minutes. Within the City of Bell Gardens, 89% of working residents work outside the City and the mean commute time is 28.3 minutes. Within the City of Carson, 85% of working residents work outside the City and the mean commute time is 26.2 minutes. Within the City of Commerce, 86% of working residents work outside the City and the mean commute time is 27.3 minutes. Within the City of Compton, 88% of working residents work outside the City and the mean commute time is 28.4 minutes. Within the City of Cudahy, 95% of working residents work outside the City and mean commute time is 31.7 minutes. Within the City of Downey, 82% of working residents work outside the City and mean commute time is 28.3 minutes. Within the City of Huntington Park, 87% of working residents work outside the City and mean commute time is 30.2 minutes. Within the City of Lakewood, 89% of working residents work outside the City and the mean commute

[207] *See* California Green Innovation Index, Next 10, 2017, p. 22 & 24; *2017 California Green Innovation Index*, Next 10 (August 22, 2017), http://next10.org/2017-gii.
[208] SCAQMD, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning (May 2005), Chapter 2 – Air Quality Issues Regulating Land Use, p. 2-13 [available at http://www.aqmd.gov/prdas/aqguide/aqguide.html].

time is 27.9 minutes. Within the City of Long Beach, 66% of working residents work outside the City and the mean commute time is 29 minutes. Within the City of Lynwood, 90% of working residents work outside the City and the mean commute time is 29.4 minutes. Within the City of Maywood, 92% of working residents work outside the City and the mean commute time is 27.9 minutes. Within the City of Paramount, 84% of working residents work outside the City and the mean commute time is 27.1 minutes. Within the City of Signal Hill, 85% of working residents work outside the City and the mean commute time is 26.8 minutes. Within the City of South Gate, 88% of working residents work outside the City and mean commute time is 29.1 minutes.[209]

By including local and targeted hiring provisions as a mitigation measure, it would help to mitigate some of the Project's significant and unmitigated environmental impacts on air quality, greenhouse gas emissions and traffic. The RDEIR/SDEIS should include an analysis of the environmental benefits of including local and targeted hiring provisions as a feasible mitigation measure. This vital discussion of local and targeted hiring is missing from the RDEIR.[210] IP-24-96

We are aware that some of the Federal Highway Administration's (FHWA) statutes and regulations have been interpreted to limit the ability to impose local or geographic hiring requirements on FHWA funded projects.[211] However, it is unclear how much of the Project will be funded by the FHWA. Other funding sources for the Project will not include any such limitations and some funding sources (i.e., the Los Angeles County Metropolitan Transportation Authority and Department of Housing and Urban Development) would actually require local and targeted hiring requirements. IP-24-97

In order to ensure that economic opportunities created by the Project reach impacted I-710 corridor residents to the greatest extent feasible, Caltrans should segment FHWA Project funds so that other funding sources can be used to hire both local and disadvantaged residents. Best

[209] RDEIR/SDEIS at 3.1-5 – 3.1-9.

[210] The I-710 Corridor Project Health Impact Assessment (HIA), which was released in November 2011 by Human Impact Partners, recommends that local hiring be tracked to ensure that the impacted Corridor communities benefit from the Project's job creation opportunities. The HIA, at 10-22, recommends that jobs be measured and tracked, to track the proportion of local jobs in each industry that are filled by local residents. This data would allow policymakers to make informed decisions regarding strategies to enhance and stimulate local economies. The HIA also recommends that cities along the Corridor encourage businesses, through incentives, to locate in the I-710 Corridor communities. Incentives may be in the form of tax breaks, credits or may be in the form of lower loan interest rates for potential small business owners, among others. (HIA at 10-22.) Finally, the HIA recommends increased job training opportunities for residents to better prepare the workforce for the Project's employment opportunities and to reduce unemployment. (HIA at 10-23.)

[211] *See* 23 U.S.C Sec. 112 and 23 C.F.R. 635, Subpart A.

practices within this area typically require that 40% of the work hours be targeted to local residents and 10% of the work hours be targeted to disadvantaged, local residents.[212]

The RDEIR/SDEIS specifically acknowledges that construction *will be staged and segmented*. "Staging of construction would be required for all ramp reconstruction, freeway widening, and profile adjustments….The following procedures have been identified to stage construction of either build alternative: Project divided into segments; segments divided into major components…"[213] Moreover, the RDEIR/SDEIS states that funding, right-of-way certification, maintenance of traffic, and contractor innovation are all variables that drive the timing, priority, and scope of staged improvements.[214] Therefore, Caltrans can segment FHWA funds through its staged construction process so that non-FHWA funds can utilize both local and targeted hiring measures. And, FHWA funded portions of the freeway can take advantage of targeted hiring measures without geographic restrictions. IP-24-97

Importantly, even for portions of the Project that receive FHWA funds, the FHWA's statutes and regulations permit targeted hiring measures that don't discriminate geographically. Therefore, even with FHWA funding, it would be legally permissible to require that 40% of the work hours be performed by *low income residents*, irrespective of residency. Low income, targeted, hiring requirements for the Project would also advance the affirmative action and civil rights goals of Executive Order 11246. Executive Order 11246 prohibits federal contractors and subcontractors and federally-assisted construction contractors and subcontractors that generally have contracts that exceed $10,000 from discriminating in employment decisions on the basis of race, color, religion, sex, or national origin. It also requires covered contractors to take affirmative action to ensure that equal opportunity is provided in all aspects of their employment. Finally, a targeted hiring requirement would advance FHWA's own on-the-job training program, which is administered through FHWA's Office of Civil Rights, as well as Executive Order 13502. Executive Order 13502, signed by President Obama on February 6, 2009, announced that "it is the policy of the Federal Government to encourage Executive Agencies to consider requiring the use of project labor agreements in conjunction with large-scale construction projects in order to promote economy and efficiency in Federal procurement." IP-24-98

The RDEIR/SDEIS is inadequate because it fails to consider local and targeted hiring requirements as feasible mitigation measures, which would minimize significant adverse impacts.[215] The RDEIR/SDEIS must therefore be revised and recirculated. IP-24-99

Finally, the Project fails to comply with the local and targeted hiring requirements of Metro Motion 22.1. Motion 22.1 was developed in conjunction with community stakeholders to direct Caltrans to study critical components of the Project that Metro deemed necessary to include in the revised environmental documents. Motion 22.1 required "staff to work with community IP-24-100

[212] For example, *see* L.A. Cty. Metro. Auth.'s Local Hire Policy: *General Management Construction Careers Policy* (Revised January 26, 2017), https://media.metro.net/about_us/pla/images/construction_careers_policy_2017.pdf.
[213] RDEIR/SDEIS at 2-87 and 2-88.
[214] RDEIR/SDEIS at 2-87 & 2-88.
[215] *See* CEQA Guidelines § 15126.2(a); Cal. Pub. Res. Code § 21061(a)(1).

based partners (community groups, faith based groups and labor) on the development of a Local and Targeted Hiring Policy and PLA for construction jobs and a First Source Hiring Policy for permanent jobs created by the project. This should be completed, at the latest, by the completion of the recirculated DEIR/DEIS." Unfortunately, however, no progress has been made towards developing a Local and Targeted Hiring Policy or a First Source Hiring Policy. This is a blatant violation of Motion 22.1. This exclusion makes the Project fatally flawed as an informational document, as required by CEQA. Therefore, the RDEIR/SDEIS must be revised and recirculated. IP-24-100

IX. THE ENVIRONMENTAL JUSTICE ANALYSIS FAILS TO DISCLOSE AND ANALYZE THE TRUE IMPACTS ON THE PROJECT ON THE SURROUNDING LOW-INCOME COMMUNITIES OF COLOR.

Federal and state laws require agencies to consider environmental justice and to prohibit discrimination in their decision-making processes.

Title VI of the Civil Rights Act of 1964 and related statutes require that there be no discrimination in federally assisted programs, like Caltrans, on the basis of race, color, national origin, age, sex, or disability. Similarly, California has enacted Government Code 11135(a), which states: "No person in the State of California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, genetic information, or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by the state or by any state agency, is funded directly by the state, or receives any financial assistance from the state." These laws prohibit Caltrans from taking actions that intentionally discriminate against any of these classes; they also prohibit Caltrans from taking actions that result in disparate impacts even if unintentional.[216]

Federal Executive Order (EO) 12898 (1994) requires Federal agencies, including the United States Department of Transportation (DOT) and FHWA, to make environmental justice part of their mission and to develop environmental justice strategies. The Presidential Memorandum accompanying the Executive Order specifically singles out NEPA, and states that "[e]ach Federal agency must provide opportunities for effective community participation in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving the accessibility of public meetings, crucial documents, and notices."[217] On August 4, 2011, the Secretary of Transportation, along with heads of other Federal agencies, signed a Memorandum of Understanding on Environmental Justice and Executive Order 12898 (EJ MOU) confirming the continued importance of identifying and addressing EJ considerations in agency programs, policies, and activities as required by E.O. 12898. DOT's internal EJ Order establishes procedures and guidance for the Department to implement E.O. 12898. "Compliance with this DOT Order is a key element in the environmental justice strategy adopted by DOT to implement the Executive Order, and can be achieved within

[216] 49 C.F.R. § 21.5(b)(2); Cal. Code Regs. Tit. 22, § 98101(i)(1).
[217] Exec. Order No. 12898 (Feb. 1994), https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf.

the framework of existing laws."[218] FHWA policy calls for the prevention of disproportionately high and adverse human health or environmental effects on minority and low-income populations, and calls for the collection of related data to identify any risk of discrimination in the implementation of the NEPA, among other Federal statutes.[219]

The State of California has defined "environmental justice" as: "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."[220] Additionally, CEQA regulations define impacts or effects to be analyzed as including "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative."[221]

A. The EJ Analysis Fails to Adequately Analyze the EJ impacts in Context.

As described more fully in other sections of this letter, Caltrans has failed to adequately analyze air, noise, traffic, parks, construction, displacement, and other impacts or to adequately mitigate those impacts. Accordingly, its environmental justice analysis suffers from these same deficiencies.

In addition, though noting that surrounding populations are disproportionately low-income and Latino, the RDEIR/SDEIS does so on the basis of a comparison of the corridor's minority and low-income populations to that of the County and statewide data. For a project of national significance, such as this one, where the benefits accrue nationwide, a comparison to national demographic statistics is also relevant. Without the correct comparisons, any assessment of disproportionate impacts is also necessarily flawed. IP-24-101

Moreover, the EJ analysis requires further analysis of local conditions and sensitivity and vulnerability factors to more particularly understand and analyze how the impacts identified elsewhere in the document will be felt by the surrounding overburdened communities. While the RDEIR/SDEIS does note that the surrounding populations are disproportionately low-income and Latino, it for example fails to take into account the fact that these communities are more vulnerable to pollution impacts.[222] The EJ analysis is deficient because it fails to adequately include these factors. IP-24-102

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[218] Dep't of Transp., Envtl. Justice Order No. 5610.2(a) at 4 (2012), https://www.fhwa.dot.gov/environment/environmental_justice/ej_at_dot/orders/order_56102a/index.cfm.
[219] Fed. Highway Admin, Order No. 6640.23A (June 14, 2012), http://www.fhwa.dot.gov/legsregs/directives/orders/664023a.htm.
[220] Cal. Gov. Code § 65040.12(e) (2013).
[221] 40 C.F.R. § 1508.8(b) (2017).
[222] Office of Envtl. Health Hazard Assessment, *Cumulative Impacts: Building a Scientific Foundation, Exec. Summary* at ix (Dec. 2010), http://oehha.ca.gov/ej/cipa123110.html ("[A] number of studies have reported increased sensitivity to pollution, for communities with low income levels, low education levels, and other biological and social factors. This combination of

It is well established that "[t]he significance of an activity depends upon the setting."[223] Accordingly, "[a] lead agency therefore should take special care to determine whether the project will expose "sensitive receptors" to pollution...."[224] According to the California Office of the Attorney General, "[b]ecause CEQA requires that environmental impacts must be considered in context, cities and counties should pay special attention to whether a project might cause additional impacts to communities that already are affected by, or particularly vulnerable to, environmental impacts like air and water pollution."[225]

As the California EPA's Office of Environmental Health Hazard Assessment explains:

> Existing research on environmental pollutants and health risk has consistently identified socioeconomic and sensitivity factors as "effect modifiers." For example, numerous studies on the health effects of particulate air pollution have found that low socioeconomic status is associated with about a 3-fold increased risk of morbidity or mortality for a given level of particulate pollution (Samet and White, 2004). Similarly, a study of asthmatics found that their sensitivity to an air pollutant was up to 7-fold greater than non-asthmatics (Horstman et al., 1986). Low-socioeconomic status African-American mothers exposed to traffic-related air pollution were twice as likely to deliver preterm babies (Ponce et al., 2005). The young can be 10 times more sensitive to environmental carcinogen exposures than adults (OEHHA, 2009). Studies of increased risk in vulnerable populations can often be described by effect modifiers that amplify the risk.[226]

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multiple pollutants and increased sensitivity in these communities can result in a higher cumulative pollution impact.").

[223] *Kings Cty. Farm Bureau v. City of Hanford,* 221 Cal. App .3d 692, 718 (1990) (citing CEQA Guidelines, § 15064, subd. (b)); *see also id*. at 721; CEQA Guidelines, § 15300.2(a) (noting that availability of listed CEQA exemptions "are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant.").

[224] CA Dep't of Justice, *Environmental Justice at the Local and Regional Level Legal Background* (2012), https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/ej_fact_sheet.pdf.

[225] *Id.*

[226] Office of Envtl. Health Hazard Assessment, Cal Enviro Screen 3.0 Report at 6-7, citing D. Horstman, L. Roger, H Kehrl, & M Hazucha, *Airway Sensitivity of Asthmatics To Sulfur Dioxide*, Toxicology and Indus. Health 2: 289-298 (1986); Office of Envtl. Health Hazard Assessment, T*echnical Support Document for Cancer Potency Factors: Methodologies for derivation, listing of available values, and adjustments to allow for early life stage exposures* (2009), https://oehha.ca.gov/media/downloads/crnr/tsdcancerpotency.pdf; N.A. Ponce, K.J. Hoggatt, M. Wilhelm & B. Ritz, *Preterm birth: the interaction of traffic-related air pollution with economic hardship in Los Angeles neighborhoods*. Am. J. Epidemiology 162(2):140-8 (2005); J.M. Samet

Other studies confirm that young or old age, low income, and race are vulnerability factors in assessing health risk from environmental pollution.[227]

The RDEIR/SDEIS fails to include this data in its analysis, and fails to analyze how the clear demographic data showing that the surrounding communities are overburdened, low-income, and minority affects the communities' risks for adverse impacts from the project. In order to adequately analyze the impacts and risks on communities living near the proposed expansion, therefore, the RDEIR/SDEIS must first clearly identify the vulnerabilities and susceptibilities of the surrounding communities.[228] Given the likelihood that these communities also already suffer from high rates of pulmonary and cardiac diseases, cancers, pregnancy complications, adverse cognitive effects, diabetes, and other diseases with risks associated with living, working, or going to school near freeways, the RDEIR/SDEIS must also identify the existing rates and severity of these diseases—especially those that disproportionately affect low-income and minority populations—among children and the general population living at the very least within one quarter of a mile of the proposed project. IP-24-103

Once Caltrans has clearly identified these risk factors and disease rates and severity, it must then fully analyze the impacts of the project on these communities, given both the vulnerabilities and susceptibilities of the surrounding communities and known impacts of roadway pollution on the health of those nearby. Researchers have identified several methodologies for undertaking this analysis.[229] Because Caltrans has failed to describe existing conditions among the surrounding community, it has not and cannot meaningfully describe impacts and mitigation measures it can take to remediate these impacts. For each of the impacts, Caltrans must in its EJ analysis analyze all identified impacts according to the vulnerability and sensitivity factors discussed above. These deficiencies are particularly, but not exclusively, apparent in Caltrans's failure in the EJ section to adequately analyze impacts on minority and low-income populations and considering the vulnerability and other factors described above in several key areas. The analysis falls short in considering the full extent of the impacts on minority and low-income populations from residential displacement; the jobs, economic, and other impacts on minority and low-income populations from business displacement; and the traffic safety impacts on minority and low- IP-24-104

& R.H. White, *Urban air pollution, health, and equity*, J. Epidemiology Community Health, 58:3-5 (2004), http://jech.bmj.com/content/58/1/3.full.

[227] Qian Di, Yan Wang, Antonella Zanobetti, Yun Wang, Petros Koutrakis, Christine Choirat, Francesca Dominici & Joel D. Schwartz, *Air Pollution and Mortality in the Medicare Population*, New Eng. J. Med. (June 29, 2017), http://www.nejm.org/toc/nejm/376/26/.

[228] See Council on Envtl. Quality, *Environmental Justice Guidance Under the National Environmental Protection Act* at 9 (Dec. 10. 1997), http://ceq.hss.doe.gov/nepa/regs/ej/justice.pdf [hereinafter, CEQA EJ Guidance under NEPA], (Directs agencies to "recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action.").

[229] *See e.g.*, Joel Schwartz, David Bellinger & Thomas Glass, *Expanding the Scope of Environmental Risk Assessment to Better Include Differential Vulnerability and Susceptibility*, Am. J. of Pub. Health Vol. 101, No. S1, S88-S109 (Dec. 2011).

income populations from arterial "improvements" that will facilitate additional truck traffic through the communities.

IP-24-104

In addition, Caltrans must analyze the cumulative impacts in accordance with these vulnerability and sensitivity factors to adequately identify, disclose, and then mitigate the cumulative impacts. The communities surrounding the 710 corridor are already overburdened with other industrial sources of pollution, such as the Ports of LA and Long Beach, large refineries, scrap yards, chrome platers, lead smelters, and other facilities. These cumulative impacts of all of these pollution sources with the 710 project must be identified and analyzed as described above.[230]

IP-24-105

B. Caltrans' Response to Prior CEHAJ Comments on EJ Impacts is Inadequate.

CEQA § 21091 and CEQA Guideline § 15088 require lead agencies to respond in writing to comments submitted by the public that raise significant environmental questions. An adequate response to comments explains why the lead agency has rejected the recommendations and objections raised in the comments and provides a good faith, reasoned analysis to support the agency's determination. The level of detail in the response should be the same as the level of detail in the comment, and conclusory statements are insufficient. Caltrans and Metro's response to CEHAJ's comment on environmental justice analysis is inadequate because it failed to explain the agency's basis for rejecting the recommendation or objection, provided a general response to a specific and detailed comment, and provided only conclusory statements. For example, CEHAJ asks for additional analyses, including cumulative impacts, which have not been separately addressed except indirectly only for AQ/GHG/HRA through mass emission analyses. In addition, the response fails to address comments about specific additional mitigations, such as freeway lids. The inadequacy of the response to comment violates CEQA § 21091 and CEQA Guideline § 15088 and undermines the sufficiency of the EIR as an informational document.

IP-24-106

X. THE AIR QUALITY ANALYSIS IS FLAWED, INACCURATE, AND MISLEADING.

The Air Quality analysis for this project is particularly important. Even beyond CEQA and NEPA's information disclosure and mitigation requirements, this project includes an objective to "[i]mprove air quality and public health."[231] Thus, an honest assessment of air quality impacts is crucial to ensure the ultimate alternative selected achieves this vital objective. The current air

IP-24-107

[230] See Council on Envtl. Quality, Envtl. Justice Guidance Under the Nat'l Envtl. Protection Act at 9 (Dec. 10. 1997), https://www.epa.gov/communityhealth/environmental-justice-guidance-under-national-environmental-policy-act-nepa-council [hereinafter CEQA EJ Guidance under NEPA] (Directs agencies to "consider relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards, to the extent such information is reasonably available. For example, data may suggest there are disproportionately high and adverse human health or environmental effects on a minority population, low-income population, or Indian tribe from the agency action. Agencies should consider these multiple, or cumulative effects, even if certain effects are not within the control or subject to the discretion of the agency proposing the action.").

[231] RDEIR/SDEIS at 1-40.

quality analysis, like the original air quality analysis in the Draft EIR/EIS, fails CEQA and NEPA's mandates for providing information backed by reasoned analysis. The same criticisms in that prior comment letter submitted by CEHAJ remain applicable to this Project. In addition to those flaws, the following sections outline additional flaws with the analysis. IP-24-107

A. The RDEIR/SDEIS Fails to Provide the Requisite Detail Necessary to Understand the Air Quality Implications of the Alternatives Selected.

The air quality analysis provides insufficient details to allow the public and decision-makers to understand how this project will impact air quality. Some of the analysis is delayed like the hotspot conformity analysis, and some other analysis does not provide sufficient detail about assumptions and how the agency is assessing significance. For example, throughout the analysis, the Air Quality section notes that the ZE option is "relatively similar" or other sufficiently vague terms. Because the analysis is so lacking, Caltrans needs to revise it to provide more detail and better information about the assumptions. IP-24-108

B. The 2012 Baseline Misleads Decision Makers and the Public.

The CEQA baseline selected (i.e. 2012) is not supported by the RDEIR/SDEIS and the technical documents. The Air Quality Technical Study solely provides the following basis for selecting 2012 as the project baseline:

> The CEQA Baseline represents existing, current conditions, defined to be the conditions at the time the Notice of Preparation (NOP) was released. In the Draft EIR/EIS, the CEQA Baseline represented project-specific conditions in the year 2008 (release date for the NOP). Since considerable time has passed after the release of the NOP, the CEQA Baseline year for the RDEIR/SDEIS air-related analyses will be represented by the project-specific conditions in the year 2012 (e.g., traffic on the I-710 and selected roadways in the year 2012).[232]

Neither the Air Quality Technical Report nor the RDEIR/SDEIS provide any rationale why 2012 was chosen beyond just a bald assertion that 2012 has been selected. Thus, there is not substantial evidence to support the selection of this baseline. In fact, solely using this baseline misleads the public and decision-makers. Importantly, the RDEIR/SDEIS notes that decrease in MSATs "is primarily due to improvements in vehicle technology driven by federal, state, and local regulations/programs."[233] Moreover, the Air Quality Study acknowledges that "[t]hese results indicate that a reduction in emissions due to improved vehicle technology resulting from the implementation of federal, state, and local regulations/programs such as CARB's Truck and Bus Regulation, the Pavley Standard, and the Ports' Clean Trucks Program outpaces increases in IP-24-109 IP-24-110

[232] Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study (Ramboll-Environ, June 2017) at 3 (hereinafter "Air Quality Study").
[233] Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study (Ramboll-Environ, June 2017) at ES-12 (hereinafter "Air Quality Study").

emissions resulting from increased vehicle activity in 2035."[234] The Air Quality Study further confirms that "[e]ven along the I-710, emissions of criteria and air toxic pollutants decreased in the 2035 build alternatives compared to the 2012 Baseline, as federal, state, and local air quality regulations/programs reduced emissions faster than emission increases caused by increases in VMT in 2035."[235] The analysis makes clear that this project is not responsible for the reductions in pollution in the corridor; rather it is the work of other agencies like the California Air Resources Board and the Ports of Los Angeles and Long Beach. IP-24-110

In fact, the use of the 2012 baseline for many pollutants simply shows how bad the situation in the corridor is. The scope of this project and the magnitude of this freight highway expansion means Caltrans should use a baseline that does not confuse people and take credit for the significant efforts from EPA, CARB, the Ports and other agencies to clean up dirty trucks. IP-24-111

This concern about the document being misleading is not simply hypothetical. Caltrans includes the following statement in the RDEIR/SDEIS: "the build alternatives will improve air quality and reduce public health risk in the Basin and the I-710 AOI."[236] Importantly, Caltrans seeks to make the public and decision-makers believe that this project will clean up pollution – even with clear evidence to the contrary. IP-24-112

Neither CEQA nor the CEQA Guidelines mandate "a uniform, inflexible rule" for determining a project's baseline conditions.[237] Rather, the statute empowers agencies to "employ a realistic baseline that will give the public and decision makers the most accurate picture practically possible of the project's likely impacts," and the Supreme Court has confirmed that lead agencies have the discretion and the responsibility, to "decide exactly how the existing physical conditions without the project can most realistically be measured," subject to review for support by substantial evidence.[238] Here, Caltrans employs a CEQA baseline that fails to accurately depict the significance of the Project's likely impacts. As such, it should use a baseline that allows the public and decision-makers to understand the true impact of this project on air quality. IP-24-113

C. The Assumptions in the Air Quality Analysis Are Not Supported by Substantial Evidence.

The RDEIR/SDEIS is rife with assumptions that are not justified. Here is just a subset of the issues that do not appear justified in the RDEIR/SDEIS.

- Despite having no real enforceable mitigation tied to it, the RDEIR/SDEIS assumes 22% of the trucks in the corridor under Alternative 5C will be zero or near-zero emissions. IP-24-114

[234] Air Quality Study at ES-12 & -13; *see also* RDEIR/SDEIS at 3.13-24.
[235] *Id.* at ES-28.
[236] RDEIR/SDEIS at 3.13-55.
[237] *Neighbors for Smart Rail v. Exposition Metro Line Const. Authority*, 57 Cal.4th 439, 449 (2013).
[238] *Id.*; 14 CCR § 15125(a); *Cherry Valley Pass Acres and Neighbors v. City of Beaumont*, 190 Cal.App.4th 316, 337 (holding that "without an appropriate baseline description, an adequate analysis of a project's impacts, mitigation measures, and alternatives 'becomes impossible.'").

- The analysis assumes that only non-diesel trucks will meet the "Near Zero" category for trucks. This is not substantiated. IP-24-115
- In many places, the document fails to articulate a differentiation between the emissions of the ZE alternative and the NZE alternative. IP-24-116

Given that air quality is so important to this project, the RDEIR/SDEIS should be revised.

D. The RDEIR/SDEIS Should Have Included the Quantitative Project-Level PM10/PM2.5 Analysis.

The RDEIR/DEIS notes that the quantitative hotspot analysis will be performed at selected locations in the corridor for the "preferred project."[239] The hotspot conformity analysis provides a vital tool to understand the contours of the proposed alternatives. As such, it is inappropriate to exclude it from the Draft EIR/EIS. The environmental review should be re-circulated with this analysis to allow the public to provide comments and benefit from the hotspot analysis in assessing the benefits and burdens of the various alternatives. IP-24-117

E. Air Quality Mitigation Measures Must Be Improved.

Caltrans must improve the mitigation measures for this project. While we are generally supportive of additional monitoring and air filtration at schools, these mitigation programs are vague and lack concrete details. IP-24-118

1. Construction Mitigation

Despite the long list of construction mitigation measures proposed to address air quality issues, there is little information about many of the programs and how these programs will be implemented.[240] The Construction Mitigation section needs more details to ensure that the mitigation are truly enforceable with the meaning of CEQA. The following two mitigation measures specifically need to be improved to ensure the cleanest technology available is used. IP-24-119

a. CON-AQ-15

The current language in CON-AQ-15 should be amended to more assertively require a minimum of Tier 4 construction equipment. Accordingly, we recommend deleting the phrase "depending on the responsible agency that administers the construction contract and the availability of construction equipment compliant with these standards."[241] This phrase essentially eviscerates the mitigation measure. Importantly a condition of becoming the responsible agency for this project should be committing to a minimum of Tier 4 construction equipment. IP-24-120

[239] RDEIR/SDEIS at 3.13-29.
[240] RDEIR/SDEIS at 3.24-53 to -58.
[241] RDEIR/SDEIS at 3.24-56.

b. CON-AQ-17

We appreciate Caltrans insertion of electric construction equipment into the document in CON-AQ-17.[242] However, the language is vague. Currently, any contractor will need to replace any equipment with "electric equipment whenever feasible."[243] There is no determination how this decision will be made, and how the public can ensure contractors and responsible agencies are using electrical options when available. The EIR/EIS must be improved to make clear how this mitigation measure can be enforced. IP-24-121

2. Operational Mitigation

Overall, there needs to be more details about the contours of the operational mitigation programs in the air quality analysis. For example, AQ-3 is hard to decipher. Will Caltrans require vegetative buffers throughout the corridor? Or, is this program limited in some way? The mitigation measure also does not clarify who will implement this measure and whether there will be continual funding for maintenance of the vegetative buffers. Commenters generally support vegetative buffers, and we recommend a process be developed to engage with stakeholders on the design and implementation of this type of program. IP-24-122

Finally, the RDEIR/SDEIS is woefully lacking in details about the grant program to fund near zero and zero emission trucks. The only detail on this program is contained in section 2 of the RDEIR/SDEIS.[244] As part of the project, it is unclear how this program will work and whether it will be effective. Moreover, by not identifying this part of the project as a mitigation measure, Caltrans has subverted the CEQA process.[245] In particular, it prevents the public and decision makers from assessing the efficacy of this mitigation measure to address significant impacts. For example, commenters are precluded from understanding why 105 million dollars was selected to make 22% of trucks under Alternative 5C zero emission or near zero emissions. Moreover, for alternative 5C, it is not explained how a one-time grant program will lead to the level of trucks assumed for the project analysis. Unless truck lanes are mandatory, it does not ensure that trucks meeting specific emissions standards will actually use the project, or extend once the millions of dollars are no longer available. IP-24-123

F. Caltrans' Response to CEHAJ Comments on the Air Quality Analysis is Inadequate.

CEQA § 21091 and CEQA Guideline § 15088 require lead agencies to respond in writing to comments submitted by the public that raise significant environmental questions. An adequate response to comments explains why the lead agency has rejected the recommendations and objections raised in the comments and provides a good faith, reasoned analysis to support the agency's determination. The level of detail in the response should be the same as the level of detail in the comment, and conclusory statements are insufficient. Caltrans and Metro's response to CEHAJ's comment on air quality is inadequate because it failed to explain the agency's basis IP-24-124

[242] RDEIR/SDEIS at 3.24-57.
[243] RDEIR/SDEIS at 3.24-57.
[244] RDEIR/SDEIS at 2-21 & -22.
[245] *Lotus v. Department of Transportation*, 223 Cal.App.4th 645, 658 (2014).

for rejecting the recommendation or objection, provided a general response to a specific and detailed comment, and provided only conclusory statements. Importantly, this project must include a zero emission freight corridor to ensure that growth in freight address the serious air quality issues faced by the people that live in the corridor. The inadequacy of the response to comment violates CEQA § 21091 and CEQA Guideline § 15088 and undermines the sufficiency of the EIR as an informational document. IP-24-124

XI. THE GREENHOUSE GAS ANALYSIS IS FLAWED, INADEQUATE, AND MISLEADING.

A. The Greenhouse Gas Analysis is Misleading.

The Air Quality Technical Report discloses the following assumption: "For the purpose of this analysis, ZE/NZE trucks in the build alternatives were conservatively assumed to have the same GHG emission factors as conventional trucks."[246] This approach makes no sense and seeks to obfuscate the benefits of the various build alternatives, including the zero emission option. A new draft is necessary to ensure the greenhouse gas emission impacts from this project are properly understood. IP-24-125

The Air Quality Technical Report also notes that "[b]oth 2035 build alternatives display a negligible increase in GHG emissions when compared to the 2035 Alternative 1 (No Build)."[247] But, this is misleading because the statement ignores the Alternative 7 ZE option. In the RDEIR's analysis, that alternative is more than a 1 million MT of CO2E lower than the other build alternatives – i.e. Alternative 5C and Alternative 7. The Report fails to acknowledge the deep greenhouse gas emission reductions associated with this project. IP-24-126

B. The Greenhouse Gas Analysis Fails to Identify What Baseline it is Using.

The CEQA analysis does not clarify what is the baseline for the greenhouse gas analysis. This is an important part of CEQA because the public must understand what baseline forms the conclusions developed in the analysis. IP-24-127

C. Failing to Identify a Significance Threshold Violates CEQA.

In the CEQA analysis, the RDEIR notes that "it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate change."[248] This approach violates CEQA. CEQA Guidelines make clear that lead agencies must decide "[w]hether the project emissions exceed a threshold of significance that the lead agency determines applies to the project."[249] It's clear that Caltrans cannot simply ignore this provision by failing to identify a significance threshold. IP-24-128

[246] Air Quality Study at 34.
[247] Air Quality Study at ES-3.
[248] RDEIR/SDEIS at 4-82.
[249] CEQA Guidelines § 15064.4(b)(2).

Beyond the information disclosure problems with this approach, failing to determine significance also allows Caltrans to evade its mitigation duties. By ducking the significance determination, it refers to its strategies as simply "measures," and these measures are not enforceable under CEQA. IP-24-129

Finally, by failing to identify a significance threshold, it allows the agency to overlook the deep GHG benefits of the 7ZE option as compared to the other build alternatives. The South Coast Air Quality Management District has identified 10,000 MT of CO2E as a significance threshold for projects under its jurisdiction. Alternative 7ZE exhibits dramatic reductions of greenhouse gas compared to the 2035 No Build on the order of 100 times the Air District's significance threshold. This fact is buried and glossed over in the RDEIR, which must be cured in a future draft of the EIR/EIS. IP-24-130

D. Excluding Greenhouse Gas Emission Analysis from the NEPA Analysis Violates NEPA.

The RDEIR/SDEIS does not commit that the greenhouse gas analysis from the CEQA portion of the document – even if faulty - will inform the NEPA analysis. The RDEIR/SDEIS states "[t]he CEQA analysis may be used to inform the…NEPA determination for the project."[250] The United States Court of Appeals for the Ninth Circuit has made clear that "the fact that 'climate change is largely a global phenomenon that includes actions that are outside of [the agency's] control … does not release the agency from the duty of assessing the effects of its actions on global warming within the context of other actions that also effect global warming ….' [T]he impact of greenhouse gas emissions on climate change is precisely the kind of impacts analysis that NEPA requires agencies to conduct."[251] Thus, there is no discretion under NEPA to ignore greenhouse gas emissions analysis in a NEPA analysis. The agency must assess the greenhouse gas impacts against the NEPA baseline for this project in the RDEIR/SDEIS. Moreover, the agency must look to the greenhouse gas analysis to identify which project alternative is environmentally superior. IP-24-131

E. Caltrans' Response to CEHAJ Comments on the Greenhouse Gas Analysis is Inadequate.

CEQA § 21091 and CEQA Guideline § 15088 require lead agencies to respond in writing to comments submitted by the public that raise significant environmental questions. An adequate response to comments explains why the lead agency has rejected the recommendations and objections raised in the comments and provides a good faith, reasoned analysis to support the agency's determination. The level of detail in the response should be the same as the level of detail in the comment, and conclusory statements are insufficient. Caltrans and Metro's response to CEHAJ's comment on greenhouse gas analysis is inadequate because it failed to explain the agency's basis for rejecting the recommendation or objection, provided a general response to a IP-24-132

[250] RDEIR/SDEIS at 3.13-58.

[251] *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172, 1217 (9th Cir. 2008)(requiring the National Highway Traffic Safety Administration to monetize the benefits of GHG emissions from setting fuel economy standards and requiring the agency to analyze the project's cumulative impacts on climate change).

specific and detailed comment, and provided only conclusory statements. In particular, the NEPA includes no greenhouse gas analysis in response to CEHAJ's comments, and the CEQA analysis has deep flaws. The inadequacy of the response to comment violates CEQA § 21091 and CEQA Guideline § 15088 and undermines the sufficiency of the EIR as an informational document.

IP-24-132

XII. THE ENERGY ANALYSIS IS FLAWED AND INADEQUATE.

The RDEIR/SDEIS discussion of energy impacts remains inadequate. It fails to identify and adequately discuss the true impacts from the operation and construction of this project. The current energy analysis does not comply with the requirements of CEQA and NEPA.

A. CEQA Energy Analysis Overview.

CEQA requires lead agencies to prepare or require preparation of an EIR on any project it may carry out or approve "that may have a significant effect on the environment."[252] An EIR must include a detailed statement that sets forth "[m]itigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient and unnecessary consumption of energy."[253] The absence of such a statement, or one explaining the reasons for determining that a project will not have a significant effect on the environment, renders an EIR "fatally defective."[254] Appendix F, which is part of the CEQA Guidelines, cites to and elaborates on CEQA, section 21100, subsection (b)(3).

CEQA Guidelines provide that, "Energy conservation measures, as well as other appropriate mitigation measures, shall be discussed when relevant. Examples of energy conservation measures are provided in Appendix F."[255]

The Agency amended Appendix F in 2009 to ensure that lead agencies comply with section 21100(b)(3)'s substantive provision that they analyze energy use in their EIRS.[256] The Agency explained that the amendments were necessary because the Legislature directed the Office of Planning and Research and the Agency to develop guidelines on how to analyze and mitigate greenhouse gas ("GHG") emissions, a significant source of which results from energy use.[257] The Agency stated that, in order to reduce GHG emissions, agencies should focus on mitigation as well as project design features (as identified in Appendix F), which can reduce emissions both directly and indirectly.[258]

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[252] CEQA § 21100(a).
[253] *Id.* at (b)(3).
[254] *People v. County of Kern,* 62 Cal.App.3d 761, 774 (1976) (citing CEQA § 21100(c)).
[255] CEQA Guidelines § 15126.4(a)(1)(C).
[256] California Natural Resources Agency (December 2009) Final Statement of Reasons for Regulatory Action, p. 71 ("Final Statement of Reasons").
[257] *Id.* at pp. 72-73.
[258] *Id.* at 46-47.

First, the 2009 amendments revised the introduction to include a cross-reference to CEQA section 21100(b)(3) and clarified that agencies need not re-analyze energy impacts in subsequent EIRs. Final Statement of Reasons, *supra*, at p. 71. Second, the amendments clarified that agencies "shall" analyze energy conservation in their EIRs, emphasizing that the duty is mandatory. Third, the Agency removed the term "lifecycle" from Appendix F because it was ambiguous. Fourth, the amendments clarified that projects can employ water use and solid waste disposal measures for energy savings. And fifth, the Agency made minor improvements to the Appendix's grammar and syntax. Several years after the Agency promulgated these amendments, two appellate court decisions ushered Appendix F into the spotlight: *California Clean Energy Committee*[259] and *City of Ukiah.*[260]

Appendix F explains that CEQA requires EIRs to include mitigation measures to reduce energy consumption in order to ensure that agencies consider energy implications in project decisions.[261] It further explains that, for many projects, energy efficiency may be more determinative than initial dollar costs when it comes to cost effectiveness.[262] However, it also allows a lead agency to consider any environmental review that has already adequately analyzed and mitigated the effects of energy productions of a particular energy source serving a project.[263]

Appendix F requires EIRs to consider "[p]otentially significant energy implications of a project" to the extent that they are applicable and relevant to that project.[264] It also enumerates various "energy impact possibilities" and "potential conservation measures" in order to illuminate the EIR preparation process.[265] It provides that these should be considered in an EIR whenever they are "applicable or relevant to the project."[266] As may be evident from its provisions, "CEQA's requirement to analyze and mitigate energy impacts of a project is substantive, and is not merely procedural."[267]

B. The Operational Energy Analysis Is Flawed.

The RDEIR/SDEIS provides insufficient information about the energy analysis to foster informed commenting. Importantly, the Energy Analysis fails to justify why assumptions about near zero emission technologies are assumed not to be diesel technologies. The RDEIR/SDEIS should also compare gasoline and diesel for the various alternatives. This will allow a more appropriate comparison of energy use amongst the alternatives, instead of just lumping all the fuels together and calculating the BTUs. Finally, it is unclear whether the agency assumed NZE and ZE trucks use no energy – gasoline or diesel – in estimating the energy use amongst the

IP-24-133

IP-24-134

IP-24-135

[259] *California Clean Energy Committee v. City of Woodland* (2014) 225 Cal.App.4th 173.
[260] *Ukiah Citizens for Safety First v. City of Ukiah* (2016) 248 Cal.App.4th 256.
[261] CEQA Guidelines Appendix F § I.
[262] *Id.*
[263] *Id.*
[264] CEQA Guidelines Appendix F § II.
[265] *Id.*
[266] *Id.*
[267] Final Statement of Reasons, *supra*, p. 71 (citing *People v. County of Kern*, *supra*, at p. 774).

alternatives. If so, this is massively deceptive because just assuming these vehicles will have no energy use fails from an information disclosure standpoint. IP-24-135

C. The RDEIR/SDEIS Analysis of Construction Energy Impacts is Flawed.

With no analysis about how it measured significance, the RDEIR/SDEIS concludes the following:

> Construction of any of the build alternatives would not result in adverse impacts related to energy consumption in the project Study Area or in the South Coast Air Basin compared to the No Build Alternative. No avoidance, minimization, or mitigation measures are required.[268]

CEQA and NEPA requires more than this type of bald analysis. And, this failure to properly analyze the construction energy impacts has consequences. It allows Caltrans to evade mitigation to ensure the wiser use of energy. The Energy Technical Report discloses that the majority of energy expended from construction comes from the materials used for the roads and the process of constructing the roads.[269] This is clearly an opportunity to use alternative fuels and mitigate this fuel use as Appendix F and NEPA directs. IP-24-136

The downside of Caltrans approach is clarified when instead of adopting real mitigation measures to ensure the wiser use of energy as mandatory CEQA mitigation measures, Caltrans just adopts "measures." Importantly, the RDEIR makes clear they are not in fact "mitigation measures" for CEQA purposes.[270] Caltrans does not even explain what these "measures" are and how one would ensure they are 1) effective and 2) actually implemented. Caltrans should take a look at the significant energy consumption that will occur in building this massive project and identify real mitigation measures to reduce that energy use. Measures that note the agency might use more efficient lighting, for example, does not provide the assurances that these measures will actually be implemented. IP-24-137

Because the Energy analysis is misleading and fails to examine true mitigation to ensure the wise and efficient use of energy, Caltrans should create a new analysis that cures the flaws.

XIII. THE RDEIR/SDEIS DOES NOT ADEQUATELY ADDRESS WATER QUALITY IMPACTS.

The RDEIR/SDEIS analysis of water quality impacts from construction and ongoing operation of the expanded I-710 corridor continues to be inadequate and incomplete. As such, the proposed mitigations are inadequate, and additional feasible mitigation is warranted. IP-24-138

As described in our prior letter, the RDEIR/SDEIS fails to adequately and precisely describe prospective stormwater management actions and site-specific context. Those deficiencies

[268] RDEIR/SDEIS at 3.15-15; *see also* Energy Technical Report (June 2017) at 39.
[269] Energy Technical Report at 37 [Table 4.3-1].
[270] RDEIR/SDEIS at 4-90.

continue to plague this document. For example, the final design of Best Management Practices that will be employed as construction mitigation are punted for later description.[271] Similarly, the document cursorily concludes that the proposed mitigation will account for the construction impacts, but without engaging in a fully developed discussion and analysis of the impacts that need to be mitigated. As such, the document continues to fail to provide precise locations, specific data, or detail regarding impacts or mitigation, which inhibits informed decision-making and comment by the public. Caltrans must provide significantly more information and detail on both the impacts and on the proposed mitigations in order to comply with, and serve the purposes of, CEQA and NEPA. IP-24-138

CEQA § 21091 and CEQA Guideline § 15088 require lead agencies to respond in writing to comments submitted by the public that raise significant environmental questions. An adequate response to comments explains why the lead agency has rejected the recommendations and objections raised in the comments and provides a good faith, reasoned analysis to support the agency's determination. The level of detail in the response should be the same as the level of detail in the comment, and conclusory statements are insufficient. Caltrans and Metro's response to CEHAJ's comment on stormwater issues is inadequate because it does not provide an analysis of a significant environmental question, provided a general response to a specific and detailed comment, provided only conclusory statements that were unsupported by information or fact to justify its decision that the issues raised in the comment were insignificant or would not occur. The responses and document do not adequately address how TMDLs will be met for trash and bacteria, account for impacts from construction. It is insufficient to simply rely on as of yet undetermined measures ("final design of BMPs will be analysed during PS&E")[272] to mitigate impacts that have not been fully analyzed. The inadequacy of the response to comment violates CEQA § 21091 and CEQA Guideline § 15088 and undermines the sufficiency of the EIR as an informational document. IP-24-139

XIV. THE RDEIR/SDEIS SEVERELY UNDERSTATES THE PROJECT'S NOISE IMPACTS AND FAILS TO MITIGATE THESE IMPACTS.

The RDEIR/SDEIS's analysis of noise impacts and proposed mitigation continues to be wholly inadequate.

The California Legislature has declared in CEQA that "it is the policy of the state" to "[t]ake all action necessary to provide the people of this state with . . . freedom from excessive noise."[273] Research on noise from transportation—especially heavy-duty trucks—shows significant health impacts. For instance, noise above 60 decibels ("db") has been shown to have psychological impacts, such as worsening children's mental health, concentration, and classroom behavior in

[271] RDEIR/SDEIS, Appendix S, Response to Comments-Interested Parties, IP-22-52 at 34-36, 789.
[272] RDEIR/SDEIS, Appendix S, Response to Comments-Interested Parties, IP-22-52 at 34-36; 789.
[273] Pub. Res. Code § 21001(b).

children at school.[274] (For reference, "a diesel truck 50 feet away going 50 miles per hour, may register between 80 and 90 decibels.").[275] Other studies show that chronic noise exposure, including near roadway exposure, contribute to a worsening of heart disease and higher rates of stroke, after accounting for the risks association with air pollution.[276] Traffic noise can also disturb sleep.[277]

The revised analysis continues to use standards and criteria that are unreasonable and substantially above the current recommended and local noise criteria, especially for sensitive receptors, such as schools; continues to use an unreasonable and indefensibly high threshold of significance of 12 dBA; continues to employ a methodology containing serious omissions that skewed results and failed to provide information required by CEQA and NEPA; and continues to proposes only minimal measures to lessen the severity of noise and vibration impacts and absolutely no measures to avoid them.[278] As a result, the RDEIR/SDEIS noise analysis remains inadequate under NEPA and CEQA

IP-24-140

Finally, CEQA § 21091 and CEQA Guideline § 15088 require lead agencies to respond in writing to comments submitted by the public that raise significant environmental questions. An adequate response to comments explains why the lead agency has rejected the recommendations and objections raised in the comments and provides a good faith, reasoned analysis to support the agency's determination. The level of detail in the response should be the same as the level of detail in the comment, and conclusory statements are insufficient. Caltrans and Metro's response to CEHAJ's comment on noise is inadequate because it failed to explain the agency's basis for rejecting the recommendation or objection, provided a general response to a specific and detailed

IP-24-141

[274] Martha Matsuoka, Andrea Hricko, Robert Gottlieb & Juan DeLara, *Global Trade Impacts: Addressing the Health, Social and Environmental Consequences of Moving International Freight through Our Communities*, Occidental College and University of Southern California (2011) [hereinafter Global Trade Impacts], citing World Health Org., *Guidelines for Community Noise, Chapter 3, Adverse Health Effects of Noise* (1999), http://www.who.int/docstore/peh/noise/Comnoise3.htm; E.E. Van Kempen *et al*., *Children's Annoyance Reactions to Aircraft and Road Traffic Noise*, J. Acoustical Soc'y Am. 125(2) at 895-904 (2009); U.S. Dep't of Transp., Fed. Railroad Admin., *The General Health Effects of Transportation Noise*, Document # DTS- 34-RR297-LR2 FRS/RDV-03/01 (2002); P. Lercher, G. W. Evans, M. Meis & W. W. Kofler, *Ambient Neighbourhood Noise and Children's Mental Health*, Occupational and Envtl. Med. 59(6) at 380-86 (2002); Gary W. Evans, C*hild Development and the Physical Environment*, 57 Ann. Rev. of Psychol. 423-451 (2006).

[275] Global Trade Impacts at 19.

[276] Global Trade Impacts at 18, citing Wolfang Babisch, T*ransportation Noise and Cardiovascular Risk: Updated Review and Synthesis of Epidemiological Studies Indicate that the Evidence Has Increased*, Noise & Health, Vol. 8, Iss. 30, 1-29 (Jan. 2006); Mette Sorensen *et al*., *Road Traffic Noise and Stroke: A Prospective Cohort Study*, Eur. Heart J. 1-8 (Jan. 25, 2011).

[277] Global Trade Impacts, 19, citing World Health Org., G*uidelines for Community Noise, Chapter 3, Adverse Health Effects of Noise* (1999), http://www.who.int/docstore/peh/noise/Comnoise3.htm.

[278] Pub. Res. Code § 21100(b)(5); *City of Antioch v. City Council of Pittsburg* 187 Cal. App. 3d 1325, 1337 (1986).

comment, and provided only conclusory statements. Caltrans has not adequately addressed any of the concerns we previously raised, nor has it provided an adequate response for its failure to do so. The inadequacy of the response to comment violates CEQA § 21091 and CEQA Guideline § 15088 and undermines the sufficiency of the EIR as an informational document. IP-24-141

XV. THE RDEIR/SDEIS FAILS TO ADEQUATELY DISCUSS AND MITIGATE CONSTRUCTION IMPACTS.

A. The Project should Incorporate the Construction Components of CA-7.

While the RDEIR/SDEIS responded to some of construction components included in CA-7, it did not address or incorporate a number of others. These additional elements that should be included are:

- Commitment to fund air mitigation ($10M per year) & accelerate mitigation for indoor air filtration and in for air filtration in schools
- Commitment to fund noise mitigation ($10M per year) & accelerate soundproofing mitigation & programs in schools; for near freeway blocks, reduce interior noise to 30 decibels or less
- Free public transit program
- Independent third-party monitor
- Conduct a health study during construction
- Funding for community outreach program ($200,000 per year)
- Job training and local hire program
- Minority business enterprise, women business enterprise and small business utilization and retention program
- Use power grid for electric motors
- Use of ZE technology where available

IP-24-142

In addition, the while the DEIR/S referenced the need to build catenary or toll systems for ZE,[279] the RDEIR/SDEIS fails to include construction plans for special structures for such a ZE alternative.

B. The RDEIR/SDEIS Contains an Inadequate Discussion of the Environmental Impacts of Construction.

The RDEIR/SDEIS fails to provide basic information about how construction on the project would proceed, making it impossible to identify potential environmental impacts. Based on this limited information about how construction would proceed, the discussion of construction impacts is extremely vague and fails to adequately identify and discuss impacts on the environment. IP-24-143

[279] DEIR at 3.24-4.

For example, the discussion of land-use impacts hints at business closures and relocations due to construction impacts, but fails to provide any more details about this potential.[280] Similarly, when discussing impacts to schools, the RDEIR/SDEIS states that there will be "temporary construction impacts" at Cesar Chavez park but does not explain what those impacts would be, or how they might impact the neighboring school. To the extent that the RDEIR/SDEIS relies on CON-TR-1 to minimize impacts to access to parks and schools, this measure is too vague to provide any information about how impacts will be reduced. IP-24-144 IP-24-145

Similarly, the RDEIR/SDEIS fails to discuss construction impacts on community resources, providing even less of a discussion than the DEIR, which had included a table listing community resources impacted by construction.[281] The only discussion is two sentences without explanation: "Additionally, temporary construction impacts would occur under each build alternative and would occur for property owners whose properties are fully acquired and require relocation. *These property owners would be temporarily impacted during the relocation process.*"[282] The document does not include a description of *how* displacement will impact people while they are relocating. IP-24-146

The discussion of how construction impacts will affect EJ communities is similarly stunted. "Lastly, construction activities would temporarily affect environmental justice populations. Temporary construction impacts would include disruption of local traffic patterns and access to residences and businesses, increased traffic congestion, and increased noise, vibration and dust. *However, construction activities would provide jobs, which would benefit local economies that include minority and low-income populations*."[283] The idea that additional jobs *may be* available for *some* members of EJ communities (although there is no guarantee of this) is irrelevant to the fact that, as the RDEIR/SDEIS acknowledges, construction will cause detrimental impacts to traffic, access to residences and businesses (including displacements) and increased noise, etc. IP-24-147

The RDEIR/SDEIS also rests on the faulty assumption that since construction will last for less than 5 years on a single segment, the emissions should not be considered permanent impacts. "According to the conceptual construction schedule used to develop the construction emissions analysis, some of the conceptual construction phases would take more than five years to complete. *However, construction would not occur at any one location for more than five years. Therefore, construction-related emissions may be considered temporary; subsequently, any construction-related PM2.5 and PM10 emissions due to this project were not included in the hot-* IP-24-148

[280] RDEIR/SDEIS at 3.24-4 through 3.24-5 ("Construction would temporarily affect nearby land uses. Temporary construction impacts would include disruption of local traffic patterns and access to residences and businesses; increased traffic congestion; and increased noise, vibration, and dust. Although some businesses could close or relocate during a prolonged construction period, this impact would be localized and would not likely result in long-term changes in land use.").
[281] DEIR at 3.24-9.
[282] RDEIR/SDEIS at 3.24-14 (emphasis added).
[283] *Id.* (emphasis added).

spot analysis."[284] Yet it is unclear from the limited detail provided whether this would in fact be the case. IP-24-148

Finally, Caltrans should provide a quantitative analysis of health impacts and much more information about construction impacts, including how and where the project will be phased in over time, construction related changes to health risks.[285] And the GHG analysis should include lifecycle GHGs of construction emissions and equipment. IP-24-149

C. Mitigation Measures for Construction Impacts are Inadequate.

In part because the analysis of existing local conditions is so inadequate, Caltrans cannot propose mitigation measures to address the clear impacts this project will have on local communities. With respect to the measures that are proposed, many of them are so undeveloped that they give no indication of whether they will actually abate any of the construction impacts. IP-24-150

For example, CON-TR-1, the Transportation Management Plan, is extremely vague and merely states the general principles that will be included in the plan, without providing specifics. For instance, it does not explain how much public information will be made available, whether or how residents will be notified of construction activities in their neighborhoods, etc. Given the lack of specifics and the fact that this TMP is undrafted, it is unclear that this measure will do anything to reduce impacts of construction. Where the RDEIR/SDEIS relies on undrafted TMPs to abate impacts for a wide range of impacts, these assertions are unsupported. IP-24-151

CON-AQ-15, which states that "dependent upon the responsible agency that administers the construction contract" the types of equipment used and associated emissions levels will vary, is not a mitigation measure since it does not actually require anything. IP-24-152

Other measures are also so broad as to be meaningless, such as those for noise proposing site restrictions and "shielding with barriers' and "educating contractors and their employees to be sensitive to noise impact problems", and unsupported assertions that construction activities will provide local jobs. The conclusion that job benefits will accrue to local EJ communities is unsupported. Additionally, assuming that this will mitigate other construction impacts to EJ communities is incorrect. IP-24-153

In this vein, CON-LU-2 is unenforceable and inadequate mitigation to address community concerns and provide information to the community. CON-LU-2 requires "one or more public information field office(s) near the construction site(s)," meaning that potentially only a single field office will be set up for the entire 710 project area. Moreover, the notice requirements are inadequate and vague. CON-LU-2 states that the field office will serve the purpose to "Notify property owners, residences, and businesses of major construction activities (e.g., utility IP-24-154

[284] *Id.* at 3.24-29 (emphasis added).
[285] RDEIR/SDEIS, Appendix S, Response to Comments-Interested Parties, IP-22-56 at 792 ("Detailed construction phasing cannot be developed at this time and thus detailed modeling would be speculative in both time and location.").

relocation/disruption, rerouting of delivery trucks) at least 14 days prior to the disruption."[286] The measure does not include provisions to notify sensitive receptors. CEHAJ has previously requested that sensitive receptors within 1000 ft of the project be notified at least 30 days before construction begins.[287] Finally, requiring vague "periodic meetings" is not sufficient to satisfy CEHAJ request for monthly meetings and does not describe where these meetings will be held, how often, or how community concerns will be incorporated into construction plans.[288] IP-24-154

D. Caltrans' Response to Prior CEHAJ Comments on the Construction Impacts of the Project are Inadequate.

CEQA § 21091 and CEQA Guideline § 15088 require lead agencies to respond in writing to comments submitted by the public that raise significant environmental questions. An adequate response to comments explains why the lead agency has rejected the recommendations and objections raised in the comments and provides a good faith, reasoned analysis to support the agency's determination. The level of detail in the response should be the same as the level of detail in the comment, and conclusory statements are insufficient. Caltrans and Metro's response to CEHAJ's comment on construction impacts is inadequate because it does not offer evidence in support of the agency's decision, failed to explain the agency's basis for rejecting the recommendation or objection, provided a general response to a specific and detailed comment, and provided only conclusory statements. IP-24-155

For example, Caltrans does not provide an explanation for why power grid is not used for mobile generators.[289] Citing to CON-AQ-8 which reduces diesel idling in sensitive areas is a different issue and does not respond to the comment. In addition, Caltrans did not respond to CEHAJ's comment to use electric cranes and forklifts where possible. In addition, the following responses were inadequate: IP-24-156

- Failure to fund requested programs because there is no specific construction schedule and therefore not possible to estimate the annual budget is besides the point; Caltrans can still commit to funding these programs without a specific construction schedule. IP-24-157
- Reliance on unfunded community benefits program is inadequate to mitigate these impacts on construction. IP-24-158
- Deflection to Metro to develop local hire policy is not in compliance with Motion 22.1. IP-24-159
- Dismissal of request to conduct a health study is not supported by substantial evidence.[290] IP-24-160
- Idea that community will benefit from construction jobs and that this will mitigate impacts is unsupported. IP-24-161

The inadequacy of the responses to comment violates CEQA § 21091 and CEQA Guideline § 15088 and undermines the sufficiency of the EIR as an informational document.

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[286] RDEIR/SDEIS at 3.24-44.
[287] RDEIR/SDEIS, Appendix S, Response to Comments-Interested Parties, IP-22-42 at 782-783.
[288] *Id.* at 775.
[289] *Id.* at 782-83.
[290] RDEIR/SDEIS, Appendix S, Response to Comments-Interested Parties, IP-22-21 at 774 ("Caltrans respectfully disagrees with the need for such a study . . . Another study will not will help reduce air quality and health risk impacts related to project construction.").

XVI. THE RDEIR/SDEIS CUMULATIVE IMPACTS ANALYSIS IS INADEQUATE.

The RDEIR/SDEIS's analysis of cumulative impacts is inadequate and flawed. It contains out-of-date descriptions of the status and impacts in its list of other projects, and it relies on an inadequate and flawed analysis of project impacts as described in the preceding sections.

The RDEIR/SDEIS lists in Table 3.25-1 the past, present, and foreseeable future projects for its cumulative impacts analysis.[291] But not all the entries in that table are up-to-date. For example, in line P-5, the description of the China Shipping project has an old, out-of-date description of the status, as of the date of the RDEIR/SDEIS release.[292] Without accuracy here, the cumulative analysis is faulty. IP-24-162

Further, the cumulative impacts analysis relies on the impacts identified in other sections of the document. However, because the analysis of impacts and provision of mitigation is inadequate as discussed above, the analysis of cumulative impacts based on those flawed project impact analyses is also flawed. For example, with respect to land use, the cumulative impacts analysis and its conclusion that there are no cumulative impacts is based on the notion that the project is generally consistent with local land use plans;[293] as discussed in section III (land use) above, that conclusion is unsupported and flawed. Thus, for each section discussed above with an inadequate project impact analysis, the cumulative impacts analysis is similarly inadequate and flawed. IP-24-163

XVII. THE COMMUNITY HEALTH BENEFIT PROGRAM IS INADEQUATE AS MITIGATION AND DOES NOT COMPLY WITH CEQA

The RDEIR/SDEIS acknowledges the I-710 Corridor Project will disproportionately and adversely impact minority and low-income populations who live within the project area.[294] To address these impacts, the RDEIR/SDEIS proposes additional mitigation, in the form of a Community Health Benefit Program (Program), under which communities can apply for grants to implement air quality improvement and renewable energy projects.[295] However, the RDEIR/SDEIS does not adequately explain the amount of funding, describe how projects will be funded and selected, or ensure that the projects will mitigate the project's environmental impacts. As such, the RDEIR/SDEIS' description of the Community Health Benefit Program mitigation measure is inadequate and constitutes unlawfully deferred mitigation. Caltrans must include specific performance criteria and funding commitments in the project description to ensure the Program mitigates the impacts it is designed to address. IP-24-164

[291] RDEIR/SDEIS, Table 3.25-1.
[292] *Id.* at 3.25-19, Table 3.25-1.
[293] *Id.* at 3.25-47 ("Therefore, the I-710 Corridor Project would not substantially contribute to a cumulative effect related to consistency with State, regional, and local plans because the project is generally consistent with area General Plan goals and policies....").
[294] RDEIR/SDEIS pp. 3.3-148 to 149.
[295] RDEIR/SDEIS pp. 3.3-148 to 149.

A. The Program Does Not Comply with CEQA's Requirements for Mitigation Measures.

CEQA requires proposed projects that will have significant environmental impacts to include measures to mitigate these impacts that are fully enforceable and are not deferred. The Program fails to meet these requirements.

CEQA requires mitigation measures to be "fully enforceable through permit conditions, agreements, or other legally-binding instruments. In the case of the adoption of a plan, policy, regulation, or other public project, mitigation measures can be incorporated into the plan, policy, regulation, or project design."[296] The Program is not a fully-enforceable mitigation measure. In fact, there is no guarantee that it will be adopted. It is only included as a programmatic component of the build alternatives. Therefore, it is possible for the project to be built without the implementation of this Program, which would leave the project's serious, disproportionate impacts on environmental justice communities unmitigated. Failure to mitigate significant environmental impacts violates CEQA. IP-24-165

Moreover, the Program constitutes unlawfully deferred mitigation. CEQA prohibits deferred mitigation. CEQA Guidelines § 15126.4 states, "Where several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified. *Formulation of mitigation measures should not be deferred until some future time.* However, measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way."[297] Thus, for the Program to be a valid mitigation measure under CEQA, the RDEIR/SDEIS needs to include specific performance criteria to ensure it will mitigate the project's significant environmental impacts and make further project approvals contingent on meeting these criteria.[298] The description of the Program, as written in the RDEIR/SDEIS, is vague and does not include crucial information that is needed to ensure the Program will be implemented and that it will sufficiently mitigate the impacts it is designed to address. The Program does not include any specific funding commitments or explain how the Advisory Committee will be selected. These details are critical to ensure the success and adequacy of the Program as a mitigation measure. IP-24-166

Currently, the RDEIR/SDEIS states the Program will include yearly funding contributions adjusted for inflation over a ten-year period, commensurate with any phased construction strategy.[299] It does not specify how much money will be allocated each year. Additionally, it does not identify the sources of the funding or guarantee that the needed funds will be available. As such, the Program is not enforceable, and there is no assurance that it will implemented. Without guaranteed funding commitments, there is no way to know if the Program will be IP-24-167

[296] CEQA Guidelines § 15126.4(a)(2).
[297] CEQA Guidelines § 15126.4(a)(1)(B).
[298] *Rialto Citizens for Responsible Growth v. City of Rialto*, 208 Cal. App. 4th 899, 944 (2012); *Defend the Bay v. City of Irvine*, 119 Cal. App. 4th 1261, 1275 (2004); *Endangered Habitats League, Inc. v. Cnty of Orange*, 131 Cal. App. 4th 777, 793 (2005).
[299] RDEIR/SDEIS at 2-24.

funded or if the money allocated for the Program will actually be able to fund projects of the quality and quantity that will be needed to adequately mitigate the project's impacts. IP-24-167

The Program description also fails to adequately explain how the Advisory Committee members will be selected. The Advisory Committee will have the authority to select which projects will receive grants through the Program, and the allocation of the grant funding will determine the success of the mitigation measure. It is important that projects that address the most serious and urgent impacts on environmental justice communities are selected. One way to achieve this is by ensuring the impacted communities have voices on the Advisory Community and can choose which projects are selected. The RDEIR/SDEIS states the Advisory Committee will consist of area experts, members of the funding partner agencies, and community representatives.[300] This discussion should also include criteria for selecting members of the Advisory Committee that ensure the interests of the impacted communities will be represented. It is not enough to say community representatives will serve on the Advisory Committee without explaining who will determine what constitutes a community representative and how they will be selected. IP-24-168

B. The Program Should Be Strengthened to Ensure it Fully and Equitably Mitigates Project Impacts.

The RDEIR/SDEIS should also provide specific criteria for how to select and prioritize projects and allow for more types of projects to be funded by the Program. Currently, the RDEIR/SDEIS simply prioritizes projects that will benefit the most people per dollar and aid undefined environmental justice communities. Cost-effectiveness may be an important factor in allocating the Program's grant funding, but it is not the only factor that the Advisory Committee should consider. In addition to considering how many people a project will benefit, the Committee should consider the distributional effects of the project's impacts and select projects that address the most severe impacts.

Currently, the Program covers projects that fall under three categories: 1) air quality improvement and/or noise reduction measures at local schools; 2) air quality improvements at hospitals, medical centers, and senior facilities, as well as health education, outreach, and screening; and 3) greenhouse gas (GHG) reduction through renewable energy and tree-planting projects.[301] While these projects may be able to address the air pollution impacts caused by the project, these categories are quite narrow and only allow community members to address the new harms created by the project. The project's impacts will fall on communities that are already disproportionately impacted, which will compound present air quality issues and exacerbate existing health impacts. Limiting the Program to new harms created by the project does not address the project's contribution to cumulative air quality issues. A more comprehensive program that allows for funding of projects that fall under broader categories would allow community members to proactively address the project's impacts. IP-24-169

The Community Health Benefit Program, as described in the RDEIR/SDEIS, is inadequate and constitutes unlawfully deferred mitigation. To comply with CEQA, the Program needs to be

[300] *Id.* at 2-23.
[301] RDEIR/SDEIS at 2-23 through 2-24.

fully-enforceable through a legally-binding instrument and/or specific performance criteria need to be incorporated into the project description to ensure the Program fully and successfully mitigates the impacts it is designed to address. It should also be strengthened to ensure it provides adequate mitigation for the Project's significant impacts.

IP-24-169

XVIII. A REVISED DRAFT EIR MUST BE PREPARED AND RE-CIRCULATED.

Because of the inadequacies discussed above, the RDEIR/SDEIS cannot form the basis of a final EIR/EIS. CEQA requires preparation and recirculation of a supplemental draft "[w]hen significant new information is added to an environmental impact report" after public review and comment on the earlier draft EIR.[302] The opportunity for meaningful public review of significant new information is essential "to test, assess, and evaluate the data and make an informed judgment as to the validity of the conclusions to be drawn therefrom."[303] An agency cannot simply release a draft report "that hedges on important environmental issues while deferring a more detailed analysis to the final [EIR] that is insulated from public review."[304]

IP-24-170

In order to cure the panoply of RDEIR/SDEIS defects identified in this letter as well as the defects previously identified in the DEIR/SDEIS that persist, Caltrans must obtain substantial new information to adequately assess the proposed Project's environmental impacts, and to identify effective mitigation and alternatives capable of alleviating the Project's significant impacts. This new information will clearly necessitate recirculation. CEQA requires that the public have a meaningful opportunity to review and comment upon this significant new information in the form of a revised draft EIR.

Sincerely,

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[302] Pub. Res. Code § 21092.1.
[303] *Sutter Sensible Planning, Inc. v. Sutter County Board of Supervisors*, 122 Cal. App. 3d 813, 822 (1981); *City of San Jose v. Great Oaks Water Co.*, 192 Cal. App. 3d 1005, 1017 (1987).
[304] *Mountain Lion Coalition v. California Fish and Game Comm'n*, 214 Cal.App.3d 1043, 1052 (1989).

IP-24-1

Caltrans and Metro thank the commenter for their input. The commenter's opposition to Alternative 5C and support of Alternative 7 with a zero emission freight corridor are acknowledged and included in the project record. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative. Please also refer to Section 1.3 of this appendix for a discussion on the zero emission and near-zero emission truck analysis provided in the RDEIR/SDEIS.

IP-24-2

Caltrans respectfully disagrees that the RDEIR/SDEIS fails to include the necessary analysis under CEQA and NEPA and that revision and recirculation of the RDEIR/SDEIS is required. The impact analyses contained within the RDEIR/SDEIS were performed in accordance with Caltrans guidance for complying with the requirements of CEQA and NEPA (published on Caltrans' Standard Environmental Reference website at: http://www.dot.ca.gov/ser/), and in some cases, such as that of the Air Quality/Health Risk Assessment, the scope of the analysis actually surpasses that which would normally be included in a Caltrans project-level analysis.

IP-24-3

Caltrans and Metro acknowledge that the directive of Motion 22.1 states that Metro staff should work with Caltrans and partner agencies as necessary to include an analysis of a Zero Emission Truck procurement and operations program (Alternative 7 only) in any Public Private Partnership (PPP) analysis to be done for the build alternatives; however, the Motion 22.1 language clearly states that this is an action to be done "as necessary and *in parallel to the EIR/EIS process*" [italics added]. This type of analysis can and should be done in support of the deployment of said program, but has no nexus to the EIR/EIS process. The EIR/EIS process is intended to disclose and mitigate the environmental impacts of a proposed project. The procurement and operations analysis in question is not appropriate for inclusion in a project-level EIR/EIS document, but would be better suited for a funding or PPP analysis as is stated within the Motion language and which could be done at a later date should a build alternative be selected as the Preferred Alternative, and project funding be secured. Additionally, please note that Metro Board Motion 5.1 adopted on March 1, 2018, further refined the ZE/NZE Truck Technology Development Program, now known as the I-710 Clean Truck Program. Please see Section 2.3.2.1 of this Final EIR/EIS for further details. Motion 5.1 increased the funding target from $100 million to $200 million and includes incentives and grants investment in the acceleration of zero emission technology both for long-haul trucks and for freeway infrastructure. In April 2020, the Metro Board of Directors programmed $50 million in Metro-controlled funds to provide funding for the initial deployment of

the I-710 Clean Truck Program and to leverage the remaining funds required for full program implementation. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-24-4

Caltrans and Metro acknowledge the Motion 22.1 requirement for "Geometric design for the I-710 Freight Corridor (under Alternative 7 only) that eliminates significant impacts and displacements of homes, businesses, or community resources, such as but not limited to the Bell Shelter or Senior Centers, *and the implications of such a design on commuter and freight traffic demands; where significant impacts are unavoidable, provide documentation of the rationale and constraints*" [italics added]. That analysis was undertaken and is summarized in Section 3.3.2.3, Motion 22.1 Right of Way Avoidance Analysis, of the RDEIR/SDEIS and this Final EIR/EIS, as well as included in full in Appendix T. Based on the feedback received from community groups and members, avoidance of right-of-way acquisitions was prioritized in developing the build alternatives and design options. Reduced relocation impacts were a component of the rationale of the identification of Alternative 1 (No Build) as the Preferred Alternative.

Although reduction of right-of-way impacts was not included in the statement of objectives and purpose under CEQA nor the purpose and need statement under NEPA for the I-710 Corridor Project, Caltrans always seeks to reduce right-of-way impacts for any transportation project to the greatest extent feasible while still providing a safe project design.

IP-24-5

Because the details of such a local and targeted hiring program would be difficult, if not impossible, to develop without knowing funding amounts, source, and construction specifics (e.g., detailed construction staging and the exact types of construction occurring), should a build alternative be selected as the Preferred Alternative, this program would be completed when those construction and funding-related details become clearer. The earliest this could occur would be at the time the Initial Stage Program of Projects is developed in accordance with Metro Board Motion 5.1 adopted on March 1, 2018. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, construction of the build alternatives will not occur, and a local hiring program will not be necessary.

IP-24-6

Caltrans and Metro both respectfully disagree that the ZE/NZE program description as included in the RDEIR/SDEIS is fatally flawed. The program was broadly described in the RDEIR/SDEIS so that it could accurately inform assumptions for the various technical analyses while also allowing the potential implementing agency or agencies some degree of flexibility. In addition, it

was important for the public to be afforded an opportunity to comment on the broad description of the program prior to finalization and the definition of specifics, should a build alternative be selected as the Preferred Alternative. The I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program), as altered by Metro Board Motions 5.1 and 8.1, has been developed further than what was included in the RDEIR/SDEIS, and those updates have been included in Section 2.3.2.1 of this Final EIR/EIS. Because the types of trucks that would potentially be funded by the program have not been defined, and neither Caltrans nor Metro presume to dictate what the market may be at the time of program implementation (should a build alternative be selected as the Preferred Alternative), the provision of funding for up to 20 electric charging stations and/or up to ten hydrogen refueling stations was included as an additional programmatic feature of the program, as well. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-24-7

The I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) was included in the description of both build alternatives as a subsidy program that would ensure that individual owner-operators would not be precluded from participation in the program, as the subsidy program would not require the participant to provide the initial capital outlay which could be prohibitive for some individual owner-operators, even with the provision of zero interest or low interest loans as suggested in this comment. In addition, the Project Team worked closely with South Coast Air Quality Management District to develop the subsidy program as well as the number and cost of ZE/NZE trucks in order to make stable assumptions regarding fleet mix that informed the various analyses supporting the RDEIR/SDEIS.

Caltrans and Metro acknowledge that the cost for a “pure” zero emission trucks is much higher than that of an NZE truck. Please also refer to Section 1.3 of this appendix for more information regarding the ZE Only Option.

IP-24-8

As indicated in the comment, Section 2.3.2.1 of the RDEIR/SDEIS did state that zero emission capable drayage trucks can be developed, demonstrated, validated, and moved into production by a 2025 target timeline, but there remain core issues to be addressed prior to the commercialization of said vehicles. Hence, a detailed timeline for implementation cannot be determined at this time. Caltrans and Metro both respectfully disagree that this conclusion is at odds with existing technological advancements. Although Tesla may have a fully-electric long-haul truck currently in development, issues may still remain that may prevent or delay the consumer adoption process, including the pricing of the vehicle, recharging stations and the

availability and locations thereof, and/or relevant regulatory environments. The successful implementation and commercialization of a heavy-duty truck ZE/NZE technology before 2025 would not impede any I-710 Corridor Project build alternative-related benefits stemming from the ZE/NZE truck program. As described in Section 2.3.2.1 of this Final EIR/EIS, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program), as altered by the Metro Board in Board Motions 5.1 and 8.1, has been developed beyond what was included in the RDEIR/SDEIS. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-24-9

As discussed in Section 2.3.2.3 of the RDEIR/SDEIS and this Final EIR/EIS, Alternative 7 would include all of the components of Alternative 1 (No Build Alternative), all of the components described in Section 2.3.2.1, and the addition of two separate truck-only lanes in each direction along a 16-mile section of the I-710 Corridor. As discussed in Section 2.3.2.1, both build alternatives would include the modernization of the freeway design, including local interchange improvements, auxiliary lane/ramp improvements, and freeway-to-freeway interchange improvements. Modernization of the freeway typically includes widening lanes and shoulders to comply with current Caltrans design standards for safety.

Any lane or shoulder widening proposed under either of the build alternatives was captured in the geometric footprints included in Appendix O, Concept Plans, of the RDEIR/SDEIS, and was used in performing the environmental analyses contained in the RDEIR/SDEIS. Therefore, the analyses contained within the RDEIR/SDEIS reflect the full extent of freeway improvements, including lane additions, widening, and/or shoulder widening.

IP-24-10

The commenters do not provide any specifics in their request for “greater details of the alternatives.” The project alternatives were discussed in Section 2.3 of the RDEIR/SDEIS, which specified the features common among both build alternatives, and the features that are different between the build alternatives. Figures and tables were included in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS to describe the features of the build alternatives, and Appendix O of the RDEIR/SDEIS provided concept plans showing the lane configurations for the two build alternatives. The level of detail presented in Chapter 2.0 of the RDEIR/SDEIS and this Final EIR/EIS is commensurate with the level of project engineering/design detail available at this stage of project development.

IP-24-11

Although Caltrans and Metro have limited jurisdiction regarding certain elements of the CA-7 Alternative, as described in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, many of the components of the CA-7 Alternative were integrated into Alternative 5C and Alternative 7. Those components of the CA-7 Alternative that were not integrated into Alternative 5C and Alternative 7 were addressed in other programs and projects being undertaken by Caltrans, Metro and/or the Gateway Cities Council of Governments (Gateway Cities COG), including the I-710 Corridor Bike Path Project, led by Metro. The CA-7 Alternative can be best characterized as a program of several individual projects, one of which is improvements to the I-710 Corridor. Caltrans and Metro both respectfully disagree that NEPA and/or CEQA were violated by not analyzing as a stand-alone alternative in the RDEIR/SDEIS.

It is important to note that even if it were reasonable or feasible for Caltrans (or any agency) to package all of the individual projects submitted as part of the CA-7 Alternative program together and evaluate the impacts of all of them in one project-level environmental document, none of those individual, smaller elements could be implemented until all elements received environmental clearance in the form of project approval. Although it is acknowledged that the commenter does not consider this a persuasive argument, Caltrans and Metro do not feel that this represents a prudent use of public funds, as many elements of the program can be environmentally cleared and implemented in a far more efficient manner. Please also refer to Responses to Comments IP-24-15 and IP-24-16 for further details regarding the various components of the CA-7 Alternative.

IP-24-12

Section 2.5 of this Final EIR/EIS (formerly Section 2.4 of the RDEIR/SDEIS) contains a description of alternatives considered, but eliminated from further consideration. Section 2.2.2 of this Final EIR/EIS describes the revised build alternatives analyzed in the RDEIR/SDEIS. The *Major Corridor Study* was conducted according to SCAG's Regionally Significant Transportation Investment Study guidelines. Following the initiation of the Project Approval and Environmental Document process for the I-710 Corridor Project, an Alternatives Screening Analysis was conducted that narrowed the range of initial build alternatives based on how well they could meet the project Purpose and Need and how they performed on measures including: mobility, air quality, energy consumption, traffic safety, right-of-way, environmental impacts, and capital cost. Each of the alternatives analyzed in the Draft EIR/EIS and RDEIR/SDEIS were evaluated at a similar level of detail, as per CEQ regulations. To date, a robust alternatives analysis has been undertaken on the project.

Please refer to Response to Comment IP-24-11. Caltrans, Metro, and the other I-710 Corridor Project funding partner agencies are extremely appreciative of the time and effort that was invested in developing the proposed CA-7 Alternative. It is important to note that the Project Committee operates in an advisory capacity and its decisions do not bind Caltrans or Metro to a specific course of action.

IP-24-13

Although the CA-7 Alternative meets some of the project objectives, some features of this alternative could not be implemented by Caltrans and/or Metro due to limited jurisdiction. However, as described in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, many of the components of the CA-7 Alternative were integrated into Alternative 5C and Alternative 7 and those components of CA-7 Alternative that were not integrated into Alternative 5C and Alternative 7 were addressed in other programs and projects being undertaken by Caltrans, Metro and/or the Gateway Cities COG. Although the CA-7 proposal was comprehensive, some elements of the alternative are not appropriate for inclusion in a transportation project-level environmental document. The CA-7 Alternative is essentially a programmatic effort aimed at implementing multi-jurisdictional projects well beyond the scope of the I-710 Corridor Project. As the approving agency for the I-710 Corridor Project, Caltrans' jurisdiction is limited to the State highway system. Additionally, some elements of the CA-7 Alternative are much smaller in scale than the overall I-710 Corridor Project, and implementation of these elements would be less impactful. Therefore, those elements (such as the construction of bicycle lanes or pedestrian facilities), while still subject to the California Environmental Quality Act (CEQA), would likely not require the preparation of a full EIR, and could be advanced more quickly individually by the agencies with jurisdiction than if they were included in the scope of the I-710 Corridor Project. For these reasons, the CA-7 Alternative was not carried forward for detailed evaluation as a stand-alone alternative in the RDEIR/SDEIS. However, the proposal of the CA-7 Alternative, coupled with the general support from the EPA and others for the evaluation of an alternative that added a ZE/NZE freight corridor without expansion of general purpose lanes, was directly responsible for the development of Alternative 7 as a stand-alone project alternative analyzed in the RDEIR/SDEIS.

IP-24-14

As shown in Chapter 2.0, Project Alternatives, including Section 2.5 (Alternatives Considered but Eliminated from Further Discussion), a reasonable range of alternatives has been evaluated over the life of the project. The CA-7 Alternative would not avoid or substantially lessen significant effects of the build alternatives as stated in this comment because the geometric design of the CA-7 Alternative provided with CEHAJ's comment letter dated September 28, 2012, on the Draft EIR/EIS does not adhere to standard engineering practices and/or Caltrans requirements. Both Alternatives 5C and 7 were designed to avoid environmental impacts as much as possible while adhering to the design standards of the Caltrans *Highway Design Manual.* In addition, as

described in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, many of the components of the CA-7 Alternative have been integrated into Alternative 5C and Alternative 7 and those components of the CA-7 Alternative that were not integrated into Alternative 5C and Alternative 7 were addressed in other programs and projects being undertaken by Caltrans, Metro and/or the Gateway Cities COG. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore none of the components of the CA-7 Alternative will be implemented.

IP-24-15

Please refer to Responses to Comments IP-24-13 and IP-24-14 for the rationale as to why CA-7 was not evaluated as a stand-alone alternative in the RDEIR/SDEIS. Additionally, the Responses to Comment IP-22 in Appendix S of the RDEIR/SDEIS provide an analysis of the components of the CA-7 Alternative. Elements of CA-7 that have been wholly or partially included in one or both build alternatives evaluated in the RDEIR/SDEIS include (1) No I-710 widening (No Additional General Purpose Lanes) (no additional general purpose lanes would be added under Alternative 7), (2) the Comprehensive Public Transit Element (a programmatic transit project component was added to both build alternatives evaluated in the RDEIR/SDEIS), (3) the Mandatory Zero-Emission Freight Corridor (Option 7ZE was evaluated in the RDEIR/SDEIS), (4) Public Private Partnership (although there is no in-depth analysis of this element, and the specifics of any funding arrangement can only be determined following approval of a project), (6) the Comprehensive Pedestrian and Bicycle Element (bicycle and pedestrian facilities that connect to the build alternatives would be upgraded at many locations; refer to Section 2.3.2.1 for more detail), and (7) Community Benefits (a Community Health and Benefit Program was added as a programmatic element of both build alternatives). However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore none of the components of the CA-7 Alternative will be implemented.

IP-24-16

Caltrans and Metro acknowledge that Metro is an integral member of the I-710 Corridor Project development team, and elements (both programmatic and otherwise) have been incorporated into the project description of the build alternatives that would provide for new and enhanced transit service and multi-modal connections. However, it is important to note that Caltrans is the CEQA and NEPA lead agency for the project and ultimately the agency responsible for project approval. Metro has taken the lead to implement several elements of the CA-7 Alternative and Motion 22.1 that were deemed appropriate to be pursued outside of, but in parallel to, the I-710 Corridor Project EIR/EIS. These included (in coordination with Caltrans, Gateway Cities COG, and other partner and responsible agencies) the feasibility of several Study Area elements including, but not limited to, a ZE truck procurement and operations program, addition of bus stops with access points to bicycle paths, and to work with community groups to develop a Local and

Targeted Hiring Policy and Project Labor Agreement for construction jobs and a First Source Hiring Policy for permanent jobs created by the I-710 Corridor Project, should a build alternative be selected as the Preferred Alternative.

Although Caltrans' Complete Streets directive requires that projects address the safety and mobility needs of multimodal users, it also goes on to state that a "complete street" is defined as "a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function and context of the facility.[4]" Examples of Complete Streets projects that have been completed by Caltrans include a green bike lane at the on and off ramp of State Route 280 in Menlo Park, implementation of a road diet on State Route 227 in San Luis Obispo that pared down a four-lane segment to two lanes and bike lanes with medians and center turn lanes, and the addition of infrastructure such as colored crosswalks, bike lanes, and transit stops on State Route 16 in Esparto. In the design of both build alternatives, the reconstruction of overcrossings has been done in a manner that provides for sidewalks and the addition of bicycle lanes, and interchanges and ramps provide for safe pedestrian and bicycle crossing. Under the build alternatives, five new pedestrian and bicycle-only bridges would be constructed crossing over I-710, I-405 and/or the Los Angeles River, which would enhance connectivity within and between those neighborhoods. These improvements would be consistent with the suggested improvements included in Element CA-7.6, Comprehensive Pedestrian and Bicycle Element, of the CA-7 Alternative proposal.

The implementation of Complete Streets strategies should not be misconstrued as a mandate for Caltrans to implement projects on local roadways. Each of the examples of Complete Streets projects above occurred on State Routes within Caltrans' jurisdiction, and since the routes in question were not controlled-access highways like the I-710 is, the addition of bicycle lanes and/or traffic calming measures were within the ability of Caltrans to implement.

IP-24-17

CA-7 was not carried forward as a stand-alone alternative in the RDEIR/SDEIS for several reasons that are outlined in Section 2.2.2.1 of this Final EIR/EIS. It is important to note that the CA-7 Alternative is essentially a programmatic effort aimed at implementing multi-jurisdictional projects well beyond the scope of the I-710 Corridor Project. It is acknowledged that some elements of the CA-7 Alternative are much smaller in scale than the overall I-710 Corridor Project, and implementation of these elements would be less impactful. Therefore, those elements (such as the construction of bicycle lanes or pedestrian facilities), while still subject to CEQA, would

[4] Caltrans. 2008. Deputy Directive DD-64-R1. Complete Streets – Integrating the Transportation System. October. Website: http://www.dot.ca.gov/hq/tpp/offices/bike/sites_files/DD-64-R1_ Signed. pdf (accessed September 26, 2018).

likely not require the preparation of a full EIR, and could be advanced more quickly individually by the agencies with jurisdiction. It should not be inferred that the inclusion of smaller projects within the CA-7 proposal was in any way a reason that it was not evaluated as a stand-alone alternative.

IP-24-18

Due to the limited jurisdiction of Caltrans and Metro, all components of CA-7 cannot proceed as a package, as they would be a program of several separate projects. However, as stated above in Responses to Comments IP-24-11 through IP-24-17, many of the components of the CA-7 Alternative have been integrated into Alternative 5C and Alternative 7. Those components of the CA-7 Alternative that have not been integrated into Alternative 5C and Alternative 7 are addressed in other programs and projects being undertaken by Caltrans, Metro, and/or the Gateway Cities COG. Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS violates CEQA and/or NEPA because CA-7 was not analyzed as a build alternative in the RDEIR/SDEIS.

IP-24-19

Caltrans maintains that the proposed build alternatives would generally be consistent with the majority of goals and policies put forth in the individual land use and general plans examined in Section 3.1. This is because the I-710 Corridor Project build alternatives would generally improve circulation, mobility, and reduce traffic congestion, which would be consistent with goals stated in the various jurisdictions' General Plans along the I-710 Corridor. Section 3.1, Land Use, of the RDEIR/SDEIS does identify where inconsistencies with local land uses would occur, and where avoidance, minimization, or mitigation would be appropriate, it is proposed for the build alternatives. Measure LU-1 in Section 3.1.2.4 of the RDEIR/SDEIS and this Final EIR/EIS is a standard measure that, should a build alternative be selected as the Preferred Alternative, would request local jurisdictions to amend their general plans and applicable land use maps to more precisely reflect the final alignment of the freeway, including designations of properties that would be acquired for the build alternatives.

In addition, in a 2017 court case (*The Highway 68 Coalition v. County of Monterey, et al. (Omni Resources LLC, Real Party in Interest)* (6th Dist. 2017) 14 Cal.App.5th 883), the Sixth District Court of Appeal held that while State CEQA Guidelines § 15125(d) requires an EIR to discuss any *inconsistencies* between a proposed project and applicable general plans, specific plans and regional plans, there is *no* requirement that an EIR analyze *consistencies* with such plans, or that the EIR itself be consistent with the relevant general plan. The analysis presented in Section 3.1 of this Final EIR/EIS is consistent with this ruling by the Sixth District Court of Appeal.

IP-24-20

The RDEIR/SDEIS adequately supports the claim that land use conversion to transportation use under the build alternatives would be fairly minimal. As is shown in Section 3.1.1.21, Land Use, approximately 68 percent of the proposed rights-of-way that would be required for Alternatives 5C and 7 would consist of existing transportation, utilities, and vacant land uses. Approximately 3 percent and 20 percent of proposed rights-of-way for the build alternatives would consist of existing commercial and services, and industrial uses, respectively. Only about 3 percent of the proposed rights-of-way for the build alternatives would consist of existing residential uses.

IP-24-21

Table 3.1, Existing Land Use Impacts by Jurisdiction, in Section 3.1, Land Use of the RDEIR/SDEIS, summarizes land acquisition and not displacements, as suggested in the comment. Specifically, Table 3.1 shows the acreage of non-transportation land use that would be converted to a transportation use under the build alternatives. Conversion on non-transportation land use to transportation use can occur without resulting in displacements if there are no residences or businesses located on the acquired land. For this reason, displacements are analyzed separately in Section 3.3.2, Relocations and Real Property Acquisition. Residential and business displacements as a result of each build alternative are summarized by City in Table 3.3-12, Relocations by City.

The commenter is accurate that the build alternatives would not avoid residential displacement within the City of South Gate, as indicated on page 3.1-59 of the RDEIR/SDEIS. The text on page 3.1-59 has been revised to delete the text indicating the build alternatives would avoid residential displacements within the City of South Gate, which is consistent with the discussion in Section 5.18.1.2 of the CIA. As shown in Table 3.3-12, Alternatives 5C and 7 would result in six residential displacements. However, although a few residential relocations would be required, the build alternatives would not be inconsistent with the objectives and policies of the City of South Gate General Plan to preserve existing neighborhoods. Specifically, Objective CD 4.1 of the City of South Gate General Plan is to “preserve the character of existing neighborhoods.” Policy P.2 of the City of South Gate General Plan states that “existing neighborhoods should be preserved and protected against potential impacts related to development, traffic, noise, air quality, and encroachment of incompatible commercial and industrial activities.” Although the build alternatives would result in residential displacements in the City of South Gate, it would impact less than one percent of the total land area designated residential in the City of South Gate. These relocations would occur along the fringes of existing transportation facilities, which would impact the edges of the neighborhood rather than the whole neighborhood. The build alternatives would not create a permanent barrier or long-term disruption in connectivity and would not divide an established community. For these reasons, the limited number of residential relocations within the

City of South Gate as a result of the build alternatives would not conflict with the policy to preserve existing residential neighborhoods.

Although the build alternatives would require acquisition of residential parcels in the City of Paramount, no residential or commercial displacements would be required as shown in Table 3.3-12 of the RDEIR/SDEIS. Therefore, the statement in the RDEIS/SDEIS that the build alternatives "would not adversely impact residences or businesses" in the City of Paramount is accurate. Additionally, in the City of Paramount, residential uses comprise 53 percent of its total acreage of 3096 acres and industrial uses comprise 27 percent of the total acreage (available at: https://paramountenvironment.org/history-of-paramount-zoning/). The build alternatives would convert less than one percent of the residential land and industrial land to transportation uses.

As shown in Table 3.3-12 of the RDEIR/SDEIS, only Design Options 3A and 3B would result in residential and business displacements; however, these design options were not selected by the Metro Board to be carried forward as part of the Preferred Alternative (Alternative 1 No Build).

The RDEIR/SDEIS accurately states that no business displacements would occur in the City of Bell Gardens (please refer to Table 3.3-12 of the RDEIR/SDEIS) as a result of the build alternatives. However, conversion of commercial and industrial land uses would be converted to transportation uses. While the build alternatives would result in impacts to commercial and industrial land uses (acreages identified in Table 3.1-1 in Section 3.1), the land use impacts would not result in displacements or relocations of businesses in the City of Bell Gardens (refer to Table 3.3-12 in Section 3.3).

It is important to note that, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no displacement of residences or businesses.

IP-24-22

As stated in the comment, Goal C of the Coastal Act is to "Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners." The main point of Goal C is to "Maximize public access" to and along the coast, which the build alternatives would facilitate by reducing vehicular congestion along the I-710 Corridor mainline and thereby facilitating vehicular access to the coast.

Although not mentioned in the comment, Section 30010 of the Coastal Act further states that "The Legislature hereby finds and declares that this division is not intended, and shall not be construed as authorizing the commission, port governing body, or local government acting pursuant to this division to exercise their power to grant or deny a permit in a manner which will take or damage private property for public use, without the payment of just compensation therefor. This section is

not intended to increase or decrease the rights of any owner of property under the Constitution of the State of California or the United States." As discussed in Section 3.3.2, Relocations and Real Property Access, of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, all property acquisitions and relocations as a result of the build alternatives would be handled in accordance with the Uniform Act of 1970 (Public Law 91-646, 84 Stat. 1894). The Uniform Act is intended to ensure fair compensate and assistance to those who are displaced by highway right-of-way acquisitions in order to help protect the rights of private property holders. Caltrans' Relocation Assistance Program, which is based on the Uniform Act of 1970, requires that certain relocation services and payments by Caltrans be made available to eligible residents displaced by its projects. This compensation is consistent with the California Coastal Act, because it addresses the relocations occurring in the California Coastal Zone. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, relocations will not be required.

IP-24-23

As stated in the comment, the City of Bell Garden General Plan states that "the City of Bell Gardens strives to preserve the existing residential neighborhoods while promoting new development in the industrial areas to provide employment opportunities." The intent of this policy is to steer future land development to industrial areas in order to increase employment opportunities. CEQA and NEPA require that an EIR/EIS discuss possible conflicts/inconsistencies with applicable land use plans and policies. Projects are only required to be consistent with applicable goals and polices of relevant planning document, as it would not be feasible for a project to be consistent with all goals and policies. As the I-710 Corridor Project is a transportation project, and not a land development project, this policy is not directly applicable to the project. However, the I-710 Corridor Project build alternatives would also not conflict with the policy to preserve residential neighborhoods, as suggested in the comment. Alternative 5C would require 8 residential relocations and Alternative 7 would require 4 residential relocations in the City of Bell Gardens. As a result, the City of Bell Gardens would experience a conversion of less than one percent of the total residential land uses to transportation uses under Alternative 5C and Alternative 7. These relocations would occur along the fringes of the I-710 Corridor, impacting the edges of the neighborhood rather than the whole neighborhood. The I-710 Corridor project build alternatives would not create a permanent barrier or long-term disruption in connectivity and would not divide an established community. For these reasons, the limited number of residential relocations within the City of Bell Gardens would not conflict with the policy to preserve existing residential neighborhoods.

IP-24-24

The build alternatives are generally consistent with the guiding principles in the 2035 County of Los Angeles General Plan. Specifically, the build alternatives would be consistent with the guiding

principle to “Ensure community services and infrastructure are sufficient to accommodate growth: Coordinate an equitable sharing of public and private costs associated with providing appropriate community services and infrastructure to meet growth needs.” The build alternatives would improve existing transportation facilities instead of building new freeways, would include the public during the planning process; and would improve the image of major transportation corridors. In addition, the build alternatives meet growth needs in terms of infrastructure by widening the I-710 freeway. As discussed in Section 2.2, Growth, of the RDEIR/SDEIS, the build alternatives would provide transportation infrastructure in response to existing and forecast traffic congestion due to local and regional growth that has already occurred or is planned to occur. However, provision of community services (such as schools, parks, libraries, police and fire services, and waste management) is outside the scope of a transportation project and outside the purview of Caltrans as a public transportation agency. The build alternatives would also be generally consistent with the guiding principle to “Provide the foundation for a strong and diverse economy: Protect areas that generate employment and promote programs that support a stable and well educated workforce. This will provide a foundation for a jobs-housing balance and a vital and competitive economy in the unincorporated areas.” As discussed in Section 3.3, Community Impacts, of the RDEIR/SDEIS, construction of the build alternatives would generate between an estimated 99,885 to 179,180 jobs, depending on whether a build alternative or design option is selected. These construction jobs would generate temporary employment and revenues for both the local and regional economies. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, a local hire program will not be implemented.

IP-24-25

The Sustainable Communities Strategy (SCS) includes Transportation System Management Actions and Strategies, which includes the goal to “Work with relevant state and local transportation authorities to increase the efficiency of the existing transportation system.” As discussed in Section 2.3.2, Build Alternative, under the “TSM/TDM, Transit, and ITS” subheading in the RDEIR/SDEIS, in addition to improvements to the I-710 mainline and the interchanges, both build alternatives would also include Transportation System Management/Travel Demand Management (TSM/TDM), Transit, and Intelligent Transportation Systems (ITS) improvements. Although TSM/TDM measures alone could not satisfy the purpose and need of the I-710 Corridor Project, TSM/TDM measures have been incorporated into both build alternatives for the I-710 Corridor Project to increase the efficiency of I-710 and the local roadway network. Because the I-710 Corridor Project build alternatives would incorporate TSM/TDM, Transit, and ITS

improvement, they would not be inconsistent with the SCS Transportation System Management goal cited in the comment.

IP-24-26

The Grand Total Land Use for Alternative 7, Option 3B was incorrectly input as 7 in Table 3.1-1 of the RDEIR/SDEIS. The correct value for this area should be 751.04; this has been corrected in Section 3.1.1.21 of this Final EIR/EIS.

IP-24-27

The land use plan consistency analysis was conducted in accordance with Caltrans guidance outlined on the Standard Environmental Reference, which requires analysis of the consistency of the project with the required elements of the General Plans, which include: land use, housing, noise, circulation/transportation, public services and facilities, economic development, and conservation and open space. More detailed information regarding greenhouse gas emissions and impacts can be found in Section 4.4, Climate Change. A number of project-level greenhouse gas reduction strategies are listed in Section 4.3.7, and Measures CON-AQ-1, CON-AQ-7, CON-AQ-15, and CON-AQ-17 have been incorporated into the build alternatives and would also serve to reduce greenhouse gas emissions, should a build alternative be selected as the Preferred Alternative.

IP-24-28

The commenters misquote the RDEIR/SDEIS, which states that the “2008 RCP includes several guiding principles and goals that the build alternatives would be consistent with, including improved mobility for residents, improved air quality, and a cleaner transportation system.” The document does go on to state that the build alternatives would not provide housing or education, which are stated goals of the RCP. However, the RDEIR/SDEIS does not state that the build alternatives are inconsistent with the RCP. CEQA and NEPA require that an EIR/EIS discuss possible conflicts/inconsistencies with applicable land use plans and policies. Projects are only required to be consistent with applicable goals and polices of relevant planning document, as it would not be feasible for a project to be consistent with all goals and policies. It is acknowledged that a guiding principle of the RCP is to “promote economic vitality and new economies by providing housing, education, and job training opportunities for all people.” However, provision of housing and education is outside the scope of a transportation project and outside the purview of Caltrans as a public transportation agency. Therefore, the goal of the RCP to provide housing and education is not applicable to the I-710 Corridor Project.

IP-24-29

It is acknowledged that one of the policies of the SCAG RTP/SCS states that “high-occupancy vehicle gap closures that significantly increase transit and rideshare usage will be supported and encouraged.” While this policy encourages high-occupancy vehicle gap closures and rideshare, it is not a requirement for all projects. In addition, CEQA and NEPA require that an EIR/EIS discuss possible conflicts/inconsistencies with applicable land use plans and policies. Projects are only required to be consistent with applicable goals and polices of relevant planning document, as it would not be feasible for a project to be consistent with all goals and policies. Regardless, build alternatives that included high-occupancy vehicle lanes were considered but eliminated from further discussion for the reasons detailed in Section 2.5, Alternatives Considered but Eliminated from Further Discussion. During the 2009 Alternatives Screening Analysis, it was concluded that HOV lanes would not be utilized as much as general purpose lanes, likely due to parallel HOV facilities on both I-110 and I-605. HOV lanes were not incorporated into the build alternatives because additional general purpose lanes on I-710 are more likely to be utilized. Though the build alternatives do not provide HOV lanes, the build alternatives are not inconsistent with these policies in the RTP. While not a specific component of the build alternatives, Metro has rideshare programs available to the public, which can be utilized by motorists on I-710. Details of Metro’s rideshare program can be found at https://www.metro.net/riding/rideshare/ Section 3.1, Land Use, of this Final EIR/EIS was updated to provide further clarification on the analysis of consistency with the SCAG RTP/SCS with respect to HOV facilities.

IP-24-30

Please refer to Response to Comment IP-24-29. As stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, an amendment to the RTP and FTIP are no longer required.

IP-24-31

The purpose of the Greater Los Angeles County Integrated Regional Water Management Plan (IRWMP) is to define a clear vision and direction for the sustainable management of water resources. The Greater Los Angeles County IRWMP is intended to improve water supply and water quality, enhance open space, recreation and habitat, and improve flood management in the Greater Los Angeles County region. It is acknowledged that an objective of the IRWMP is to “enhance open space and recreation through the increase of watershed friendly recreational space for all communities.” However, CEQA and NEPA only require that an EIR/EIS discuss possible conflicts/inconsistencies with applicable land use plans and policies. Projects are only required to be consistent with applicable goals and polices of relevant planning document, as it would not be feasible for a project to be consistent with all goals and policies. Although Alternatives 5C and 7 would impact 1.61 acres and 1.64 acres of open space and recreation land use, this is a small fraction of the 2,058-square-mile (1,317,120 acres) IRWMP planning area.

However, should a build alternative be selected as the Preferred Alternative, mitigation measures to address impacts to the watershed friendly recreational space would be implemented that would replace the affected land used in equal or better condition. Any resulting replacement or other financial burden required by the grant agencies for the acquisition of park property for freeway use would be mitigated at no cost or impact to the affected City/County. With mitigation, the build alternatives would be consistent with the goal of the IRWMP. The consistency analysis in Section 3.1, Land Use, of the RDEIR/SDEIS was updated to reflect that after mitigation, this objective would be consistent with the build alternatives.

IP-24-32

The goal of the planning process for the *Greater Los Angeles County Open Space for Habitat and Recreation Plan (Integrated Regional Water Management Plan Update –2012)* (OSHARP) (June 2012) and the Technical Memorandum for the Integrated Regional Water Management Plan for the *Greater Los Angeles County Open Space, Habitat and Recreation Technical Memorandum* (OSHARTM) (August 2006) is to provide direction for preserving, linking, restoring, and creating open space by providing a comprehensive regional framework for incorporating open space, both habitat and recreation, into water management project design features. To achieve this goal, these documents provide information to assist water managers in more effectively including open space considerations in the development of water projects, as well as information for open space managers to easily incorporate water management objectives into their projects. It is acknowledged that an objective of the OSHARP and OSHARTM is to increase open space and recreational areas. However, CEQA and NEPA only require that an EIR/EIS discuss possible conflicts/inconsistencies with applicable land use plans and policies. Projects are only required to be consistent with applicable goals and polices of relevant planning document, as it would not be feasible for a project to be consistent with all goals and policies. Although Alternative 5C and 7 would impact 1.61 acres and 1.64 acres of open space and recreation land use, this is a small fraction of the 2,058-square-mile (1,317,120 acres) OSHARP and OSHARTM planning area. However, should a build alternative be selected as the Preferred Alternative, mitigation measures to address impacts to the watershed-friendly recreational space would be implemented and would replace any park land used in equal or better condition. Any resulting replacement or other financial burden required by the grant agencies for the acquisition of park property for freeway use would be mitigated at no cost or impact to the City/County. After mitigation, the build alternatives would be consistent with the goal of the IRWMP. The consistency analysis in Section 3.1, Land Use, of the RDEIR/SDEIS was updated to reflect that, after mitigation, this objective would be consistent with the build alternatives.

P-24-33

The General Plan policy to expand public facilities to meet community needs and demands is not directly applicable to the project. Provision or expansion of public facilities (such as schools,

community facilities, places of worship, hospitals, homeless shelters, police stations, and fire stations) is outside the scope of a transportation project and outside the purview of Caltrans as a public transportation agency. However, the RDEIR/SDEIS acknowledges impacts to public facilities within the City of Bell as a result of the build alternatives. Impacts to public facilities in the City of Bell as a result of the build alternatives are discussed in Table 3.3-8 of the RDEIR/SDEIS. As summarized in Table 3.3-8 of the RDEIR/SDEIS, Alternative 7 would displace S. Mark Taper Foundation Shelter Resource Bank and the transitional housing structure on the Salvation Army's Bell Shelter. Alternative 5C and Alternative 1 (which Caltrans has identified as the Preferred Alternative) would not require relocation of the S. Mark Taper Foundation Shelter Resource Bank or Bell Shelter.

IP-24-34

Caltrans acknowledges that the following statement in the RDEIR/SDEIS is unclear: "The build alternatives are consistent with the adopted goals and policies in the City of Long Beach General Plan. The I-710 Corridor Project build alternatives would improve people and goods movement, reduce congestion, improve air quality, and include community and local agency participation. The build alternatives would not expose persons within the City of Long Beach to excessive noise. The build alternatives would also result in the relocation of businesses and residents in the City, which would be inconsistent with the General Plan." Projects are only required to be consistent with applicable goals and polices of relevant planning document, as it would not be feasible for a project to be consistent with all goals and policies. The relocations as a result of the build alternatives would not be inconsistent with any of the applicable goals and policies from the City of Long Beach General Plan (as listed in Section 3.1.2.2 of the RDEIR/SDEIS) and, therefore, the last sentence has been deleted to clarify and correct confusion with respect to the City of Long Beach General Plan.

IP-24-35

Caltrans analyzes specific impacts to land uses in Section 3.1, Land Use. However, the impacts resulting from acquisitions and relocations as a result of the build alternatives are contained within Section 3.3, Community Impacts. This is a more appropriate place for the discussion as it deals with relocations of individuals more specifically, and deals with impacts of such relocations on specific communities including the City of Commerce. Please refer to Section 3.3.2 of this Final EIR/EIS, the *Draft Relocation Impact Report* (March 2017 for more detailed information regarding relocation impacts. It is important to note that the entries contained in Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, include full and partial permanent acquisitions as well as temporary construction easements, and simply stating the number of entries does not necessarily accurately characterize the impacts. It is also important to note that land use and relocation impacts differ between the build alternatives proposed in the RDEIR/SDEIS, and Alternative 5C would have generally fewer relocation and land use impacts to the City of

Commerce. Goals and policies included in the City of Commerce General Plan were listed and described in Section 3.1.2.2 of the RDEIR/SDEIS. They include General Plan Transportation Policies 1.1, 4.5, 4.11, 6.1, 6.2, and 6.3. It is acknowledged that Transportation Policy 6.2 states that the City will oppose any regional public transportation improvement that does not first consider the potential impacts of such facilities on the local community in which the facility is located; however, the potential impacts of the improvements associated with the I-710 Corridor Project build alternatives were evaluated and disclosed in the Draft EIR/EIS and the RDEIR/SDEIS prior to approval of the project. It is important to note that, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, acquisitions and relocations are no longer required.

IP-24-36

The RDEIR/SDEIS acknowledges that land would need to be converted to a transportation land use in order for either build alternative to be constructed. The land that would potentially be converted would have a “minimal” impact on land use conversion because the individual city impacts would be relatively small considering the total amount of land uses within the respective cities. Additionally, as shown in Table 3.1-1, Existing Land Use Impacts by Jurisdiction, of the RDEIR/SDEIS, approximately 65 percent of the impacted land is currently transportation and utility or vacant. Section 3.1, Land Use, focuses on conversion of land uses to a different (transportation) use. The specific impacts to community facilities, residences, and businesses from these land acquisitions are detailed in Section 3.3, Community Impacts, of the RDEIR/SDEIS.

IP-24-37

Should a build alternative be selected as the Preferred Alternative, conversion of land would occur over a 19-mile stretch along I-710. As shown in Table 3.1-1, Existing Land Use Impacts by Jurisdiction, of the RDEIR/SDEIS, approximately 65 percent of the impacted land is currently transportation and utility or vacant. Additionally, the 5 to 6 acres of residential land that would be potentially converted in the City of Long Beach referenced in the comment letter is not one 5-to-6-acre block of land. Instead, this impact to residential property would be dispersed over the approximately 8-mile stretch of I-710 within the City of Long Beach. Section 3.1, Land Use, focuses on conversion of land uses to a different (transportation) use. Impacts resulting from the change in land use as a result of the build alternatives are discussed throughout the RDEIR/SDEIS. For example, housing impacts are discussed in Section 3.3.2, Relocations and Real Property Acquisition. Noise impacts are discussed in Section 3.14, Noise. Traffic impacts are discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities.

The RDEIR/SDEIS process is a public process in which the public, including local jurisdictions, are allowed to comment and therefore voice whether they are willing to make changes necessary to accommodate a project of this magnitude. In addition, Measure LU-1 states that Caltrans shall

request that the affected Cities and the County amend their respective General Plans to reflect the final alignment, interchange locations, and modification of land use designations for properties that would be acquired for the build alternatives. Although Caltrans cannot guarantee that local jurisdictions would amend their General Plans, should a build alternative be selected as the Preferred Alternative, it would be in the best interest of the local jurisdictions to ensure that the land uses, including any changes to I-710 as a result of the build alternatives, are reflected on their land use maps so that they can be considered in future planning efforts. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, amendments to General Plans will not be necessary.

IP-24-38

The RDEIR/SDEIS stated that "public health was determined not to be a topic of concern for the *consistency analysis of State, regional, and local plans*" [italics added]. Public health considerations related to air quality and noise are discussed appropriately in other parts of the document. Discussion of public health considerations relative to air quality is provided in Section 3.13.3.4 of the RDEIR/SDEIS and this Final EIR/EIS, Public Health Considerations in Section 3.13, Air Quality, and public health considerations related to noise are discussed in Section 3.14.3, Public Health Considerations in Section 3.14, Noise. In addition, Section 3.3.1.4 of the RDEIR/SDEIS and this Final EIR/EIS discusses public health considerations relative to social cohesion, access to parks and schools, and jobs and economic development. Applicable avoidance, minimization, and mitigation measures that would address impacts as a result of the build alternatives can be found in each of the respective resource sections.

IP-24-39

As indicated in the comment, a discussion of the Greater Los Angeles County IRWMP, OSHARP, and Draft Final OSHARTM and the County of Los Angles Bicycle Master Plan were added to the RDEIR/SDEIS to address public comments received on the Draft EIR/EIS. However, Caltrans respectfully disagrees that the RDEIR/SDEIS failed to discuss inconsistencies with these plans. CEQA and NEPA require that an EIR/EIS discuss possible conflicts/inconsistencies with applicable land use plans and policies. Projects are only required to be consistent with applicable goals and polices of relevant planning document, as it would not be feasible for a project to be consistent with all goals and policies. The RDEIR/SDEIS discusses consistency with the applicable goals and policies only, as there is not requirement to discuss non-applicable goals and policies. Please also refer to Responses to Comments IP-24-31 and IP-24-32 for more details.

IP-24-40

Measure LU-1 is not proposed to avoid or reduce impacts related to the changing land use as a result of the build alternatives. Should a build alternative be selected as the Preferred Alternative,

this measure would address the inconsistencies that would be created in local and regional General Plans resulting from changes created by the build alternatives. The revision to Measure LU-1 made in response to comments on the 2012 Draft EIR/EIS was made to ensure clarity on the timing of any potential revisions for local jurisdictions. Although Caltrans cannot guarantee that local jurisdictions would amend their General Plans (should a build alternative be selected as the Preferred Alternative), it would be in the best interest of the local jurisdictions to ensure that the land uses, including any changes to I-710 as a result of the build alternatives, would be reflected on their land use maps so that they can be considered in future planning efforts.

Impacts resulting from the change in land use as a result of the build alternatives and appropriate avoidance, minimization, and mitigation measures are discussed throughout the RDEIR/SDEIS. Specifically, impacts to residential property and community resources are discussed in Section 3.3.2, Relocations and Real Property Acquisition.

IP-24-41

CEQA and NEPA require that an EIR/EIS discuss possible conflicts/inconsistencies with applicable land use plans and policies. Projects are only required to be consistent with applicable goals and polices of relevant planning document, as it would not be feasible for a project to be consistent with all goals and policies. The RDEIR/SDEIS discusses consistency with the applicable goals and policies only, as there is no requirement to discuss non-applicable goals and policies. Additionally, Caltrans is a State transportation agency and one of the goals of the I-710 Corridor Project build alternatives is to improve a State transportation facility. As such, Caltrans is not required to comply with goals and policies that are outside the purview of a transportation agency and outside the scope of a transportation project.

IP-24-42

Caltrans respectfully disagrees that the RDEIR/SDEIS provided a “bald analysis” of the impacts to park and recreation resources as a result of the build alternatives. As documented below, the RDEIR/SDEIS did not fail to: (1) adequately analyze the impacts to these facilities, (2) identify alternatives which would avoid or limit these impacts to parks, and (3) identify sufficient measures to minimize and mitigate the impacts. Visual, air quality, and noise impacts on parks are discussed in Section 3.1.3.2 of the RDEIR/SDEIS. Direct and indirect impacts on parks and recreational facilities are also discussed in Tables 3.1-5 (Permanent Impacts) and 3.24-1 (Temporary Impacts) of the RDEIR/SDEIS. Additional details about these impacts are also provided in Sections 3.6.3 (Visual/Aesthetics), 3.13.3 (Air Quality), and 3.14.3 (Noise). Avoidance, minimization, and/or mitigation measures to address potential impacts on parks as a result of the build alternatives are included in Sections 3.1.3.3 and 3.24.41 of the RDEIR/SDEIS.

Visual, noise, air quality, and access impacts under the build alternatives for specific parks are as follows:

Section 3.1.3.2 states that visual impacts on Coolidge Park would be low under Alternative 5C and moderately low under Alternative 7. Additional details about the analysis of visual impacts are discussed in Section 3.6.3.1.

As discussed in Section 3.1.3.2 of the RDEIR/SDEIS, soundwalls are proposed at locations throughout the I-710 Corridor where noise levels would exceed Federal Noise Abatement Criteria (NAC). As discussed in Section 3.14.5.7, Soundwalls SW-511A+B are proposed under Alternative 5C between Shull St. and Cecilia St. along northbound I-710, which would provide an eight-to-12 A-weighted decibels (dBA) noise reduction to about 20 homes in this area, as well as to Julia Russ Asmus Park. As discussed in Section 3.14.5.3, no noise impacts have been identified at Dills Park under Alternative 5C. Under the build alternatives, should a build alternative be selected as the Preferred Alternative, a new soundwall would replace an existing soundwall at Coolidge Park to address noise impacts, as discussed in Section 3.6.3.1 under “Key View 8.”

Air quality impacts on park users were not identified in the technical analysis prepared for the RDEIR/SDEIS, as discussed on page 3.1-87 in Section 3.1.3.2 (Environmental Consequences, Public Health Considerations, Air Quality).

Table 3.24-1 addresses temporary access impacts on Coolidge Park along Artesia Blvd., which would be minimized through implementation of a TMP and provision of detours. Temporary access impacts would cease following construction, should a build alternative be selected as the Preferred Alternative.

The analysis included in the RDEIR/SDEIS was conducted in compliance with the Caltrans Standard Environmental Reference (SER), a guidance document to help State and local agency staff plan, prepare, submit, and evaluate environmental documents for transportation projects in compliance with NEPA, CEQA, Section 4(f) of the United States Department of Transportation Act, and other applicable regulations.

Under Section 4(f) of the United States Department of Transportation Act, an analysis of prudent and feasible avoidance alternatives and all possible planning to minimize harm is required if the project would result in a permanent use that is not a *de minimis* impact, a temporary occupancy that is not a *de minimis* impact or that does not meet the five criteria listed under 23 CFR 774.13(d), or a constructive use.

As discussed in Section 4.1 of the Draft Section 4(f) Evaluation, the build alternatives would result in the permanent use of Parque Dos Rios. A discussion of prudent and feasible alternatives to avoid the use of Parque Dos Rios and all possible planning to minimize harm to the property is included in Sections 4.2 through 4.5 of the Draft Section 4(f) Evaluation, in compliance with Section 4(f) of the United States Department of Transportation Act.

Caltrans preliminarily determined that the uses of the parks and recreational facilities listed in Section 5.0 of the Draft Section 4(f) Evaluation would be *de minimis* impacts. Caltrans also preliminarily determined that the temporary occupancies of the parks and recreational facilities listed in Section 6.1 of the Draft Section 4(f) Evaluation would meet the temporary occupancy exception criteria in 23 CFR 774.13(d). Caltrans has coordinated with the officials with jurisdiction over these parks to obtain written concurrence on the *de minimis* impact determinations and temporary occupancy exceptions. These concurrences are included in Appendix B of this Final EIR/EIS. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to Section 4(f) resources.

IP-24-43

The Federal Highway Administration defines a *de minimis* impact as "one that, after taking into account avoidance, minimization, mitigation and enhancement measures, results in no adverse effect to the activities, features, or attributes qualifying a park, recreation area, or refuge for protection under Section 4(f)."

Caltrans has determined that, as a result of the build alternatives, the uses of the following parks and recreational facilities listed in Section 5.0 of the Draft Section 4(f) Evaluation would be *de minimis* impacts:

- Cesar E. Chavez Park and Drake/Chavez Greenbelt: Should a build alternative be selected as the Preferred Alternative, Measures PR-10 through PR-15 would be implemented to minimize harm to this property. These measures would include incorporating park design refinements and future boundaries, replacing removed facilities, providing information regarding temporary closures, and compensating the City of Long Beach (official with jurisdiction) for implementation of these measures. With implementation of Measures PR-10 through PR-15, the build alternatives would not adversely affect the activities, features, and attributes of the Section 4(f) resource. Therefore, Caltrans determined that the build alternatives would result in a *de minimis* use impact on the property.

- Los Angeles River and Rio Hondo Trails: Should a build alternative be selected as the Preferred Alternative, Measures PR-16 through PR-19 would be implemented to minimize harm to the properties. These measures would include developing temporary closures, providing detour signage and contact information, and restoring closed areas following construction. With implementation of Measures PR-18 through PR-21, the build alternatives would not adversely affect the activities, features, and attributes of the Section 4(f) resources. Therefore, Caltrans determined that the build alternatives would result in a *de minimis* use on the properties.

- Dominguez Gap and DeForest Treatment Wetlands: Should a build alternative be selected as the Preferred Alternative, Measure PR-20 would require the construction contractor to return the area occupied by construction activities to a condition as good as or better than its condition prior to construction, and Measure PR-21 would provide for lighting installation along the portion of the Los Angeles River Bicycle Trail that travels beneath the widened Long Beach Blvd. bridge structure. With implementation of Measures PR-21 and PR-22, the build alternatives would not adversely affect the activities, features, and attributes of the Section 4(f) resource. Therefore, Caltrans determined that the build alternatives would result in a *de minimis* use on the property.

As discussed in the Executive Summary of the Draft Section 4(f) Evaluation, the properties meeting the criteria for protection under Section 4(f) were also evaluated to determine whether the build alternatives would result in the constructive use of those properties. The detailed analyses documented in the project technical reports did not identify any proximity impacts resulting from the build alternatives that would be so severe that the activities, features, or attributes that potentially qualify those properties for protection under Section 4(f) would be substantially impaired. The proximity impacts of the build alternatives in the vicinity of properties that potentially qualify for protection under Section 4(f) would not meaningfully reduce or remove the values of those resources in terms of their Section 4(f) significance. Therefore, the build alternatives were determined not to result in constructive use of any properties potentially protected under Section 4(f).

In addition, please refer to Response to Comment IP-24-42.

IP-24-44

The Federal Highway Administration (FHWA) states that constructive use on a property occurs "when the proximity impacts of a transportation project on a Section 4(f) property, even without acquisition of the property, are so great that the activities, features and attributes of the property are substantially impaired." Substantial impairment occurs only when the protected activities, features, or attributes are substantially diminished by a proposed project. As a general matter, this means that the value of the resource, in terms of its Section 4(f) purpose and significance, will be meaningfully reduced or lost. The types of impacts that may qualify as constructive use, such as increased noise levels that would substantially interfere with the use of a noise-sensitive feature, are addressed in 23 CFR 774.15. A project's proximity to a Section 4(f) property is not in itself an impact that results in constructive use.

The RDEIR/SDEIS and Draft Section 4(f) Evaluation both analyze the potential for severe impacts to parks, including Julia Russ Asmus Park, Coolidge Park, Dills Park, Bandini Park, Maywood Park, and other parks. Based on the analysis of parks not directly impacted in the RDEIR/SDEIS, no proximity impacts to the parks were identified that are so severe that the protected activities,

features, or attributes that qualify the resources for protection under Section 4(f) are “substantially impaired.”

Potential impacts as a result of the build alternatives on Julia Russ Asmus Park are described in Table 3.1-5 of the RDEIR/SDEIS. The park is also listed in Table 3 of the Draft Section 4(f) Evaluation, which includes resources within 0.5-mile of the project corridor. The Draft Section 4(f) Evaluation states that for the resources in Table 3, a review of the technical analyses in the EIR/EIS did not identify any proximity impacts as a result of the build alternatives that would be so severe after mitigation as to result in substantial impairment of the activities, features, and/or attributes that qualify the properties listed in Table 3 for protection under Section 4(f). Because no severe proximity impacts have been identified in the EIR/EIS, it was determined that the build alternatives would not result in the constructive use of the resources listed in Table 3. Therefore, the requirements for protection under Sections 4(f) and 6(f) are not triggered by the build alternatives for the resources listed in Table 3.

The discussion of noise at Julia Russ Asmus Park is not conclusory because potential noise impacts from the build alternatives were quantified, and the feasibility of soundwalls and the associated reduction in noise impacts as the result of soundwalls were also studied and quantified. As discussed in Section 3.14.5.7, Soundwalls SW-511A+B are proposed under Alternative 5C between Shull St. and Cecilia St. along northbound I-710, which would provide an eight-to-12 dBA noise reduction to about 20 homes in this area, as well as to Julia Russ Asmus Park. Therefore, with the installation of soundwalls, Alternative 5C would not generate increased noise levels that would result in the substantial impairment of the park. However, since the No Build Alternative has been selected as the Preferred Alternative, SW-511A+B will not be implemented.

Potential impacts on all land uses, including Coolidge Park, are discussed in several sections in the RDEIR/SDEIS, including Section 3.14.4 (Noise), Section 3.6.3 (Visual/Aesthetics), and Section 3.13.3 (Air Quality). According to the analysis in the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, a new soundwall would replace an existing soundwall at Coolidge Park to address noise impacts. The existing soundwall, fence, and trees divide the park from the I-710. Alternative 5C proposes a new soundwall and an elevated ramp. Should Alternative 5C be selected as the Preferred Alternative, the new soundwall would be very similar in size and shape to the existing soundwall. The soundwall would make the view more uniform and balanced, while the elevated ramp would be screened by the existing trees. Therefore, visual impacts on Coolidge Park as a result of Alternative 5C would be low. In addition, air quality impacts on park users were not identified in the technical analysis prepared for the RDEIR/SDEIS. Table 3.24-1 also addresses temporary access impacts on Coolidge Park along Artesia Blvd., which, should a build alternative be selected as the Preferred Alternative, would be minimized through implementation of a TMP and provision of detours. Temporary access impacts

would cease following construction. Therefore, Alternative 5C would not result in noise, visual, air quality, or access impacts that would cause substantial impairment of Coolidge Park.

While Coolidge Park and Julia Russ Asmus Park are in proximity to the proposed improvements under the build alternatives, proximity of proposed improvements to a Section 4(f) property is not in itself an impact that results in constructive use. As stated above, substantial impairment occurs only when the protected activities, features, or attributes are substantially diminished by a proposed project. A discussion of protected activities, features, or attributes at park and recreational facilities, including whether activities, features, or attributes are highly sensitive to visual, noise, or air quality impacts, is relevant to the analysis to determine if substantial impairment of these parks would result from the build alternatives. Based on the definition of "substantial impairment," no constructive uses were identified for any Section 4(f) resources under the build alternatives.

In addition, please refer to Response to Comment IP-24-42 regarding the analysis of parks and recreation resources.

IP-24-45

Please refer to Response to Comment IP-24-42 regarding the analysis of parks and recreation resources. It is important to note that the determination of impacts takes into account the existing setting and context within which impacts occur. Therefore, the determination that the visual impacts resulting from modifications to an adjacent existing freeway facility under the build alternatives within a highly urbanized area would be moderately low is a reasonable conclusion.

IP-24-46

The FHWA states that constructive use on a property occurs "when the proximity impacts of a transportation project on a Section 4(f) property, even without acquisition of the property, are so great that the activities, features and attributes of the property are substantially impaired." Substantial impairment occurs only when the protected activities, features, or attributes are substantially diminished by a proposed project. As a general matter, this means that the value of the resource, in terms of its Section 4(f) purpose and significance, will be meaningfully reduced or lost. The types of impacts that may qualify as constructive use, such as increased noise levels that would substantially interfere with the use of a noise sensitive feature, are addressed in 23 CFR 774.15. A project's proximity to a Section 4(f) property is not in itself an impact that results in constructive use.

Potential impacts on all land uses, including parks, are discussed in several sections in the RDEIR/SDEIS, including Section 3.14.4 (Noise), Section 3.6.3 (Visual), and Section 3.13.3 (Air Quality). Avoidance, minimization, and/or mitigation measures to address potential impacts on parks as a result of the build alternatives are included in Sections 3.1.3.3 and 3.24.4.1 of the

RDEIR/SDEIS. Based on the analysis of parks not directly impacted in the RDEIR/SDEIS, no proximity impacts to the parks from the build alternatives were identified that are so severe that the protected activities, features, or attributes that qualify the resources for protection under Section 4(f) are "substantially impaired." A discussion of protected activities, features, or attributes at park and recreational facilities, including whether activities, features, or attributes are highly sensitive to visual, noise, or air quality impacts, is relevant to the analysis to determine if substantial impairment of these parks would result from the build alternatives.

The analysis of proximity impacts was conducted with the knowledge that campgrounds and outdoor amphitheaters are examples of noise-sensitive uses. As shown in Table 3.14-1 of the RDEIR/SDEIS, noise abatement criteria (NAC) are assigned to different land uses depending on their sensitivity to noise. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). Table 3.14-1 includes a description of activities that fall under Activity Category C, which include: active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings. The NAC for Activity Category C is 67 dBA, which was utilized to evaluate potential noise impacts as a result of the build alternatives and determine the need for soundwalls to mitigate those potential impacts.

For all land uses, including parks, within a 0.5-mile of the project area, potential impacts are discussed in several sections of the RDEIR/SDEIS, as stated above. The detailed analyses documented in the project technical reports did not identify any proximity impacts resulting from the build alternatives that would be so severe that the activities, features, or attributes that potentially qualify those properties for protection under Section 4(f) would be substantially impaired. The proximity impacts of the build alternatives in the vicinity of properties that potentially qualify for protection under Section 4(f) would not meaningfully reduce or remove the values of those resources in terms of their Section 4(f) significance. Therefore, the build alternatives were determined not to result in constructive use of any properties potentially protected under Section 4(f).

IP-24-47

Short-term traffic impacts as a result of the build alternatives on parks are discussed in Table 3.24-1 in the RDEIR/SDEIS. Avoidance, minimization, and/or mitigation measures to address potential impacts on parks as a result of the build alternatives are included in Section 3.24.4.1. Short-term air quality impacts are discussed in Section 3.24.3.13, and avoidance, minimization, and/or mitigation measures to address potential impacts as a result of the build alternatives are included in Section 3.24.4.13. As discussed in these sections, short-term air quality impacts as a result of the build alternatives would be substantially mitigated based on measures implemented

during construction (should a build alternative be selected as the Preferred Alternative); and long-term noise impacts would be substantially mitigated based on permanent design features of the build alternatives such as noise walls and berms.

In addition, please refer to Response to Comment IP-24-42 regarding the analysis of parks and recreation facilities.

IP-24-48

Please refer to Response to Comment IP-24-42 regarding the analysis of parks and recreation facilities. Caltrans and Metro acknowledge that parks in the I-710 Corridor area offer restful settings in urban areas, but the enjoyment of these parks is not predicated on silence, as many of them exist adjacent to the existing I-710 freeway.

As discussed in Section 3.1.3.2 of the RDEIR/SDEIS, soundwalls are proposed at locations throughout the I-710 Corridor where noise levels from the build alternatives would exceed Federal Noise Abatement Criteria (NAC). As discussed in Section 3.14.5.7, Soundwalls SW-511A+B are proposed under Alternative 5C between Shull St. and Cecilia St. along northbound I-710, which, should a build alternative be selected as the Preferred Alternative, would provide an eight-to-12 dBA noise reduction to about 20 homes in this area, as well as to Julia Russ Asmus Park. Soundwalls SW-512A+B would provide a five-to-six dBA noise reduction to the residential area and Bandini Park located along northbound I-710 at the Washington Blvd. on-ramp in the City of Commerce. In the area of Coolidge Park, Soundwall SW-503A+B would benefit the residential area consisting of mostly single-family homes located between Long Beach Blvd. and Artesia Blvd. along southbound I-710 in the City of Long Beach. Should a build alternative be selected as the Preferred Alternative, both soundwalls would completely remove and replace the existing eight-foot-high soundwalls to accommodate widening under the build alternatives. These walls combined would provide a seven-to-12 dBA noise reduction to approximately 39 to 49 receptors in this area. Therefore, substantial interference with the features and attributes of the parks would not occur because the noise level increase attributable to the build alternatives would not substantially interfere with the public's enjoyment of an urban park.

IP-24-49

Please refer to Response to Comment IP-24-42 regarding the analysis of parks and recreation facilities. Specific impacts as a result of the build alternatives on parks are discussed in Section 3.1.3 and 3.24.4. Avoidance, minimization, and/or mitigation measures to address potential impacts on parks as a result of the build alternatives are included in Sections 3.1.3.3 and 3.24.4.1 of the RDEIR/SDEIS. Potential impacts as a result of the build alternatives on all land uses, including parks, are discussed in several sections in the RDEIR/SDEIS, including Section 3.14.4 (Noise), Section 3.6.3 (Visual), and Section 3.13.3 (Air Quality).

As disclosed in these sections, potential noise impacts from the build alternatives have been quantified, and the feasibility of soundwalls and associated reduction in noise impacts as the result of soundwalls have also been studied and quantified. Section 3.14.5.3 includes specific noise impacts and abatement considered at parks for impacts related to the build alternatives. Visual impacts have been assessed and evaluated, with two parks (Coolidge Park and Maywood River Park) having low visual impacts under the build alternatives; no other parks were identified as having any visual impacts from the build alternatives. Air quality impacts along the corridor have also been studied and quantified, with the project resulting in the reduction of several pollutant emissions under the 2035 project alternatives compared to the 2012 Baseline. Based on the analysis of parks not directly impacted in the RDEIR/SDEIS, no proximity impacts from the build alternatives to the parks were identified that are so severe that the protected activities, features or attributes that qualify the resources for protection under Section 4(f) are “substantially impaired.” Substantial impairment occurs only when the protected activities, features, or attributes are substantially diminished by a proposed project.

As discussed in Section 3.13.2, according to the Air Quality, Greenhouse Gas, and Health Risk Assessment (AQ/GHG/HRA) (2017), compared to the 2012 existing Baseline conditions, cancer risk would decrease at sensitive receptors, such as parks, under all 2035 project alternatives. Additionally, compared to the 2012 Baseline, vehicle exhaust emissions, including air toxics and inhalable particulate matter, and related impacts, would decrease for all 2035 project alternatives. Because of the reduction in emissions, the build alternatives would not result in poor air quality that would affect the use and enjoyment of park resources.

IP-24-50

Many of the recreational facilities that were proposed to have temporary construction easements (TCEs) under the build alternatives have been subsequently reevaluated and avoided, following coordination with the official with jurisdiction. Please refer to the revised discussion in Appendix B of this Final EIR/EIS.

IP-24-51

Many of the recreational facilities that were proposed to have temporary construction easements (TCEs) under the build alternatives have been subsequently reevaluated and avoided, following coordination with the official with jurisdiction. Please refer to the revised discussion in Appendix B of this Final EIR/EIS.

IP-24-52

Specific impacts on parks are discussed in Section 3.1.3 and 3.24.4. Avoidance, minimization, and/or mitigation measures to address potential impacts on parks as a result of the build alternatives are included in Sections 3.1.3.3 and 3.24.4.1 of the RDEIR/SDEIS. Potential impacts on all land uses, including parks, are discussed in several sections in the RDEIR/SDEIS, including Section 3.14.4 (Noise), Section 3.6.3 (Visual), and Section 3.13.3 (Air Quality). As disclosed in these sections, potential noise impacts from the build alternatives have been quantified, and the feasibility of soundwalls and associated reduction in noise impacts as the result of potential soundwalls have also been studied and quantified. Section 3.14.5.3 includes specific noise impacts and abatement considered at parks for impacts resulting from the build alternatives. Visual impacts have been assessed and evaluated, with two parks (Coolidge Park and Maywood River Park) having low visual impacts under the build alternatives; no other parks were identified as having any visual impacts from the build alternatives. Air quality impacts along the corridor have also been studied and quantified, with the project resulting in the reduction of several pollutant emissions under the 2035 project alternatives compared to the 2012 Baseline.

The 4(f) Evaluation references the detailed analyses in the RDEIR/SDEIS, as described above, to support the conclusions that visual, noise, and air quality impacts as a result of the build alternatives would not result in substantial impairment of the Drake/Chavez Soccer Fields and Greenbelt Project, Oregon Park, Baker Street Park, 72nd Street Staging Area, and Dills Park, because no severe proximity impacts at the resources are identified in the EIR/EIS. The EIR/EIS, in turn, identifies the parks as resources that are protected under Section 4(f) and that require additional analysis specific to the requirements of Section 4(f).

While both documents reference each other, the EIR/EIS includes a detailed analysis of environmental impacts to comply with the requirements of CEQA and NEPA. In contrast, the Section 4(f) Evaluation includes a detailed analysis of Section 4(f) “use” (i.e., permanent incorporation, temporary occupancy, or constructive use), to comply with Section 4(f) of the United States Department of Transportation Act. A circular analysis has not been conducted because each document has a specific purpose and includes the analysis that is relevant to a specific regulation.

In addition, please refer to Response to Comment IP-24-46 regarding the analysis of land use impacts.

IP-24-53

Please refer to the Responses to Comments IP-24-46 and IP-24-52 regarding proximity impacts of the build alternatives to Section 4(f) resources.

IP-24-54

Please refer to the Responses to Comments IP-24-42 and IP-24-43 for a discussion of the basis for the *de minimis* determinations made in the Section 4(f) Evaluation (Appendix B of the RDEIR/SDEIS and this Final EIR/EIS).

IP-24-55

As shown in Figure 4-2 in the Section 4(f) Evaluation, Alternative 7 would require the permanent use of land along almost the entire perimeter of Parque Dos Rios. Only the middle portion of the parcel would still be available for park uses following construction, should Alternative 7 be selected as the Preferred Alternative. Because this remnant parcel would be surrounded by transportation uses, the parcel would have limited accessibility and functionality. If Alternative 7 were to be constructed, Caltrans would therefore acquire the entire 8.6-acre parcel. However, the No Build Alternative has been identified as the Preferred Alternative, and the impacts to Parque dos Rios would not occur.

IP-24-56

Please refer to the Responses to Comments IP-24-42 through IP-24-55 for a discussion of how impacts to parks were analyzed in compliance with CEQA, NEPA, and the Section 4(f) statute.

IP-24-57

The commenters cite the definition of “all possible planning” as codified in 23 CFR 774.17; however, the commenters fail to note that 23 CFR 774.17(5) states that “A *de minimis* impact determination under § 774.3(b) subsumes the requirement for all possible planning to minimize harm by reducing the impacts on the Section 4(f) property to a *de minimis* level.”

The above clarification notwithstanding, it is important to note that since the initiation of the I-710 *Major Corridor Study*, which preceded the I-710 Corridor Project EIR/EIS, the planning process has considered all feasible alternatives to avoid and minimize impacts to parks while still achieving the project purpose. The build alternatives analyzed in the RDEIR/SDEIS were identified following several alternatives screening analyses, as discussed in Sections 2.4.1 and 2.4.2 of the RDEIR/SDEIS. A zero emission freight corridor that neither increases the number of general purpose lanes nor widens lanes or shoulders would not be able to accommodate projected traffic volumes, and congestion along the I-710 Corridor may worsen. Therefore, this option is not a viable project alternative because it does not meet four out of the five purposes of the project; this option would not (1) improve traffic safety, (2) modernize freeway design, (3) accommodate projected traffic volumes, and (4) address increased traffic resulting from projected growth in population; and employment, and economic activities related to goods movement.

IP-24-58

Please refer to the Responses to Comments IP-24-42 through IP-24-52 for a discussion of both direct and constructive uses to parks that were analyzed in the RDEIR/SDEIS.

IP-24-59

As required under Section 4(f) of the United States Department of Transportation Act, should a build alternative be selected as the Preferred Alternative, the replacement property/properties for Parque Dos Rios would be identified based on the ability to provide similar activities, features, and attributes of the park at its new location. The consideration of park equity is not required under the Section 4(f) statute as codified at 49 USC 303.

Should a build alternative be selected as the Preferred Alternative, all property acquisitions and relocations would be handled in accordance with the Uniform Act of 1970 (Public Law 91-646, 84 Stat. 1894). This act is intended to ensure fair compensation and assistance for those whose property is compulsorily acquired for public use under “eminent domain” law. Caltrans’ Relocation Assistance Program, which is based on the Uniform Act of 1970, requires that certain relocation services and payments by Caltrans be made available to eligible residents, businesses, and non-profit organizations displaced by its projects. Should a build alternative be selected as the Preferred Alternative, funding of replacement properties for parkland would be included in the overall funding. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to Section 4(f) resources.

IP-24-60

Should a build alternative be selected as the Preferred Alternative, Mitigation Measure CON-TR-1 would address temporary access impacts at Parque Dos Rios (see Table 3.24-1 in the RDEIR/SDEIS). Should a build alternative be selected as the Preferred Alternative, additional mitigation measures for physical impacts on Parque Dos Rios would include Measures PR-1 through PR-9, which are listed in Section 4.4 of Appendix B; and would include design refinements to minimize impacts resulting either build alternative, a site plan for the remaining area of the park, identification of replacement property/properties, conceptual site plans for potential replacement property/properties, acquisition of replacement property/ properties, final site plan and plan installation, transfer of property ownership for Parque Dos Rios, and the return of the temporary construction easement (TCE) area in the park to a condition as good as or better than prior to its use for the TCE.

Regarding the replacement of the basketball courts at Cesar E. Chavez Park, should a build alternative be selected as from the build alternatives would be handled in accordance with the Uniform Act of 1970 (Public Law 91-646, 84 Stat. 1894), as discussed in Section 3.3.2.4 of the

RDEIR/SDEIS. This act is intended to ensure fair compensation and assistance for those whose property is compulsorily acquired for public use under “eminent domain” law. Caltrans’ Relocation Assistance Program, which is based on the Uniform Act of 1970, requires that certain relocation services and payments by Caltrans be made available to eligible residents, businesses, and non-profit organizations displaced by its projects. Measure PR-12 in Appendix B of the RDEIR/SDEIS specifically indicated that the basketball courts subject to removal under the build alternatives would be replaced no later than three months following closure of the courts, should a build alternative be selected as the Preferred Alternative. This cost would be included in the overall funding for the I-710 Corridor Project. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to Parque Dos Rios or Cesar E. Chavez Park.

IP-24-61

A detailed construction schedule and time frame/duration for construction activities that would provide a more specific duration of any trail closures at the Los Angeles River and Rio Hondo Trails had not been developed at the time the RDEIR/SDEIS was circulated for public review, but should a build alternative be selected as the Preferred Alternative, these would be determined once the final design phase is complete. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, trail closures at the Los Angeles River and Rio Hondo Trails will not be necessary.

IP-24-62

Impacts on wetlands and required mitigation for the build alternatives are discussed in Sections 3.17.3 and 3.17.4 in the RDEIR/SDEIS and this Final EIR/EIS.

IP-24-63

Caltrans acknowledges the impacts to the West Basin under Alternative 7; however, under Alternative 5C and Alternative 1 (the Preferred Alternative), impacts to the West Basin would not occur. No avoidance, minimization, and/or mitigation measures are necessary.

IP-24-64

As discussed in Section 3.1.3.2 of the RDEIR/SDEIS, soundwalls are proposed at locations throughout the I-710 Corridor where noise levels resulting from the build alternatives would exceed the Federal NAC. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, these soundwalls will not be implemented.

IP-24-65

Caltrans acknowledges that the commenter feels the responses to comments on the 2012 Draft EIR/EIS provided in the RDEIR/SDEIS were inadequate, but it is important to note that, consistent with the requirements of Section 15088.5(f) of the CEQA Guidelines, Caltrans was under no legal obligation to respond to comments on the Draft EIR/EIS for inclusion in the RDEIR/SDEIS. Therefore, Caltrans respectfully disagrees that the RDEIR/SDEIS violated CEQA or undermined the sufficiency of the EIR as an informational document. Wherever possible, clarification has been provided regarding previously submitted comments, but it should also be noted that comments provided on the 2012 Draft EIR/EIS were referencing a set of alternatives no longer under evaluation.

IP-24-66

Section 6(f) of the Land and Water Conservation Fund Act (LWCFA) prohibits conversion of property acquired or developed with LWCFA grants to a non-recreation or non-parkland purpose without the approval of the Department of the Interior's (DOI) National Park Service. Section 8.0, Section 6(f) Consideration for Cesar E. Chavez Park, has been added to Appendix B of this Final EIR/EIS.

IP-24-67

In citing the concluding statement that "consultation is ongoing with three individuals/tribes who have expressed interest…." out of context, the commenter has overlooked the preceding text which does adequately describe the status and results of Caltrans efforts to contact and consult with Native American representatives. Text preceding the cited statement discusses Caltrans outreach to the Native American Heritage Commission (NAHC) in August 2008 to request both a Sacred Lands File search and a list of appropriate Native American contacts. As a result of continued outreach, in 2016, a list of 13 Native American representatives was generated and these representatives were contacted by letter. Three initial responses were received, and follow-up email correspondence ensued. Additional email outreach occurred to those who did not officially respond to the first attempts by Caltrans to contact them. Please refer to the text under "Native American Consultation" in Section 3.7.2.5 of the RDEIR/SDEIS for the full list of names of representatives contacted. Measure CON-CUL-2 is an adequate and standard mitigation measure to contact the most likely descendant in the event of finding human remains determined to be Native American in origin (should a build alternative be selected as the Preferred Alternative). In addition, further coordination and consultation has taken place with Native American representatives since the release of the RDEIR/SDEIS, and that information has been updated in Section 5.7 of this Final EIR/EIS.

IP-24-68

Where sensitive cultural resources are concerned, Caltrans has developed a project-level Programmatic Agreement and Historic Properties Treatment Plan, as described in Measure CON-CUL-3. The State Historic Preservation Officer (SHPO) and Caltrans executed the Programmatic Agreement on June 6, 2019. The Historic Properties Treatment Plan was attached to the Programmatic Agreement. Specific measures and treatment plans are described in those documents. Mitigation is also provided, under the build alternatives, in the form of Measures CON-CUL-1 and CON-CUL-2, which deal with construction related finds of cultural materials and human remains, respectively. Further, with regard to built environment resources, the build alternatives would result in a finding of No Adverse Effect under Section 106 of the National Historic Preservation Act, and under CEQA, the impacts of the build alternatives to historic resources would be less than significant. For archaeological resources, an Archaeological Sensitivity Study was prepared to assist in the determination of monitoring areas within the Area of Potential Effects, should a build alternative be selected as the Preferred Alternative. The project-level Programmatic Agreement and Historic Properties Treatment Plan set forth treatment plans should previously unknown resources be unearthed during construction, should a build alternative be selected as the Preferred Alternative. Therefore, the build alternatives would not significantly impact known cultural resources or archaeological sites under CEQA nor would the build alternatives result in adverse effects to cultural resources under Section 106 of the National Historic Preservation Act; therefore, the requirements of CEQA and NEPA have been met.

IP-24-69

Caltrans and Metro both respectfully disagree with the assertion that the growth analysis performed for the project fails to meet legal requirements and does not support its conclusions with adequate substantial evidence. The growth analysis described in detail in Section 3.2, Growth, of the Final EIR/EIS was performed in accordance with the procedures outlined in the Caltrans Standard Environmental Reference Guidance for Preparers of Growth-Related, Indirect Impact Analyses (May 2006), and cites specific data and literature in support of the conclusions made. As indicated in Section 3.2, Growth, of the Final EIR/EIS, the Gateway Cities COG Subregion as a whole has experienced population, housing, and employment growth since the early 1900s and is anticipated to continue this growth pattern through 2035. It is important to note that correlation does not imply causation. Further, the 2012 SCAG RTP “No Project” future baseline scenario includes future funded and committed projects, such as those listed in the 2011 Federal Transportation Improvement Program (FTIP), while the “Plan” scenario incorporates those transportation projects identified in the Constrained Plan. The I-710 Corridor Project build alternatives (RTP ID# 1C0401) appear in the “Plan” alternative. Within the Gateway Cities COG sub-region, which encompasses the I-710 Corridor Project Study Area, population, household, and employment forecasts used for the 2012 RTP/SCS are the same for the RTP/SCS “No

Project" and "Plan Alternatives."[5] Thus, future growth in the area is inevitable and generally consistent with local land use plans and current trends, and as the I-710 Corridor Project build alternatives are not anticipated to change the location, rate, type or amount of said growth, there are no growth-related impacts attributable to the build alternatives.

IP-24-70

More details on land use patterns, including maps indicating existing land uses and vacant land, can be found in Section 3.1, Land Use, of the Final EIR/EIS. Also, a more detailed description of development trends, including redevelopment and infill development, can be found in Section 3.1.2.2 of the Final EIR/EIS. This information was culled and summarized from local entities' general plans, as well as observation and analysis employing common-sense conclusions regarding the presence or absence of vacant land in a given area. Caltrans' Guidance for Preparers of Growth-Related, Indirect Impact Analyses states that, although there are some exceptions, generally, "the likelihood of a highway project causing growth-related impacts in an urban area is typically low because of its built-out land use pattern". Therefore, the conclusion that a lack of vacant land does act as a constraint to growth in population and housing is reasonable. Please note that the presence of a growth constraint, such as lack of vacant land or the presence of a physical boundary, is only one of several factors that strongly influences where, when, and what type of development takes place.

IP-24-71

Section 3.1, Land Use, of the RDEIR/SDEIS, provided a more comprehensive overview of the percentages of vacant land within each I-710 Corridor city, as well as maps in which the reader can view the actual land uses along the I-710 Corridor (Figure 3.1-1, Existing Land Use). In response to this comment, this Final EIR/EIS has been revised to provide for the estimated percentages of vacant land for each city and community discussed in Section 3.1.2.

IP-24-72

It should be clarified that the presence of the noted growth constraints (railroad tracks and yards in the northern portion of the Study Area and utility corridors throughout the Study Area) are not intended to define or delineate an area in which impacts would or would not occur. Rather, they were presented to provide important contextual information regarding the urbanized nature of the Study Area. Moreover, the analysis presented in Section 3.2, Growth, of the Final EIR/EIS, represents a "first-cut" analysis as described in Caltrans' Guidance for Preparers of Growth-

[5] SCAG 2012–2035 RTP/SCS, Draft PEIR, Section 3.10 Population, Housing & Employment, Table 3.10-10. Website: http://rtpscs.scag.ca.gov/documents/peir/2012/draft/2012dpeir_3_10_popul ation housingand employment.pdf (accessed October 22, 2108).

Related, Indirect Impact Analyses, wherein the potential for reasonably foreseeable growth impacts resulting from the build alternatives were assessed. Based on the attributes and characteristics of the build alternatives themselves, it was determined that no project-related growth impacts would occur. Therefore, an analysis of where growth-related impacts would occur is unnecessary. Had the results indicated that further analysis was necessary as growth impacts resulting from the build alternatives were reasonably foreseeable, that analysis would be "right-sized" and consideration as to the desirability of various areas for development would be given. Similarly, it is important to note that it is possible to dilute the effects of a single project by arbitrarily selecting a study area that is too large (e.g., that of an entire region).

IP-24-73

The characteristics of the build alternatives themselves (improvements to an existing facility), coupled with the context of the Study Area and historical growth patterns of the region, indicated that further analysis regarding growth-related effects of the build alternatives was not required. The Study Area was selected as the area for analysis because of those characteristics of the build alternatives themselves, and the fact that no new access would be provided as a result of the build alternatives. Existing access would be improved under the build alternatives, but the built-out land use patterns and general lack of vacant land of the Study Area cities and communities indicate that it is not reasonably foreseeable that growth and development patterns would change substantially. Had the first-cut analysis indicated that growth-related effects of the build alternatives were reasonably foreseeable, a more formalized geographic area for determining the magnitude and scope of those impacts would be selected as part of the growth-related impact analysis.

IP-24-74

Caltrans and Metro acknowledge that vacant parcels with appropriate zoning do exist in Los Angeles County for future development of housing. Section 3.2, Growth, of the RDEIR/SDEIS only indicated that the Study Area had very limited vacant land, not that it had none. However, it should be noted that the cited McKinsey document itself indicates that there are regulatory, political, economic, and cultural barriers to converting these potential units into actual homes. Moreover, although approximately 9,000 vacant units seems like a substantial number, there are roughly 2.3 million residential and commercial-industrial parcels within the County, according to the 2017 Annual Report from the Los Angeles County Office of the Assessor.[6] Parcel size notwithstanding, these 9,000 parcels only make up approximately 0.4 percent of all parcels within the County. In the proper context, this cannot be considered a substantial amount of vacant land.

[6] Los Angeles County Assessor. Annual Report 2017. Website: https://assessor.lacounty.gov/wp-content/uploads/2017/10/LACountyAssessor_AnnualReport_Digital.pdf (accessed July 26, 2018).

Moreover, the cited figure (Figure 1) indicates that the vacant parcels are shown larger than actual size to improve legibility.

IP-24-75

The potential for substantial amounts of land currently not zoned for residential use to be rezoned to a residential use, which is solely the jurisdiction of the local planning authority, is highly speculative. Moreover, the presence or absence of available land for housing, whether it is currently zoned as such or not, does not contradict the fact that the build alternatives "would not facilitate new development by *opening up access to previously undeveloped areas or less developed areas*" [emphasis added]. The build alternatives propose to make improvements to an existing, heavily traveled facility. They would not add a new roadway where one does not already exist, nor would it substantially change accessibility to employment, shopping, or other destinations. Moreover, in the highly urbanized Los Angeles County, and the Gateway Cities COG Subregion in particular, there are few, if any, areas that can be classified as "inaccessible" and where providing access to them would result in substantial population, employment, or housing growth.

It is unclear what the commenter is referencing in regards to the "significant amount of vacant land" north of the project area. It is very possible that some vacant lands are not suitable for development for one reason or another (e.g., preserved open space, inaccessible topography, or unstable geology). Again, the presence of vacant land does not change the fact that the project does not offer new access that was not already present.

IP-24-76

Section 3.2, Growth, of the RDEIR/SDEIS indicated that improving the mobility on I-710 under the build alternatives "could have a slight influence on demand for residential and non-residential uses in the cities and communities in the Gateway Cities COG subregion; however, it would not be expected to be sufficient to result in the need to modify adopted General Plans to allow for greater levels of development (residential and non-residential)." Los Angeles County, the Gateway Cities COG subregion, and the communities within the Gateway Cities COG subregion are projected to continue to experience some growth in population and jobs even in the jurisdictions that are relatively constrained by limited land available for development, and this growth is projected to occur with or without the projects included in the RTP/SCS, including the I-710 Corridor Project build alternatives. Those growth rates have been quantified in the RTP/SCS. Because the first-cut growth screening (done in accordance with Caltrans' Guidance for Preparers of Growth-Related, Indirect Impact Analyses) indicated that the build alternatives would only have a slight influence on growth that was already forecast for the region, further analysis to quantify that minor effect was deemed not necessary.

IP-24-77

It is important to note that the conclusion noted does not state that the “slight influence on demand for residential and non-residential uses in the cities and communities in the Gateway Cities subregion” means that demand for these uses would increase under the build alternatives; it simply states that an influence could occur. This could simply mean that the places or timing of the use could be slightly shifted. For illustrative purposes, which means that an improved level of service and less queuing at a particular off-ramp may entice motorists to stop at a shopping center at that location more often or during their regular commute, whereas it may have been viewed as a less convenient option before any improvements were made to the I-710 Corridor under the build alternatives. However, this is still consistent with the overall conclusion of the analysis, which indicates that the build alternatives are would not be expected to influence the amount, timing, or location of growth that is already expected to occur without the build alternatives.

IP-24-78

As was stated in Section 1.2.2.1 of the RDEIR/SDEIS, a central purpose of the project is to accommodate both projected general traffic volumes as well as address increased traffic volumes resulting from projected growth in population, and employment and economic activities related to goods movement. The projected growth in population and in activities related to goods movement would be expected to occur with or without the build alternatives, just as continued growth in Port throughput has occurred relatively steadily since the Port complex began development in the early 1900s.

In response to this comment, the construction growth analysis contained in Section 3.24.3.2 has been augmented to better describe the rationale as to why no additional growth-related effects related to population and housing growth would occur as a result of construction of either build alternative.

IP-24-79

In response to this and the preceding comment, the construction growth analysis contained in Section 3.24.3.2 has been augmented to better describe the rationale as to why no additional growth-related effects related to population and housing growth would occur as a result of construction of either build alternative.

As stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, a local hire program will not be implemented.

IP-24-80

The information and mitigation measures for the build alternatives, provided in the RDEIR/SDEIS and related to relocations and displacements, comply with information required under the Caltrans

Standard Environmental References (SER) and the Caltrans' Right-of-Way Manual. Displacements that would result from the build alternatives have been identified as a significant and unavoidable impact under CEQA. As discussed in Section 3.3.2.4 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, all property acquisition and relocation would be handled in accordance with the Uniform Act of 1970 (Public Law 91-646, 84 Stat. 1894). The Uniform Act mandates that certain relocation services and payments by Caltrans be made available to eligible residents, businesses, and non-profit organizations displaced by its projects. The Uniform Act provides for uniform and equitable treatment by Federal or Federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no displacements.

IP-24-81

The commenter's concern regarding the displacement of the Long Beach Multi-Service Center is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and will not result in relocation of the Long Beach Multi-Service Center. Please refer to Section 1.5 of this appendix for further discussion of the Long Beach Multi-Service Center.

IP-24-82

The commenter's concerns regarding the displacement of the Long Beach Multi-Service Center is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and would not require relocation of the Long Beach Multi-Service Center.

As discussed in Section 3.3.3, Environmental Justice, of the RDEIR/SDEIS, the demographics of the populations in the immediate vicinity of the I-710 freeway are predominantly minority and low-income; therefore, most acquisitions resulting from the build alternatives would occur in environmental justice communities. However, with the application of standard mitigation via the Uniform Act, should a build alternative be selected as the Preferred Alternative, relocated persons and businesses would be compensated fairly and provided relocation assistance, and therefore, these relocations in and of themselves would not represent a disproportionate adverse impact to environmental justice populations. Section 3.3.3, however, does acknowledge that there may be disproportionate adverse impacts to environmental justice populations with regards to community cohesion, and applicable mitigation is proposed under the build alternatives. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no displacements.

IP-24-83

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS improperly defers analysis and requires revision and recirculation. Impacts related to the relocation of the Long Beach Multi-Service Center, and measures to reduce impacts, were considered and disclosed in the RDEIR/SDEIS. As discussed in Section 3.3.2, Relocations and Real Property Acquisition, Alternative 5C and Alternative 1 (the Preferred Alternative) would not require relocation of the Long Beach Multi-Service Center, whereas Alternative 7 would. The RDEIR/SDEIS analyzed relocation impacts under Alternative 7 and proposed measures to reduce impacts from displacement of the Long Beach Multi-Service Center. As discussed in Measure C-3, should a build alternative be selected as the Preferred Alternative, in compliance with the Uniform Act, the center would be relocated to an appropriate alternative location before the existing center would be demolished in order to reduce disruption of services. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, the Long Beach Multi-Service Center will not be displaced.

IP-24-84

The transitional housing noted in this comment would not be displaced under the Preferred Alternative (Alternative 1 No Build). However, an analysis of the displacement impacts under both build alternatives was included in Section 3.3.2 of the RDEIR/SDEIS. That analysis acknowledged the difficulties that would be involved in the relocation of all or portions of the Bell Shelter, and appropriate mitigation measures were proposed, should a build alternative be selected as the Preferred Alternative. Please also refer to Section 1.12 of this appendix for more detailed information. As discussed in Section 3.3.2.4 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, all property acquisition and relocation would be handled in accordance with the Uniform Act of 1970 (Public Law 91-646, 84 Stat. 1894). The Uniform Act mandates that certain relocation services and payments by Caltrans be made available to eligible residents, businesses, and non-profit organizations displaced by its projects. The Uniform Act provides for uniform and equitable treatment by Federal or Federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies.

As discussed in Section 3.3.2.1 of the RDEIR/SDEIS, Caltrans' Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons would not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, the transitional housing noted in this comment will not be displaced.

IP-24-85

Please refer to Response to Comment IP-24-82 regarding impacts to environmental justice populations.

IP-24-86

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS improperly defers analysis and requires revision and recirculation. Impacts related to the relocation of the Bell Shelter under the build alternatives, and measures to reduce those impacts, were considered and disclosed in the RDEIR/SDEIS. As discussed in Section 3.3.2, Relocations and Real Property Acquisition, Alternative 5C and Alternative 1 (which Caltrans has identified as the Preferred Alternative) would not require relocation of the Bell Shelter. Alternative 7 would require the relocation of the Bell Shelter. Although not identified as the Preferred Alternative, the RDEIR/SDEIS analyzed relocation impacts for Alternative 7 and proposed measures to reduce impacts from displacement of the Bell Shelter, should a build alternative be selected as the Preferred Alternative. As discussed in Measure C-4, should a build alternative be selected as the Preferred Alternative, in compliance with the Uniform Act, the shelter would be relocated to an appropriate alternative location before the existing center would be demolished in order to reduce disruption of services available at the center. However, as previously stated, Alternative 1 (No Build) was identified as the Preferred alternative and therefore the Bell Shelter would not require relocation.

IP-24-87

It is important to note that the conclusory statements provided are intended to be general and applicable to the build alternatives as a whole, but where caveats are necessary, they are cited. For most of the cities and communities within the project Study Area, comparable replacement housing was available at the time the *Draft Relocation Impact Report* (March 2017) was prepared. There were some specific exceptions that were appropriately disclosed. It is also important to note, should a build alternative be selected as the Preferred Alternative and, final design has been completed, and right-of-way acquisition has begun, real estate market conditions could be drastically different. The relocation impact studies intend to be representative of the most recent real estate information that is available at the time of preparation. Regardless of the market availability of comparable replacement housing, the provisions of the Uniform Act and any applicable State relocation laws and regulations would be followed, should a build alternative be selected as the Preferred Alternative. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no displacements or relocations.

IP-24-88

The conclusion that the build alternatives would not result in adverse public health effects as a result of relocations is supported by a finding that generally, the build alternatives would not result in isolation and/or segregation of residents without resources to relocate within their existing communities. It is the isolation from their existing communities that most frequently causes symptoms of stress related to relocations. Should a build alternative be selected as the Preferred Alternative, Caltrans would commit to relocating displaced persons within their existing neighborhoods wherever possible and feasible, in accordance with Measure C-1, outlined in more detail in Section 3.3.2.5 of this Final EIR/EIS. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no displacements or relocations.

IP-24-89

Because the specific timing of right-of-way acquisition was not known at the time the RDEIR/SDEIS was circulated for public review, and the specifics of the real estate market at a future time cannot be predicted with any reliability, the how, where and when regarding replacement housing similarly cannot be known. It would be highly speculative to identify a location for potential replacement housing purposes several years prior to actually acquiring a property. Therefore, the measures provided, should a build alternative be selected as the Preferred Alternative, would allow for flexibility in future commitments to relocate displaced persons to existing housing or last resort housing, if necessary, depending on the availability of comparable replacement housing at that specific time.

It is also important to note that the measures provided to address displacements and relocations resulting from the build alternatives do not intend to mitigate by way of preventing displacement. Unfortunately, some displacements of residents and businesses would be unavoidable in implementing 19 miles of freeway improvements under the build alternatives. Should a build alternative be selected as the Preferred Alternative, the proposed measures would intend to address, wherever possible, the disruption and impacts of relocating businesses and residents by providing relocation services and assistance, provision of payments and differentials where applicable, and other services as part of Caltrans' Relocation Assistance Program. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no displacements or relocations.

IP-24-90

As shown in Section 3.3.2.4, Tables 3.3-11 through 3.3-14 disclose the numbers of relocations that would be required by the build alternatives. As discussed in Section 3.3.2.4, the No Build Alternative (the Preferred Alternative) would not result in property acquisitions or relocations. Section 3.3.1.5 includes a discussion of public health considerations related to social cohesion,

which includes a discussion of anxiety and other mental health symptoms that could result from housing displacements and relocations under the build alternatives. As discussed in Section 3.3.2.5, should a build alternative be selected as the Preferred Alternative, Measures C-1 through C-5 would be implemented to address impacts related to relocations and real property acquisitions. Please also refer to Response to Comment IP-24-89. It is important to note that there is no requirement for Caltrans and Metro to study a version of the build alternatives that would eliminate residential displacements. However, as noted above, the No Build Alternative was analyzed in the EIR/EIS and would not result in property acquisitions or relocations. Some displacements would be unavoidable in implementing a build alternative for 19 miles of freeway improvements. Caltrans and Metro acknowledge the Motion 22.1 requirement for "Geometric design for the I-710 Freight Corridor (under Alternative 7 only) that eliminates significant impacts and displacements of homes, businesses, or community resources, such as but not limited to the Bell Shelter or Senior Centers, *and the implications of such a design on commuter and freight traffic demands; where significant impacts are unavoidable, provide documentation of the rationale and constraints*" [italics added]. That analysis was undertaken and is summarized in Section 3.3.2.3, Motion 22.1 Right-of-Way Avoidance Analysis, of the RDEIR/SDEIS, as well as included in full in Appendix T.

IP-24-91

Please refer to Response to Comment IP-24-89 regarding displacements. In response to this comment, Measure C-1 has been revised to include relevant information regarding California Government Code 7260-7277.

IP-24-92

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS is deficient and requires revision and recirculation. In accordance with the requirements of CEQA and NEPA, the RDEIR/SDEIS sufficiently describes and discloses the potential environmental effects of the proposed action, and proposes measures to address those effects. Although Caltrans makes every effort to avoid, minimize, and/or mitigate environmental impacts resulting from the build alternatives, in many cases the relocation of homes, business, and/or facilities would be unavoidable when implementing 19 miles of freeway improvements. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no displacements or relocations.

IP-24-93

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS fails to consider Motion 22.1 and requires revision and recirculation. The Metro Board of Directors passed Board Motion 22.1 in October 2015 that directed Metro and Caltrans to develop a geometric design for Alternative 7 that would avoid significant impacts and displacement of homes, businesses, and community

resources, such as, but not limited to, the Bell Shelter and Long Beach Multi-Service Center. It should be noted that Motion 22.1 did not provide for a similar requirement for Alternative 5C. Design refinements of the build alternatives to avoid or minimize impacts to existing land uses related to the temporary use and/or permanent acquisition of property have been ongoing since the start of project development. Please refer to Section 3.3.2.3 of this Final EIR/EIS, and Appendix T, Avoidance Concepts Applicable to Alternative 7, for more information on the development of Alternative 7 designs to avoid displacements as required in Motion 22.1. As discussed in further detail in Section 3.3 of this Final EIR/EIS, relocation impacts, including relocation of the Bell Shelter and Long Beach Multi-Service Center, would be unavoidable under Alternative 7 because of the larger footprint that would be required under this alternative, because of the separated freight corridor and the necessary space that would be required to provide adequate sight distance, curve radii, and grades for the ramps and other features associated with that new structure. The RDEIR/SDEIS does not fail to comply with the requirements of Motion 22.1 because alternatives to avoid displacements were considered, although found to be infeasible. Subsequent to public circulation of the RDEIR/SDEIS, Caltrans identified Alternative 1 (No Build) as the Preferred Alternative and therefore there will be no need to acquire right-of-way.

IP-24-94

As stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction will occur and a local hire initiative will not be implemented.

IP-24-95

Without knowing the specific funding sources from which construction funds would be drawn (should a build alternative be selected as the Preferred Alternative), it would be legally inadvisable for Metro or Caltrans to make a commitment within an EIR/EIS regarding local hire policies or procedures. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction will occur, and a local hire initiative will not be implemented.

IP-24-96

Caltrans acknowledges that minimal impacts and temporary construction impacts to air quality, greenhouse gases, and traffic resulting from the build alternatives may occur as a result of construction workers commuting to and from the project site. However, without knowing the specific funding sources from which construction funds would be drawn (should a build alternative be selected as the Preferred Alternative), it would be legally inadvisable for Metro or Caltrans to make a commitment within an EIR/EIS regarding local hire policies or procedures. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the

Preferred Alternative and therefore, no construction will occur, and a local hire initiative will not be implemented.

IP-24-97

Caltrans and Metro acknowledge that there is somewhat more flexibility in local and State funding than there is in Federal funding, given the previously mentioned statutes and regulations. For example, Metro employs a Project Labor Agreement hiring goals that target local hires for projects that rely entirely on local funding. However, until the funding sources for a build alternative are known, and should a build alternative be selected as the Preferred Alternative, Caltrans and Metro cannot commit to a specific segmenting or construction strategy, and a project as large as the I-710 Corridor Project build alternatives would likely have substantial Federal funding involved. Moreover, Metro Board Motions 5.1 and 5.2 provided further direction as to the initial stages ("Early Action Program", now called the Initial Construction Stages) of construction for the build alternatives, the details of which would also need to be taken into account when developing a construction strategy. In addition, the ability of Caltrans and/or Metro to employ targeted hiring also depends on the agency administering the construction contract. Currently, there are simply not enough details known about future construction and funding of the build alternatives to make the requested commitments. It is important to note that the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction will occur, and funding will be unnecessary.

IP-24-98

Similar to what is detailed in the Response to Comment IP-24-97, until the funding sources for the build alternatives would be known (should a build alternative be selected as the Preferred Alternative), it would be inappropriate for Caltrans and Metro to commit to a specific percentage or type of targeted hiring measure. The Trump Administration has reversed previous programs regarding the encouragement of innovative and flexible hiring policies and so it is difficult to foresee the legal landscape governing these regulations at the time a build alternative would approved and ready for construction (should a build alternative be selected as the Preferred Alternative). Additionally, should a build alternative be selected as the Preferred Alternative, Caltrans and Metro would continue to work with communities and interested groups through the bidding process and into construction to ensure that local communities would receive the greatest possible benefit from construction of either build alternative. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction will occur.

IP-24-99

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS is inadequate. Local and targeted hiring requirements, although a potential benefit to the construction workers who live in

communities wherein construction may occur (should a build alternative be selected as the Preferred Alternative), were not considered to be a feasible mitigation measure for two reasons: one, and as described above in previous responses, Caltrans and Metro could not commit to specific staging scenarios at the time the RDEIR/SDEIS was circulated for public review without known funding and therefore could not be relatively certain that any commitments made now regarding this issue would be fulfilled during construction of a build alternative (should a build alternative be selected as the Preferred Alternative); and two, it is unclear which impacts related to the build alternative local and targeted hiring would serve as a mitigation measure.

IP-24-100

Please note that per the language and requirements of Motion 22.1, the Local and Targeted Hiring Policy and Project Labor Agreement (PLA)/First Source Hiring Policy are intended to take place in parallel to the EIR/EIS process, not within the EIR/EIS process. Therefore, the adequacy of these separate documents has no bearing on the adequacy of the RDEIR/SDEIS.

IP-24-101

The commenter requests that the low-income and demographic information of the population be compared to national demographic statistics. The total number of Hispanic/Latino people in the U.S. in 2010 was 50,477,594 (U.S. Census Bureau). 55,199,107 is the 2012-2016 American Community Survey five-year estimate for Hispanic/Latino people in the US, or 17.3 percent of total U.S. population; 23,750,224 is the 2012-2016 American Community Survey five-year estimate for Hispanic/Latino people in the State of California, or 61.4 percent of the total California population (U.S. Census Bureau). This is compared to Los Angeles County (47.7 percent), as shown in the RDEIR/ SDEIS on p. 3.3-16. It is unclear how the determination of environmental justice populations would differ if the analysis had used nationwide demographic statistics in place of regional and State statistics. However, Caltrans and Metro maintain that the appropriate method of comparison is to regional and State statistics, in order to properly frame the analysis within the appropriate context, and respectfully disagrees that the assessment of disproportionate impacts to certain demographic groups are flawed.

IP-24-102

The environmental justice analysis was conducted in accordance with Caltrans' guidelines and procedures. The environmental justice analysis takes great care in identifying the minority and low-income populations that would be affected by both build alternatives. It then takes into account previously-identified impacts related to noise, traffic, community cohesion and relocations, visual impacts, hazardous waste, land use, and parks and recreation, makes a determination of disproportionate impacts on minority and low-income populations, and proposes mitigation for the build alternatives where appropriate. Because it is not known whether individual populations' vulnerability to pollution or other specific impacts is causal or correlative, this was

not taken into account in the analysis, as it is speculative. Therefore, the RDEIR/SDEIS does uphold Executive Order 12898 and its core principle of protecting environmental justice populations.

IP-24-103

Local medical conditions and sensitivities are difficult and costly to study and quantify, and the outcomes of the proposed health studies would be difficult to link solely to the presence of a freeway in the midst of a community when so many factors affect public health. The commenter is likely referring to a study with a similar scope as a Health Impact Assessment. A Health Impact Assessment (HIA) was not conducted for the project, as neither FHWA nor Caltrans currently has an approved methodology addressing the health impacts of freeways, and these types of assessments are an emerging practice in the transportation sector in the united States. Currently, State Departments of Transportation generally have not yet begun to implement HIAs or related tools for transportation planning, with some exceptions. For example, San Francisco's Department of Public Health has employed the use of HIAs in evaluating the health impacts of transportation projects. The State of Massachusetts passed a law requiring HIAs on new transportation projects, and at least one is known to be complete (the McGrath Highway Corridor HIA). In addition, Caltrans Division of Research and Innovation is actively investigating the use of HIAs for transportation planning and potential applicability to Caltrans projects.[7] However, it should also be noted that there are limitations associated with the preparation and use of Health Impact Assessments. According to an article published in 2000 in the British Medical Journal, "Currently there is neither an accepted gold standard nor even a simple, reliable, and evaluated method for carrying out health impact assessment" and "Several issues are unresolved in the methodology of health impact assessment…causal pathways are so complex that it is not often possible to say if an outcome will definitely be good or bad for the health of a population…The current evidence base for many health determinants is inadequate for accurately informing a process of assessment."[8] As a part of the build alternatives, Caltrans committed to setting up a Community Health Benefit program to promote public health to the extent feasible, specifically targeted at air quality and air pollution. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please

[7] Caltrans Division of Research and Innovation. Preliminary Investigation. 2011. Transportation-Related Use of Health Impact Assessments and Similar Tools. August 5, 2011. Website: http://www.dot.ca.gov/research/researchreports/preliminary_investigations/docs/public_health_preliminary_investigation_8-5-11_revised.pdf (accessed June 25, 2018).

[8] U.S. National Library of Medicine National Institutes of Health. Health Impact Assessment. May 20, 2000. Website: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1118057/ (accessed June 28, 2018).

refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

IP-24-104

Please also refer to Response to Comment IP-24-103 regarding the study of local medical conditions and sensitivities. Local disease rates and disease severities in relation to the build alternatives would be very difficult and costly to study. The article cited notes how difficult it is to pinpoint a single source, such as freeway pollution, as the cause of any given public health effect stating: “Differential response [to risk factors] can also flow from more complex social or physical factors or more than one interaction” (from *Expanding the Scope of Environmental Risk Assessment to Better Include Differential Vulnerability and Susceptibility*). There are multiple risk factors at play to increased incidence of any given disease in a population, such as diabetes or asthma. The potential disproportionate impacts of specific resource area to minority and low-income populations are analyzed in regard to the particular sensitivities of those populations within Section 3.3.3, Environmental Justice, of the Final EIR/EIS. This separate section ensures that the environmental justice-specific analyses remain distinct, and that several key resource areas are given special consideration with regard to environmental justice populations.

IP-24-105

This comment states that communities surrounding the I-710 Corridor are already overburdened with other industrial sources of pollution, and requests that the RDEIR/SDEIS analysis be revised to assess the cumulative impacts of these existing pollution sources in combination with the I-710 Corridor Project build alternatives. The Health and Historical Context section in Section 3.25.4.3, Community Impacts, of the RDEIR/SDEIS indicates that residents in the I-710 Corridor Study Area are affected by existing sources of air pollution. The air quality analysis in Section 3.13, Air Quality, of the RDEIR/SDEIS provides a comparison of the air quality impacts and health risks resulting from the build alternatives against the 2012 Baseline and 2035 No Build Alternative scenarios. The 2012 Baseline scenario reflects the fact that industrial sources of pollution currently exist along the I-710 Corridor. The 2035 No Build Alternative scenario reflects future conditions in which industrial pollution sources would continue to exist in the area. Because background air pollution is already captured in both scenarios, the air quality analysis in Section 3.13, Air Quality, of the RDEIR/SDEIS already represents a cumulative analysis that incorporates industrial and existing pollution sources. Refer to Responses to Comments IP-24-103 and IP-24-104 for additional information. It should also be noted that because operation and maintenance of the build alternatives would not introduce new sources of hazardous waste and materials and no new permanent impacts regarding hazardous waste and materials would not be anticipated, no adverse cumulative effects related to hazardous waste and materials would occur. Please also refer to Sections 3.25.3 and 3.12 of this Final EIR/EIS for further details.

IP-24-106

It is unclear from this comment the specific reasons why the commenter finds the previous responses to be inadequate. Please note that although Caltrans and Metro provided Responses to Comments on the Draft EIR/EIS in the RDEIR/SDEIS, they were not legally required to do so, as the entirety of the RDEIR/SDEIS was revised to evaluate the new suite of build alternatives. The environmental justice analysis contained in Section 3.3.3 of the RDEIR/SDEIS in particular has been substantially revised from what was previously included in the Draft EIR/EIS circulated for review in 2012. In addition, the cumulative analyses have been included in Section 3.25 of both the 2012 Draft EIR/EIS and the 2017 RDEIR/SDEIS. Because the I-710 freeway is an at-grade freeway, “freeway lids” are not a feasible design feature or mitigation measure, and would likely result in more impacts (such as visual impacts) than benefits.

IP-24-107

The AQ/GHG/HRA Technical Study provided a detailed description of the methodologies used to perform the air quality analyses for the proposed project in Appendices A through E. These methodologies were developed based on consultation with the Agency Air Technical Working Group (which includes SCAQMD, EPA, and CARB). As stated in Section ES.4 of the AQ/GHG/HRA Technical Study, the analysis goes beyond a typical EIR/EIS for transportation projects by (1) quantifying construction emissions for the build alternatives, (2) performing full dispersion modeling of ambient concentrations of criteria air pollutants near the I-710, (3) performing a full dispersion modeling and health risk assessment for the seven priority MSATs near the I-710, (4) evaluating (qualitative) the incremental impacts of ultrafine particulates, and (5) evaluating (qualitative) incremental particulate matter mortality and morbidity impacts.

Please refer to Responses to Comments IP-24-108 through IP-24-124 below for responses to specific comments on the air quality analysis.

IP-24-108

Caltrans and Metro both respectfully disagree that the air quality analysis provides insufficient details to allow the public and decisions-makers to understand how the build alternatives would impact air quality. Regional transportation conformity of the build alternatives was addressed in Section 3.13.3.1 of the RDEIR/SDEIS. Consistent with Caltrans and FHWA guidance, project-level air quality conformity is not required for approval of a Draft EIR/EIS and was not required to be included in the RDEIR/SDEIS. However, air quality conformity is required for project approval or funding. Some of the build alternatives analyzed in the 2012 Draft EIR/EIS assumed that ZE/NZE trucks would be commercially deployed and therefore in use in the corridor at the time the project would be built; however, at that point in project development the I-710 Corridor Project did not include a ZE/NZE truck program as a programmatic element. The assumption that the project was a project of air quality concern (POAQC) was carried forward in the RDEIR/SDEIS

even considering that the subsidy and deployment of ZE/NZE trucks was included as a programmatic element of Alternatives 5C and 7, which serves as a commitment that ZE/NZE trucks would be deployed in the corridor should a build alternative be approved and constructed. Subsequent to circulation of the RDEIR/SDEIS, the description of the I-710 Clean Truck Program was further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability (for more information, see Section 2.3.2.1, Common Features of the Build Alternatives, and Appendix W of this Final EIR/EIS).

While project analysis showed the I-710 Clean Truck Program would reduce diesel truck trips in the I-710 Corridor in 2035, extensive discussions with the EPA indicated that Alternatives 5C and 7 must be considered POAQCs mainly because EPA staff stated that the enforceability provisions of the I-710 Corridor Clean Truck program were not sufficient to ensure the projected reduction in 2035 diesel truck trips. Therefore, a hotspot analysis was required for project-level air quality conformity determination. Preliminary results of the hotspot analysis indicated that the two build alternatives would not pass project-level conformity for particulate matter, mostly because of increases in tire wear, brake wear, and entrained road dust, and would thus prevent a project-level conformity determination needed to approve a build project. Please refer to Section 1.4.1 of this appendix, Project Level Particulate Matter Conformity Analysis, for further discussion.

The AQ/GHG/HRA Technical Study also evaluated the Alternative 7-ZE Option in Appendix F. A detailed description of the methodology and results of the air quality, health risk, and greenhouse gas analysis of Alternative 7-ZE Option is also provided in Appendix F. The Alternative 7-ZE Option would have the same traffic and design features as Alternative 7, the only difference being that all ZE/NZE trucks travelling on the freight corridor in Alternative 7 would be assumed to be ZE trucks in the Alternative 7-ZE Option. ZE trucks were assumed to have zero tailpipe exhaust emissions. Therefore, the results of the air quality analysis for the Alternative 7-ZE Option provided estimates of potential reductions in exhaust emissions of CO, VOC, SO_2, $PM_{2.5}$, PM_{10} and greenhouse gas emissions associated with the implementation of ZE trucks on the freight corridor. However, while there would be some decreases seen in exhaust fractions of criteria air pollutants, the near-roadway incremental impacts of criteria air pollutants for Alternative 7 and Alternative 7-ZE Option were similar. Refer to Tables F-2-1a through F-4 and Tables F-5-1 through F-5-2 in Appendix F of the AQ/GHG/HRA Technical Study for further details.

IP-24-109

Selection of the CEQA baseline for the air quality analysis was discussed in the February 2017 Air Quality, Greenhouse Gas, and Health Risk Revised Protocol (Protocol), which was included as Appendix A of the AQ/GHG/HRA Technical Study. The CEQA baseline represents existing, current conditions, typically defined to be the conditions at the time the Notice of Preparation was released. In the Draft EIR/EIS, the CEQA baseline represented the project-specific conditions in

the year 2008 (the publication date for the NOP). However, because considerable time had based after the release of the NOP, a new CEQA baseline year (2012) was selected for the air quality analysis. The re-analysis for the RDEIR/SDEIS began in 2013, so a 2012 CEQA baseline year was chosen, consistent with State CEQA Guidelines.

IP-24-110

The AQ/GHG/HRA Technical Study discusses the CARB's Truck and Bus Regulation, the Pavley Standard, and the Ports' Clean Trucks Program as the primary drivers for the reductions in emissions seen in the 2035 project alternatives as compared to 2012 Baseline. The air quality analysis for the I-710 Corridor Project build alternatives do not presume to take credit for the large reductions in emissions; however, the analysis in the RDEIR/SDEIS does demonstrate that Alternatives 5C and 7 would provide additional NOx and DPM reductions, beyond the programs listed above.

IP-24-111

As stated in Response to Comment IP-24-110, the air quality analysis for the I-710 Corridor Project build alternatives do not presume to take credit for the large reductions in emissions that have been achieved due to State and Federal rules and regulations. Instead, the AQ/GHG/HRA Technical Study discusses the CARB's Truck and Bus Regulation, the Pavley Standard, and the Ports' Clean Trucks Program as the primary drivers for the reductions in emissions seen in the 2035 project alternatives as compared to 2012 Baseline (see Sections ES.5.1, ES.5.2, ES.6.1, 4.3.1, 4.3.3, and 5.2 of the AQ/GHG/HRA Technical Study). Further, the analyses also presents incremental comparisons of the 2035 build alternatives to the 2035 No Build Alternative for NEPA, which would exclude any reductions from State and Federal rules and regulations. The NEPA analysis can be used as a basis for comparing the build alternatives without taking account for reductions achieved due to State and Federal rules and regulations.

IP-24-112

Please also refer to Responses to Comments IP-24-110 and IP-24-111 for a discussion of emissions reductions from State and Federal rules and regulations. As stated in these responses, the air quality analysis does not take credit for emissions achieved due to State and Federal rules and regulations. Instead, the air quality analysis acknowledges CARB's Truck and Bus Regulation, the Pavley Standard, and the Ports' Clean Trucks Program as the primary drivers for the reductions in emissions seen in the 2035 project alternatives as compared to 2012 Baseline. Further, the analyses also presents incremental comparisons of the 2035 build alternatives to the 2035 No Build Alternative for NEPA, which would exclude any reductions from State and Federal rules and regulations. The NEPA analysis can be used as a basis for comparing the build alternatives without taking account for reductions achieved due to State and Federal rules and regulations.

IP-24-113

Caltrans and Metro respectfully disagree that the CEQA baseline fails to accurately depict the I-710 Corridor Project's air quality impacts. As discussed in Response to Comment IP-24-109, the CEQA baseline for the air quality analysis, including the greenhouse gas analysis, was selected as 2012. Selection of the CEQA baseline for the air quality analysis was discussed in the February 2017 Air Quality, Greenhouse Gas, and Health Risk Revised Protocol (Protocol), which was included as Appendix A of the AQ/GHG/HRA Technical Study. The CEQA baseline represents existing, current conditions, typically defined to be the conditions at the time the Notice of Preparation was released. In the Draft EIR/EIS, the CEQA baseline represented the project-specific conditions in the year 2008 (the release date for the NOP). However, because considerable time had based after the release of the NOP, a new CEQA baseline year (2012) was selected for the air quality analysis. The re-analysis for the RDEIR/SDEIS began in 2013, so a 2012 CEQA baseline year was chosen, consistent with State CEQA Guidelines. Further, as discussed in Response to Comment IP-24-111, the analyses also presents incremental comparisons of the 2035 build alternatives to the 2035 No Build Alternative for NEPA, which would exclude any reductions from State and Federal rules and regulations. The NEPA analysis can be used as a basis for comparing the build alternatives without taking account for reductions achieved due to State and Federal rules and regulations.

IP-24-114

As stated in Section 7 of Appendix C of the AQ/GHG/HRA Technical Study, the 24.64 percent in I-710 heavy-heavy-duty truck vehicle miles travelled on the I-710 for Alternative 5C was developed using a select link analysis performed through the I-710 Traffic Model. The basis for the assumption used in the analysis was that 4,000 ZE/NZE trucks would be funded through the I-710 Zero Emission Truck Technology Development Program, which has been included as a programmatic element of the description of both build alternatives. The program has been updated to the I-710 Clean Truck Program in the Final EIR/EIS. Based on 2035 travel demand projections for the dedicated freight corridor included as part of Alternative 7, it is estimated that up to 18,350 ZE/NZE vehicles would be required for Alternative 7.

Should a build alternative be selected as the Preferred Alternative, Metro and Caltrans would commit to executing the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program). Details of that program have been developed beyond what was included in the RDEIR/SDEIS, and have been included in Section 2.3.2.1 of this Final EIR/EIS. Coordination with SCAQMD staff has been ongoing (see Chapter 5.0, Comments and Coordination, for more detailed information). The goal of this coordination was to reach an agreement (to be documented before the ROD is issued) with SCAQMD on program details such as governance structure, administrative responsibilities, funding level commitments, and partnering arrangements, should a build

alternative be selected as the Preferred Alternative. In April 2020, the Metro Board of Directors programmed $50 million in Metro-controlled funds to provide funding for the initial deployment of the I-710 Clean Truck Program and to leverage the remaining funds required for full program implementation. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-24-115

The basis for determining ZE/NZE emission factors is presented in detail in Section 7 of Appendix C to the AQ/GHG/HRA Technical Study. The emission factor and fuel type for ZE/NZE trucks was determined through discussions with SCAQMD, CARB, and engine manufacturers. The air quality analysis conservatively assumed that all ZE/NZE trucks would be NZE. NZE trucks would be non-diesel (as diesel trucks have not been able to meet the California Air Resource Board's [CARB] low-NO_X standard of 0.02 gm/bhp-hr).

IP-24-116

Please also refer to Response to Comment IP-24-115 regarding the basis for determining ZE/NZE emission factors. In Alternative 5C and Alternative 7, a portion of the truck traffic was assumed to be ZE/NZE trucks. The air quality analysis conservatively assumed that all ZE/NZE trucks would be NZE, which would reduce DPM to zero and NO_X emissions by 90 percent compared to conventional heavy-duty trucks (conventional HDT include light heavy-duty trucks, medium heavy-duty trucks, and heavy heavy-duty trucks). For more information regarding the ZE-only option, please refer to Section 1.3 of this appendix.

IP-24-117

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS requires recirculation once the project-level particulate matter conformity analysis is completed. Please refer to Response to Comment IP-24-108.

IP-24-118

Some measures related to air quality have been refined in response to this and other comments. Please refer to the following Responses to Comments IP-24-119 through IP-24-123.

IP-24-119

Please refer to Responses to Comments IP-24-120 and IP-24-121 below for specific responses to mitigation measure language for Measures CON-AQ-15 (Tier 4 construction equipment) and CON-AQ-17 (alternative fuel and electric construction equipment).

IP-24-120

The build alternatives propose Measure CON-AQ-15 which was drafted in a manner that would ensure it is both enforceable and consistent with Caltrans' and Metro's contract bid requirements and procedures, given that it was not known at the time the RDEIR/SDEIS was circulated for public review which agency may eventually administer the construction contract for either build alternative, should a build alternative be selected as the Preferred Alternative. Therefore, some flexibility was retained accordingly in the wording of the measure. It is important to note that some, but not all Tier 4 equipment is commercially available at the present time, and it is currently unknown if and when all Tier 4 equipment necessary to construct a build alternative may be available in the future. Therefore, in order to ensure that the referenced measure is feasible and enforceable, the text of the measure has not been revised. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction will occur and Measure CON-AQ-15 will not be implemented.

IP-24-121

In response to this and other comments, Measure CON-AQ-17 has been refined to include more specificity where possible, adjust measures that would be more appropriate at a program level, or remove those that would not be feasibly or legally enforceable by Caltrans.

IP-24-122

In response to this and other comments, Measure AQ-3 has been revised to include more specificity regarding the timing, design, and implementation of these solid barriers and/or vegetation buffers. Please refer to the revised Measure AQ-3 included in Section 3.13.4 of this Final EIR/EIS.

IP-24-123

It is important to note that since a build alternative has not been selected as the Preferred Alternative, the I-710 Clean Truck Program, which was a programmatic element of the build alternatives, will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. However, the assumptions of truck levels to be funded by the Program (should a build alternative be selected as the Preferred Alternative) were incorporated into the analyses performed in support of the RDEIR/SDEIS. Please also refer to Response to Comment IP-24-114. The funding levels that were included in the RDEIR/SDEIS provided for the program under each build alternative were determined in consultation with SCAQMD and CARB. Finally, information on the manner in which the ZE/ZNE trucks provided by the program would be required to remain within the I-710 Corridor was included in Section 2.3.2.1 of the RDEIR/SDEIS. Essentially, in order to qualify for and retain program funding, trucks would

have to meet minimum requirements for travel on the I-710 mainline each year, should a build alternative be selected as the Preferred Alternative.

IP-24-124

It is unclear from this comment the specific reasons why the commenter finds the previous responses to be inadequate. Please note that although Caltrans and Metro provided Responses to Comments on the Draft EIR/EIS in the RDEIR/SDEIS, they were not legally required to do so, as the entirety of the RDEIR/SDEIS was revised due to the new suite of build alternatives. A zero emission freight corridor option (Design Option 7-ZE) was evaluated in the RDEIR/SDEIS; however, it was not identified as part of the Preferred Alternative. Please refer to Section 1.1 of this appendix for more information about the identification of the Preferred Alternative.

IP-24-125

The basis for determining ZE/NZE emission factors is presented in detail in Section 7 of Appendix C to the AQ/GHG/HRA Technical Study. The emission factor and fuel type for ZE/NZE trucks was determined through discussions with SCAQMD, CARB, and engine manufacturers. The air quality analysis conservatively assumed that all ZE/NZE trucks would be NZE. NZE trucks would be non-diesel (diesel trucks have not been able to meet CARB's optional low-NO_X standard of 0.02 gm/bhp-hr), which would reduce DPM to zero and NO_X emissions by 90 percent compared to conventional heavy-duty trucks (conventional HDT including light heavy-duty trucks, medium heavy-duty trucks, and heavy heavy-duty trucks). Further and consistent with the CARB's EMFAC2014 emission factor program, it was conservatively assumed in the air quality analysis that NZE trucks would not reduce in any other criteria air pollutant or greenhouse gas emissions as compared to a conventional heavy-duty truck. Additionally, no credit was taken for further tailpipe reductions for pure ZE trucks.

The AQ/GHG/HRA Technical Study also evaluated the Alternative 7-ZE Option in Appendix F. The Alternative 7-ZE Option would have the same traffic and design features as Alternative 7, the only difference being that all ZE/NZE trucks travelling on the freight corridor in Alternative 7 were assumed to be ZE trucks in the Alternative 7-ZE Option. ZE trucks were assumed to have zero tailpipe exhaust emissions. Therefore, the results of the air quality analysis for the Alternative 7-ZE Option provided estimates of potential reductions in exhaust emissions of CO, VOCs, SO_2, $PM_{2.5}$, PM_{10} and greenhouse gas emissions associated with the implementation of ZE trucks on the freight corridor. However, while there would be some decreases seen in exhaust fractions of criteria air pollutants, the near-roadway incremental impacts of criteria air pollutants for Alternative 7 and Alternative 7-ZE Option would be similar. Refer to Tables F-2-1a through F-4 and Tables F-5-1 through F-5-2 in Appendix F of the AQ/GHG/HRA Technical Study for further details.

IP-24-126

The statement cited in the comment is accurate. The RDEIR/SDEIS focused on the build alternatives, Alternative 5C and Alternative 7. Both 2035 build alternatives would result in a negligible increase in greenhouse gas emissions when compared to the 2035 No Build Alternative. Specifically, when compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one million.

An additional analysis was performed as part of the AQ/GHG/HRA Technical Study for the Alternative 7-ZE option, which included greenhouse gas emission reductions for ZE trucks. The Alternative 7-ZE Option has the same traffic and design features as Alternative 7, the only difference being that all ZE/NZE trucks travelling on the freight corridor in Alternative 7 were assumed to be ZE trucks in the Alternative 7-ZE Option. The results of the greenhouse gas emission analysis for Alternative 7-ZE are presented in Tables F-5-1 and F-5-2 in Appendix F of the AQ/GHG/HRA Technical Study. These results are reiterated in the first paragraph on p. 4-77 (Section 4.3.4.1) of the RDEIR/SDEIS, which states that the Alternative 7-ZE Option would decrease greenhouse gas emissions by approximately 1.3 million metric tonnes of CO_2e for as compared to Alternative 7.

IP-24-127

The CEQA baseline for the air quality analysis, including the greenhouse gas analysis, is 2012. Selection of the CEQA baseline for the air quality analysis was discussed in the February 2017 Air Quality, Greenhouse Gas, and Health Risk Revised Protocol (Protocol), which was included as Appendix A of the AQ/GHG/HRA Technical Study. The CEQA baseline represents existing, current conditions, typically defined to be the conditions at the time the Notice of Preparation was released. In the Draft EIR/EIS, the CEQA baseline represented the project-specific conditions in the year 2008 (the release date for the NOP). However, because considerable time had based after the release of the NOP, a new CEQA baseline year (2012) was selected for the air quality analysis. The re-analysis for the RDEIR/SDEIS began in 2013, so a 2012 CEQA baseline year was chosen, consistent with State CEQA Guidelines. In addition, the term “2012 Baseline” was used several times within Section 3.13, Air Quality, and Chapter 4.0, CEQA Evaluation, of the RDEIR/SDEIS, for clarity regarding the year used as the CEQA baseline.

IP-24-128

The discussion of greenhouse gas emissions and climate change in Chapter 4, CEQA Evaluation, has been updated to provide a CEQA significance determination for greenhouse gas emissions. It is important to note that Caltrans does not employ standardized thresholds of significance. Please refer to Response to Comment IP-24-140 for further information regarding thresholds of significance under CEQA.

IP-24-129

Please refer to Response to Comment IP-24-128 regarding CEQA significance determinations. The Environmental Commitments Record, included as Appendix F to this Final EIR/EIS, serves as the Mitigation Monitoring and Reporting Record in accordance with CEQA. Therefore, any avoidance, minimization, and/or mitigation measure listed therein, even if not considered CEQA-specific mitigation, would be enforceable under CEQA should a build alternative be selected as the Preferred Alternative.

IP-24-130

As stated in Response to Comment IP-24-126, the first paragraph on p. 4-77 (Section 4.3.4.1) of the RDEIR/SDEIS, which states that the Alternative 7-ZE Option would decrease greenhouse gas emissions by approximately 1.3 million metric tonnes of CO_2e as compared to Alternative 7. It is acknowledged that, as guidance to lead agencies, the SCAQMD has established CEQA significance criteria. However, regional significance thresholds, such as those from SCAQMD, do not apply to Caltrans projects unless adopted as a regulation. Although Caltrans has not adopted the SCAQMD's thresholds, the RDEIR/SDEIS did include discussion of the SCAQMD CEQA significance thresholds. Because CEQA thresholds are not applicable to the NEPA analysis, Section 3.13, Air Quality, presented the SCAQMD's CEQA significance criteria for information purposes only. The air quality analysis for CEQA was provided in Chapter 4.0, CEQA Evaluation, of the RDEIR/SDEIS. As discussed in Chapter 4.0 of the RDEIR/SDEIS, while Caltrans has not adopted them, the SCAQMD CEQA significance thresholds were considered in the CEQA analysis and mitigation for significant impacts as a result of the build alternatives was considered. However, the 10,000 MT CO_2e per year significance criteria cited in the comment is for industrial facilities and does not apply to transportation projects such as the I-710 Corridor Project build alternatives.

IP-24-131

Federal regulations governing reduction of greenhouse gas emissions are discussed in Section 4.4.1.1 of this Final EIR/EIS. As discussed in this section, no national standards have been established for nationwide mobile-source greenhouse gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse

gas emissions reduction at the project level. However, NEPA requires Federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project. Section 4.4.1.1 also details other Federal regulations governing reduction of greenhouse gas emissions.

Greenhouse gas emissions were analyzed in the AQ/GHG/HRA Technical Study, as well as updated in Section 4.4, Climate Change, of this Final EIR/EIS. Traffic-related greenhouse gas emissions for the NEPA analysis are presented in Table 4-10 of the AQ/GHG/HRA Technical Study and in Table 4.3-3 of this Final EIR/EIS. The percent of change between the build alternatives and 2035 Alternative 1 (No Build) would be less than 0.5 percent for all greenhouse gases.

IP-24-132

The commenter is referring to comments made on the Draft EIR/EIS circulated for review in 2012 which analyzed alternatives no longer under consideration, and requests a lifecycle greenhouse gas emissions analysis for the project. It should be noted that there is no current accepted methodology for this type of analysis, and major gaps exist in current knowledge regarding lifecycle analysis, particularly the lack of well-validated and calibrated models.[9] The greenhouse gas analysis included in Section 4.3.1 of Chapter 4.0, CEQA Evaluation, has been updated in accordance with Caltrans guidance, and a CEQA significance determination for greenhouse gas emissions has been provided in Section 4.2.2.6 of this Final EIR/EIS. Per Caltrans guidelines, although Federal laws related to climate change and greenhouse gases are presented in Section 4.3.1.1 to provide a framework for understanding the ensuing discussion and analysis, the discussion of greenhouse gas and climate change is a CEQA analysis rather than a NEPA analysis. This is because, per Section 3.13.4 of the Final EIR/EIS, at the time of preparation of this document, neither the U.S. EPA nor FHWA had issued explicit guidance or methods to conduct project-level greenhouse gas analysis, and because requirements have been set forth in California legislation and State executive orders on climate change, the issue is addressed in the CEQA discussion contained in Chapter 4.0. It should be noted that the information provided in the CEQA analysis may be used to inform the NEPA decision for the project.

IP-24-133

The Energy section of this Final EIR/EIS was completely revised to analyze the energy use from ZE and NZE trucks based on the CARB's LCFS regulations that include two factors (Energy

[9] National Center for Sustainable Transportation and the Institute of Transportation Studies. 2015. The Role of Life Cycle Assessment in Reducing Greenhouse Gas Emissions from Road Construction and Maintenance. July. Website: https://ncst.ucdavis.edu/wp-content/uploads/2014/08/07-06-2015-NCST_Reducing-GHG-in-Road-Construction-FINAL.pdf (accessed July 26, 2017).

Economy Ratio (EER) and Energy Density) to describe the relative energy consumption of electrically-powered trucks compared to diesel and gasoline powered trucks.

IP-24-134

The Energy analysis calculated the gasoline, diesel, and diesel-equivalent consumption for all build alternatives. However, instead of making three comparisons (gasoline consumption, diesel consumption, and energy consumed to power the ZE and NZE trucks), a uniform metric to represent the overall energy consumption for each build alternative was calculated by converting the fuel and energy consumption rates into British thermal units (BTUs). Thus, this total BTU energy consumption rate for each build alternative can be directly compared.

IP-24-135

Refer to Response to Comment IP-24-133 regarding energy use from ZE and NZE trucks. The energy use of ZE and NZE trucks were appropriately accounted for by using CARB's LCFS regulations that include two factors (Energy Economy Ratio (EER) and Energy Density).

IP-24-136

The energy impacts from construction of the build alternatives were included as described in Section 3.15.3.2, "As described in the *I-710 Corridor Project Revised Final Energy Technical Report* (December 2020) this analysis was conducted using the Input-Output Method. This method converts VMT, construction, and maintenance costs into energy consumption based on existing data from other road improvement projects in the United States using conversions listed in the *California Department of Transportation (Caltrans) Energy and Transportation Systems Handbook* (July 1983)." As cited, this analysis is in accordance with Caltrans' standard guidelines outlined in the Standard Environmental Reference.

IP-24-137

As described in Section 3.15.4, "As described in Sections 3.15.3.2 and 3.15.3.3, the total indirect energy impacts of the build alternatives would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the build alternatives' total impact to regional energy supplies would be minor, neither of the build alternatives would conflict with California's energy conservation plans as described in the CEC's 2015 Integrated Energy Policy Report." As there would be no significant impacts resulting from the build alternatives, there would be nothing to mitigate. The measures included would avoid or minimize the already less-than-significant impacts, should a build alternative be selected as the Preferred Alternative. However, in response to this comment, in order to make these measures more enforceable, the language has been altered to indicate that the plans outlined in Measures

E-1 through E-3 will be prepared *and implemented*, including incorporation into the project Plans, Specifications, and Estimates where applicable.

IP-24-138

As discussed in Section 3.9.3.1, should a build alternative be selected as the Preferred Alternative, the selection of operational BMPs would be refined during final design and would include design pollution prevention BMPs, low impact development (LID) BMPs, treatment BMPs, and maintenance BMPs. Existing Los Angeles River drainage outlets would be maintained in their existing location whenever hydraulically feasible and when not impacted by the improvements proposed under the build alternatives. Proposed treatment BMPs would include biofiltration swales, media filters, infiltration/detention basins, and wet basins, as well as gross solids removal devices where feasible. The updated locations of major drainage facilities for Alternative 5C can be found on Figure 2.3-8 in Chapter 2.0, Project Alternatives, of this Final EIR/EIS. The introduction of treatment BMPs as part of Alternative 5C would represent an improvement when compared to the No Build condition, as there currently are 60 Caltrans-maintained BMPs treating freeway runoff on I-710. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, these BMPs will not be implemented.

As discussed in Section 3.24.3.9, the primary impact locations during construction of either build alternative with the greatest risk to water quality would be areas at or adjacent to the highway and stormwater discharge points. This would include working on structures that would be located within the Los Angeles River channel.

IP-24-139

It is unclear from this comment the specific reasons why the commenter finds the previous responses to be inadequate. Please note that although Caltrans and Metro provided Responses to Comments on the Draft EIR/EIS in the RDEIR/SDEIS, they were not legally required to do so, as the entirety of the RDEIR/SDEIS was revised due to the new suite of build alternatives. As shown in Section 3.9.2.3, Table 3.9-2 presents approved TMDLs and TMDLs being developed for water bodies affected by the build alternatives. Trash and bacterial pollutants are included in the TMDLs. As discussed in Section 3.9.4, should a build alternative be selected as the Preferred Alternative, Measures WQ-1 through WQ-3 would be implemented to address impacts related to short-term construction-related impacts on water quality. Compliance with standard requirements and permits listed in Section 3.24.4.9 would also minimize short-term, construction-related impacts on water quality resulting from the build alternatives.

IP-24-140

The noise analysis was done in accordance with State and Federal standards as described in the Caltrans Traffic Noise Analysis Protocol, which presents Caltrans policies and procedures for traffic noise studies in conformance with 23 CFR 772. This analysis is presented in Section 3.14, Noise, of this Final EIR/EIS. The CEQA analysis for noise is contained in Chapter 4.0, CEQA Evaluation. Through the course of the noise analysis, all noise-sensitive land uses were identified and taken into consideration, as described in Section 3.14.2, Affected Environment. Wherever noise impacts resulting from the build alternatives were identified, noise abatement was considered, and noise abatement that was determined to be acoustically feasible and reasonable has been recommended for implementation, should a build alternative be selected as the Preferred Alternative. Please note that as indicated in Section 4.2.3.6 of the Final EIR/EIS, because the Protocol defines a noise increase as "substantial" when the predicted noise levels under build conditions exceed existing noise levels by 12 dBA, that increase is considered the "substantial permanent increase" per CEQA Checklist question XII.C. It should be noted that for all resources, including traffic noise, Caltrans does not employ thresholds of significance, and the ultimate determination of significance under CEQA is made by the Project Development Team. Although individual cities may utilize a different criteria and possibly even a formal threshold under CEQA, Caltrans is not under a legal obligation to take those into account. However, Caltrans does require construction contractors to comply with all applicable local noise ordinances. Currently, because of the configuration and location of the build alternatives, abatement in the form of soundwalls would be the only noise abatement method that is considered feasible, reasonable, and practical, should a build alternative be selected as the Preferred Alternative. Caltrans and Metro both respectfully disagree that the noise analysis contained in the RDEIR/SDEIS is inadequate.

IP-24-141

In performing the analysis contained within the RDEIR/SDEIS as well as the 2012 Draft EIR/EIS, Caltrans has followed State and Federal requirements promulgated in the Traffic Noise Analysis Protocol. Caltrans does not have sole authority to alter analysis procedures or policy requirements, including allocation of funds for soundproofing. Additionally, the RDEIR/SDEIS evaluated a new set of build alternatives that differed, in some cases substantially, from those analyzed in the 2012 Draft EIR/EIS, and in many cases, comments made on the Draft EIR/EIS were no longer applicable as they referred to alternatives no longer under consideration. Caltrans and Metro both respectfully disagree that the EIR is insufficient.

IP-24-142

Air Mitigation

As discussed in Section 3.13 of the RDEIR/SDEIS, and as shown in the maps and plots provided in Appendix Q, the build alternatives would improve air quality and reduce public health risk in the

Basin and the I-710 Area of Interest. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be some near-roadway locations where there would be an increase in emissions. Alternative 5C would have the fewest areas with these near-roadway impacts. The near-roadway impacts would be generated by the on-road vehicles, the emissions of which would be controlled by CARB and EPA. Programmatic features to fund ZE/NZE trucks and provide a grant program to fund projects that would improve air quality and public health in the I-710 Corridor have been included in both build alternatives. Additionally, should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 (Section 3.13.4) would commit to minimize exposure to air emissions. These measures are based upon the CARB technical advisory Strategies to Reduce Air Pollution Exposure Near High Volume Roadways (California Environmental Protection Agency/Air Resources Board, April 2017). While the timing is not specified, Measure AQ-2 (Section 3.13.4) would commit to providing air filtration systems for any schools within 0.25 mile of I-710 that currently lack adequate air filtration systems. In response to this and other comments, Measure AQ-2 has been revised to indicate that the installation of filtration systems would occur prior to the start of construction, should a build alternative be selected as the Preferred Alternative. It is important to note that since a build alternative has not been selected as the Preferred Alternative, the programmatic elements included as part of the build alternatives and Measures AQ-2 and AQ-3 will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

Noise Mitigation

Should a build alternative be selected as the Preferred Alternative, Caltrans would commit to implementing measures to address noise impacts during construction; however, because a specific construction schedule could not be identified at the time the RDEIR/SDEIS was circulated for public review, it was not possible to estimate what the annual budget would be to implement these measures. Should a build alternative be selected as the Preferred Alternative, construction would comply with all of Caltrans' standard specifications for the abatement of noise during construction. Should a build alternative be selected as the Preferred Alternative, time scheduling of activities would be implemented to minimize noise impacts on exposed areas and local activity patterns and surrounding land uses would be considered in establishing site curfews. Although the No Build Alternative has been selected as the Preferred Alternative, new construction avoidance/minimization measures regarding the preparation and implementation of construction noise monitoring/control plans for the build alternatives have been added to Section 3.24.4.14 of this Final EIR/EIS.

Free Public Transit Program

With regard to the free transit program, as stated in Measure CON-TR-1 (Section 3.24.4.5), should a build alternative be selected as the Preferred Alternative, to be consistent with the Caltrans Complete Intersections Guide: A Guide to Reconstructing Intersections and Interchanges for Bicycles and Pedestrians (2010), the TMP would consider the short-term project

effects on all travel modes including pedestrians, bicyclists, and transit users to minimize closures and the effects of temporary detours on those travelers. The TMP would include public outreach, including information on current and upcoming project construction activities, lane and other closures, detours, and other information to assist residents, students, visitors, and business patrons to more effectively travel around and in the vicinity of active construction areas. Additionally, should a build alternative be selected as the Preferred Alternative, Measure CON-TR-3 would stipulate that Caltrans and Metro would work with area transit operators to implement a Transit Subsidy Program that would provide discounted transit fares in areas impacted by construction as well as performing outreach and marketing to incentivize use of transit during construction periods. It is important to note that since a build alternative has not been selected as the Preferred Alternative, Measures CON-TR-1 and CON-TR-3 will not be implemented.

Independent Third-Party Monitor

There is no rationale for an independent third-party to monitor proposed mitigation measures beyond the agencies and entities that already would be charged with monitoring the implementation of mitigation measures (should a build alternative be selected as the Preferred Alternative), as is described in the Environmental Commitments Record (Appendix F). As on any of its construction projects, should a build alternative be selected as the Preferred Alternative, Caltrans would rigorously adhere to the mitigation commitments adopted as part of the Final EIR/EIS. However, rather than an independent third party monitor, the responsibility to monitor the implementation of these commitments would be by the Resident Engineer for the project, supported by a variety of technical specialists who have the expertise to verify compliance by the construction contractor. Each mitigation measure and the Environmental Commitments Record describe the agencies/entities that would be responsible for monitoring mitigation measure implementation.

Conduct Health Study

Numerous studies have been conducted by a variety of public health agencies and research institutions that correlate the adverse health effects that result from inhalation of DPM and other emissions, whether they come from construction or operation of a freeway. We also note that Gateway Cities COG has produced a Community Medical Needs Assessment as part of its Air Quality Action Plan (AQAP). Also, as described in more detail in Section 2.3.2, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. Please refer to Section 1.14 of this appendix for more information on the Community Health Benefit Program. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

Community Outreach Program

Because a specific construction schedule could not be identified at the time the RDEIR/SDEIS was circulated for public review, it was not reasonable to stipulate what the annual budget would be to implement this measure or the content of the outreach. However, should a build alternative be selected as the Preferred Alternative, Caltrans would provide for ongoing community outreach during construction. Measures CON-LU-2 (creation of public field offices during construction), CON-TR-1 (Transportation Management Plan), and CON-TR-3 (outreach and marketing to incentivize transit use during construction) would provide for outreach during construction. Please refer to Section 3.24.4 for more detail on each of these measures. However, since a build alternative has not been selected as the Preferred Alternative, Measures CON-LU-2, CON-TR-1, and CON-TR-3 will not be implemented.

Job Training and Local Hire Program

Since a build alternative has not been selected as the Preferred Alternative, no construction will occur, and a local hire program will be unnecessary.

Minority, Women, and Small Business Utilization and Retention Program

Since a build alternative has not been selected as the Preferred Alternative, no construction will occur and a Minority, Women, and Small Business Utilization and Retention Program will be unnecessary.

Use of Power Grid for Electric Motors

Should a build alternative be selected as the Preferred Alternative, construction would comply with all of Caltrans' standard specifications for construction, mandatory measures per other agency regulations (e.g., compliance with SCAQMD measures), and all construction mitigation measures identified in Section 3.24 of this Final EIR/EIS.

Use of ZE Technology where Available

Should a build alternative be selected as the Preferred Alternative, Measure CON-AQ-15 would require that construction equipment used during construction meet equivalent emissions performance to that of United States Environmental Protection Agency (EPA) Tier 4 standards and California Air Resources Board (CARB) requirements for non-road engines, depending on the responsible agency that would administer the construction contract and the availability of construction equipment compliant with these standards. Should a build alternative be selected as the Preferred Alternative, if Metro would administer the construction contract, then Metro's Green Construction Policy would be utilized.

Measure CON-AQ-15 was drafted in a manner that would ensure it would be both enforceable and consistent with Caltrans' and Metro's contract bid requirements and procedures, given that it was not known at the time the RDEIR/SDEIS was circulated for public review which agency would eventually administer the construction contract for either of the build alternatives. Therefore, some flexibility was retained accordingly in the wording of the measure. It is important to note that some,

but not all Tier 4 equipment is commercially available at the present time, and it is currently unknown if and when all Tier 4 equipment necessary to construct a build alternative would be available in the future. Therefore, in order to ensure that the referenced measure is feasible and enforceable, the text of the measure has not been revised. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction will occur and Measure CON-AQ-15 will not be implemented.

IP-24-143

A comprehensive construction staging strategy had not been developed for the build alternatives at the time the RDEIR/SDEIS was circulated for public review; although the Metro Board of Directors, in its Metro Board Motion 5.2, defined general priorities for construction of the build alternatives. However, based on its extensive experience with highway construction projects, Caltrans has made a best effort to disclose the potential and reasonably foreseeable construction impacts of the build alternatives, which are outlined in Section 3.24, Construction Impacts. Both potential impacts to the environment as well as potential impacts to the community are outlined within that section, which includes potential construction impacts from the build alternatives to each resource area also discussed in Chapter 3.0 of the RDEIR/SDEIS. In addition, the RDEIR/SDEIS outlined a general description of the highway improvement process in Section 3.24.1.1 wherein typical construction worksite characteristics, construction sequences, pre-construction activities, mobilization and site preparation, traffic control, earthwork, structures work, pavement work, and finishes were described. Section 3.24.2 outlined construction impacts typical to roadway and highway projects, and each individual resource area section outlined the construction impacts of the build alternatives specific to that resource. It is difficult to tell from the comment what the commenter specifically feels is inadequate.

IP-24-144

Specific construction details were not known at the time the RDEIR/SDEIS was circulated for public review. Specific information has been provided regarding business relocations in Section 3.3, Community Impacts. Specifically, Table 3.3-11 tabulates the non-residential (or business) relocations by build alternative. It was assumed that relocations would not occur solely as a result of construction activities of the build alternatives.

IP-24-145

There is a reference in the RDEIR/SDEIS to Appendix B, Section 4(f) Evaluation, for more information regarding Cesar E. Chavez Park and impacts to it. Appendix B states that during construction of Alternative 5C and Alternative 7, approximately 19 acres of Cesar E. Chavez Park would be required for a TCE. Temporary occupancy of 0.41 acre of land for a detour road in the park during construction of realigned Broadway would also be required. In addition, should a build alternative be selected as the Preferred Alternative, portions of Cesar E. Chavez Park may be

temporarily closed to public access to protect the safety of park users and construction workers. The closed areas would not be used for any construction activities related to either build alternative. Should a build alternative be selected as the Preferred Alternative, these closed areas would be returned to public use in the same condition as when the areas were closed off to public access, and/or would incorporate enhancements to the original design. Further, Appendix B explains that there are two half-court basketball courts in the northwest corner of Cesar E. Chavez Park, to the west of Cesar Chavez Elementary School. Through a joint use agreement between the Long Beach Unified School District and Long Beach Department of Parks, Recreation and Marine, the basketball courts are available for use by the students during school hours. The basketball courts would be impacted during construction of either build alternative, and should a build alternative be selected as the Preferred Alternative Measure PR-11, Future Boundaries and Improvements at Cesar E. Chavez Park, states that Caltrans would coordinate with the City of Long Beach on the replacement of the basketball courts that would be removed by the build alternatives in a location accessible to Cesar E. Chavez Elementary School and park visitors. Because the basketball courts are in the area used by the school, the replacement courts would be constructed no later than three months after closure of the existing courts. Because specific construction-related details, including detour routes, were not known at the time the RDEIR/SDEIS was circulated for public review, Measure CON-TR-1, as included in the RDEIR/SDEIS could not provide specificity. However, since the No Build Alternative has been selected as the Preferred Alternative, there will be no impacts to the basketball courts and Measure CON-TR-1 will not be implemented.

IP-24-146

Tables 3.24-1 and 3.24-2 of the RDEIR/SDEIS provided information regarding direct and indirect impacts to parks and recreational facilities and community facilities, respectively, under the build alternatives. In response to this comment, a discussion on how displacement would temporarily impact property owners whose properties would be fully acquired under each build alternative has been added to Section 3.24.3.3 of this Final EIR/EIS. Essentially, persons whose properties would be acquired as a result of the build alternatives would be impacted both temporarily (selecting a replacement residence and the act of moving residences) and permanently (living permanently within a different residence). However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no direct or indirect impacts to parks and recreation facilities and community facilities.

IP-24-147

The fact that construction, should a build alternative be selected as the Preferred Alternative, may provide some jobs to members of environmental justice communities is considered a beneficial effect of the build alternatives, and is relevant to the discussion of construction impacts contained in Section 3.24.3.3. However, the commenter accurately states that the potential job opportunities

provided by the build alternatives was not intended to mitigate for any construction impacts resulting from the build alternatives, and this is not indicated anywhere within the RDEIR/SDEIS or this Final EIR/EIS.

IP-24-148

Should a build alternative be selected as the Preferred Alternative, Metro and Caltrans would not expect the duration of construction activities to be greater than 5 years at any single site. The definition of a single site should not be confused with the segments provided in the conceptual staging analysis. According to the preliminary construction staging analysis for the build alternatives, it is likely that construction would take place in different segments along the 19-mile I-710 Corridor simultaneously in order to construct the full project (should a build alternative be selected as the Preferred Alternative). However, the Metro Board of Directors, in its Metro Board Motion 5.2, defined general priorities for construction of the build alternatives, and specific construction staging information was not available at the time the RDEIR/SDEIS was circulated for public review. The analysis presented in the AQ/GHG/HRA Technical Study (2017) evaluated potential emissions associated with the highest traffic levels in the I-710 Corridor upon completion of the build alternatives (year 2035) as well as the construction emissions impacts of constructing the build alternatives.

As shown in Table 2.3-5 in the RDEIR/SDEIS, the most complex area in terms of construction activity and duration would be located within Segment 2. A more detailed examination of the preliminary construction staging analysis within this broad area confirms that construction of the various sequential elements of the build alternatives would be occurring at different locations and that no individual site would be affected by construction-related activities for longer than five years. However, the construction emissions scenarios presented in Section 3.24, Construction Impacts, of the RDEIR/SDEIS assumed consecutive construction of all freeway sections, which represents a conservative (i.e., worst-case scenario) emissions analysis, drawn from the construction staging scenarios, in order to identify and disclose the range of potential impacts of the build alternatives. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no air quality impacts as a result of construction.

IP-24-149

The commenter’s request to estimate construction emissions based on developed schedule and to provide a full construction HRA analysis is no longer necessary since the No Build Alternative has been selected as the Preferred Alternative. Although the No Build Alternative has been selected as the Preferred Alternative, it should be noted that there is no current accepted methodology for this type of analysis, and major gaps exist in current knowledge regarding lifecycle analysis, particularly the lack of well-validated and calibrated models. The greenhouse gas analysis included in Section 4.3.1 of Chapter 4.0, CEQA Evaluation, was updated in

accordance with Caltrans guidance, and provides a CEQA significance determination for greenhouse gas emissions. Per Caltrans guidelines, although Federal laws related to climate change and greenhouse gases are presented in Section 4.3.1.1 to provide a framework for understanding the ensuing discussion and analysis, the discussion of greenhouse gas and climate change is a CEQA analysis rather than a NEPA analysis. This is because, per Section 3.13.5 of the Final EIR/EIS, at the time of preparation of this document, neither the U.S. EPA nor FHWA has issued explicit guidance or methods to conduct project-level greenhouse gas analysis, and because requirements have been set forth in California legislation and State executive orders on climate change, the issue is addressed in the CEQA discussion contained in Chapter 4.0. It should be noted that the information provided in the CEQA analysis may be used to inform the NEPA decision for the project.

IP-24-150

It is difficult to tell from the comment what specifically regarding the proposed mitigation measures is inadequate. Caltrans and Metro both respectfully disagree that the proposed measures are inadequate. More specific responses to comments follow.

IP-24-151

Because specific construction-related details for the build alternatives, including detour routes, were not known at the time the RDEIR/SDEIS was circulated for public review, Measure CON-TR-1 could not provide the specificity requested by the commenter. However, since the No Build Alternative has been selected as the Preferred Alternative, construction will not occur and Measure CON-TR-1 will not be implemented. Although the No Build Alternative has been selected as the Preferred Alternative, it's important to note that a TMP for Caltrans projects are prepared in accordance with Caltrans' TMP Guidelines.[10] The development of a design-level TMP is an inclusive process – with the active participation of stakeholders along with local resident input – performed under the technical purview of local agencies in addition to Caltrans as the designated approving and reviewing agency for TMPs prepared for State roadway facilities. The Caltrans TMP development and approval process is rigorous, providing the necessary checks and balances to ensure that project construction activities are delivered in a safe and timely manner with the least amount of impacts to the travelling public.

[10] Caltrans. 2015. Division of Traffic Operations, Office of Traffic Management. Transportation Management Plan Guidelines. November 2015. Website: http://www.dot.ca.gov/trafficops/tm/docs/ TMP_Guidelines.pdf (accessed October 11, 2018).

IP-24-152

Should a build alternative be selected as the Preferred Alternative, Measure CON-AQ-15 would be implemented and was drafted in a manner that would ensure it would be both enforceable and consistent with Caltrans' and Metro's contract bid requirements and procedures, given that it was not known at the time the RDEIR/SDEIS was circulated for public review which agency would eventually administer the construction contract for the either build alternative (should a build alternative be selected as the Preferred Alternative). Therefore, some flexibility was retained accordingly in the wording of the measure. It is important to note that some, but not all Tier 4 equipment is commercially available at the present time, and it is currently unknown if and when all Tier 4 equipment that would be necessary to construct the build alternatives could be available in the future. Therefore, in order to ensure that the referenced measure is feasible and enforceable, the text of the measure has not been revised. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction will occur and Measure CON-AQ-15 will not be implemented.

IP-24-153

Caltrans and Metro both respectfully disagree that the construction noise measures referenced in the comment are "so broad as to be meaningless." It is important to note that measures intended to address construction of the build alternatives must be applicable to all construction activities and the different areas in which construction would occur along the 19-mile project area (should a build alternative be selected as the Preferred Alternative), as well as the different types of equipment that would be used during construction. Therefore, measures were written to be relevant to all potential types of immediate environments. For example, "shielding with barriers" refers to Measure CON-N-7, which indicates that the Construction Contractor would apply site restrictions to achieve noise reduction through different methods, and continues to provide different types of methods and measures. Specifically, the measure states that "Shielding with barriers will be implemented at an early stage of a project to reduce construction equipment noise. The placement of barriers must be carefully considered to reduce limitation of site access. Barriers may be natural or man-made, such as excess land fill used as a temporary berm strategically placed to act as a barrier. They may also include the construction of soundwalls as the first order of work, if their construction will not be precluded by other construction activities, so that the walls may help to abate construction noise." Should a build alternative be selected as the Preferred Alternative, this would afford the Construction Contractor, in coordination with the Resident Engineer, flexibility in determining the best way to achieve noise abatement utilizing this strategy and given the immediate surroundings, available materials and type of abatement necessary. Similarly, "educating contractors and their employees to be sensitive to noise impact problems" refers to Measure CON-N-8, which reads in full: "The Construction Contractor(s) and their employees will be educated via a training program to be sensitive to noise impact problems and noise control methods. This may be one of the most-cost effective ways to help operators and

supervisors become more aware of the construction site conditions. The Construction Contractor will conduct a training program for equipment operators to instruct them in methods of operating their equipment to minimize environmental noise. Many training programs are presently given on the subject of job safety. This can be extended to include the impacts due to noise and methods of abatement." This measure would provide for the ability of the Contractor to tailor the training appropriately for the types of equipment that would be used by the construction workers at that specific time and place.

There is no conclusion in Section 3.24 that indicates that "job benefits will accrue to local environmental justice communities" or said job benefits "will mitigate other construction impacts to environmental justice communities." The document only concludes that "construction activities would provide jobs, *which would benefit local economies* that include minority and low-income populations" [emphasis added]. The nature of this benefit is more fully explained in Section 3.24.3.3, which states that "these construction jobs would generate temporary employment and revenues for both the local and regional economies."

IP-24-154

Caltrans and Metro both respectfully disagree with the commenter. Measure CON-LU-2 is enforceable mitigation and, should a build alternative be selected as the Preferred Alternative, would provide the public a physical location to address concerns and to request information about construction of either build alternative. It is adequate because it would allow for public access to the Caltrans process and would keep that process as transparent as possible within the communities that would be affected. While CEHAJ's specific requests cannot be met at this time, all efforts have been made to ensure that community concerns have been incorporated into the build alternatives and addressed at every level of the process thus far.

IP-24-155

It is unclear from this comment the specific reasons why the commenter finds the previous responses to be inadequate. Please note that although Caltrans and Metro provided Responses to Comments on the Draft EIR/EIS in the RDEIR/SDEIS, they were not legally required to do so, as the entirety of the RDEIR/SDEIS was revised due to the new suite of build alternatives. Regarding the response to "why power grid is not used for mobile generators", the response provided referenced Measure CON-AQ-15, which discussed emissions performance measures for construction equipment to which the build alternatives would be subject, where feasible, should a build alternative be selected as the Preferred Alternative. Electric cranes and forklifts would also be subject to these measures.

IP-24-156

Please refer to Response to Comment IP-24-152 regarding Measure CON-AQ-17.

IP-24-157

Please note that although Caltrans and Metro provided Responses to Comments on the Draft EIR/EIS in the RDEIR/SDEIS, they were not legally required to do so, as the entirety of the RDEIR/SDEIS was revised due to the new suite of build alternatives. Avoidance, minimization, and/or mitigation measures for noise abatement, air quality, and community impacts is generally based on the specific impacts that would occur as a result of the build alternatives within those resource areas; therefore, the cost estimates for those types of measures would be based on the actual cost to mitigate those impacts. However, please note that since the No Build Alternative has been selected as the Preferred Alternative, these avoidance, minimization, and/or mitigation measures will not be implemented. In addition, although the No Build Alternative has been selected as the Preferred Alternative, the Community Health Benefit Program, which was a programmatic element of the build alternatives, will no longer be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of I-710.

IP-24-158

Please note that the Community Health Benefit Program is part of the description of the build alternatives and therefore is not mitigation or a response to any impacts resulting from the build alternatives; it is a response to the community's input regarding the existing conditions within the I-710 Corridor. As noted above, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-24-159

Per the language of Motion 22.1, "Further move that the Board of Directors instruct *the Chief Executive Officer [of Metro] take the following actions, working with Caltrans and partner agencies as necessary and in parallel to the EIR/EIS process*: … Direct staff to work with community based partners (community groups, faith based groups and labor) on the development of a Local and Targeted Hiring Policy…" [emphasis added]. This clearly states that Metro, as a key project funding partner and proponent, should take the lead on the development of this policy. However, since a build alternative has not been selected as the Preferred Alternative, no construction will occur and a local hire program will be unnecessary.

IP-24-160

Please refer to Response to Comment IP-24-103 for more information on Health Impact Assessments. The preparation of an Air Quality/Health Risk Assessment for the I-710 Corridor Project was an effort to respond to the requests of the I-710 Corridor communities to study health-related impacts, while also ensuring the empirical analyses performed in support of the EIR/EIS process are factual and based on sound scientific, analytical, and/or engineering judgment.

IP-24-161

There are no measures included in the RDEIR/SDEIS that state construction jobs generated by the build alternatives would, or are intended to, offset any of the impacts created by the build alternatives. Since a build alternative has not been selected as the Preferred Alternative, no construction will occur and a local hire program will be unnecessary and therefore, a mitigation measure has not been added to the Final EIR/EIS.

IP-24-162

This comment states that that some information for projects listed in Table 3.25-1 of the RDEIR/SDEIS is out-of-date and is not accurate. The cumulative analysis reflects the information that was available when the RDEIR/SDEIS was being prepared. Caltrans has made a good faith effort to update the project descriptions and related impacts included in Table 3.25-1 where applicable.

IP-24-163

This comment suggests that the cumulative impact analysis in Section 3.25 of the RDEIR/SDEIS is flawed because the analysis of impacts and available mitigation is inadequate. Caltrans and Metro both respectfully disagree with the commenter. Aside from the specific comment related to the general consistency of the build alternatives with local land use plan, which is addressed in the response to Comment IP-24-19, this comment does not cite any specific examples of flaws or inadequacies in the analysis contained in the RDEIR/SDEIS that would cause the cumulative impacts analysis to be similarly inadequate and flawed. Instead, this comment generally refers back to “each section discussed above with an inadequate project impact analysis,” likely referring to Sections III through XV of Comment Letter IP-24, which provide more specific comments regarding the individual sections of the RDEIR/SDEIS in an effort to support the commenter’s position.

Caltrans and Metro have provided specific responses to the comments raised in Sections III through XV of Comment Letter (refer to Responses to Comments IP-24-19 through IP-24-161), which categorically refute the commenter’s assertion that the environmental analysis in the RDEIR/SDEIS is flawed and inadequate. Therefore, Caltrans and Metro both respectfully

disagree with the commenter's claim that the cumulative impacts analysis in Section 3.25 of the RDEIR/SDEIS is similarly inadequate and flawed. The impact analyses contained within the RDEIR/SDEIS were performed in accordance with Caltrans guidance, and in some cases, such as that of the Air Quality/Health Risk Assessment, the scope of the analysis actually surpasses that which would normally be included in a Caltrans project-level analysis. Similarly, the avoidance, minimization, and mitigation measures proposed sufficiently address the environmental and social impacts of the build alternatives.

IP-24-164

Caltrans and Metro acknowledge the potential disproportionate impacts that the I-710 Corridor Project build alternatives may have on environmental justice communities and the fact that additional mitigation is proposed to address these impacts. It is important to note that the determination of disproportionate and adverse impacts to environmental justice communities is made on a project-wide basis. However, the comment misrepresents the nature of this mitigation, and erroneously states that the Community Health Benefit Program is considered a mitigation measure. Measure C-7 is proposed in Section 3.3.3.7 of the RDEIR/SDEIS and states: "funding will be provided to local jurisdictions [e.g., the city and/or county in the case of unincorporated areas] for targeted improvements that would improve air quality and public health, reduce traffic congestion, provide aesthetic/visual enhancements, and improve parks and recreation. These improvements must be made within the United States Census Bureau census tracts adjacent to the I-710 freeway that have been identified as having a high percentage of minority and/or low-income populations compared to the County of Los Angeles. These targeted improvements may include, but are not limited to, air filtration systems installation or upgrade, urban art installations and community events, landscaping, traffic calming measures, pedestrian/bicycle enhancement measures, and development of pocket parks or other park space. Funding for these targeted improvements will be made in the amount of up to 1 percent of the capital construction cost for either of the build alternatives. This funding will be provided through a funding agreement between the Los Angeles County Metropolitan Transportation Authority (Metro), Caltrans, and the affected local jurisdiction upon the commencement of construction within the limits of that local jurisdiction (in the event of staged construction)." It is important to note that the funds provided as part of Measure C-7 would be distinct and separate from the Community Health Benefit Program funds. Should a build alternative be selected as the Preferred Alternative, Measure C-7 funds, as stated above, would be provided directly to the local jurisdiction for implementation of projects they see fit for the specific circumstances of their communities; Caltrans and Metro do not intend to dictate what types of the listed improvements individual communities would find most valuable. The funding level is also outlined in the measure language and provides flexibility in the event of phased or staged construction, should a build alternative be selected as the Preferred Alternative.

IP-24-165

Please also refer to Response to Comment IP-24-164 regarding disproportionate impacts to environmental justice communities. The Community Health Benefit Program is a programmatic component of the build alternatives and is not a mitigation measure. The Community Health Benefit Program has been developed beyond what was presented in the RDEIR/SDEIS; this information can be found in Section 2.3.2.1 of the Final EIR/EIS, including more information as to its implementation. As a component of the build alternatives, its implementation would be assured by its inclusion in the project description outlined in Chapter 2.0, Project Alternatives, of this Final EIR/EIS. However, since a build alternative has not been selected as the Preferred Alternative, the Community Health Benefit Program will have to be implemented as part of a separate process. Mitigation related to environmental justice impacts from the build alternatives is outlined in Measure C-7, included in Section 3.3.3.7 of the Final EIR/EIS.

IP-24-166

Please refer to Response to Comment IP-24-165 and Section 1.10 of this appendix regarding implementation of the Community Health Benefit Program. The Community Health Benefit Program is a component of the build alternatives and is not considered or intended to be a mitigation measure; therefore, mitigation has not been “unlawfully deferred.” However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-24-167

Please also refer to Responses to Comments IP-24-164 and IP-24-165 and Section 1.10 of this appendix regarding implementation of the Community Health Benefit Program.

IP-24-168

Please also refer to Response to Comments IP-24-166 and Section 1.10 of this appendix regarding implementation of the Community Health Benefit Program.

IP-24-169

These comments have been taken into consideration during the development of the Community Health Benefit Program, which has been developed beyond what was included in the RDEIR/SDEIS. More details of the program can be found in Section 2.3.2.1 of the Final EIR/EIS. The program is not intended to mitigate for impacts resulting from the build alternatives, but rather is a community enhancement program that is a component of the build alternatives. Please also refer to Response to Comments IP-24-166 and Section 1.10 of this appendix regarding implementation of the Community Health Benefit Program.

IP-24-170

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS improperly defers analysis and requires revision and recirculation. The impact analyses contained within the RDEIR/SDEIS were performed in accordance with Caltrans guidance, and in some cases, such as that of the Air Quality/Health Risk Assessment, the scope of the analysis actually surpasses that which would normally be included in a Caltrans project-level analysis. Similarly, the avoidance, minimization, and mitigation measures proposed sufficiently address the environmental and social impacts of the build alternatives. In addition, programmatic features included in the description of the build alternatives, although not quantifiable at this time, would help to provide enhancement measures for corridor communities, should a build alternative be selected as the Preferred Alternative. However, as stated in Response to Comment IP-24-1, the No Build Alternative has been selected as the Preferred Alternative and avoidance, minimization, and/or mitigation measures proposed for the build alternatives will not be implemented.

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IP-25

October 23, 2017

I-710 Corridor Project EIR/EIS

Re: 710 Freeway Expansion Environmental Impact Report Study Comments

Dear CALTRANS / METRO

We as the East Los Angeles Chamber of Commerce covering all of the East L.A. unincorporated area submit these comments for the 710 freeway expansion environmental impact report study.

IP-25-1 It is obvious that traffic through East Los Angeles, ELA just as many other communities in the County of Los Angeles is out of control. However, in a community like ELA, which contains the ELA Interchange, a freeway connector which is traveled by over 580,000 vehicles per day; we the residents have become concerned over the negative impact that this many cars yields in a community. The Pollution to the air which cars create and the lack of concerns

IP-25-2 over regional needs by ELA adjacent communities, such as South Pasadena; which has been objecting to the connection of the 710 interstate for the past 45 years. Effectively preventing the interstate from completing this connection from Pasadena, North at I-210 to the South at Valley Blvd. at the I-10. The City of South Pasadena has gone so far as to close North/South streets to thru traffic and recently have gone so far as to prevent thru traffic from crossing their City through residential neighborhoods.

IP-25-3 East Los Angeles which is transected by six freeways and continues to bear the burden of the transportation needs of Los Angeles County, is now even more concerned that South Pasadena has turned down the 710 Tunnel Alternative using its political clout and intellectual arguments posed by USC professors and administrators from USC Medical School, many of whom live in South Pasadena.

Although the tunnel alternative is no longer an option it stands as an illustration of the length of environmental injustice that politicians are willing to champion. The fact stands that what is acceptable for East LA has been deemed intolerable to our neighboring communities. For example: the North/South

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IP-25-3

Connectors which link East Los Angeles with Pasadena, include Atlantic Blvd., Garfield and some of Monterey Pass Rd.; and the Monterey Pass Road transition to Mednik Avenue which, intersects at Fremont Ave are currently designated as "F" traffic conditions from Whittier Blvd. North to Huntington Drive. These two thoroughfares are vital for Metro Public Transportation systems including Red Line Busses and other Lines. Metro provides excellent service to these routes but, when you consider the daily traffic of North/South bound automobile traffic, it is obvious to observe the time delay caused by such a large volume of traffic in such a narrow and inefficient roadway system. The opening of the 710 freeway would have stood to elevate this problem. Over fifty years ago Cal Trans acquired property to complete this corridor; this land is now being considered to be resold. East Los Angeles has already been devastated by traffic congestion and bombarded by a lifetime of pollution from the freeways surround and bisect our communities. We are left to wonder how we are to consider the legitimacy and effectiveness of an I-710 Congestion Relief Program without opening the I-710 to the North. Without the completion of the I-710 there is not true Congestion nor pollutant Relief.

IP-25-4

In all options of the Report Recommendations; there is failure to consider service access and business opportunities and service by the freeway entrances and exits (for example) at the 710 North Bound entrance at Olympic Blvd. Community residents from both East Los Angeles as well as residents of Boyle Heights will be hurt by this closure. Similarly the entrance at the I-710 Eastern and Whittier exit will also hurt service to residents of the community in ELA.

IP-25-5

The study fails to mention the road expansion and construction of an I-5 and I-710 junction interchange linking the South and North Bound I-710 with the I-5. The absence of this junction is what causes East Bound traffic to exit the I-710 travel through community street and re-enter into the I-5 East Bound. North Bound connection to the I-710 already exists as does the South Bound connection.

Caltrans needs to strongly consider a North Bound connection from the I-710 to the I-5 East Bound and from the I-5 West Bound into the I-710 South Bound. From the beginning of the system in 1949 these freeway connections have been missing, providing only service to Down Town LA. This ill design has impacted the community of East Los Angeles since then.

Business, Prosperity and Community

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IP-25-5 The connection to the I-5 can alleviate the pass through design of which only affects East Los Angeles further impacting the environment by depriving North and South Bound access for residents of ELA not just trucks is using Olympic Blvd. as a deviation route.

IP-25-6 Every intersection in East Los Angeles will be greatly affected by any freeway closure either temporarily or permanently. We request traffic studies on all intersections from Indiana to Garfield to Whittier Boulevard from Indiana to Garfield on Olympic from Indiana to Mariana Street on Union Pacific every intersection from Indiana two Bradshaw every intersection between Indiana through Woods Ave on Cesar Chaves every intersection from Indiana to Woods Avenue all intersections on Floral between Eastern and Mednik Avenue.

IP-25-7 We feel it unfair for Caltrans not to have a link accepting submissions of comments of persons that wish to do so during the comment period for this environmental impact report of the I-710. For this we request that you grant an extension of time from October 23, 2017 to November 23, 2017 in order to allow planners to consider the I-710 to I-5 connection alternative and to re-open the I-710, open top open option for the I-710 from Valley Blvd. to Colorado Blvd. in order to relieve traffic on the I-710 freeway. Also every intersection in East Los Angeles will be greatly affected by any 710 North or South freeway entrance or exit closure either temporarily or permanently.

IP-25-8

IP-25-9 We request traffic studies on all intersections between Indiana to Garfield on Whittier Boulevard, between Indiana to Garfield on Olympic. Between Indiana to Mariana Street on Union Pacific. Every intersection between Indiana to Woods on 3rd Street. Every intersection between Woods to Bradshaw on Beverly. Boulevard. Every intersection on Pomona Boulevard between Woods to Margaret Avenue. Every intersection between Indiana through Woods on Cesar Chaves. Every intersection between Indiana to Woods Avenue on 1st Street. All intersections on Floral Drive between Eastern and Mednick Avenue. Also all intersections between Telegraph Road to the 60 Freeway on Atlantic Boulevard. All intersections between Union Pacific and City Terrace Drive on Eastern Avenue. Also all intersections between Olympic and Floral Drive on Ford Boulevard. All intersections between Olympic and 3rd Street on Downey Road. All intersections on Indiana between Union Pacific and Cesar Chavez Avenue.

IP-25-10 We also feel it is very unfair for Caltrans not to have a link accepting a PDF comment for persons *that want to submit during the E.I.R. comment period for this environmental impact report on the 710.* Another reason we are asking for an extension of time is that in the environmental impact report under the Alternatives of the 710 Freeway expansion. . . that would take away street parking on Atlantic Boulevard from Telegraph to the 60 freeway in East Los Angeles on the Eastside of Atlantic going Northbound from 7 a.m. to 9 a.m. or

IP-25-11 going Southbound and taking away street parking on the Westside of Atlantic Boulevard from 4 to 6 p.m. to create a lane for rapid bus lines. First of all the a.m. parking on the street is used by several schools Garfield High School, St. Alphonsus Catholic School, KIPP Elementary School, and 4th Street primary. Some teachers have to use street parking on Atlantic Boulevard when they cannot find side street parking adjacent to their schools.

Also the environmental impact report states there is parking from 4 to 6 p.m. on the side streets of Atlantic Boulevard to accommodate the business parking needs during these hours. This is incorrect, there is no available side street parking adjacent to Atlantic Boulevard. We have a need for more parking for residence as it stands now and also need to consider that many residence return home from work after 4 p.m. This is ridiculous to ignore this fact and we would only be hurting the already struggling businesses. East Los Angeles has

IP-25-12 no parking to spare for businesses. Many businesses have parking behind their stores that is taken up by the employees. Therefore, the street parking is vital to businesses being able to exist. The East Los Angeles Chamber of Commerce is adamantly opposed to any bus lanes being added and taking away street parking from Atlantic Boulevard between the 60 Freeway and Telegraph Road for any length of time to accommodate bus lanes in East Los Angeles unincorporated area. In closing we ask that all of our comment be added to the official public comments record and that we be responded to in writing.

Eddie Torres Jr.
President
East Los Angeles Chamber of Commerce

Business, Prosperity and Community

4716 Cesar E. Chavez Ave., Los Angeles, CA 90022
☎ Phone: (323) 263-2005
Email: info@eastlachamber.com
Visit our website: www.eastlachamber.com

IP-25-1

Caltrans and Metro thank the commenter for their input. The commenter's concern about traffic and air quality in East Los Angeles is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, the purpose of the project includes improving traffic safety, accommodating projected traffic volumes, addressing increased traffic volumes resulting from projected growth in population; and employment, and economic activities related to goods movement, and improve air quality and public health.

As discussed in Section 5.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, the build alternatives would improve traffic operations along the I-710 Corridor. However, four intersections in East Los Angeles would be impacted by the build alternatives. As shown in Figure 3.5-8 in Section 3.5 of the RDEIR/SDEIS, Alternative 5C would impact the Ford Blvd./Whittier Blvd. intersection (Intersection 93). Alternative 5C Design Option 3A would impact the I-710 Northbound/Olympic Blvd. (Off), Ford Blvd./Whittier Blvd., and Ford Blvd./3rd St. intersections (Intersections 86, 97, and 180). Alternative 7 would impact the Ford Blvd./Whittier Blvd. intersection, and Ford Blvd./3rd St. intersections (Intersections 93 and 97). Alternative 7, Design Option 3B, would impact the I-710 Northbound/Olympic Blvd. (Off), Ford Blvd./Whittier Blvd, Ford Blvd./Whittier Blvd. intersection, and Ford Blvd./3rd St. intersections (Intersections 86, 93, and 97). As detailed in Table 3.5-23 and Mitigation Measure TR-1 in Section 3.5 of the RDEIR/SDEIS, improvements are proposed at these locations to mitigation for impacts resulting from the build alternatives at these intersections along Del Amo Blvd. Should a build alternative be selected as the Preferred Alternative, Mitigation Measure TR-1 would improve intersection operations and delay to a level equivalent to, or better than, what would occur under the No Build Alternative at Study Area intersections impacted by the build alternatives.

In addition, the build alternatives include programmatic components that would help improve traffic conditions on the arterial streets in the I-710 Study Area. As discussed in Section 2.3.2, Build Alternatives, in the RDEIR/SDEIS, I-710 TSM/TDM Congestion Relief Program that would provide funding for traffic signal upgrades and coordination, safety improvements, traffic calming measures, and intersection improvements on the arterial street system in the Study Area. The I-710 Corridor Project ITS/TSM/Congestion Relief Program would help address the I-710 Corridor Project goals of improving traffic safety, accommodating projected traffic volumes, and addressing increased traffic volumes resulting from projected growth in population, employment, and economic activities related to goods movement. This programmatic component of the build alternatives would provide funding to local governments to implement projects within the I-710 Corridor Project Study Area to improve operations at selected congested intersection locations on the local roadway network. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. As a result, this programmatic element will not be implemented by

Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. The build alternatives propose Measures AQ-2 and AQ-3 to reduce emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would require installation of solid barriers where soundwalls would not be proposed to reduce noise impacts and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components that would help to improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives that would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

IP-25-2

The SR-710 North Project is a separate project than the I-710 Corridor Project. Traffic impacts of the SR-710 North Project are discussed in the Draft EIR/EIS that was circulated for that project in 2015.

IP-25-3

Metro and Caltrans acknowledge the views held by the commenter on the importance of the SR-710 North Project and the regional transportation benefits that would be realized by closing this gap in the regional freeway network.

The I-710 Corridor Project has been examined and evaluated as its own corridor project because the travel patterns, safety and operational concerns, and congestion problems in the I-710 Corridor are separate and distinct from the SR-710 North Project. Further, each segment along the I-710 Corridor within each community is unique and must be viewed individually as well as part of the overall 19-mile corridor. It is acknowledged that East Los Angeles is highly constrained between I-5, I-710, and SR-60. Metro and Caltrans have worked closely with the East Los Angeles Local Advisory Committee to review trade-offs associated with design options for I-710 through this area, including relative travel benefits, air quality concerns, visual issues, and right-of-way

impacts. As a result of this collaborative process, Design Options 3A and 3B and peak period arterial parking restrictions have been eliminated from further consideration and, as stated in Response to Comment IP-25-1, the No Build Alternative has been selected as the Preferred Alternative. As a result, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program), the Congestion Relief Program, and the Community Health Benefit Program will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-25-4

As discussed in Section 3.3.1.3 of the RDEIR/SDEIS, while a number of existing routes used to travel from one part of the community to another and that are familiar to residents would be redesigned under the build alternatives to accommodate the widening of I-710 and the modernized design of the freeway interchanges, overall connectivity within these affected communities would remain intact. Where the build alternatives would result in changes in access (e.g., due to relocation of a freeway on-ramp or off-ramp), alternative routes would be available nearby to maintain existing residential and business service access and opportunities. The reconstruction of the northbound entrance and exit ramps at Olympic Blvd. and the replacement of the southbound entrance and exit ramps terminating at Eastern Ave. with ramps terminating at Whittier Blvd. were features proposed under Design Options 3A and 3B, were removed from consideration due to community feedback.

IP-25-5

As discussed in Section 2.3.2.2, Alternative 5C would modernize the freeway-to-freeway interchanges at I-5 as shown in Figure 2.3-5. At I-5, new collector-distributor roads that service local interchanges at Washington and Bandini Blvds. would be added, and ramp connection points to I-710 would be modified. The existing northbound left-hand side connector from I-710 to I-5 would be removed, as the northbound I-710 to northbound I-5 movement would be made via that collector-distributor, and the southbound connector from I-5 to I-710 would be replaced. Figure 2.3-6 shows the improvements that are proposed at the I-5/I-710 interchange under the build alternatives.

The applied alternatives development process for the build alternatives employed context sensitive design objectives. These objectives balanced impacts to existing land uses and circulation with mobility benefits. Early in the alternative development process, additional connections between I-710 and I-5 were considered, but were not justifiable. Although there would be benefits to additional connections, these were considered too limited compared to the significant adverse impacts their implementation would cause. The existing freeway and local street network, with Alternative 5C, would provide enhanced and viable connectivity between I-710 and I-5.

IP-25-6

The main purpose of the freeway improvements included in the build alternatives are to address congestion, design deficiencies, traffic operations, and safety concerns on I-710, as well as related air quality issues associated with operation of the I-710 freeway. These purposes were discussed in more detail in Section 1.2 of the RDEIR/SDEIS. Over 185 intersections were evaluated as part of the traffic analysis to determine if the build alternatives would result in traffic impacts to the arterial system, and if so, to identify appropriate measures to address those impacts. The number and locations of the study intersections were identified prior to the initiation of the traffic studies performed in support of the RDEIR/SDEIS, and were reviewed and approved by the I-710 Technical Advisory Committee. Approximately 24 of these selected intersections are located within East Los Angeles, more than any other local jurisdiction in the I-710 Study Area, with the exception of the City of Long Beach. Nearly half of the I-710 Corridor is located in the City of Long Beach.

IP-25-7

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

IP-25-8

Please refer to Section 1.2 of this appendix for more information regarding the comment period for the RDEIR/SDEIS. The comment pertaining to the “open top open option for the I-710 from Valley Blvd. to Colorado Blvd.” is regarding the SR-710 North Project and is not part of the scope of the I-710 Corridor Project, which has a northern logical terminus of SR-60. Based on community feedback, Design Options 3A and 3B have been withdrawn from further consideration, which would have altered access to and from I-710 within the community of East Los Angeles. As was stated in Measure CON-TR-1 in Section 3.24.4.5 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, a TMP would be prepared prior to construction and would require coordination with local jurisdictions and the communities to avoid and address short-term traffic impacts, should freeway ramps need to be closed during construction.

IP-25-9

Please refer to Response to Comment IP-25-6 regarding the traffic analysis for local intersections.

IP-25-10

Caltrans and Metro accepted comments during the RDEIR/SDEIS circulation period in several ways: via the online portal, via regular mail, at public hearings via public testimony and also privately to a court reporter. The commenter is correct in that the online portal was not able to

allow for attachments to be submitted. This is due to the inability to screen attachments for potential viruses, as well as the increased chance of errors occurring.

IP-25-11

Based on community input, the parking restrictions proposed as a programmatic element of the build alternatives have not been included as part of the Preferred Alternative (Alternative 1 No Build) and are no longer under consideration.

IP-25-12

Please refer to Response to Comment IP-25-11 regarding parking restrictions.

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Brad Jensen

From: APUGA86@GMAIL.COM
Sent: Monday, October 23, 2017 9:32 AM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: EZEQUIEL FLORES
Organization:
Phone: 3233021520
Mailing Address: 956 BURGER AVE
City, State: LOS ANGELES, CA
Zip: 90022
Comment/Question:
I don't agree to this expansion project,. I have put 2 dogs of mine to sleep due to cancer . this is for the pollution we have. I been a resident here in ELA for over 9 years and I am against them always making changes in our community and we never get the opportunity to vote on these new change, my daughter has ashma and she gets really sick due to the pollution this is going to make it worst for my children IP-26-1

*You received this message because EZEQUIEL FLORES submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-26-1

Caltrans and Metro thank the commenter for their input. The commenter's opposition to the project is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions.

The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. As discussed in Section 2.3.2, Build Alternatives, in the RDEIR/SDEIS, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic component of the build alternatives. Should a build alternative be selected as the Preferred Alternative, this program would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty (Class 8) zero emission/near zero emission (ZE/NZE) trucks for use within the I-710 Corridor. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of ZE options.

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Brad Jensen

From: maxthecat10@msn.com
Sent: Monday, October 23, 2017 1:13 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Joe Hernandez
Organization: Retired truck driver [teamster retiree]
Phone: 323-780-6242
Mailing Address: 315 S Humphreys Ave
City, State: Los Angeles,Ca.
Zip: 90022-1518
Comment/Question:
I opposed to option 3a/3b 3rd street exit south should be closed because there are tractor with 54 foot trailer are to big to make a safe right turn on to 3rd street because the metro rail track 1:10pm 10/23/2017 IP-27-1

*You received this message because Joe Hernandez submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-27-1

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, Design Options 3A and 3B have been removed from further consideration. Please refer to Section 1.1 of this appendix for detailed information regarding the identification of the Preferred Alternative.

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October 23, 2017

Mr. Ronald Kosinski RK
Caltrans District 7, Division of Environmental Planning
100 S Main St., MS 16A
Los Angeles, CA 90012

RE: My Comment Letter on the I-710 RDEIR/SDEIS

As a joke, I'd like to say - Where have you guys been the past few years? I am retired, and probably will not see the end of the construction of any alternative. But I am glad you are presenting us with options on doing something – I-710 needs a lot of improvements, modernization, and safety upgrades.

In 2012 I submitted a comment letter on the I-710 DEIR/DEIS. I appreciate the notice informing me that the RDEIR/SDEIS was released for public comment.

As I read the RDEIR/SDEIS Executive Summary, I'm not sure I grasped what changed to propose different build alternatives (2012 vs 2017). Are the traffic model (predictions) the main drivers of the new alternatives? IP-28-1

I am in favor of modernizing the I-710, and I want to say thank you for your continued diligence on presenting options for the I-710 (e.g. recommending build alternatives, while evaluating impacts to the neighboring communities). I would like to commend you on once again translating the Executive Summary in Spanish, I have found the translations very useful. In the last go around the Executive Summary of the DEIR/DEIS was translated to multiple languages – as a tax paying resident of Los Angeles, I interpreted the gesture to mean that Metro/Caltrans are interested in receiving public comments. The general public does not typically have the talents of an environmental scientist or an engineer. I just want to state the obvious and say the translation of materials along with preparing graphics/videos, go a long way for helping the public best understand the totality of what was evaluated. I'm sure such efforts represent less than 0.1% of your contract budget, but it will be what helps the public best understand what you are proposing. I hope that you continue to provide such information for the remainder of all phases of the project – which in turn will assist residents provide better comments. IP-28-2

I suspect that the project would find it difficult to make policy recommendations, but via the mitigations for the I-710, perhaps you can move progressive ideas forward. As I requested in my previous comment letter, when you prepare responses please do not say why my comments may not be the most practical, but rather internalize the concept and help nurture those ideas. IP-28-3

- I am greatly impressed that Metro committed to a zero-emission bus fleet by 2030. (Way to go Metro!) I also recently read that Sweden signed the Climate Act, whereby the country will reach net-zero emissions of greenhouse gases by 2045. I have also read that when cement dries/hardens a lot of CO_2 is generated and released, and that carbon sequestration can be less expensive if it is located close to the source generating the gaseous CO_2. In the spirit of this project being as environmentally friendly as possible, I propose that as a construction mitigation IP-28-4

– mobile carbon sequestration be implemented in the construction zone of the I-710, and that the I-710 or any other Caltrans projects be given the first opportunity to use the output (e.g. carbon bricks). A positive unintended consequence of this is you can probably get the construction of the I-710 to qualify as a Green Bond. IP-28-4

- If in the Cap and Trade program, 'donors of Carbon' receive portions of the Cap and Trade auction proceeds, I would request that Caltrans and or Metro do what is necessary to add the I-710 project to that list – so as to generate funding for the construction of the I-710. If the only benefit is carbon donors do not have to purchase carbon credits, then there is no need to add this project to the list. IP-28-5

Caltrans sent me CD's containing the I-710 RDEIR/SDEIS, along with a notification of the public comment period via us mail. I appreciate the gesture, but I wanted to share that I recently purchased a new computer and it does not contain a CD drive. For future distributions of Environmental Documents, Caltrans and Metro should consider sending such information via flash drives. IP-28-6

As far as the rest of my comments go, allow me to list them:

- Having a pdf of the files was more than sufficient. There was no way I was going to read the entire EIR/EIS, but there were some parts I did rely on – namely the Executive Summary. I thought it was well written and very helpful in understanding what is being proposed. IP-28-7
- I could not discern if building Alternative 5 precludes the construction of Alternative 7. That could have been made clearer in the Executive Summary. IP-28-8
- It seems that Near Zero Emission trucks provides very similar benefits to Zero Emission Trucks. If having ZE trucks is more expensive for the project, I support having NZE trucks. IP-28-9
- Can you better explain/provide more information on the Community Health and Benefit Program & the Los Angeles Gateway Freight Technology Program? IP-28-10
- As far as selecting a Preferred Alternative, I default to Caltrans to determine which build alternative will yield the highest public benefit. I do not support the No Build alternative. However, I suggest that as much investigation on utilities be performed for the Preferred Alternative, so as to minimize surprises and subsequent cost overruns during construction. IP-28-11
- I expect that there will be a lot of contaminated soil that must be treated when construction begins on the I-710. I would like to re-introduce an idea that I proposed in my I-710 DEIR/DEIS comment letter. The I-710 should create a partnership with local colleges for bioremediation of contaminated soil. The idea is to promote a program that will stimulate a green industry, and ideally provide jobs for local residents and research for students, while delivering more environmentally sustainable solutions than just moving contaminated soil to a landfill. The construction of the I-710 should take +10 years, which should be more than enough time to investigate and implement bioremediation techniques. I intended to attach my previous IP-28-12

comment letter, but the hard drive of the computer I wrote the comment letter on had to be replaced, and I lost that information.

IP-28-12

I hope you receive plenty of good comments. Keep up the good work!

Sincerely,

Aurora Huerta

Aurora Huerta

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IP-28-1

A detailed description of the rationale for the new build alternatives and what changed between the 2012 Draft EIR/EIS and the 2017 RDEIR/SDEIS was contained in Section 2.2 of the RDEIR/SDEIS. To summarize, it is true that updated travel demand forecasts for the SCAG region allowed for a more comprehensive understanding of traffic patterns and behavior within the Study Area and beyond, particularly related to goods movement. Additionally, the Southern California Intermodal Gateway (SCIG) and Intermodal Container Transfer Facility (ICTF) projects at the Port complex moved forward in their respective planning processes, which would have potentially substantial impacts on Port truck traffic in the vicinity of the Ports and on I-710. More has been learned about Port cargo behaviors and their origins and destinations, particularly with regards to cargo transloading. Also, other freeway projects in the region moved forward, and the design of the I-710 Corridor Project build alternatives were changed in order to better avoid sensitive resources like the Los Angeles River and to address community and agency requests (including, but not limited to, the CA-7 Alternative).

IP-28-2

Caltrans and Metro thank the commenter for the commendation regarding the options set forth for I-710 and the provision of translated materials, and acknowledge that the volume and complexity of materials presented can be difficult to comprehend. As was done during the 2012 Draft EIR/EIS circulation period, the RDEIR/SDEIS Executive Summary was translated into Spanish, Tagalog, Vietnamese, Korean, and Khmer, and was available for download on Caltrans and Metro's websites, as well as available for review in hard copy at the public hearings.

IP-28-3

Caltrans and Metro have made their best efforts to incorporate as many innovative ideas as possible; however, please note that as transportation agencies, their respective jurisdictions are limited. In addition, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. More specific Responses to Comments follow.

IP-28-4

Caltrans and Metro appreciate these innovative suggestions. However, as stated in Response to Comment IP-28-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, a specific commitment to this suggested measure is not able to be made. However, this information has been forwarded to Metro's Environmental Compliance and Sustainability Department (ECSD). The ECSD is actively focused on minimizing the environmental, social, and

financial impacts from the planning, design, construction, operation, and maintenance of the agency's facilities and operations, among others, and is dedicated to the implementation of projects related to energy conservation, efficient water use, recycling, waste minimization, and more.

IP-28-5

As stated in Response to Comment IP-28-3, the No Build Alternative has been selected as the Preferred Alternative and therefore, funding for the build alternatives is unnecessary.

IP-28-6

Caltrans and Metro thank the commenter for providing this feedback. It is valuable to the agencies in order to continue to evolve and improve methods and manner of outreach in the future. Flash drives will be considered for future distribution of materials.

IP-28-7

Metro and Caltrans acknowledge and appreciate these comments regarding the PDF files and the Executive Summary.

IP-28-8

In general, yes. Construction of the freight corridor component of Alternative 7 would require substantial changes to the existing mainline and general purpose lanes of I-710, so that the freight corridor could fit within the existing and future right-of-way with as little disruption and displacement as is possible for a build alternative of this magnitude. The improvements made as part of Alternative 5C would add lanes and would rebuild local and freeway-to-freeway interchanges along the existing configuration of I-710 and would not require major changes to the existing alignment. Because Alternative 7 would require changes to the existing I-710 mainline that Alternative 5C would not, it can be concluded that, should Alternative 5C be selected as the Preferred Alternative, the construction of Alternative 5C would preclude construction of a freight corridor later without a large degree of "throwaway work." However, as stated in Response to Comment IP-28-3, the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction will occur.

IP-28-9

The commenter is correct in that in terms of overall emissions and pollutants (including brake and tire wear, which is the predominant source of particulate matter), the benefits afforded by near zero emission (NZE) vehicles and zero emission (ZE) vehicles are very similar. Although tailpipe emissions are lowered in ZE only vehicles, tailpipe emissions are not the only source of pollutants. Caltrans and Metro acknowledge the commenters' preference as stated.

IP-28-10

The Community Health and Benefit Program is a component of the build alternatives that is intended to provide improvements to air quality and public health by supplying corridor communities with grant funding to implement projects or outreach activities. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information on the Community Health Benefit Program, and to Chapter 2.0, Project Alternatives, of this Final EIR/EIS for an updated description of the Program beyond what was included in the RDEIR/SDEIS.

The Los Angeles Gateway Freight Technology Program, as was indicated in Section 2.3.2.1 of the RDEIR/SDEIS, is a package of pilot projects currently being pursued and developed by Caltrans, based on a 2015 grant proposal submitted by Metro. This program encompasses the I-710 Corridor. Within the I-710 Corridor, this program would involve the promotion and implementation of technologies such as: deployment of zero/near zero emission trucks; electric charging and hydrogen fueling stations for zero emissions trucks; intelligent transportation systems and transportation systems management strategies to manage the flows of vehicles on I-710; and equipping trucks with freight advanced traveler information systems to help minimize unnecessary travel and to help avoid congestion. This program is still in the planning stages and continues to undergo development and refinement in order to better position these pilot projects for potential local, state, and federal funding.

IP-28-11

The commenter's preference of a build alternative is noted and has been included in the project record. Following public circulation of the RDEIR/SDEIS, Alternative 1 (No Build) was identified as the Preferred Alternative. Section 2.4 of this Final EIR/EIS describes the basis for how the Preferred Alternative was selected. Please also refer to Section 1.1 of this appendix for more information regarding the identification of the Preferred Alternative.

Section 3.4 of this Final EIR/EIS outlines major utility relocations that would be required as a result of the build alternatives. Utility studies were prepared in support of the RDEIR/SDEIS in coordination with major utility owners. Existing facilities have been mapped and potential dispositions under the build alternatives have been identified. The build alternatives propose Measure U&ES-2 which states that both major and minor utility relocations would be subject to the preparation and implementation of Specific Utility Relocation Plans, which would include extensive coordination with utility providers as necessary, should a build alternative be selected as the Preferred Alternative. Should a build alternative be selected as the Preferred Alternative, Utility Team Coordination Meetings would be held with all utility companies and local jurisdictions' Departments of Public Works affected. Should a build alternative be selected as the Preferred

Alternative, these meetings would occur during the final design phase and would include final design and construction staging. The meeting participants would discuss and plan a workable sequence of utility alterations so that the utility work could be coordinated and, where possible, completed in advance of highway work. However, as stated in Response to Comment IP-28-3, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to utilities and Measure U&ES-2 would not be implemented.

IP-28-12

Please refer to Response to Comment IP-28-4 regarding the bioremediation of contaminated soil. In addition, the commenter has offered several innovative and sustainable ideas and is encouraged to contact Metro's Environmental Compliance and Sustainability Department (https://www.metro.net/projects/ecsd/), Metro's Office of Extraordinary Innovation (https://www.metro.net/projects/oei/), and Caltrans' Division of Research and Innovation (http://www.dot.ca.gov/drisi/), as many of these concepts have applicability at a program level and beyond a single project.

Brad Jensen IP-29

From: koegleavon@gmail.com
Sent: Monday, October 23, 2017 4:22 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Tammy Koegle
Organization:
Phone: 562-965-7972
Mailing Address: 8044 rosecrans ave
City, State: paramount
Zip: 90723
Comment/Question:
I support Metro and Cal trans with the many upgrades that need to happen with our degrading freeways and streets but we need to make sure what we do is safe for the surrounding families and communities. When looking at all the alternatives to the ways we can do this project, I would go with Alternative 7 since it does a little of everything from making sure the clean air is taking care of with the diesel trucks to having separate lanes also, to making sure Visual/Aesthetic Features put in for each city to improve home values. Also, with that we will be able to put in wider bike routes and pedestrian lanes for people who like to run or walk their dogs. This will increase people getting out in the communities without worrying about smog or other pollution in the air from the trucks. This is a good thing that it would not impact historical places. Also water drainage areas on the freeways will get improved and storm ways will get fixed. IP-29-1

*You received this message because Tammy Koegle submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-29-1

Caltrans and Metro thank the commenter for their input. The commenter's support of Alternative 7 is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative (Alternative 1 No Build).

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Biz Fed Los Angeles County Business Federation

Strengthening the Voice of Business

BizFed's Member Alliance
AIA Los Angeles
Alhambra Chamber
American Beverage Association
Antelope Valley Board of Trade
Apartment Association, California Southern Cities
Apartment Association of Greater Los Angeles
Arcadia Association of Realtors
Arcadia Chamber
Asian American Business Women Association
Asian American Economic Development Enterprise
Asian Business Association
Association of Independent Commercial Producers
Azusa Chamber
Bell Gardens Chamber
Beverly Hills Chamber
Beverly Hills / Greater LA Association of Realtors
Burbank Association of Realtors
Burbank Chamber
Building Industry Association, LA / Ventura Counties
Building Owners & Managers Association, Greater LA
CalAsian Chamber
California Apartment Association, Los Angeles
California Business Roundtable
California Cannabis Industry Association
California Construction Industry and Materials Association
California Contract Cities Association
California Consumer Finance Association
California Fashion Association
California Grocers Association
California Hotel & Lodging Association
California Independent Bankers
California Independent Petroleum Association
California Life Sciences Association
California Metals Coalition
California Restaurant Association
California Small Business Alliance
California Trucking Association
CALInnovates
Carson Dominguez Employers Alliance
Central City Association
Century City Chamber
Citrus Valley Association of Realtors
Coalition for a Prosperous America
Community Associations Institute, Los Angeles
Construction Industry Air and Water Quality Coalitions
Consumer Healthcare Products Association
Council on Trade and Investment for Filipino Americans
Culver City Chamber
Downey Association of Realtors
Downtown Long Beach Associates
El Monte/South El Monte Chamber
Employers Group
Engineering Contractor's Association
Entrepreneurs Organization, Los Angeles
F.A.S.T.-Fixing Angelenos Stuck In Traffic
Filipino American SEC
FilmLA
Foreign Trade Association
FuturePorts
FWD.us
Gateway to LA
Glendale Association of Realtors
Glendale Chamber
Glendora Chamber
Greater Los Angeles Auto Show
Greater Lakewood Chamber
Greater Los Angeles African American Chamber
Greater Los Angeles New Car Dealers Association
Harbor Association of Industry and Commerce
Harbor City / Harbor Gateway Chamber
Harbor Trucking Association
Hollywood Chamber
Hospital Association of Southern California
Hotel Association of Los Angeles
Industry Manufacturers Council
International Warehouse Logistics Association
Inglewood Airport Area Chamber
Irwindale Chamber
Japan Business Association of Southern California
La Canada Flintridge Chamber
LAX Coastal Area Chamber
Leadership for Urban Renewal Network
League of California Cities
Long Beach Area Chamber
Los Angeles Area Chamber
Los Angeles Black MBA Association
Los Angeles Cleantech Incubator
Los Angeles County Bicycle Coalition
Los Angeles County Consumer Affairs
Los Angeles County Waste Management Association
Los Angeles Junior Chamber
Los Angeles Latino Chamber
Los Angeles Metropolitan Hispanic Chamber
Malibu Chamber
Los Angeles Parking Association
Los Angeles Urban League
Los Angeles World Affairs Council
Pacific Palisades Chamber
Pasadena Chamber
Pomona Chamber
Maple Business Council
Motion Picture Association of America
MoveLA
Most Worshipful Hiran Tyre Grand Ldoge
NAIOP Southern California Chapter
National Alliance for Jobs and Innovation
National Association of Women Business Owners, LA
Pacific Merchant Shipping Association
Pasadena-Foothills Association of Realtors
Recording Industry Association of America
Redondo Beach Chamber
Regional Black - San Fernando Valley Chamber
Regional Hispanic Chamber
Regional San Gabriel Valley Chamber
Rosemead Chamber
Rotary Club of Los Angeles
San Gabriel Chamber
San Gabriel Valley Civic Alliance
San Gabriel Valley Economic Partnership
Santa Clarita Valley Economic Development Corp.
San Pedro Peninsula Chamber
Santa Monica Chamber
Santa Monica Junior Chamber
Small Business Action Committee
Society of Hispanic Professional Engineers - Los Angeles
South Asian Business Alliance Network
South Bay Association of Chambers
South Bay Association of Realtors
Southern California Golf Association
Southern California Grantmakers
Southern California Minority Supplier Development Council Inc.
Southern California Water Committee
Southland Regional Association of Realtors
South Park Stakeholders Group
Toluca Lake Chamber
Torrance Area Chamber
Town Hall Los Angeles
Tri-Counties Association of Realtors
United Chambers San Fernando Valley
Universal City North Hollywood Chamber
United States-Mexico Chamber
U.S. Green Building Council-LA
Valley Economic Alliance
Valley Economic Development Center
Valley Industry & Commerce Association
Valley International Trade Association
Vernon Chamber
Vietnamese American Chamber
Water Replenishment District
We Care for Humanity
West Hollywood Chamber
West Los Angeles Chamber
West San Gabriel Valley Association
Western Manufactured Housing Association
Westside Council of Chambers
Western States Petroleum Association
West Valley/Warner Center Chamber
Westwood Village Improvement Association
Wilmington Chamber
Young Professionals in Energy - LA Chapter
Youth Business Alliance
Warner Center Association

October 23, 2017

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main St. MS 16A
Los Angeles, CA 90012

RE: SUPPORT Alternatives 5C and 7 for I-710 South Corridor

Dear Mr. Kosinski,

On behalf of BizFed, a grassroots alliance of over 160 business organizations that represent 325,000 employers with over 3 million employees in LA County, we are writing in support of Alternatives 5C and 7 of the I-710 South Corridor Project. We support these two alternatives because they both reduce traffic congestion throughout the corridor and help improve regional air quality by allowing a balanced approach for both zero-and near-zero technologies in the proposed "Truck Technology Deployment Program" and "Clean Emission Freight Corridor." IP-30-1

As you know, the I-710 is a major gateway for Southern California's goods movement sector. Increased traffic congestion on the highway negatively impacts the competitiveness of our regional goods movement sector and contributes to increased levels of pollution along the corridor, this was a major consideration that lead to BizFed to support Measure M in 2016 as members wanted highway and goods movement investments like this on the ballot.

It is imperative that we make enhancements along the corridor that speed up the flow of traffic and that we deploy cleaner vehicle truck technology to improve regional air quality and the health of the communities that live near the highway. This includes the modernization investments included in alternative 5C, the construction of a Clean Emission Freight Corridor outlined in Alternative 7, and the deployment of zero and near zero emission technologies outlined in both alternatives.

The I-710 Corridor Project should be focused on improving the flow of traffic and reducing greenhouse gas and particulate emissions in support of California's environmental goals. We urge continued support for Alternatives 5C and 7. Thank you for allowing our input on this matter. Should you have any questions, please contact Jerard Wright, BizFed Policy Manager, at (323) 919-9424.

Sincerely,

Mike Lewis
BizFed Chair
Senior VP,
Construction Industry
Air Quality Coalition

David Fleming
BizFed Founding Chair

Tracy Hernandez
BizFed Founding CEO
IMPOWER, Inc.

CC: Phil Washington, LACMTA CEO

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IP-30-1

Caltrans and Metro thank the commenter for their input. The commenter's support of Alternative 5C and Alternative 7 are acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative (Alternative 1 No Build).

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PLAINS ALL AMERICAN PIPELINE, L.P.

Ronald Kosinski
Deputy District Director
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

October 23, 2017

Subject: **Comments to the I-710 Corridor Project Recirculated Draft Environmental Impact Report / Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS)**

Dear Mr. Kosinski:

Plains All American Pipeline L.P. (PAALP) appreciates the opportunity to provide comments and continuing a dialogue with the I-710 Corridor Project team.

PAALP owns and operates several crude oil transportation entities in the Los Angeles (LA) basin including Plains West Coast Terminals LLC and Pacific Pipeline System LLC . The proposed I-710 corridor project will affect both of these entities which are an integral part of our overall petroleum pipeline, storage, and transfer systems. These pipelines are primarily used to transfer crude oil received from various local, in-state producers and shipping vessels into our storage terminals and subsequently distributed as feed stock to many major refineries in the LA Basin. Disrupting the ability to move volumes through our various PAALP pipeline systems, could result in adverse effects on the operations of many local refineries.

This project will have significant financial outcomes to our business. Possible customer demurrages, loss of revenue, engineering support, inspections, line identification, and excavation oversight will add significant monetary obligations to this overall project. An elaborate working relationship with the I-710 project team will be required.

The RDEIR/SDEIS addressed several specific PAALP owned pipelines affected by the various build alternatives, specifically *Section 3.4.2.2 Permanent Impacts* identifies several assets owned by Plains West Coast Terminals LLC and Pacific Pipeline System LLC. Our review of the RDEIR/SDEIS *Appendix O Concept Plans* determined there are numerous additional interferences and conflicts not identified in *Appendix O* that affect our pipeline right-of-ways. These conflicting pipeline locations are shown in Table 1. IP-31-1

According to the RDEIR/SDEIS, several newly proposed structures or pathways are in close proximity to our active and retired pipelines. Since heavy cranes, drill rigs and pile drivers will IP-31-2

be required for this project, weight bearing calculations need to be performed. Also, PAALP requests vibration studies and calculations be performed in accordance with ASME standards. These essential steps will determine if the integrity of our pipelines will be affected by the proposed construction / demolition activities. More than likely, "protect-in-place" plans will need to be developed to address these issues. IP-31-2

Development and redevelopment associated with the proposed project must not restrict any PAALP day-to-day operations, and or access to our right-of ways. PAALP must be allowed to maintain its rights-of-entry which requires unobstructed access to its easements at all times in order to repair and maintain the pipeline systems. PHMSA / State Fire Marshall regulations require access to active petroleum pipelines for emergency response to any abnormal operating conditions. IP-31-3

Detailed drawings depicting PAALP pipelines and rights-of-way may be obtained by contacting Mr. Joe Mateo at (562) 728-2368. This will assist in preparing plans that are compatible with PAALP facilities, easements, and properties. Please note that all designs or plans must clearly identify PAALP assets and rights-of-ways. IP-31-4

We appreciate the opportunity to provide input to your planning process. This letter was also submitted on-line. If you have any questions, please contact Mr. Bill Senner at (562) 728-2056.

Sincerely,

Glen Mears

Glen Mears
Director of Environmental & Regulatory Compliance
Western Division
Plains All American Pipeline L.P.

5900 CHERRY AVENUE, LONG BEACH, CALIFORNIA 90805-4408 (562) 728-2800 FAX (562) 728-2860

Table 1

Plains Asset	Line No.	Geographic Location	EIR Appendix O Page No.	Build Design Alternative
Plains West Coast Terminals	513-517	W 28th St & I710 fwy Long Beach	7	Alt 5C
Pacific Pipeline System	8 (RETIRED)	W 28th St & I710 fwy Long Beach	7	Alt 5C
Pacific Pipeline System	52 (RETIRED)	Pacific Pl & I405 fwy Long Beach	9	Alt 5C
Pacific Pipeline System	63	RR ROW /E 208th St & I1710 fwy Long Beach	15	Alt 5C
Pacific Pipeline System	93	I710 fwy and Compton Creek Long Beach	15	Alt 5C
Pacific Pipeline System	93	Del Amo Blvd & Compton Creek City of Carson	17	Alt 5C
Pacific Pipeline System	2000	Alameda & I91 fwy Carson	21	Alt 5C
Pacific Pipeline System	63	Atlantic Ave & I91 fwy Long Beach	25	Alt 5C
Pacific Pipeline System	63	Imperial Hwy & LA River (Leeds Ave) City of South Gate	33	Alt 5C
Pacific Pipeline System	63	Miller Ave / 33.93867 - 118.171213 City of South Gate	35	Alt 5C
Pacific Pipeline System	63	Miller Ave & Garfield City of South Gate	35	Alt 5C
Pacific Pipeline System	63	Garfield Ave & Southern Ave City of South Gate	37	Alt 5C
Pacific Pipeline System	63	Eastern Ave & Florence Ave City of Bell Gardens	39	Alt 5C
Pacific Pipeline System	63	Verona & S. Burger north of Whittier Ave City of Commerce	45	Alt 5C
Pacific Pipeline System	63	Eagle St & S. Eastern Ave City of Los Angeles	47	Alt 5C
Pacific Pipeline System	52 (RETIRED)	Burnett & I710 fwy Long Beach	55	Alt 7
Pacific Pipeline System	52 (RETIRED)	Willow St & Golden Ave Long Beach	55	Alt 7
Pacific Pipeline System	52 (RETIRED)	Baker Ave & I405 fwy Long Beach	57	Alt 7
Pacific Pipeline System	63	Rio Hondo River RR ROW 33.936383 -118.17248 City of Southgate	83	Alt 7

IP-31-5

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IP-31-1

Caltrans and Metro thank the commenter for providing this additional information. Section 3.4.2.2 of the RDEIR/SDEIS provides a description of impacts that would occur on major regional facilities as a result of the build alternatives. The list of utilities that would be affected by the build alternatives is not intended to be exhaustive, but includes potential conflicts based on the current level of design. As discussed in Section 3.4.3 of the RDEIR/SDEIS, the build alternatives propose Measure U&ES-2 which, should a build alternative be selected as the Preferred Alternative, would require the preparation of Specific Utility Relocation Plans, outlining the description of existing facilities, proposed changes/demolition, potential conflicts that would need to be resolved, and Utility Team Coordination Meetings with all utility companies and local jurisdictions' Departments of Public Works affected by either build alternative. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no impacts to utilities. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-31-2

As discussed in Section 3.4.3 of the RDEIR/SDEIS, the build alternatives propose Measure U&ES-2 which, should a build alternative be selected as the Preferred Alternative, would require the preparation of Specific Utility Relocation Plans, outlining the description of existing facilities, proposed changes/demolition, potential conflicts that would need to be resolved which would include potential indirect impacts to nearby pipelines or facilities that would be intended to be protected in place, and Utility Team Coordination Meetings with all utility companies and local jurisdictions' Departments of Public Works that would be affected by the build alternatives. Should a build alternative be selected as the Preferred Alternative, the meetings would occur during the final design phase and would include final design and construction staging. The meeting participants would discuss and plan a workable sequence of utility alterations so that the utility work could be coordinated and, where possible, completed in advance of highway work. However, as stated in Response to Comment IP-31-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no impacts to utilities and Measure U&ES-2 will not be implemented.

IP-31-3

Please refer to Response to Comment IP-31-3 regarding implementation of Measure U&ES-2.

IP-31-4

Please refer to Response to Comment IP-31-2 regarding implementation of Measure U&ES-2.

IP-31-5

Please refer to Response to Comment IP-31-1 regarding impacts to utilities.

Brad Jensen IP-32

From: APUGA86@GMAIL.COM
Sent: Monday, October 23, 2017 9:24 AM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: RAMIRO PUGA
Organization:
Phone: 3233021520
Mailing Address: 956 BURGER AVENUE
City, State: LOS ANGELES
Zip: CA
Comment/Question:
I don't like this idea of them making the additional 2 lane in front of my house. I suffer with cancer and I don't understand why they are doing this, why we were not told on time. juts now. nobody is giving us the opporniuty to void on this . I don't want it . I been a resident for over 4o years and they always have make changes in our community. I don't under why we cant void on this issue. always on the low income places they always take advance and if you don't have the funds to bill this project, this only means we don't get the help need it. I don't want my street to change . I am a home owner and this affect me and my health. IP-32-1

*You received this message because RAMIRO PUGA submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-32-1

The commenters' opposition to the project and concerns regarding public comment, health risk, and impact on low-income populations is acknowledged and noted in the public record. Pursuant to the requirements of CEQA and NEPA, the public has been afforded several opportunities to provide input on the project prior to public circulation of the RDEIR/SDEIS. As discussed below, the public had opportunity to provide input on the project during the 30-day public circulation period of the Notice of Preparation (NOP), during the 91-day public circulation period of the Draft EIR/EIS, and during public meetings held during both public circulation periods.

The scoping process was initiated on August 15, 2018, with distribution of a Notice of Preparation (NOP) and the publication of a Notice of Intent (NOI) in the Federal Register. The NOP was circulated to agencies, groups, organizations, interested parties, and the public. The NOP notified the public that an EIR/EIS was being prepared, along with the scoping meeting locations and how to provide comments on the project. Public scoping meetings were held on September 9, 10, and 11, 2008, at Rowan Elementary School in East Los Angeles, Progress Park in the City of Paramount, and Cabrillo High School in Long Beach, respectively. Several methods of notification were used in addition to the publication of the NOP and NOI to notify the public of the scoping period and meetings: a newsletter, email, public notices (Los Angeles Times, Long Beach Press Telegram, Mundo LA, Los Angeles Eastside Sun, and Los Angeles Watts Times), and the project website. The public was afforded the opportunity to comment on the project during the 30-day circulation period of the NOP and during the public scoping meetings. Please refer to Chapter 5.0, Comments and Coordination, of the 2012 Draft EIR/EIS, for additional details on the scoping process.

The 2012 Draft EIR/EIS was made available for public comment during the 91-day public comment period, from June 29 to September 28, 2012. A Notice of completion of the Draft EIR was sent to the State Clearinghouse and posted June 27, 2012. The availability of the Draft EIS was advertised in Volume 77, Issue No. 124 of the Federal Register on June 27, 2012. Several methods were utilized to notify the public of the availability of the document. A letter was mailed to those on the distribution list included in the 2012 Draft EIR/EIS. A notice of availability of the Draft EIR/EIS with instructions on how and where to access the document and submit comments, as well as information on the public hearings, was published in the Los Angeles Times on June 29 and August 4, 2012; the Long Beach Press-Telegram on June 29 and August 3, 2012; La Opinion (Spanish-language publication) on June 29 and August 3, 2012; the Los Angeles Eastside Sun on July 7 (internet only), July 12, and August 3, 2012; and the Los Angeles Watts Times on July 5 and August 2, 2012. In addition, a postcard mailer was sent to all property owners and occupants within a 300-foot radius of the project improvements notifying them of the availability of the document and of the opportunity to review and comment. Notices were sent via email to the email addresses on file in the project database maintained by Metro. Three public hearings were held in support of the release of the Draft EIR/EIS. Locations were chosen

throughout the I-710 Corridor to maximize the potential attendance. The public hearings were held on August 7, 2012, at Progress Park in Paramount, August 8, 2012, at Silverado Park Community Center in Long Beach, and on August 9, 2012, at Rosewood Park in Commerce. The public was afforded the opportunity to comment on the project during the 91-day circulation period of the Draft EIR/EIS and during the public scoping meetings. Please refer to Chapter 5.0, Comments and Coordination, of the RDEIR/SDEIS, for additional details on public circulation of the Draft EIR/EIS.

Please refer to Section 1.2 of this appendix for more information regarding outreach and the 2017 public comment period.

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions. Both build alternatives would include a soundwall to reduce freeway noise at the residences located along Burger Ave. in the City of Los Angeles. Specifically, a 16-foot-high soundwall (SW-517 under Alternative 5Cand SW-717 under Alternative 7) has been recommended to replace the existing 12-foot-high soundwall, should a build alternative be selected as the Preferred Alternative. This soundwall would begin at the on-ramp from Olympic Blvd. onto the mainline northbound I-710 and overlap with an existing 12-foot-high soundwall near Humphreys Ave. This soundwall may also help reduce pollutant concentrations downwind of the freeway. In addition, Measure AQ-3 was included in the RDEIR/SDEIS to reduce pollutants in near freeway locations resulting from the build alternatives. The build alternatives also propose Measure AQ-3 which would require installation of solid barriers where soundwalls are not proposed to reduce noise impacts, and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. As discussed in Section 2.3.2, Build Alternatives, in the Final EIR/EIS, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic component of the build alternatives. Should a build alternative be selected as the Preferred Alternative, this program would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty (Class 8) ZE/NZE trucks for use within the I-710 Corridor. A Community Health Benefit Program is also proposed as a programmatic element of the build alternatives. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, these programmatic elements will

not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Please refer to Section 1.10 of this appendix for more information on the Community Health Benefit Program.

Caltrans and Metro acknowledge the potential disproportionate impacts that the I-710 Corridor Project build alternatives may have on environmental justice communities, including low-income communities. The build alternatives propose Measure C-7 in Section 3.3.3.7 of the RDEIR/SDEIS to reduce these impacts. Should a build alternative be selected as the Preferred Alternative, Measure C-7 would specifically address disproportionate impacts to environmental justice populations with regards to air quality, traffic, visual impacts, and land use/parks and recreation resulting from the build alternatives. However, as stated above, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measure C-7 will not be implemented.

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Brad Jensen IP-33

From: dennis.rodriguez@siemens.com
Sent: Monday, October 23, 2017 2:54 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Dennis Rodriguez
Organization: Siemens Corporation
Phone: 3104034192
Mailing Address: 515 S. Flower Street #3663 City, State: Los Angeles, CA
Zip: 90071
Comment/Question:
To Whom It May Concern;

Siemens welcomes the opportunity to comment on the I-710 RDEIR/SDEIS because creating a zero emission goods movement future in the region, while focused on clean technologies that reduce emissions and combat climate change, is a strong priority for Siemens.

The I-710 RDEIR/SDEIS has missed an opportunity to investigate the electrification of the I-710 using catenary and catenary enabled trucks. This is in contravention of the Los Angeles County Metropolitan Transportation Authority's Governing motions (22.1) as well as State Bill 350. IP-33-1

The I-710 RDEIR/SDEIS states that it is not mandating a particular technology pathway or a certain type of operation. However, wayside power solutions, such as catenary, have not been investigated and, in fact, have purposefully been excluded from consideration in the name of technology neutrality [1]. IP-33-2

This exclusion of wayside power solutions, a technology option which several studies (i.e. GNA [2], UBA [3], IEA [4], ICCT [5] and others) have found to be the most cost effective way to reduce both harmful local pollutants and greenhouse gases, is a detriment to the communities impacted by the I-710. Furthermore, way-side power solutions constitute a backbone technology that is perfectly compatible with, and complementary to, other alternative fuel technologies. IP-33-3

Had the I-710 project investigated catenary electrification they would have identified that pilot projects of the technology are currently operational on public highways across the globe, as well as, within the region, on Alameda Street, in the City of Carson. IP-33-4

The CEO of a large European truck OEM thinks that trucks using such catenary systems will be a common sight within five years [6]. Germany's Chancellor Angela Merkel is promoting the technology [7], and following positive technical and economical assessments by the German Transport Ministry [8], Germany has announced three projects within the next two years on its main roads [9,10].

In alignment with the project's technology neutrality stated policy, the I-710 should only focus on those technologies which are able to support the long-term (POLA/POLB) Clean Air Action Plan (CAAP) goal towards zero-emissions, with a focus on the future deployment of alternative fuels, that are low- or zero-emitting, at the point of use and across the entire supply chain, both with regards to air pollutant and carbon dioxide (CO2) emissions, as a means to address multiple energy policy goals. According to the International Energy Agency this will be only electricity and hydrogen. IP-33-5

As POLA and POLB will also serve in an advocacy role to help reduce barriers for applicants and ensure funding awards will be targeted for priority projects in support of the CAAP goals, it is necessary to limit the funding to those technologies. According to the California Air Resources Board (CARB), the investment in bridge technologies will limit the

possibilities to be technology neutral for zero emission. Therefore Siemens argues vehemently for the I-710 project to focus on such technologies. IP-33-5

The I-710 is the busiest trucking corridor in the country. It constitutes a vital link between the San Pedro Bay ports and several nearby rail yards and warehouses. No corridor is better situated to benefit from the transition to zero emissions that a catenary system can provide, with very high efficiency, to the thousands of goods movement trucks that travel on that route. It could also be a first step to a regional network, including highway 60 to the inland empire, making zero emission trucking a reality for Los Angeles.

Siemens therefore would like to express its strong recommendation that the I-710 project include the catenary option, as it proceeds with the more detailed studies for implementation. IP-33-6

Best regards,

Dennis Rodriguez

Chief City Executive - LA/SF/SD/Pho
Siemens Corporation

Sources:
[1] http://www.sciencedirect.com/science/article/pii/S2210422416301411
[2] http://www.gladstein.org/gna-authored-report-helps-spur-development-of-an-ehighway-demonstration-in-california/
[3] https://www.umweltbundesamt.de/sites/default/files/medien/377/publikationen/2016-11-10_endbericht_energieversorgung_des_verkehrs_2050_final.pdf
[4] https://www.iea.org/publications/freepublications/publication/TheFutureofTrucksImplicationsforEnergyandtheEnvironment.pdf
[5] http://www.theicct.org/zero-emission-freight-trucks-2017
[6] http://plus.faz.net/unternehmen/2017-09-25/autobahn-unter-strom/58871.html
[7] http://www.regeringen.se/490ab0/contentassets/a8f2545e3b6147ed8050ba060d8123c3/innovation-and-cooperation-for-a-sustainable-future.pdf
[8] http://www.bmvi.de/SharedDocs/DE/Artikel/G/MKS/hybrid-oberleitungslkw.html?nn=214206
[9] http://www.faz.net/aktuell/wirtschaft/neue-mobilitaet/elektro-lkw-a5-zwischen-frankfurt-und-darmstadt-wird-teststrecke-15146641.html
[10] https://bnn.de/lokales/gaggenau/teststrecke-fuer-oberleitungs-lkw-im-murgtal

*You received this message because Dennis Rodriguez submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

IP-33-1

Caltrans and Metro acknowledge that at time the RDEIR/SDEIS was circulated for public review, it was not known what type of ZE/NZE technology would be available in commercial mass production at the time a build alternative would be implemented (should a build alternative be selected as the Preferred Alternative). Therefore, as stated by the commenter, the analysis contained within the RDEIR/SDEIS and this Final EIR/EIS is considered "technology neutral." However, Caltrans and Metro both respectfully disagree that any opportunity for investigation has been missed. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, ZE/NZE technology will not be implemented as part of the I-710 Corridor Project. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

It should be noted that wayside power for a catenary system was examined for the build alternatives evaluated in the Draft EIR/EIS circulated for public review in 2012. In addition to the additional visual impacts of the overhead catenary system, the evaluation also identified additional costs, infrastructure requirements, and related right-of-way concerns associated with the delivery of power from the region's electric power grid to the I-710 Corridor.

Subsequent to the Draft EIR/EIS, Metro sponsored a study on zero emissions technologies for the I-710 Corridor. The *I-710 Project Zero Emissions Commercialization Study* was completed by Calstart in 2013. At the same time, a comprehensive update of the future traffic forecasts was conducted for the I-710 Corridor, consistent with the new 2012 Regional Transportation Plan (RTP) travel demand forecast model. These studies were utilized to better understand existing and future truck travel needs and truck patterns on the I-710 Corridor. Through this work, it was discovered that I-710 does not serve a single, major drayage pattern. Trucks on I-710 serve a wide variety of trip purposes, and destination points are geographically dispersed throughout the SCAG region. Further, trucks use I-710 for only a portion of their trips and must rely on the overall arterial and freeway network to connect to their ultimate destinations.

As a consequence, the study effort for the RDEIR/SDEIS was broadened to encompass a wide range of zero and near-zero emissions vehicle technologies capable of delivering air quality benefits both on and off the I-710 Corridor that would be compatible with either of the two build alternatives (Alternatives 5C and 7). Features such as funding to support private initiatives to develop electronic charging stations and hydrogen fueling stations within the I-710 Study Area were also added to the I-710 program in recognition of the decentralized nature of truck travel on the I-710.

While the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is defined to

be technology neutral so as not to prejudge emerging zero emissions technologies, it would not preclude the future implementation of catenary and wayside power for the freight corridor alternative should a build alternative be selected as the Preferred Alternative and these technologies become commercially available and prove to be economically sustainable beyond the pilot project stage of operations. It is important to note that the I-710 Clean Truck Program is a programmatic element of the build alternatives, and the No Build Alternative has been selected as the Preferred Alternative and this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-33-2

Caltrans and Metro both respectfully disagree that any potential technologies were purposefully excluded from consideration. Please refer to Response to Comment IP-33-1 regarding ZE/NZE technology. In addition, in Section 2.3.2.3 of the RDEIR/SDEIS, overhead catenary electric power systems are specifically mentioned as a potential power system that could be utilized for electric propulsion trucks. Although this section of the RDEIR/SDEIS is specifically discussing the freight-only corridor under Alternative 7, this information would still be applicable to the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) that is a programmatic project component of the build alternatives. Please refer to Response to Comment IP-33-1 regarding implementation of the I-710 Clean Truck Program.

IP-33-3

Caltrans and Metro appreciate this information regarding catenary power systems. Please refer to Responses to Comments IP-33-1 and IP-33-2 regarding ZE/NZE technology.

IP-33-4

Please refer to Response to Comment IP-33-1 regarding electrification of the catenary system.

IP-33-5

Please refer to Response to Comment IP-33-1 for more detailed information regarding ZE/NZE technologies.

IP-33-6

The commenter’s recommendation is acknowledged and is included in the project record. Please refer to Responses to Comments IP-33-1 and IP-33-2 regarding inclusion of a catenary system as part of the build alternatives.

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October 23, 2017

Ronald Kosinski
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Los Angeles, CA 90012
Ron.Kosinski@dot.ca.gov

Re: Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement Prepared for the I-710 Corridor Project

Dear Mr. Kosinski:

The Salvation Army submits these comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement ("RDEIR/SDEIS") prepared for the I-710 Corridor Project (the "Project"). The Salvation Army owns parcel number 6332002036 in the City of Bell, where it operates the Bell Shelter. As proposed, Project Alternative 7 would result in significant adverse impacts to the Bell Shelter. Therefore, the Salvation Army submits that Project Alternative 5C is a superior project alternative as it minimizes the Project's effects on the Bell Shelter (and its essential community partners). IP-34-1

The Salvation Army is a California nonprofit corporation. The greater Salvation Army operates in 125 different countries, serving millions of needy and vulnerable persons throughout the world. Current programs include emergency shelters and transitional and permanent housing programs for the homeless; child care centers; low-income housing and services for senior citizens; hospitals and medical facilities; domestic violence shelters; individual and group counseling services; family reunification and missing persons services; anti-human trafficking programs; vocational training and career counseling; disaster relief; HIV/AIDS services; and drug and alcohol rehabilitation.

I. Background

A. The Salvation Army Bell Shelter

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The Salvation Army Bell Shelter is located on the site of the former Cheli Air Force Base, in the City of Bell. The Shelter offers housing and services to over 480 persons on a nightly basis throughout the year. The Shelter provides crisis, bridge, and transitional housing for homeless adults in two large-scale buildings, as well as in ten three-bedroom modular homes on permanent foundations and three two- and three-bedroom mobile homes. The Shelter's services include crisis/bridge housing (three to six month stay), transitional housing (up to 24 month stay), recuperative care shelter (one to three month stay for homeless adults exiting hospitals but not yet ready for mainstream shelter or a return to the streets), and temporary independent living for homeless adults, including veterans and the formerly incarcerated, in modular and mobile homes.

In addition to temporary housing, Bell Shelter provides residents with supportive services, including a comprehensive needs assessment; an individualized case plan designed to address residents' strengths and weaknesses and assist in the transition to permanent housing and independent living in the community; a state-licensed residential drug and alcohol recovery program; job preparation and placement services; educational and vocational services; individual and group counseling provided by licensed clinicians; assistance in obtaining mainstream benefits; medical and mental health services; permanent housing assistance; and follow-up services. Bell Shelter also operates a Neurofeedback Clinic to address symptoms from PTSD, anxiety, insomnia, substance abuse relapse, and other maladies that commonly afflict persons experiencing homelessness. Over 100 adults, mostly veterans, benefit from this free, specialized service each year at Bell Shelter.

Each year, over 1,500 homeless adults receive housing and services at Bell Shelter. Roughly a third of these residents are veterans. Further resident demographic data show that:

- 41% of residents have a physical disability
- 36% of residents have a diagnosed mental illness
- 34% of residents have a drug problem
- 30% of residents have an alcohol problem
- 44% of residents have a chronic health problem
- 57% of residents have two or more physical or mental health conditions

The Property on which The Salvation Army operates the Shelter is comprised of approximately 25.321 acres of land and contains two large former warehouse structures. The Salvation Army has utilized the property continuously over the past three decades to provide services to the homeless. From 1988 to 2007, The Salvation Army leased most of the parcel from the General Services Administration. In August 2007, the U.S. Department of Health and Human Services conveyed the land and structures to The Salvation Army, under the provisions of the McKinney-Vento Act, to be used to provide services to the homeless for the next 30 years.

B. RDEIR/SDEIS Project Alternatives

The RDEIR/SDEIS presents and evaluates three revised project alternatives, which include a no build alternative and two build alternatives: Alternative 5C and Alternative 7, both involving modernization of I-710 geometric design, particularly at interchanges and access points. The primary distinguishing feature between the build alternatives is that Alternative 7 contains the additional construction of a separate four-lane freight corridor.

Both build alternatives would adversely affect the Bell Shelter. Alternative 7 requires a partial acquisition of the Bell Shelter, as well as a full acquisition and relocation of the Mark Taper Foundation Shelter Resource Bank – a nearby facility at the same street address that is owned by the Shelter Partnership and whose operations are interrelated with those of the Bell Shelter. Under Alternative 5C direct impacts to the Shelter itself are avoided, but the Resource Bank must be partially acquired. Relocation or disruption of operations at the Resource Bank would have indirect impacts to the operations of the Shelter.

II. Caltrans Must Reject Project Alternative 7 in Light of Its Significant Adverse Impacts and the Availability of a Feasible Alternative That Would Substantially Lessen Such Impacts.

The California Environmental Quality Act ("CEQA") (Pub. Resources Code, § 21000 et seq., hereafter CEQA) imposes two basic duties on government agencies: (1) the duty to fully explore, analyze, and disclose all significant environmental effects of a proposed project in an environmental impact report ("EIR") (CEQA, § 21002.1); and (2) to avoid or mitigate those significant effects by choosing a less environmentally damaging alternative project, or by identifying and recommending for adoption all feasible mitigation measures. Projects that will have significant environmental impacts cannot be approved as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen the adverse effects. (CEQA, §§ 21002, 21081; Cal. Code Regs., tit. 14, §§ 15091-15094, hereafter Guidelines.)

Similarly, the National Environmental Policy Act ("NEPA") (U.S.C. § 4331 et seq.) requires any proposed major federal actions (e.g., federally funded projects) that significantly affect the environment to prepare an environmental impact statement ("EIS"), which must include the environmental impact of the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, and alternatives to the proposed action. (42 U.S.C., § 4332, subd. (c)(i)-(iii).) The Federal Highway Administration, in its implementation of NEPA, directs that final decisions regarding projects are to be made in the "best overall public interest" after taking into account adverse environmental impacts such as the "injurious disruption of people" and "disruption of desirable community and regional growth." (42 U.S.C., § 109, subd. (h).)

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A. The RDEIR/SDEIS Improperly Concludes That Acquisition and Relocation Impacts to the Bell Shelter Would Be Less Than Significant with Implementation of the Proposed Mitigation Measures.

The RDEIR/SDEIS incorrectly concludes that, with implementation of Measures C-1 and C-4, the Project's impacts to the Bell Shelter under Alternative 7 would be less than significant. Alternative 7 would require relocation of both the Shelter and the Resource Bank. Pursuant to the Uniform Relocation Assistance and Real Property Acquisitions Policies Act ("Uniform Act"), Measure C-1 establishes relocation services and payments, to be provided by Caltrans. Measure C-4 provides: "During final design, and consistent with the requirements of the Uniform Act, Caltrans shall negotiate with the City of Bell to determine appropriate action and/or identify an alternative location for the Bell Shelter/Resource Bank within the general vicinity of the existing facility so as to maintain the service area and its cooperative relationship with the Bell Shelter and mitigate for the acquisition of the center. The existing center shall not be demolished until the facility has been relocated and is operational." IP-34-2

Based on the 2017 Relocation Impact Report ("RIR") prepared for the Project, the RDEIR/SDEIS claims that sufficient relocation properties are currently available within the Study Area – this is not true. Rather, the RIR recognizes that relocation of the Shelter and Resource Bank would be difficult and fails to identify specific locations for relocation of the facilities. In direct contradiction of the RDEIR/SDEIS, the "final conclusion" of the RIR states that "[t]here appears to be adequate replacement properties for all displaces *with exception to special needs nonresidential properties* and available affordable replacements for residential tenants."

Without identifying relocation sites, Measures C-1 and C-4 convey a misleading impression about the effectiveness of the proposed mitigation for relocation of the Shelter, thus illegally postponing a crucial determination until after Project approval. As such, they are wholly insufficient as mitigation measures for Alternative 7's impacts on the Bell Shelter.

B. Displacement of the Bell Shelter Would Further Exacerbate the Homelessness Crisis in Los Angeles County.

Los Angeles County's homeless population increased by a staggering 23% between 2016 and 2017. The sharp rise, to nearly 58,000, suggests that the pathway into homelessness continues to outpace intensifying efforts against the crisis. The magnitude and urgency of homelessness in the greater Los Angeles area necessitate that all future development prioritize against further contributing to the plight of homeless persons.

The Salvation Army has provided housing and services to homeless individuals on the Shelter parcel for nearly 30 years. Relocating the affected residents would likely cause IP-34-3

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significant impacts as the City of Bell and the greater Los Angeles area absorb the needs of those displaced. The Bell Shelter is one of the largest homeless shelters in the country; finding adequate housing for the number of individuals that would be displaced would likely require the construction of several new facilities, in several different locations. IP-34-3

There are also serious questions about whether adequate relocation would even be possible, due to the Shelter's size, sources of funding, and the challenges presented in siting homeless shelters. The Bell Shelter occupies two large warehouse structures, as well as a cluster of modular homes, on the site of a former air force base. Finding an equivalently large site in the area would prove difficult, if not impossible. Additionally, the Shelter's parcel is encumbered by a variety of long-term requirements for the provision of housing and services for the homeless, which extend out as long as 2037. Should the provision of housing or services under existing contracts for services be interrupted or adversely impacted by the Project, these long-held contracts could be lost. Currently, residential housing and services are supported by approximately $8.5 million in local, state, and federal government grants and contracts for services. The Project threatens the future viability of this funding. Lastly, community opposition can present a further challenge to siting homeless shelters. This is one of the reasons for the federal policy that led to the Shelter's current location and one of the reasons why relocating the Shelter could prove difficult. All of these factors raise doubts about whether the Shelter could actually be replaced. IP-34-4

Even if sites and funding could be obtained to construct and operate facilities elsewhere, it is unclear that they would prove as successful as the Bell Shelter at combating homelessness. Residents of the Shelter experience high rates of success in transitioning out of homelessness, particularly for a population that is so difficult to serve. Over forty-five percent of low barrier/low demand crisis and bridge housing residents are placed into transitional or permanent housing upon exit, and over 50% of clients maintain or increase their income. Sixty-five percent of residents in transitional housing exit to permanent housing within two years, and nearly every client maintains or increases his or her income.

Among the reasons for the Shelter's high success rate is its location, which lacks proximity to negative influences that contribute to residents' becoming homeless. The Shelter's removed location enables residents to focus on addressing the underlying causes of their homeless condition rather than struggle to resist temptations that may otherwise trouble them. The Salvation Army has built a working relationship with the local communities and partners over many years and convenes a quarterly Local Government Task Force with representatives of neighboring communities to support collaboration and address homeless issues in the local area. The Salvation Army's property also hosts a complementary group of organizations that work collaboratively to address the needs of persons experiencing homelessness. The Project would demolish these long-standing structures and programs dedicated to helping end homelessness in Los Angeles County, further exacerbating the homelessness crisis. IP-34-5

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The loss or reduction of beds at Bell Shelter would further challenge efforts to address and end homelessness in an underserved area. Homeless shelters in this area already risk overcrowding, which is considered a significant environmental effect under CEQA. (Cal. Code Regs. tit. 14, § 15064(e) ("[I]f a project would cause overcrowding of a public facility and the overcrowding causes an adverse effect on people, the overcrowding would be regarded as a significant effect.").) The impacts of Alternative 7 would only increase the risk of overcrowding, particularly if the challenges related to relocation, described above, prevent the construction of an equal number of housing accommodations for homeless individuals. IP-34-6

CEQA allows Caltrans to determine an effect's "significance" based on substantial evidence in the record, including scientific and factual data and the circumstances of the surroundings. (Guidelines, § 15064, subd. (b).) In view of the social and economic realities in the greater Los Angeles area, as well as the crucial services that the Bell Shelter provides, Caltrans should reject as infeasible Alternative 7 to avoid displacing the Bell Shelter and requiring the already overburdened homeless shelters in Los Angeles area absorb the needs of the Shelter's residents. (See *City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 401, 417 ["[F]easibility" under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors."].) IP-34-7

C. Project Alternative 7 Violates Environmental Justice Requirements.

The unmitigated impacts resulting from displacement of the Bell Shelter would be predominantly borne by environmental justice populations, in violation of environmental justice requirements under Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, signed by President Clinton on February 11, 1994. The Executive Order requires federal agencies to identify and address "disproportionately high and adverse human health or environmental effects of [their] programs, policies, and activities on minority populations and low-income populations." (Exec. Order No. 12898, 59 Fed.Reg. 7629, 7629 (Feb. 16, 1994).) The Project receives federal funding and must comply with Executive Order 12898.

The RDEIR/SDEIS recognizes that relocation of the Shelter or the Resource Bank would be difficult and does not identify specific locations for the relocation of these facilities, which serve a population that is 76% minority and 100% low-income. Even if the Shelter could be relocated – a significant assumption – it would adversely and disproportionately impact these vulnerable individuals by disrupting their lives and interrupting vital services provided by the Shelter. The Project's adverse impact on the Shelter's population must be fully mitigated to comply with Executive Order 12898. IP-34-8

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D. Relocation of the Bell Shelter Would Have Substantial Negative Impacts on Other Organizations That Provide Complementary Services.

In addition to the Bell Shelter, The Salvation Army's property hosts several organizations that provide complementary services:

- **Union Rescue Mission** utilizes space at the Shelter for storage to support its Mission facilities in downtown Los Angeles;
- **JWCH Institute** operates a 30-bed recuperative care program for homeless persons exiting hospitals who are too ill to be released to shelters or back onto the streets. The Institute has operated this program on The Salvation Army's property in Bell for more than four years and represents a direct response to the much-maligned practice of "dumping" of homeless patients on Skid Row by local hospitals;
- The **Los Angeles Homeless Services Authority** utilizes a portion of the Shelter's warehouse space to store cots, blankets, and other materials for its Winter Shelter program;
- **Help the Children** utilizes the warehouses to operate a food pantry and resource bank for nonprofit organizations serving the homeless in the United States and abroad; and
- **The Salvation Army Disaster Services Unit** uses the warehouses to store food, equipment, and emergency disaster materials for a five-county region.
- **GrowGood** provides fresh produce and opportunities through their 1.5-acre farm adjacent to the Bell Shelter. GrowGood contributes to the more than 6,000 meals served each week at the Bell Shelter. Residents of the Bell Shelter have access to GrowGood's job training program, food choice classes, and the peace and healing aspects of their garden.

IP-34-9

The Salvation Army works together with these groups to address the needs of persons experiencing homelessness. Displacement of the Shelter under Alternative 7 would have substantial negative impacts on all of these organizations, not only displacing them but also upsetting efficiencies that come from their proximity to one another.

III. Project Alternative 5C, along with Mitigation Measures, Should Be Implemented to Minimize the Project's Adverse Effects on the Bell Shelter.

The Project's significant impacts to the Bell Shelter must be fully mitigated. A finding and statement of overriding considerations would be inadequate because there is a feasible alternative available which would substantially avoid the significant adverse effects on the Shelter. (CEQA, § 21081; *Friends of Sierra Madre v. City of Sierra Madre* (2002) 25 Cal.4th 165, 185.) Pursuant to CEQA requirements, Caltrans should not approve Alternative 7 as proposed by the RDEIR/SDEIS when a feasible alternative that accomplishes the Project's goals with substantially less significant environmental impacts – i.e., Alternative 5C – is clearly available.

IP-34-10

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Alternative 5C would feasibly attain the Project's objectives, but would substantially lessen the Project's significant adverse effects on the Shelter. Both build alternatives involve modernization of I-710 geometric design, in furtherance of the Project's purpose to address safety, operational, and capacity deficiencies. Yet Alternative 7 would result in the same or greater impacts than Alternative 5C in *all* of the resource areas discussed in the RDEIR/SDEIS, particularly with respect to adversely affecting the Bell Shelter. IP-34-10

A. Indirect Impacts on the Bell Shelter under Project Alternative 5C Need Mitigation.

Although Alternative 5C avoids direct impacts to the Bell Shelter parcel, it would require a partial acquisition of the Shelter Resource Bank. Relocation or disruption of operations at the Resource Bank would have indirect impacts to the operations of the Shelter. The Project's Final EIR must provide mitigation measures to avoid displacement of the Resource Bank and, in turn, mitigate the Project's impacts on the Shelter.

According to the RIR, Alternative 5C would require a partial acquisition along the western portion of the Resource Bank property. Relocation may be avoided by restructuring the building and loading zones, redesigning driveway areas, and altering traffic circulation patterns. Based on conversations with staff from the Los Angeles County Metropolitan Transit Authority ("LA Metro"), the latest designs for Alternative 5C will not result in relocation of the Resource Bank. The Project must avoid displacement in order to accommodate the cohesive relationship between the Resource Bank and the Bell Shelter. IP-34-11

B. State and Federal Law Require Analysis of and Mitigation for Adverse Impacts on the Bell Shelter's Environmental Justice Community.

Both CEQA and NEPA require analysis and disclosure of a project's potential human health effects. Under Alternative 5C, the Project has the potential for disproportionate impacts related to air quality, noise, and traffic on the environmental justice population served by the Bell Shelter. Moreover, temporary construction impacts would include disruption of local traffic patterns and access to residences and businesses, increased traffic congestions, and increased noise, vibration, and dust. The proposed I-710 freeway improvements will pass immediately adjacent to The Salvation Army's parcel, generating traffic, pollutants, and noise that will greatly affect the Shelter and its residents.

Excessive noise has serious environmental and community health impacts that are often under-appreciated or ignored. Studies of noise exposure show that noise can lead to annoyance, loss of sleep, stress-related heart health issues, and hearing loss.[1] The U.S. Environmental Protection Agency (EPA) has warned that: IP-34-12

[1] See, e.g., Babisch, et al., Traffic Noise and Risk of Myocardial Infarction, Epidemiology, Vol.16, No.1, Jan. 2005, pp. 33-40; FHA, Highway Traffic Noise in the United States, April 2000, p. 1; Griefahn et al., Disturbed

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> [E]xcessive exposure to noise might be considered a health risk in that noise may contribute to the development and aggravation of stress related conditions such as high blood pressure, coronary disease, ulcers, colitis, and migraine headaches . . . Growing evidence suggests a link between noise and cardiovascular problems . . . There are also some indications that noise exposure can increase susceptibility to viral infection and toxic substances. (EPA, *Noise Effects Handbook: A Desk Reference to Health and Welfare Effects of Noise* (1981).)

Under Alternative 5C, a freeway interchange will run directly adjacent to The Salvation Army's property. The presence of the on-ramps will substantially increase the noise levels for the residents and employees of the Shelter. While the RDEIR/SDEIS notes that there will be substantial noise increases on environmental justice communities along the Project corridor, it contains no discussion of any noise increase affecting the Shelter and consequently fails to propose any mitigation measures to lessen noise impacts. Based on conversations with LA Metro staff, Project planning in the area surrounding the Bell Shelter has not included noise abatement features typically included in residential areas such as sound walls. IP-34-12

Due to the vulnerable nature of Bell Shelter residents, more than half of whom have two or more physical or mental health conditions, the Shelter is especially susceptible to being affected by excessive noise. Further mitigation that specifically addresses The Salvation Army property is necessary to help alleviate Project-related adverse impacts on the Shelter's environmental justice community.

IV. Conclusion

The Salvation Army Bell Shelter has provided a critical service in the Los Angeles area for nearly 30 years, offering a home to thousands of homeless individuals in our community, and enabling these individuals to achieve greater stability in their lives. Over this period, the Shelter has developed an effective service structure and valuable relationships with local partners, including government agencies and nonprofit organizations. This has allowed the Shelter to establish a record of success in helping a difficult-to-serve population. Displacing the Shelter will not simply require relocation—which will impact the environment in ways described above—it will also require The Salvation Army to reconstruct the structures and relationships that have enabled its success.

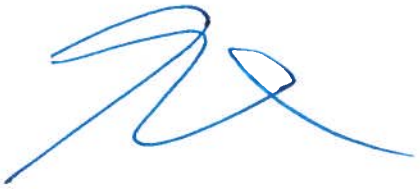
Sleep Patterns and Limitation of Noise, Noise and Health, Vol. 6, No. 22, Jan. – Mar. 2004, pp. 27-33; Skanberg, Adverse Health Effects in Relation to Urban Residential Soundscapes, Journal of Sound and Vibration (2002) 250(1), pp. 151-155; Clark and Stansfield, The Effect of Transportation Noise on Health and Cognitive Development: A Review of Recent Evidence, International Journal of Comparative Psychology, 2007, 20, 145-158.

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Final approval of the I-710 Corridor Project must take into account the fact that tens of thousands of homeless individuals in the greater Los Angeles area are in desperate need of shelter. Any adverse effect on the Bell Shelter, viewed in light of the homelessness crisis, would result in uniquely significant impacts that should be mitigated by all means available. We respectfully request that Caltrans adopt Project Alternative 5C, along with measures to mitigate the Project's impact on the Shelter wherever feasible. Beyond CEQA compliance, this will ensure badly-needed protection for a vital community resource. Thank you in advance for your consideration.

IP-34-13

Sincerely,



Kyle Smith, Lt. Colonel
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IP-34-1

Caltrans and Metro thank the commenter for their input. The commenter's support of Alternative 5C and opposition to Alternative 7 are acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative (Alternative 1 No Build).

IP-34-2

The commenter's concern regarding the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and will not result in the permanent displacement of Bell Shelter. Please refer to Section 1.5 of this appendix for a further discussion of the impacts to Bell Shelter.

IP-34-3

Please refer to Response to Comment IP-34-2 regarding the displacement of the Salvation Army Bell Shelter.

IP-34-4

Please refer to Response to Comment IP-34-2 regarding the displacement of the Salvation Army Bell Shelter.

IP-34-5

The commenter's concerns regarding the potential for a reduction in the effectiveness of services provided to the homeless in the event the Salvation Army Bell Shelter is relocated are acknowledged and included in the project record. Please refer to Response to Comment IP-34-2. Alternative 1 (No Build) has been identified as the Preferred Alternative, which will not displace the Bell Shelter or S. Mark Taper Foundation Shelter Resource Bank.

IP-34-6

Please refer to Response to Comment IP-34-5 regarding the potential for a reduction in the effectiveness of services provided to the homeless in the event the Salvation Army Bell Shelter would be relocated.

IP-34-7

As described in Section 2.0, Project Alternatives, of the RDEIR/SDEIS, the project purpose and need statements are used to develop a reasonable range of alternatives that must avoid or minimize environmental impacts. As described in Section 2.4, factors used in determining the reasonable range of alternatives for further evaluation in the RDEIR/SDEIS included whether or not the alternatives (1) failed to meet the most basic project objectives, (2) were infeasible (per State CEQA Guidelines Section 15126.6(f)(1), or (3) were unable to avoid significant environmental impacts.

Alternative 7 was incorporated into the project as a result of public comment during the 2012 public circulation period. Several workshops and community stakeholder meetings were also held to ensure that Alternative 7 analyzed in the RDEIR/SDEIS reflected the elements that the public desired to see with this project alternative and were also appropriate for inclusion in a project-level EIR/EIS. The Metro Board of Directors passed Board Motion 22.1 in October 2015 that directed Metro and Caltrans to study project elements, including the development of a geometric design that avoids significant impacts and displacement of homes, businesses, and community resources (which includes the Bell Shelter), as a part of the I-710 Corridor Project. In compliance with Metro Board Motion 22.1, an analysis was undertaken to examine the right-of-way impacts of Alternative 7 (which includes potential impacts to the Bell Shelter in the vicinity of Slauson Ave.), identify major impacts to homes, businesses, and/or community resources, and provide documentation of the rationale and constraints that make these impacts unavoidable. The analysis identified two avoidance concepts developed to specifically avoid relocation of or significant modifications to the Bell Shelter:

- **S1:** Shifting all of the roadway alignments westerly, while still retaining the functionality of the freight corridor and freight corridor interchange at Slauson Ave. would eliminate direct impacts to the shelter. However, this realignment would necessitate relocation of the Los Angeles Department of Water and Power (LADWP) transmission corridor west of I-710 as well as require major encroachments within the Los Angeles River. This revised alignment would result in substantial increased environmental and right-of-way impacts. Therefore, this concept was not considered viable.
- **S2:** Elimination of the truck interchange at Slauson Ave. The freight corridor ramps at Slauson Ave. would require the alignment of the freight corridor to be situated adjacent to the northbound freeway lanes. The freight corridor lanes and northbound collector-distributor road would directly affect the shelter facilities, and the realignment of the Los Angeles Junction (LAJ) railroad adjacent to the freight corridor would further impact the shelter facilities as well. Elimination of the freight corridor ramps at Slauson Ave. from the current design would reduce impacts and avoid relocation of the shelter facilities. Because there would be no ramps at Slauson Ave. in this concept, the freight corridor would be positioned in the median of the freeway, supported by a single-column viaduct structure

spanning Slauson Ave. This alignment strategy would be employed south of Slauson Ave. in the current configuration of Alternative 7. The connectors between the freight corridor and the freeway, north of Slauson Ave., were adjusted to accommodate the new freight corridor alignment. The northbound freeway lanes and northbound collector-distributor road would need to be shifted east, closer to the shelter facilities, and the LAJ railroad would need to be relocated adjacent to the northbound lanes. This scenario would not necessitate relocations associated with the shelter facilities.

However, the truck traffic that would have used the freight corridor and Slauson Ave. would be diverted to other roadways. It was anticipated that virtually all of the diverted traffic would use the mixed-flow freeway lanes instead and access the local area using interchanges at Bandini Blvd. and Florence Ave. The success of the freight corridor, and justification of its cost expenditures, would depend on its ability to remove diesel trucks from the freeway lanes. The projected number of truck traffic expected to use the freight corridor at Slauson Ave. would be approximately 9,200 per day. As a direct result of this diversion, utilization of the full length of the freight corridor would decrease and utilization of the adjacent freeway segments would increase. During peak periods, the percentage of trucks in these segments of the freight corridor would be expected to decrease as much as 15 to 17 percent, meaning that as much as 53 percent of all trucks would be using the mixed flow freeway lanes. This would reduce the distribution below the threshold criteria needed for successful use of the freight corridor for all segments during most peak periods. Because the freight corridor would be underutilized, the overall effectiveness of other freeway and local street improvements in this area would diminish markedly. The loss of access would be inconsistent with the purpose of the freight corridor and would substantially reduce the performance of Alternative 7; therefore, this concept was not considered viable.

As described above in bullet points S1 and S2, these avoidance concepts were determined not to be viable as they did not achieve the basic project objectives or avoid or minimize significant environmental impacts.

In an effort to minimize impacts to the operation of the Bell Shelter and to ensure the other area shelters would not be disrupted with a sudden influx of persons as a result of the closure of Bell Shelter, the RDEIR/SDEIS identified Measure C-4 to address these potential impacts resulting from the build alternatives. Should a build alternative be selected as the Preferred Alternative, Measure C-4 would require Caltrans to negotiate with the City of Bell to determine an appropriate action and/or identify an alternative location for the Bell Shelter and the S. Mark Taper Foundation Shelter Resource Bank within the general vicinity of the existing facility so as to maintain the service area and its cooperative relationship with the Bell Shelter and adequately mitigate for the acquisition of the facility. Should a build alternative be selected as the Preferred Alternative, the existing facility would not be demolished until the facility has been relocated and is operational. With implementation of Measure C-4, the Bell Shelter would remain operational until a new facility would be operational and could accommodate the displaced shelter residents. However, as

mentioned in previous responses, the Bell Shelter would not be displaced under Alternative 1 (No Build), which has been identified as the Preferred Alternative.

IP-34-8

Caltrans has identified Alternative 1 (No Build) as the Preferred Alternative, which would not result in displacement of the Salvation Army's Bell Shelter and medical center.

IP-34-9

Please refer to Response to Comment IP-34-5 regarding the potential for a reduction in the effectiveness of services provided to the homeless in the event the Salvation Army Bell Shelter would be relocated.

IP-34-10

Alternative 1 (No Build) has been identified as the Preferred Alternative and will not result in the displacement of Bell Shelter. Please refer to Section 1.5 of this appendix for further discussion of the impacts to Bell Shelter.

IP-34-11

Please refer to Response to Comment IP-34-5 regarding the potential for a reduction in the effectiveness of services provided to the homeless in the event the Salvation Army Bell Shelter would be relocated.

IP-34-12

A discussion of the public health considerations of noise was included in Section 3.14.3 of the RDEIR/SDEIS, and which acknowledged the several types of public health considerations related to traffic noise that have been studied over the years, including annoyance, sleep disturbance, immune effects, ergonomics, psychology, and cardiovascular disease.

In response to this comment, additional noise modeling has been performed at the referenced location. Based on the TNM modeling under existing conditions, the worst-hour noise levels at the Bell Shelter would be in the range of 66–73 dBA-L_{eq}(h). At Site #SABS-1, the worst-hour noise level would be 69 dBA-L_{eq}(h); at Site #SABS-2, the worst-hour noise level would be 71 dBA-L_{eq}(h); at Site #SABS-3, the worst-hour noise level would be 73 dBA-L_{eq}(h). Therefore, the noise increase under Alternative 5C would range from 1 to 3 dBA and would not result in a significant impact under CEQA. A new soundwall was analyzed on top of the retaining wall along the newly proposed southbound I-710 off-ramp to Atlantic Blvd./Bandini Blvd. in the City of Bell, directly adjacent to the Bell Shelter property. That barrier, SW-511D, has been found acoustically feasible and reasonable. However, as stated in Response to Comment IP-34-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, this soundwall will not be constructed.

IP-34-13

The commenter's support of Alternative 5C is acknowledged and included in the project record. However, Alternative 1 (No Build) has been identified as the Preferred Alternative.

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October 23, 2017

VIA EMAIL AND HAND DELIVERY

Ronald Kosinski
Caltrans District 7
Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Re: I-710 Corridor Project RDEIR/SDEIS

Dear Mr. Kosinski:

We write on behalf of Shelter Partnership, Inc. regarding the I-710 Corridor Project (the "Project") Revised Draft EIR / Supplemental Draft EIS ("RDEIR/SDEIS"). Shelter Partnership is a non-profit organization that provides support to homeless services organizations throughout Los Angeles County. As a critical part of that mission, Shelter Partnership operates the S. Mark Taper Foundation Shelter Resource Bank, a 108,000 square foot warehouse on six acres in the City of Bell.

Since the release of the original Draft EIR/EIS in 2012, Shelter Partnership has met with representatives from Metro, Caltrans, and other involved groups (the "Project Team") regarding the possibility of reducing or avoiding the Project's impacts on Shelter Partnership's operations. Shelter Partnership appreciates that the Project Team has made commitments to Shelter Partnership regarding the impact of the Project on its operations.

In particular, the Project Team has informed Shelter Partnership that Alternative 5C will not impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank in the City of Bell. Shelter Partnership appreciates these assurances, and looks forward to working with the Project Team going forward should Alternative 5C be selected. Should the Project proceed under one of the two build alternatives, and assuming that Alternative 5C does not impact Shelter Partnership's operation of the S. Mark Taper Foundation Shelter Resource Bank, Shelter Partnership supports Alternative 5C, rather than Alternative 7. IP-35-1

While Shelter Partnership is appreciative of the Project Team's responsiveness and commitments to work with Shelter Partnership, because the deadline for public comments to the RDEIR/SDEIS is October 23, 2017, Shelter Partnership is obligated to comment on the

document in its current form. As set forth in more detail below, the RDEIR/SDEIS contains several flaws that must be addressed before the Project can proceed.

Shelter Partnership

Shelter Partnership is a Los Angeles-based 501(c)(3) non-profit organization dedicated to collaboratively solving homelessness in Los Angeles County through policy analysis, program design, resource development, and advocacy in support of agencies and local governments that serve the homeless. In pursuit of this mission, Shelter Partnership helps to develop housing programs and supportive services for the homeless and potentially homeless. Each year, Shelter Partnership provides support and donated goods to more than 230 agencies and projects serving the homeless throughout Los Angeles County. These goods, in turn, are distributed to an estimated 100,000 homeless individuals in Los Angeles. Approximately 50% of the agencies receiving goods from Shelter Partnership serve homeless and low-income children.

In addition to distributing goods, Shelter Partnership provides a number of other services to organizations dedicated to helping the homeless. For example, Shelter Partnership is currently assisting the City and County of Los Angeles in implementing City Proposition HHH and County Measure H, programs to fund housing for the homeless and those at risk of becoming homeless, and to fund facilities that provide mental health care, addiction treatment, and other services.

In sum, Shelter Partnership plays a vital role in supporting Los Angeles' homeless population and is an important community resource.

S. Mark Taper Foundation Shelter Resource Bank

In 1989, Shelter Partnership established the S. Mark Taper Foundation Shelter Resource Bank project to distribute donated goods to homeless service agencies throughout Los Angeles County. This project provides a critical service to the Los Angeles homeless population by distributing, free of charge, items such as clothing, baby products, and personal hygiene products. To date, the project has distributed over $225 million in goods to more than 600 homeless service agencies. Indeed, in the most recent fiscal year alone, Shelter Partnership distributed $10.1 million in goods to 234 agencies. *See* Exhibit 1 (list of agencies served in 2016/2017). The primary recipients of goods from the S. Mark Taper Foundation Shelter Resource Bank are hundreds of direct homeless service providers. The S. Mark Taper Foundation Shelter Resource Bank enables these homeless service providers to focus their funds and scarce resources on direct support services for the homeless. Without Shelter Partnership's support, the agencies' ability to support local homeless populations would be compromised.

The heart of the S. Mark Taper Foundation Shelter Resource Bank is a 108,000 square foot warehouse on six acres in the City of Bell. The parcel is a former military facility. Shelter Partnership obtained the parcel by title conveyance from the United States Department of Health and Human Services in July 2007, and the United States government retains a reversionary interest in the parcel. Indeed, the conveyance entitles Shelter Partnership to occupy the property for thirty years, provided that Shelter Partnership continuously uses the property for public health purposes. For the thirty year period, Shelter Partnership may not encumber or dispose of any part of the property without the written authorization of the federal government.

The S. Mark Taper Foundation Shelter Resource Bank is in close proximity to The Salvation Army's Bell Shelter, which provides housing and services to hundreds of individuals on a nightly basis. Since 1990, the S. Mark Taper Foundation Shelter Resource Bank has provided Bell Shelter with over $2.3 million in goods for its residents, including toiletries, blankets, clothing, and furniture. The proximity of the S. Mark Taper Foundation Shelter Resource Bank to Bell Shelter benefits the missions of both organizations.

Shelter Partnership completed a $3.5 million renovation of the S. Mark Taper Foundation Shelter Resource Bank warehouse in 2009. This extensive rehabilitation was intended to ensure that the S. Mark Taper Foundation Shelter Resource Bank will thrive in its mission of serving the homeless for the next 30-50 years. Among other things, in connection with this rehabilitation, Shelter Partnership took great care to ensure that the warehouse was appropriately outfitted for receiving and distributing donations; improvements include a new roof, a new sprinkler and water system, new lighting, replacement of doors and windows, structural upgrades, and repair of the building interior and exterior.

According to the RDEIR/SDEIS, the S. Mark Taper Foundation Shelter Resource Bank would be fully acquired and displaced under Alternative 7. According to the RDEIR/SDEIS, and based on Shelter Partnership's discussions with the Project Team, Shelter Partnership understands that Alternative 5C would require a partial acquisition of the western end of the parcel, but would not impact the S. Mark Taper Foundation Shelter Resource Bank itself and would not require relocation of the business. Under the No Build Alternative, the S. Mark Taper Foundation Shelter Resource Bank would not be impacted.

Benefits of the S. Mark Taper Foundation Shelter Resource Bank's Current Location

The S. Mark Taper Foundation Shelter Resource Bank is ideally located to serve Los Angeles' homeless population. Like any warehouse facility, the S. Mark Taper Foundation Shelter Resource Bank benefits from proximity to freeways including I-710 and I-5, as easy freeway access facilitates the rapid distribution of goods from the warehouse. The S. Mark Taper Foundation Shelter Resource Bank's geographically central location in Bell also provides

operational synergies. Situated close to downtown Los Angeles, the S. Mark Taper Foundation Shelter Resource Bank is positioned to receive goods donations from businesses throughout the region. Those goods are then distributed to homeless service organizations throughout the region, many of which are close to Bell. For example, the Bell Shelter, which has received over $2.3 million in donated goods since 1990, is in close proximity to the S. Mark Taper Foundation Shelter Resource Bank.

Moreover, donors and recipients of goods are responsible for independently dropping off or picking up products at the S. Mark Taper Foundation Shelter Resource Bank. Each week, the S. Mark Taper Foundation Shelter Resource Bank receives an average of 15 shipments from donors. Annually, the S. Mark Taper Foundation Shelter Resource Bank distributes more than 750 orders to individual agencies. The S. Mark Taper Foundation Shelter Resource Bank's central location is essential to facilitate these numerous donations and distributions. It would be far more difficult for businesses and organizations to deliver or receive goods from the S. Mark Taper Foundation Shelter Resource Bank, should it be required to move further away from its primary donors and beneficiaries.

Impacts of Relocating the S. Mark Taper Foundation Shelter Resource Bank

The S. Mark Taper Foundation Shelter Resource Bank would be fully acquired and displaced under Alternative 7, and the parcel would be partially acquired under Alternative 5C. Both build alternatives could potentially force Shelter Partnership to reduce or suspend operations of the S. Mark Taper Foundation Shelter Resource Bank for a period of time. Acquisition and relocation of the S. Mark Taper Foundation Shelter Resource Bank, or suspension of its operations, would have a serious adverse impact on the homeless population of Los Angeles. Indeed, the S. Mark Taper Foundation Shelter Resource Bank serves hundreds of homeless service agencies on an annual basis—234 in 2016/2017 alone. *See* Exhibit 1 (list of agencies served during 2016/2017). These agencies count on the S. Mark Taper Foundation Shelter Resource Bank to secure critical items for the homeless, such as toiletries, clothing, and baby products. If the S. Mark Taper Foundation Shelter Resource Bank's services are disrupted as a result of construction or relocation, tens of thousands of homeless individuals throughout Los Angeles could receive significantly less material assistance from service agencies that are supported by the S. Mark Taper Foundation Shelter Resource Bank. These agencies may also have to reduce their direct services to the homeless, including case management and support services, to focus their resources on acquiring goods that were previously provided by the S. Mark Taper Foundation Shelter Resource Bank. IP-35-2

Beyond the immediate adverse impacts on the Los Angeles homeless population, acquisition of Shelter Partnership's parcel could have an adverse long-term impact on the viability of the S. Mark Taper Foundation Shelter Resource Bank project. The Project seeks to IP-35-3

expand freeway capacity specifically for freight services. Alternative 7 of the RDEIR/SDEIS includes designated truck lanes that would allow additional freight to be brought into the I-710 Corridor. As a result of increased freight being shipped through the I-710 Corridor, warehouse spaces in the region may be at a premium. Therefore, if the S. Mark Taper Foundation Shelter Resource Bank is forced to relocate, Shelter Partnership may have difficulty locating a suitable, centrally-located replacement warehouse. And as previously described, a centrally located warehouse is essential to the S. Mark Taper Foundation Shelter Resource Bank's mission. IP-35-3

In addition, relocating the S. Mark Taper Foundation Shelter Resource Bank to a less central parcel could adversely impact air quality. The S. Mark Taper Foundation Shelter Resource Bank, for example, relies on deliveries and distributions of goods by truck and car. On average, the S. Mark Taper Foundation Shelter Resource Bank receives 15 shipments per week and distributes more than 750 orders per year. Relocating to a less central warehouse could increase air pollution, as donors and recipients would be forced to drive longer distances to reach the warehouse. IP-35-4

Moreover, the S. Mark Taper Foundation Shelter Resource Bank's $3.5 million renovation included the installation of many "green" features to make the building environmentally friendly. Among the green features are a reflective cool roof, low flow toilets and faucets, motion-activated lighting throughout the warehouse, and recycled, natural or no-formaldehyde materials for the walls and ceilings. Further, the ceilings, beams, and walls of the warehouse were whitewashed with low VOC paint, and large windows running the length of the warehouse were replaced with low-E glass to maintain the abundant natural lighting. The electrical and water consumption levels of the warehouse beat state environmental standards by fifty percent. If the S. Mark Taper Foundation Shelter Resource Bank were acquired, the environmental benefits resulting from these features would be negated unless a replacement property was comparably efficient. IP-35-5

Impacts if the S. Mark Taper Foundation Shelter Resource Bank is Not Acquired

Even if the Project Alternative selected does not require acquisition of the S. Mark Taper Foundation Shelter Resource Bank parcel, construction along the I-710 Corridor could negatively impact the S. Mark Taper Foundation Shelter Resource Bank's ability to serve Los Angeles's homeless population. For example, construction along the I-710 freeway could impede access to the S. Mark Taper Foundation Shelter Resource Bank by donor or recipient organizations. Moreover, this construction could impede access to the S. Mark Taper Foundation Shelter Resource Bank by the five Shelter Partnership employees who travel to the facility on a daily basis, as well as the hundreds of deliveries and pick-ups that take place every year. IP-35-6

In addition, construction along the I-710 Corridor would also threaten air quality in the surrounding area, as well as the health of Shelter Partnership's employees. Construction along the I-710 Corridor would also increase noise levels, and would impact Shelter Partnership's employees as well as the many individuals who visit the S. Mark Taper Foundation Resource Bank each year for deliveries, pick-ups, and other reasons. IP-35-7

Moreover, even after construction is completed, Shelter Partnership understands from its meetings with the Project Team that under Alternative 5C, freeway on/off ramps will come within 25 feet of its building. The proximity of the freeway on/off ramps to Shelter Partnership's facility would likely increase the levels of pollution and noise experienced by Shelter Partnership employees and visitors to the S. Mark Taper Foundation Resource Bank. As set forth further below, if Alternative 5C is selected, Shelter Partnership requests the implementation of appropriate mitigation measures to address the effects of increased pollution and noise. IP-35-8

Inadequacies in I-710 Corridor Project RDEIR/SDEIS

1. *Alternative 5C*

The RDEIR/SDEIS is inconsistent and vague in describing the impact of Alternative 5C on the S. Mark Taper Foundation Shelter Resource Bank. In response to the initial Draft EIR/EIS released in 2012, Shelter Partnership submitted written comments highlighting the internal inconsistencies regarding Alternative 5A's impact on the S. Mark Taper Foundation Shelter Resource Bank. *See* Exhibit 2 (Sept. 28, 2012 Shelter Partnership Comment) at 7-8. In response to Shelter Partnership's September 2012 comment, the Project Team stated that "[a]s described in detail in Section 3.3.2.3 of the Recirculated Draft EIR/Supplemental Draft EIS, *the revised build alternatives have been redesigned to avoid the need to relocate the Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank in the City of Bell under at least one build alternative*." RDEIR/SDEIS Responses to Interested Party Comment IP-122-1, page 1425 (emphasis added); *see also* Exhibit 2 at 42. IP-35-9

Since the release of the RDEIR/SDEIS, Shelter Partnership has met with the Project Team to discuss the impacts of the proposed build alternatives on its property. Based on these discussions, Shelter Partnership understands that Alternative 5C would not impact or require a relocation of the S. Mark Taper Foundation Shelter Resource Bank. *See* Exhibit 3 (Oct. 5. 2017 email from E. Chaves). But the RDEIR/SDEIS is vague in describing the impact of Alternative 5C on the S. Mark Taper Foundation Shelter Resource Bank, and in several instances suggests that acquisition or reconfiguration of the warehouse structure itself would be required. For example:

- "As described in detail in Section 3.3.2.3 of the Recirculated Draft EIR/Supplemental Draft EIS, the revised build alternatives have been redesigned to avoid the need to relocate the Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank in the City of Bell under at least one build alternative. *Under Alternative 5C, a partial acquisition would occur along the western portion of the property. It is possible that redesign of the loading docks/zones, driveway areas, and traffic circulation patterns in the area could be done to avoid a relocation of the Resource Bank under Alternative 5C* and retain the interrelated nature of the Bell Shelter and the Resource Bank." RDEIR/SDEIS Responses to Interested Party Comment IP-122-1, page 1425 (emphasis added); *see also* Exhibit 2 at 42.

- "Alternative 5C would require a partial acquisition along the western portion of the property." RDEIR/SDEIS at 3.3-32.

- "Under Alternative 5C, the Bell Shelter facility would be avoided, but the *Mark Taper Foundation Shelter Resource Bank* (a nearby facility at the same street address that is owned by the Shelter Partnership and whose operations are interrelated with those of the Bell Shelter) *would be partially acquired.*" RDEIR/SDEIS at 3.3-144.

- "Alternative 5C would avoid impacts to the Bell Shelter, but would require a partial acquisition of the Shelter Resource Bank, along the western side of the property." RDEIR/SDEIS at 4-45.

IP-35-9

In recent meetings with Shelter Partnership, the Project Team clarified that the language regarding "partial acquisition" refers to a sliver along the western edge of the approximately 6 acre parcel housing the S. Mark Taper Foundation Resource Bank, and would not impact the warehouse facility. According to the Project Team, under any of the design alternatives for Alternative 5C, an on/off ramp would come within approximately 25 feet of the western corner of the warehouse, but would not impact the structure itself. *See* Exhibit 3.

Based on its discussions with the Project Team, Shelter Partnership understands that the S. Mark Taper Foundation Shelter Resource Bank would not be impacted under Alternative 5C. Based on that understanding, Shelter Partnership prefers Alternative 5C to Alternative 7, should the Project proceed with one of the build alternatives. But because of the inconsistent and vague language in the RDEIR/SDEIS itself, Shelter Partnership is obligated to submit this comment to highlight the inadequacies in the draft should Alternative 5C ultimately impact or require relocation of the S. Mark Taper Foundation Shelter Resource Bank. If Alternative 5C is ultimately designed or constructed in a manner that results in an acquisition of the warehouse, requires reconfiguration of the current structure, or otherwise impacts Shelter Partnership's

IP-35-10

operations adversely, Shelter Partnership reserves the right to challenge the adequacy of the RDEIR/SDEIS with respect to this alternative. IP-35-10

2. *Alternative 7*

In response to the initial Draft EIR/EIS in 2012, the Coalition for Environmental Health and Justice (CEHAJ) submitted a proposal known as "Community Alternative 7" or "CA-7." *See* RDEIR/SDEIS at 2-5. Community Alternative 7 included seven components: no widening of I-710 general purpose lanes; comprehensive public transit element; mandatory zero-emission freight corridor; public-private partnership operator of the freight corridor; Los Angeles River improvements; comprehensive pedestrian and bicycle element; and community benefits. *Id.* According to the RDEIR/SDEIS, "the proposal of CA-7, coupled with the general support from the EPA and others for the evaluation of an alternative that added a ZE/NZE freight corridor without expansion of general purpose lanes, was directly responsible for the development of Alternative 7 as a stand-alone project alternative under consideration in this RDEIR/SDEIS." RDEIR/SDEIS at 2-6.

The first component of Community Alternative 7—no additional general purpose lanes—made specific reference to Shelter Partnership's facility. In particular, Community Alternative 7 stated: "CA7.1 No Widening of GENERAL PURPOSE LANES. Community Alternative 7 will maintain the current configuration of the existing I-710 Corridor. Nonetheless, there would be other improvements that increase capacity to the I-710 mainline. . . . *City of Bell* specific: Community Alternative 7 will not interfere with Shelter Partnerships' facility or Bell Shelters operated by the Salvation Army." RDEIR/SDEIS Responses to Interested Party Comment IP-22-4, page 484 (emphasis in original). IP-35-11

In October 2015, the Metro Board of Directors passed Board Motion 22.1, which directed Metro and Caltrans to study certain issues as part of the Project Description. Among other things, Metro and Caltrans were directed to: "[d]evelop a geometric design for Alternative 7 that avoids significant impacts and displacement of homes, businesses, and community resources, such as but not limited to the Bell Shelter or Senior Centers, and the implications of such a design on commuter and freight traffic demands; where significant impacts are unavoidable, provide documentation of the rationale and constraints." RDEIR/SDEIS at 2-7.

Despite the stated objectives of Community Alternative 7 and Metro Board Motion 22.1, the current Alternative 7 would require a full acquisition of the S. Mark Taper Foundation Shelter Resource Bank. Moreover, while Metro Board Motion 22.1 directs Metro and Caltrans to provide documentation of the rationale and constraints if acquisition is required, the RDEIR/SDEIS provides only a cursory description of the viability of alternative plans that would

avoid Shelter Partnership's facility. RDEIR/SDEIS at 3.3-59-60. Indeed, the RDEIR/SDEIS considers only two alternative designs for Alternative 7. *Id.*

The RDEIR/SDEIS eliminates from consideration the first avoidance concept, S1, based on the fact that realignment would result in "substantial increase[s] in environmental and right of way impacts." RDEIR/SDEIS at 3.3-59. But the RDEIR/SDEIS does not specify what the increased environmental or right of way impacts are, or quantify whether or how they would surpass the anticipated environmental or right of way impacts under the current version of Alternative 7. The RDEIR/SDEIS eliminates from consideration the second avoidance concept, S2, based on the fact that it would result in underutilization of the freight corridor. RDEIR/SDEIS at 3.3-60. The RDEIR/SDEIS does not, however, detail the bases for its assumptions regarding decreased use of the freight corridor and increased usage of the mixed flow freeway lanes. IP-35-11

Because the RDEIR/SDEIS did not document the rationale and constraints requiring acquisition of the S. Mark Taper Foundation Shelter Resource Bank, it should be revised to more fully analyze these issues.

3. *The RDEIR/SDEIS Does Not Comply with the Requirements of the Uniform Act.*

According to the RDEIR/SDEIS, Alternative 7 would require a full acquisition of Shelter Partnership's property and displace the S. Mark Taper Foundation Shelter Resource Bank. *See, e.g.*, March 2017 Relocation Impact Report ("RIR") at 34 of 92. The Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the "Uniform Act") mandates that certain relocation and services and payments by Caltrans be made available to eligible residents, businesses, and nonprofit organizations displaced by its projects. RDEIR/SDEIS at 3.3-67.

The RDEIR/SDEIS fails to provide adequate assurances that the proposed relocation plan complies with the requirements of the Uniform Act. The RDEIR/SDEIS states that "[w]here acquisition and relocation are unavoidable, Caltrans will follow the provisions of the Uniform Act and the 1987 Amendments as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by Caltrans, dated March 2, 1989." RDEIR/SDEIS at 3.3-73. Pursuant to regulations enacted in furtherance of the Uniform Act, "[b]efore a Federal Agency may approve any grant to, or contract, or agreement with, a State Agency under which Federal financial assistance will be made available for a project which results in real property acquisition or displacement that is subject to the Uniform Act, the State Agency must provide appropriate assurances that it will comply with the Uniform Act and this part." 49 C.F.R. § 24.4. These assurances must be provided in accordance with Section 210 of the Uniform Act. *Id.* IP-35-12

Based on these regulations, prior to final approval of the project, Caltrans must provide adequate assurances that the real property acquired in connection with the Project complies with the requirements of the Uniform Act. The RDEIR/SDEIS does not provide these assurances, and is therefore inadequate.

Under Section 210 of the Uniform Act, the acquiring agency must implement a "relocation assistance advisory program." 42 U.S.C. § 4625(b). As part of this program, the agency must "provide current and continuing information on the availability, sales prices, and rental charges of comparable replacement dwellings for displaced homeowners and tenants and suitable locations for business and farm operations." 42 U.S.C. § 4625(c)(2).

The RDEIR/SDEIS fails to meet these requirements. Nor does the RIR, authored in connection with the RDEIR/SDEIS, remedy these deficiencies. The RDEIR/SDEIS makes a blanket statement of Caltrans' intent to comply with the requirements of the Uniform Act. RDEIR/SDEIS at 3.3-73. As part of this effort, Caltrans' RIR indicates its plan to provide "Relocation Assistance Advisory Service[s]." RIR at 88. The RIR also notes that Caltrans will create a "Nonresidential Relocation Assistance Program (RAP)" to "provide[] assistance to businesses, farms and nonprofit organizations in locating suitable replacement properties[.]" *Id.* The RIR concludes that "further study would be required to investigate the specific nature of affected businesses and their relocation needs." *Id.* at 91. IP-35-12

This conclusory statement to further investigate businesses' relocation needs is insufficient to establish that the relocation needs of Shelter Partnership will be met. This deficiency is particularly critical because Alternative 7 contemplates the addition of designated freight lanes that would result in additional freight being brought into the I-710 Corridor. As a result, warehouse space in the vicinity of Shelter Partnership's current location would likely be at a premium, and relocating the S. Mark Taper Foundation Shelter Resource Bank to a nearby parcel would be more difficult.

Appendix H to the RIR likewise does not provide adequate assurances. Appendix H identifies potential relocation properties for commercial properties in the cities affected by Alternative 7. But nothing in Appendix H suggests that the properties identified are for sale, or even if for sale, what the purported purchase price would be and whether Caltrans would provide sufficient financial assistance to permit Shelter Partnership or other organizations to acquire them. Absent this data, Appendix H to the RIR does not provide adequate assurances that Caltrans will comply with the requirements of the Uniform Act in acquiring real property. As such, the RDEIR/DEIS is deficient.

4. *The Noise Study Report Fails to Analyze Sensitive Receptors.*

In 2016, Caltrans released a Traffic Noise Study Report, which evaluates potential traffic noise impacts that may result from the Project. Traffic Noise Study Report (May 16, 2016) at ii, 1. The Traffic Noise Study Report focused on noise abatement at "locations of frequent human use that would benefit from a lowered noise level" such as residences, schools, libraries, recreation and sports areas, hotels and motels. *Id.* at 23. The Traffic Noise Study Report took traffic noise readings at 149 locations and modeled at 82 sites, and based on these measurements proposed sound barriers at various locations throughout the I-710 Corridor. *Id.*

The Traffic Noise Study Report did not identify the S. Mark Taper Foundation Shelter Resource Bank as a location of frequent human use that would benefit from a lowered noise level, or a sensitive noise receptor. Traffic Noise Study Report (May 16, 2016) at 139. Accordingly, the Traffic Noise Study Report did not propose a sound wall in the vicinity of the S. Mark Taper Foundation Shelter Resource Bank. *Id.*

The omission of a proposed sound wall near the S. Mark Taper Foundation Shelter Resource Bank was in error. Five Shelter Partnership employees work at the the S. Mark Taper Foundation Shelter Resource Bank on a daily basis, and the facility receives numerous visitors each month to drop off and pick up donated goods. These individuals would benefit from a lowered noise level, and Shelter Partnership requests that the Traffic Noise Study Report and RDEIR/SDEIS be revised accordingly, including the addition of a sound wall in the vicinity of the S. Mark Taper Foundation Shelter Resource Bank. IP-35-13

5. *The RDEIR/SDEIS Includes Insufficient Analysis of Mitigation Measures*

The RDEIR/SDEIS fails to sufficiently analyze mitigation measures, including mitigation measures that would affect Shelter Partnership. If the Project proceeds with a plan that does not require acquisition of Shelter Partnership's property, Shelter Partnership requests, at a minimum, that the following mitigation measures be adopted.

- A sound wall to reduce noise levels at the S. Mark Taper Foundation Shelter Resource Bank. IP-35-14

- Steps to reduce air pollution and the consequent adverse effects on the health of S. Mark Taper Foundation Shelter Resource Bank workers during construction. This may include, among other things, installation of an air filtration system. The S. Mark Taper Foundation Shelter Resource Bank typically operates with bay doors open, and a ventilation system would allow the S. Mark Taper Foundation Shelter Resource IP-35-15

Bank to keep its doors closed to prevent dust and debris from entering the warehouse during construction. IP-35-15

- Continuous access to the S. Mark Taper Foundation Shelter Resource Bank during construction, so as not to impede Shelter Partnership's receipt or distribution of donated goods. IP-35-16

6. *The RDEIR/SDEIS Fails to Analyze the United States Government's Reversionary Interest in the Property.*

The RDEIR/SDEIS also fails to account for the United States Government's reversionary interest in Shelter Partnership's real property. *See supra* at 3. Indeed, the RDEIR/SDEIS does not mention the Department of Health and Human Services' interest in Shelter Partnership's real property at all. The Department of Health and Human Services granted the property to Shelter Partnership for a period of thirty years, on the condition that Shelter Partnership continuously use the property for public health purposes. Any acquisition of Shelter Partnership's property necessarily implicates Shelter Partnership's ability to comply with this requirement. According to the RDEIR/SDEIS, Alternative 5C requires acquisition of a portion of Shelter Partnership's parcel but would not impact the warehouse itself, and Alternative 7 requires a full acquisition of Shelter Partnership's property. Thus, to the extent the RDEIR/SDEIS analyzes the impact of either build alternative on Shelter Partnership, it must also analyze how those alternatives implicate the Department of Health and Human Services' interest in the property, and Shelter Partnership's ability to comply with the requirements of the grant from the Department of Health and Human Services. The RDEIR/SDEIS's failure to do so renders the draft inadequate. IP-35-17

Conclusion

For the reasons described above, the RDEIR/SDEIS is inadequate in several respects, and Shelter Partnership requests that it be revised and recirculated accordingly.

Sincerely,

Kristin Rose

Exhibit 1

S. Mark Taper Foundation Shelter Resource Bank: $10.1 Million Distributed to 234 Agencies in 2016-17

1736 Family Crisis Center
A Community of Friends
A New Way of Life
A Sense of Home
Affordable Living for the Aging, Inc.
AIDS/HIV Health Alternatives
AIDS Project Los Angeles
Alcoholism Center for Women
Alexandria House
Alliance for Housing and Healing - CHOISS
AltaMed
APWC Domestic Violence Transitional Housing
Ascencia Emergency Housing Program
Asian American Drug Abuse Program
Assistance League of Los Angeles – Operation School Bell
Aviva Family and Children's Services
Beacon House Assoc. of San Pedro
Beacon Light Mission
Behavioral Health Services – Flossie Lewis
Behavioral Health Services – Joint Efforts
Bethel LA Community Development
Bible Tabernacle
Bienestar Human Services, Inc.
Bienvenidos Children's Center, Inc. – Family Preservation
Bienvenidos Children's Center, Inc – Foster Care & Adoption
Bridge to Home
B.R.I.D.G.E.S.. Inc.
Burbank Temporary Aid Center
Casa Pacifica for Children & Families
Casa Youth Shelter
CC – Angel's Flight
CC – Good Shepherd Center for Homeless Women
CC – Loaves & Fishes I
CC – Long Beach Family Shelter
CC – San Gabriel Region
CC – St. Margaret's Center
Catholic Rainbow Outreach
Center for Pacific Asian Families
Central City Action Committee
Central City Neighborhood Partners
Century Villages at Cabrillo
Children of the Night
Children's Bureau of Southern CA
Children's Center, Inc. –Foster Care & Adoption
Children's Institute, Inc.
Christian Outreach Appeal
Chrysalis Center
City of Los Angeles Office of Controller
Clare Foundation
Coalition for Responsible Community Dev.
Covenant House
Cover the Homeless Ministry
Crossroads, Inc.
Dana Middle School PTO – Healthy Start
David & Margaret Home
Deep Green Housing & Community
Didi Hirsch Comm. Mental Health Center
Domestic Violence Center of Santa Clarita Valley
Door of Hope
Downtown Women's Center
East San Gabriel Valley Coalition for the Homeless
Ecumenical Council of Pasadena Area - Friends In Deed
Eisner Health
Elizabeth House
Ella's Foundation Supportive Housing
Essence of Light
Ettie Lee Youth & Family Services
Extraordinary Families – Youth in Transition
Family Rescue Center
First AME Church – Biddy Mason Charitable Foundation
First Place for Youth – My First Place
First to Serve, Inc.
Florence Crittenton Services of Orange
Foster Care Counts
Foster Children's Resource Center
Fred Jordan Mission
Gateways Hospital & Mental Health Center
Gospel Missions of America
Grace Rescue Center Inc.
Harbor Interfaith Shelter
Harvest Home
Hathaway – Sycamores Child & Family
Haven Hills, Inc.
HealthRight 360 – Prototypes
HealthRight 360 – Walden House
Healthview, Inc. – Harbor View House
Heart of Compassion
Helping Kids Recover Inc.
Hillsides
Hillview Mental Health Center
Hollygrove Uplift Family Services
Hollywood Community Housing Corporation
Home At Last Community Dev. Corporation
Homeless Health Care Los Angeles
Hope In A Suitcase
Hope Mill, Inc.
Hope of the Valley Rescue Mission
Hope of the Valley Rescue Mission-Recuperative Center
Hope Through Housing Foundation - NCORE
House of Mercy
House of Ruth, Claremont
Imagine LA
Immanuel Housing, Inc.
Independent Living Center
Inland Valley Hope Partners
Jenesse Centers
Jewish Family Services – Family Violence Project Hope Cottage
Jewish Family Services – Family Violence Project Tamar House
Jewish Family Services – Haven House
Journey House
Jovenes, Inc.
JWCH Institute, Inc.
LA CAN/DWAC CANGRESS
LA County Community Development Fdn.
LA on Cloud 9
LAFHC – Comunidad Cesar Chavez
LAFHC – Valley Shelter Inc.
Lamp Community
Las Familias del Pueblo
Life Enrichment Worldwide Ministries
Little Tokyo Service Center, Inc.
LINC Housing Corporation
Live Again Recovery Homes
Long Beach Multi Service Center
Los Angeles County Alliance of Boys & Girls Clubs
Los Angeles House of Ruth
Los Angeles Mission
Los Angeles Team Mentoring
Los Angeles Trade Technical College
Lutheran Social Services
Maryvale
Maternal and Child Health Access
McKinley Children's Center
MEND
Mental Health America – Lancaster
Mental Health America – Long Beach
Midnight Mission
New Directions for Veterans – Crisis/Bridge Housing
New Directions for Veterans – Sepulveda I and II
New Directions, Inc. – Veteran Opportunity Center
Olive Crest
OPCC – Access Center
OPCC – Daybreak
OPCC – DHS
OPCC – Safe Haven
OPCC – SAMOSHEL
OPCC – Sojourn Services
OPCC – Turning Point
Operation Love Ministries, Inc.
Optimist Youth Homes & Family Services
Our Saviour Center
Pacific Clinics
Pacific Lodge Youth Services
Para Los Ninos
Parents of Watts
PATH – Access Center
PATH – Beyond Shelter
PATH – Gramercy
Penny Lane Centers
Personal Involvement Center, Inc.
Project New Hope
Proyecto Pastoral
Rainbow Services Ltd.
Recycled Resources for the Homeless
Rosemary Children's Services
Rotary Club of LA Foundation
Safe Refuge
Salvation Army – Alegria
Salvation Army – Bell Shelter
Salvation Army – Glendale Corps
Salvation Army – Hope Harbor Center
Salvation Army – Huntington Park
Salvation Army – Santa Fe Springs
Salvation Army – The Way In
Salvation Army – West L.A. "Haven"
Salvation Army – Westwood
Salvation Army – Whittier Corp.
Salvation Army – Zahn Center
San Fernando Valley CMHC, Inc. – Cornerstone
San Fernando Valley CMHC, Inc. – Osborne Place
San Gabriel Valley Center – California Hispanic Commission
Sanctuary of Hope
SCHARP
Sheriff's Youth Foundation
Shields for Families
Skid Row Development Corp.
Social Model Recovery Systems, Inc. – Mary Lind Recovery Centers
Social Model Recovery Systems – River Community Covina
Southern California Alcohol & Drug Program – Angel Step In
Special Services For Groups
SRO Housing Corp.
St. Anne's Residential Facility
St. Francis Center
St. Joseph's Center
St. Vincent Shelter
St. Vincent's Cardinal Manning Center
Step Up On Second
Su Casa – Ending Domestic Abuse
Temple Israel of Hollywood
Testimonial Community Love Center
The Giving Spirit
The New You Center, Inc.
The Saban Free Clinic
The Teen Project – Freehab
The Village Family Services
The Whole Child
To Help Everyone Health & Wellness Centers
Trinity Youth Services
Truevine Community Outreach
U.S. Veterans Initiative – Inglewood
U.S. Veterans Initiative – Long Beach
Union Rescue Mission
Union Station Foundation
Upward Bound House
Valley Oasis Emergency Shelter
Venice Community Housing Corp.
Venice Family Clinic – Common Ground
Volunteers of America – Blue Butterfly Village
Volunteers of America – Crisis Housing
Volunteers of America – Downtown Drop-in Center
Volunteers of America – Family Emergency Housing Program
Volunteers of America – Pathways to Home
Volunteers of America – West Covina Access Center
Weingart Center Association
West Hollywood Community Housing Corporation
Whittier Area First Day Coalition
WLCAC
Women Organizing Resources, Knowledge and Services
Women's & Children's Crisis Shelter
Women's Shelter of Long Beach
Working Dreams
YWCA Greater Los Angeles
YWCA of the Harbor Area & South Bay
YWCA San Gabriel Valley – Wings



S. Mark Taper Foundation Shelter Resource Bank: $10.1 Million Distributed to 234 Agencies in 2016-17

Exhibit 2

IP.1.1 Interested Party Comments

IP-122

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September 28, 2012

Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Mr. Kosinski:

We write on behalf of Shelter Partnership, Inc. regarding inadequacies in the I-710 Corridor Project Draft EIR/EIS ("Draft EIR/EIS"). According to the Draft EIR/EIS, Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank in the City of Bell, parcel number 6332002035, would be fully acquired under Alternatives 6A/6B/6C, and ostensibly under Alternative 5A. *See infra* p. 6. Even if the project does not fully acquire the parcel, the S. Mark Taper Foundation Shelter Resource Bank will be greatly impacted from construction and operation of the expanded highway. For at least the reasons set forth below, the Draft EIR/EIS fails to satisfy CEQA's requirements for Environmental Impact Reports, and NEPA's requirements for Environmental Impact Statements. *See* Pub. Resources Code § 21100, subd. (b); Cal. Code Reg. Tit. 14, § 15126; 42 U.S.C. § 4332. Most significantly, the Draft EIR/EIS fails to take into account the community impacts that would result from acquisition of the S. Mark Taper Foundation Shelter Resource Bank. *See infra* p. 7. Accordingly, the I-710 Corridor Project should not—and cannot—move beyond the Draft EIR/EIS phase at this juncture. At a minimum, revisions to the Draft EIR/EIS are necessary to address several inadequacies pertaining to Shelter Partnership's parcel in Bell.

IP-122-1

Shelter Partnership

Shelter Partnership is a Los Angeles-based 501(c)(3) non-profit organization dedicated to alleviating, preventing, and ending homelessness. In pursuit of this mission, Shelter Partnership helps to develop short-term and transitional housing programs, affordable housing, and supportive services for the homeless and potentially homeless. Each year, Shelter Partnership provides support and donated goods to more than 200 agencies and projects serving the homeless throughout Los Angeles County. These goods, in turn, are distributed to an estimated 100,000 homeless individuals in Los Angeles. Approximately 50% of the agencies receiving goods from Shelter Partnership serve homeless and low-income children.

In addition to distributing goods, Shelter Partnership provides a number of other services to organizations dedicated to helping the homeless. For example, Shelter Partnership provides technical assistance to community-based agencies. This technical assistance takes numerous forms, including helping community-based organizations secure funding, assisting community groups to develop housing for diverse segments of the homeless population, and developing grant proposals on behalf of the City and County of Los Angeles. Over the last eighteen years, Shelter Partnership has helped secure more than $1 billion in funding for the homeless in the Los Angeles community.

Shelter Partnership is also active in the development of public policy impacting Los Angeles-area homeless populations. For example, Shelter Partnership was an active participant in the design and implementation of Los Angeles County's General Relief (GR) Reform Plan. As a result of the plan, 1,640 homeless individuals who receive General Relief at any given time receive a housing subsidy in addition to their General Relief grant. Shelter Partnership has also sought to make local government policies more proactive in addressing the housing needs of the homeless.

In sum, Shelter Partnership plays a vital role in supporting Los Angeles' homeless population and is an important community resource.

S. Mark Taper Foundation Shelter Resource Bank

In 1989, Shelter Partnership established the S. Mark Taper Foundation Shelter Resource Bank project to distribute donated goods to homeless service agencies throughout Los Angeles County. This project provides a critical service to the Los Angeles homeless population by distributing, free of charge, items such as clothing, baby products, and personal hygiene products. To date, the project has distributed over $175 million in goods to more than 400 homeless service agencies. Indeed, in the most recent fiscal year alone, Shelter Partnership distributed $8.2 million in goods to 230 agencies, and brought in $8 million in new product donations. *See* Exhibit A (list of agencies served in 2011/2012). The primary recipients of goods from the S. Mark Taper Foundation Shelter Resource Bank are hundreds of direct homeless service providers. Collectively, these organizations provide approximately 17,000 beds, and 320 short-term housing programs. The S. Mark Taper Foundation Shelter Resource Bank enables these homeless service providers to focus their funds and scarce resources on direct support services for the homeless. As demonstrated by the letters and expressions of support from several dozen of these agencies, attached as Exhibits B and C, the agencies consider the S. Mark Taper Foundation Shelter Resource Bank critical to their operations, and an important and unique project in the fight to alleviate, prevent, and end homelessness. Without Shelter

Partnership's support, the agencies' ability to support local homeless populations would be compromised.

The heart of the S. Mark Taper Foundation Shelter Resource Bank is a 108,000 square foot warehouse on nearly six acres in the City of Bell. The parcel is a former military facility. Shelter Partnership obtained the parcel by title conveyance from the United States Department of Health and Human Services in July 2007, and the United States government retains a reversionary interest in the parcel. Indeed, the conveyance entitles Shelter Partnership to occupy the property for thirty years, provided that Shelter Partnership continuously uses the property for public health purposes. For the thirty year period, Shelter Partnership may not encumber or dispose of any part of the property without the written authorization of the federal government.

The S. Mark Taper Foundation Shelter Resource Bank is immediately adjacent to The Salvation Army's Bell Shelter, which provides housing and services to hundreds of individuals on a nightly basis. Since 1990, the S. Mark Taper Foundation Shelter Resource Bank has provided Bell Shelter with over $1.3 million in goods for its residents, including toiletries, blankets, clothing, and furniture. *See* Ex. C (letter from The Salvation Army). The proximity of the S. Mark Taper Foundation Shelter Resource Bank to Bell Shelter benefits the mission of both organizations.

Shelter Partnership completed a $3.5 million renovation of the S. Mark Taper Foundation Shelter Resource Bank warehouse in 2009. This extensive rehabilitation was intended to ensure that the S. Mark Taper Foundation Shelter Resource Bank will thrive in its mission of serving the homeless for the next 30-50 years. Among other things, in connection with this rehabilitation, Shelter Partnership took great care to ensure that the warehouse was appropriately outfitted for receiving and distributing donations; improvements include a new roof, new sprinkler and water system, new lighting, replacement of doors and windows, structural upgrades, and repair of the building interior and exterior.

According to the I-710 Corridor Project Draft EIR/EIS, the S. Mark Taper Foundation Shelter Resource Bank—parcel 6332002035 in the City of Bell—would be fully acquired under Alternatives 6A, 6B, and 6C. It appears that the parcel would also be fully acquired under Alternative 5A, but the Draft EIR/EIS is internally inconsistent in this regard. *See infra* p. 6. Further, even if the parcel is not acquired, the S. Mark Taper Foundation Shelter Resource Bank will be significantly impacted by construction and operation of the expanded I-710 freeway.

Benefits of the S. Mark Taper Foundation Shelter Resource Bank's Current Location

The S. Mark Taper Foundation Shelter Resource Bank is ideally located to serve Los Angeles' homeless population. Like any warehouse facility, the S. Mark Taper Foundation Shelter Resource Bank benefits from proximity to freeways including I-710 and I-5, as easy freeway access facilitates the rapid distribution of goods from the warehouse. The S. Mark Taper Foundation Shelter Resource Bank's geographically central location in Bell also provides operational synergies. Situated close to downtown Los Angeles, the S. Mark Taper Foundation Shelter Resource Bank is positioned to receive goods donations from businesses throughout the region. Those goods are then distributed to homeless service organizations throughout the region, many of which are close to Bell. For example, the Bell Shelter, which has received over $1.3 million in donated goods since 1990, is immediately adjacent to the S. Mark Taper Foundation Shelter Resource Bank. Attached as Exhibit D is a map illustrating the locations of 229 organizations served by the S. Mark Taper Foundation Shelter Resource Bank. As Exhibit D demonstrates, the vast majority of these organizations are clustered near the S. Mark Taper Foundation Shelter Resource Bank's warehouse in Bell.

Moreover, donors and recipients of goods are responsible for independently dropping off or picking up products at the S. Mark Taper Foundation Shelter Resource Bank. Each week, the S. Mark Taper Foundation Shelter Resource Bank receives an average of 15 shipments from donors. Annually, the S. Mark Taper Foundation Shelter Resource Bank distributes more than 700 orders to individual agencies. The S. Mark Taper Foundation Shelter Resource Bank's central location is essential to facilitate these numerous donations and distributions. It would be far more difficult for businesses and organizations to deliver or receive goods from the S. Mark Taper Foundation Shelter Resource Bank, should it be required to move further away from its primary donors and beneficiaries. IP-122-2

Impacts of Relocating the S. Mark Taper Foundation Shelter Resource Bank

Under Alternatives 6A, 6B, and 6C of the Draft EIR/EIS, and potentially under Alternative 5A, the S. Mark Taper Foundation Shelter Resource Bank parcel would be fully acquired. *See infra* p. 6. Acquisition and relocation of the S. Mark Taper Foundation Shelter Resource Bank would have a serious adverse impact on the homeless population of Los Angeles. Indeed, the S. Mark Taper Foundation Shelter Resource Bank serves hundreds of homeless service agencies on an annual basis—230 in 2011/2012 alone. *See* Exhibit A (list of agencies served during 2011/2012). These agencies count on the S. Mark Taper Foundation Shelter Resource Bank to secure critical items for the homeless, such as toiletries, clothing, and baby products. If the S. Mark Taper Foundation Shelter Resource Bank's services are disrupted as a result of construction or relocation, tens of thousands of homeless individuals throughout Los IP-122-3

Angeles could receive significantly less material assistance from service agencies that are supported by the S. Mark Taper Foundation Shelter Resource Bank. These agencies may also have to reduce their direct services to the homeless, including case management and support services, to focus their resources on acquiring goods that were previously provided by the S. Mark Taper Foundation Shelter Resource Bank.

IP-122-3

Beyond the immediate adverse impacts on the Los Angeles homeless population, acquisition of Shelter Partnership's parcel could have an adverse long-term impact on the viability of the S. Mark Taper Foundation Shelter Resource Bank project. The I-710 Corridor Project seeks to expand freeway capacity specifically for freight services. Alternatives 6A, 6B, and 6C of the Draft EIR/EIS include designated truck lanes that would allow additional freight to be brought into the I-710 Corridor. As a result of increased freight being shipped through the I-710 Corridor, warehouse spaces in the region may be at a premium. Therefore, if the S. Mark Taper Foundation Shelter Resource Bank is forced to relocate, Shelter Partnership may have difficulty locating a suitable, centrally-located replacement warehouse. And as previously described, a centrally located warehouse is essential to the S. Mark Taper Foundation Shelter Resource Bank's mission.

IP-122-4

In addition, relocating the S. Mark Taper Foundation Shelter Resource Bank to a less central parcel could adversely impact air quality. The S. Mark Taper Foundation Shelter Resource Bank, for example, relies on deliveries and distributions of goods by truck and car. On average, the S. Mark Taper Foundation Shelter Resource Bank receives 15 shipments per week and distributes more than 700 orders per year. Relocating to less central warehouse could increase air pollution, as donors and recipients would be forced to drive longer distances to reach the warehouse.

IP-122-5

Moreover, the S. Mark Taper Foundation Shelter Resource Bank's recent $3.5 million renovation included the installation of many "green" features to make the building environmentally friendly. Among the green features are a reflective cool roof, low flow toilets and faucets, motion-activated lighting throughout the warehouse, and recycled, natural or no-formaldehyde materials for the walls and ceilings. Further, the ceilings, beams, and walls of the warehouse were whitewashed with low VOC paint, and large windows running the length of the warehouse were replaced with low-E glass to maintain the abundant natural lighting. The electrical and water consumption levels of the warehouse beat state environmental standards by 50%. If the S. Mark Taper Foundation Shelter Resource Bank were acquired, the environmental benefits resulting from these features would be negated unless a replacement property was comparably efficient.

IP-122-6

Impacts if the S. Mark Taper Foundation Shelter Resource Bank is Not Acquired

Even if the I-710 Corridor Project Alternative selected does not require acquisition of the S. Mark Taper Foundation Shelter Resource Bank parcel, construction along the I-710 Corridor could negatively impact the S. Mark Taper Foundation Shelter Resource Bank's ability to serve Los Angeles's homeless population. For example, construction along the I-710 freeway could impede access to the S. Mark Taper Foundation Shelter Resource Bank by donor or recipient organizations. Moreover, this construction could impede access to the S. Mark Taper Foundation Shelter Resource Bank by the five Shelter Partnership employees who travel to the facility on a daily basis. IP-122-7

In addition, construction along the I-710 Corridor would also threaten air quality in the surrounding area, as well as the health of Shelter Partnership's employees. IP-122-8

Inadequacies in I-710 Corridor Project Draft EIR/EIS

1. The Draft EIR/EIS is Self-Contradictory and Inadequate.

As a threshold matter, the Draft EIR/EIS is inadequate because it inconsistently describes the parcels that would be acquired under Alternative 5A. For example, the Parcel Acquisition Table and Maps in Appendix L to the Draft EIR/EIS set forth the parcels that would be acquired under Alternative 5A. *See* Exhibit E (excerpts from Appendix L to Draft EIR/EIS). According to Appendix L, the S. Mark Taper Foundation Shelter Resource Bank parcel, number 6332002035, would not be acquired—either in part or in full—under Alternative 5A. *See id.* at L-4, 59. But elsewhere, the Draft EIR/EIS indicates that under Alternative 5A, a freeway ramp would be built directly through the S. Mark Taper Foundation Shelter Resource Bank parcel. *See* Exhibit F (Draft EIR/EIS Chapter 2.0, Fig. 2.4-2, No. 28). IP-122-9

This inaccuracy must be analyzed and corrected. Indeed, these fundamental inconsistencies render the Draft EIR/EIS inadequate as a document that will help inform decision-making. Until the Draft EIR/EIS is revised, Shelter Partnership cannot know how its property will be affected by at least one of the I-710 Corridor Project Alternatives. And without revision, the Draft EIR/EIS will have failed in a critical respect—notifying property owners that their parcels are scheduled for acquisition. IP-122-10

Beyond this inaccuracy, the Draft EIR/EIS inadequately analyzes the placement of on and off ramps, collectors, and distributors. For example, Alternative 5A omits alternative locations for ramp placement, and does not analyze the necessity of constructing a ramp directly through a warehouse serving the local homeless population. Rather, it appears from Chapter 2.0, IP-122-11

Figure 2.4-2 (which illustrates the locations of ramps, collectors, and distributors under Alternative 5A) that the lines for these ramps were drawn without taking into account the impacts to adjacent parcels. *See* Exhibit F (Draft EIR/EIS Chapter 2.0, Fig. 2.4-2). Similarly, the Draft EIR/EIS should further analyze expansion plans under Alternatives 6A, 6B, and 6C to determine whether modifications can be made that would obviate the need for certain parcel acquisitions, including the parcel hosting the S. Mark Taper Foundation Shelter Resource Bank. IP-122-11

2. The Draft EIR/EIS Fails to Adequately Analyze Community Impacts.

In addition to inaccurately describing the acquisitions that might occur under certain proposed alternatives, the Draft EIR/EIS fails to adequately consider the community impacts associated with the proposed acquisition of the S. Mark Taper Foundation Shelter Resource Bank. Chapter 3.3 of the Draft EIR/EIS purports to analyze the community impacts of the I-710 Corridor Project Alternatives. Under the Federal Highway Administration's implementation of NEPA, final decisions regarding projects must consider "the best overall public interest" and "destruction or disruption of man-made and natural resources, aesthetic values, community cohesion and the availability of public facilities and services." 23 U.S.C. § 109(h). With respect to CEQA, the Draft EIR/EIS itself acknowledges that "[s]ince [the I-710 Corridor] project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects." Draft EIR/EIS § 3.3.1.1.

Yet the Draft EIR/EIS omits any analysis of community impacts that would result from acquiring the S. Mark Taper Foundation Shelter Resource Bank. Table 3.3-8 of the Draft EIR/EIS describes "direct and indirect impacts to community facilities." Draft EIR/EIS § 3.3.1.3. Among the community facilities analyzed in Table 3.3-8 is the Long Beach Multi-Service Center, which provides services to the homeless. *See also* Draft EIR/EIS Chapter 3.0 at 3.3-48. Like the Long Beach Multi-Service Center, the S. Mark Taper Foundation Shelter Resource Bank is a community facility that serves Los Angeles's homeless population. At no point, however, does Chapter 3.3 of the Draft EIR/EIS consider the impacts to the S. Mark Taper Foundation Shelter Resource Bank. This omission is particularly significant given that the S. Mark Taper Foundation Shelter Resource Bank would be directly impacted under all four build alternatives. IP-122-12

Moreover, for the reasons described above, disrupting the S. Mark Taper Foundation Shelter Resource Bank's services by forcing it to relocate (or otherwise disrupting its operations through construction) would have a significant negative impact on the surrounding homeless community. As the Draft EIR/EIS contemplates acquiring other parcels providing services to

local homeless populations (including, for example, the Salvation Army's Bell Shelter), this adverse effect will be multiplied.

IP-122-12

In sum, the Draft EIR/EIS fails to analyze whether the project is in the "best overall public interest," particularly given the significant community impacts that would result from acquisition of the Resource Bank (or disruption of its operations). 23 U.S.C. § 109(h). The Draft EIR/EIS must therefore be corrected to account for these significant community impacts, and to adequately analyze whether the project is in the "best overall public interest" as required Section 109(h) of the Federal-Aid Highway Act.

3. The Draft EIR/EIS Contains Inadequate Environmental Justice Analysis.

The environmental justice analysis in the Draft EIR/EIS is also deficient. Under Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, each Federal agency "shall make achieving environmental justice part of its mission by identifying and addressing . . . disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." Exec. Order 12898, 59 Fed. Reg. 7,629 (Feb. 11, 1994); *see also* 42 U.S.C. § 2000d (Title VI of the 1964 Civil Rights Act). Each Federal agency must therefore identify and avoid disproportionate impacts on minority and low-income populations, to the greatest extent allowed by law. The U.S. Department of Transportation's *Order to Address Environmental Justice in Minority Populations and Low-Income Populations* likewise requires that impacts on minority and low-income populations be addressed during agency decision making. Dep't of Transp. Order 5610.2, 62 Fed. Reg. 18,377 (Apr. 15, 1997). In addition, the California Department of Transportation *Director's Policy on Environmental Justice* seeks to ensure that low-income and minority populations "are not discriminated against, treated unfairly, or made to suffer disproportionately from transportation decisions." Cal. Dep't of Transp. Director's Policy on Environmental Justice (Nov. 5, 2001); *see also* Cal. Dep't of Transp. Deputy Directive on Environmental Justice and Civil Rights in Transportation Decision-Making (Nov. 5, 2001).

IP-122-13

Despite these requirements, the Draft EIR/EIS contains no environmental justice analysis regarding impacts to the S. Mark Taper Foundation Shelter Resource Bank or the communities it serves. Should the S. Mark Taper Foundation Shelter Resource Bank be acquired (or affected by construction), low-income and minority populations would be disproportionately and adversely affected. As described above, goods from the S. Mark Taper Foundation Shelter Resource Bank are distributed to tens-of-thousands of homeless individuals per year. These distributions allow homeless service agencies to concentrate scarce resources on critical direct services to homeless populations. If distributions from the S. Mark Taper Foundation Shelter Resource Bank are

disrupted, these agencies will have diminished ability to serve local homeless populations. The Draft EIR/EIS should be revised to include environmental justice analysis regarding impacts to the S. Mark Taper Foundation Shelter Resource Bank and the low-income and minority populations it serves. IP-122-13

4. *The Draft EIR/EIS Fails to Mention the S. Mark Taper Foundation Shelter Resource Bank in its Discussion of Impacted Public Facilities.*

Because the United States government retains a continuing interest in the parcel under the conveyance, the S. Mark Taper Foundation Shelter Resource Bank is a public facility providing a public service. Under the CEQA Environmental Checklist, an Environmental Impact Report must analyze impacts on public facilities that provide public services, including the impact on "service ratios, response times or other performance objectives." *See* Draft EIR/EIS Appendix A, CEQA Checklist at 7, XIV(a). In this regard, because the Draft EIR/EIS fails to analyze the impact that relocation of the S. Mark Taper Foundation Shelter Resource Bank would have on the area homeless population, the Draft EIR/EIS does not comply with CEQA's mandate to consider impacts on public services. IP-122-14

5. *The Draft EIR/EIS Fails to Include Sufficient Analysis of Mitigation Measures.*

The Draft EIR/EIS also fails to sufficiently analyze mitigation measures, including mitigation measures that would affect Shelter Partnership. Under CEQA, each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. *See* Draft EIR/EIS Chapter 4.0 at 4-1. If the I-710 Corridor Project moves forward, Shelter Partner requests, at a minimum, that the following mitigation measures be adopted. IP-122-15

First, measures must be taken to minimize air pollution and the consequent adverse effects on the health of S. Mark Taper Foundation Shelter Resource Bank workers during construction. This may include, among other things, installation of an air filtration system. The S. Mark Taper Foundation Shelter Resource Bank typically operates with bay doors open, and a ventilation system would allow the S. Mark Taper Foundation Shelter Resource Bank to keep its doors closed to prevent dust and debris from entering the warehouse during construction. IP-122-16

Second, Caltrans should consider alternative options for exit ramps, particularly under Alternative 5A, that would not disrupt the S. Mark Taper Foundation Shelter Resource Bank's operations. IP-122-17

Third, Caltrans should consider mitigation measures for impacts on environmental justice populations, particularly the homeless populations that would be affected by acquisition of the IP-122-18

S. Mark Taper Foundation Shelter Resource Bank. Chapter 3.3 of the Draft EIR/EIS acknowledges that "mitigation measures may be needed" regarding impacts to environmental justice populations. Draft EIR/EIS Chapter 3.3 at 3.3-53. Shelter Partnership requests that Caltrans extend its analysis of mitigation measures to address impacts on low-income and minority populations served by the S. Mark Taper Foundation Shelter Resource Bank.

IP-122-18

Conclusion

For the reasons described above, the Draft EIR/EIS is inadequate, and Shelter Partnership requests that it be revised and recirculated, with a new opportunity for public comment. Revisions to the Draft EIR/EIS should take into account the substantial adverse impacts construction and potential relocation would have on the S. Mark Taper Foundation Shelter Resource Bank and its many vulnerable constituents. Indeed, complete disclosure of the impacts to the S. Mark Taper Foundation Shelter Resource Bank and its constituents is critical to informed decision-making.

IP-122-19

Sincerely,

David I. Horowitz

DIH/kr

EXHIBIT A

S. Mark Taper Foundation Shelter Resource Bank Agencies Served During 2011/12

1736 Family Crisis Center
A Community of Friends
A Foundation for Kids
The African Community Resource Center
AIDS Project Los Angeles
AIDS Service Center
Alcoholism Center for Women
Alexandria House
Alternative Living for the Aging, Inc.
Amanecer Community Counseling Service
Amity Foundation of California
Antelope Valley Domestic Violence Council
A New Way of Life
APWC Domestic Violence Transitional Housing
Ascencia
Asian American Drug Abuse Program
Aviva Respite Shelter
B.R.I.D.G.E.S., Inc.
Baby2Baby
Beacon House Association of San Pedro
Beacon Light Mission
Beyond Shelter
Bible Tabernacle
Bienestar Human Services, Inc.
Bienvenidos Children's Center
Blessed Sacrament
Burbank Temporary Aid Center
CANGRESS
Catholic Rainbow Outreach
Catholic Charities Angel's Flight
Catholic Charities Good Shepherd Center
Catholic Charities Lancaster Community Shelter
Catholic Charities Loaves & Fishes I
Catholic Charities Long Beach Family Shelter
Catholic Charities San Gabriel Region
Catholic Charities St. Margaret's Center
Center for Pacific Asian Families
Central City Action Committee
Central City Neighborhood Partners
Chicana Service Action Center
Child & Family Center
Children of the Night
Children's Institute, Inc.
Chosen, Inc.
Christian Food Center
Christian Outreach Appeal
Chrysalis Center
City of Los Angeles Office of the Controller
Clare Foundation
Common Ground
Compassion Care Center Inc.
Compton Welfare Rights Organization
Counseling 4 Kids
Covenant House
Cover The Homeless Ministry
Create Now
Crossroads, Inc.
The David & Margaret Home
Didi Hirsch Community Mental Health Center
Door of Hope
Downtown Women's Center
Dream Center
East Hollywood Toy Giveaway
East San Gabriel Valley Coalition, Homeless
East Valley Boys & Girls Club
Ecumenical Council of Pasadena Area
Elizabeth House
Essence of Light
Families for Children, Inc.
Family Promise
Family Violence Project Tamar Hope House
Filipino American Service Group, Inc.
First African Methodist Episcopal Church
First to Serve
Flossie Lewis Center
Foster Children's Resource Center
Fred Jordan Mission
Friendship Shelter, Inc.
Gateways Hospital & Mental Health Center
Gay & Lesbian Community - Youth
GETTLOVE
The Giving Spirit
Gospel Missions of America
Gramercy Housing Group
Gramercy Place Shelter
Harbor Interfaith Shelter
Harbor View House, Inc.
Harvest Home
Hathaway Sycamores Child & Family Services
Haven Hills, Inc.
Haven House
Heart of Compassion
Hillview Mental Health Center
Hollywood Community Housing Corp.
Hollywood United Methodist Church
Hollywood Wilshire YMCA
Homeless Health Care Los Angeles
Homes for Life Foundation
Hope for Homeless Youth
House of Mercy
House of Ruth, Claremont
Housing Works
Immanuel Housing, Inc.
Impact House
Independent Living Center
Integrated Recovery Network
Jenesse Center
Joint Efforts, Inc.
Journey House
Jovenes, Inc.
JWCH Institute, Inc.
L.A. Family Housing Communidad Cesar Chavez
L.A. Family Housing Valley Shelter Inc.
Lamp Community
Las Familias del Pueblo
Little Tokyo Service Center, Inc.
Live Again Recovery Homes
Long Beach Multi-Service Center
Long Beach Rescue Mission
Los Angeles County Alliance of Boys & Girls Clubs
Los Angeles County Community Development Foundation
Los Angeles House of Ruth
Los Angeles Mission
Los Angeles Youth Network
Lutheran Social Services
Mary Lind Recovery Centers
MEND
Mental Health America
Midnight Mission
The Mildred Cursh Foundation
Missionary Brothers of Charity, Casa San Juan Diego
Mothers In Action, Inc.
New Directions
New Economics for Women, La Posada
New Image Emergency Shelter
Olive Crest
OPCC Access Center
OPCC Daybreak
OPCC Safe Haven
OPCC SAMOSHEL
OPCC Sojourn Services
OPCC Turning Point
Operation Love Ministry, Inc.
Optimist Youth Homes & Family Services
Our Redeemer Human Care Ministry
Our Saviour Center
Pacific Clinics
The Painted Turtle
Palms Residential Care Facility
Para Los Ninos
Parents of Watts
Partners of Parks, Long Beach Police Toy Patrol
PATH Access Center
PATH Achieve, Glendale
Peace & Joy Care Center
Penny Lane Centers
People Helping People
People in Progress
Pomona Neighborhood Center, Inc.
Pomona Valley Council of Churches
Prayer Time Mission, Higher Goals Inc.
Project New Hope
Project Pace
Prototypes
Proyecto Pastoral
Rainbow Services Ltd.
Recycled Resources for the Homeless
Rio Hondo Boys & Girls Club
The Saban Free Clinic
Safe House, Friends Research Institute
The Salvation Army Alegria (Bethesda House)
The Salvation Army Bell Shelter
The Salvation Army Glendale Corps
The Salvation Army Hope Harbor Center
The Salvation Army Huntington Park
The Salvation Army Santa Fe Springs
The Salvation Army The Way In
The Salvation Army West L.A. "Haven"
The Salvation Army Westwood Transitional Village
The Salvation Army Whittier Corp.
The Salvation Army Zahn Center
Sanctuary of Hope
San Fernando Valley Community Mental
San Fernando Valley Mental Health Center, Inc.
San Fernando Valley Rescue Mission
San Gabriel Valley Center
Santa Clarita Cold Weather Program
Santa Clarita Valley Boys & Girls Club
South Central Health and Rehabilitation Programs
Sea Possible
Serene Haven Inc.
The Serra Project
Sheriff's Youth Foundation
Skid Row Development Corp., Transition House
Skid Row Housing Trust
Southern California Alcohol & Drug Programs
SRO Housing Corp.
St. Anne's Residential Facility
St. Christopher Church
St. Francis Center
St. Joseph's Center
St. Vincent Shelter
St. Vincent's Cardinal Manning Center
Step Up On Second
Su Casa Family Domestic Abuse Network
Substance Abuse Foundation of Long Beach
Temple Israel
Testimonial Community Love Center
Triangle Christian Services, Inc.
Truevine Community Outreach
Union Rescue Mission
Union Station Foundation
U.S. Veterans Initiative, Inglewood
U.S. Veterans Initiative, Long Beach
Upward Bound House
Venice Community Housing Corporation
Vista Del Mar Child & Family Services
Volunteers of America Downtown Drop In Center
Volunteers of America West Covina Access
Walden House
Weingart Center Association
West Hollywood Community Corporation
West Hollywood Community Housing
Whittier Area First Day Coalition
WLCAC Homeless Assistance Program
WomenShelter of Long Beach
Youth Opportunities United
YWCA Glendale
YWCA of the Harbor Area & South Bay
YWCA Wings

EXHIBIT B

Letter of Support to CalTrans:

I am concerned that all of the build alternatives for the I-710 Corridor would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse serving the Los Angeles County homeless population.

The donations we receive from the S. Mark Taper Foundation Shelter Resource Bank are critical to our success. If this valuable program were to be seriously disrupted or eliminated our ability to support our homeless clients would be compromised.

We encourage you to consider in your deliberations the impact of the I-710 expansion project on this most valuable regional resource.

Sign-On Agencies that Support the Petition

Maggie Alvarez, Social Services Manager
Whittier Corps
The Salvation Army
Whittier, 90602

Lynne Appel, Executive Director
Southern California Alcohol & Drug Programs, Inc.
Downey 90241

Jack Barbour, CEO/President
South Central Health & Rehabilitation Programs (SCHARP)
Lynwood 90262

Paul Barry, Executive Director
Mental Health America of Los Angeles – Village
Long Beach 90802

Susan Burton, Executive Director
A New Way of Life
Los Angeles 90002

Angelina Coe, Executive Director
Women's and Children's Crisis Shelter
Whittier 90602

Robin W. Conerly, Executive Director
West Hollywood Community Housing Corporation
West Hollywood 90046

Sister Terry Dodge, Executive Director
Crossroads, Inc.
Claremont 91711

Vicki Doolittle, Executive Director
Su Casa
Long Beach 90808

Karen Earl, Executive Director
Jenesse Center, Inc.
Los Angeles 90008

Mark Faucette, Vice President
Amity Foundation
Los Angeles 90007

Sister Jennifer Gaeta, Executive Director
Los Angeles House of Ruth
Los Angeles 90033

Zachary Ginder, Director
Alegria-Zahn
The Salvation Army
Los Angeles 90015 & 90026

Anthony Guthmiller, Executive Director
AIDS Service Center
Pasadena 91103

Rodger Hirst, Executive Director
Immanuel Family Resource Center
Los Angeles 90001

Reverend John Hopkins, Executive Director
Truevine Community Outreach, Inc.
Lynwood 90262

Mary Kirchen, Executive Director
Housing Works
Los Angeles 90038

Ted Knoll, Executive Director
Whittier's First Day
Whittier 90602

Carol Leiss, Executive Director
Homes for Life Foundation
Los Angeles 90004

Lori Pendroff, Executive Director
Braswell Rehabilitation Institute for Development of Growth and Educational Services (Bridges, Inc.)
Pomona 91767

Jessica Pham, Interim Executive Director
Harvest Home
Venice 90291

Charles Rich, Executive Director
David & Margaret Youth and Family Services
La Verne 91750

Bonnie Roth, Assistant Director
Moving Lives Forward
San Fernando Valley Community Mental Health Center, Inc.
Van Nuys 91405

Debbie Unruh, Executive Director
Elizabeth House
Pasadena 91109

Frank Vocci, President
Friends Research Institute, Inc.
North Hollywood 91601

Lisa Watson, CEO
Downtown Women's Center
Los Angeles 90013

Brenda Wilson, President/CEO
New Image Emergency Shelter for the Homeless, Inc.
Long Beach 90802

EXHIBIT C

THE SALVATION ARMY BELL SHELTER

5600 RICKENBACKER ROAD, BLDG. 2A-B, BELL, CA 90201
TEL: (323) 263-1206 FAX: (323) 263-8543 WEB: www.salvationarmysocal.org

September 11, 2012

Mr. Ronald Koskinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

I am writing on behalf of The Salvation Army Bell Shelter regarding the I-710 Environmental Impact Report. I am concerned that all of the build alternatives would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse serving the Los Angeles County homeless population.

Since 1990, our agency has been a recipient of valuable new goods from the S. Mark Taper Foundation Shelter Resource Bank. During that time, we have received $1,337,546.56 in new goods that support both our program operations and provide needed goods directly to the homeless clients we serve, at no cost to our agency. The goods have included personal care products, cleaning supplies, clothing, shoes, household goods, and so much more.

The S. Mark Taper Foundation Shelter Resource Bank donations are critical to our success. If this valuable program were to be seriously disrupted or eliminated our ability to support our homeless population would be compromised.

The Salvation Army Bell Shelter provides 300 beds of emergency shelter and transitional housing with comprehensive supportive services for homeless adults in the City of Bell, CA. We serve over 650 individuals annually with over 60% of these individuals sufficiently addressing the root causes of their homelessness that they are able to move to permanent housing upon completion of the program.

We encourage you to consider in your deliberations the impact of the I-710 expansion project on this most valuable regional resource.

Sincerely,

Steve Lytle
Director

William Booth, Founder • Shaw Clifton, General • Commissioner James M. Knaggs, Territorial Commander • Colonel David E. Hudson, Chief Secretary
Lt. Colonel Douglas Riley, Divisional Commander • Major Mike Dickinson, Los Angeles Area Commander • Steve Lytle, Director

CHRYSALIS

a nonprofit organization **Changing Lives Through Jobs**

Mr. Ronald Koskinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RECEIVED SEP 0 7 2012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

I am writing on behalf of Chrysalis regarding the I-710 Environmental Impact Report. I am concerned that all of the build alternatives would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse serving the Los Angeles County homeless population.

Since 1989 our agency has been a recipient of valuable new goods from the S. Mark Taper Foundation Shelter Resource Bank. During that time, we have received over $700,000 in new goods that support both our program operations and provide needed goods directly to the clients that we serve, at no cost to our agency. The goods have included personal care products, cleaning supplies, clothing, shoes, household goods, and so much more.

The S. Mark Taper Foundation Shelter Resource Bank donations are critical to our success. If this valuable program were to be seriously disrupted or eliminated our ability to support our homeless population would be compromised.

Our agency helps the homeless and those in poverty find and retain employment. Each year we provide services to over 3500 individuals.

We encourage you to consider in your deliberations the impact of the I-710 expansion project on this most valuable regional resource.

Sincerely,

Mark Loranger
President & CEO

A Community Of Friends
Building Independent Lives

September 12, 2012

CHIEF EXECUTIVE OFFICER
Dora Leong Gallo

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Community Development Manager
Wells Fargo

Elizabeth Vaughn
Community Volunteer

Mr. Ronald Koskinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

I am writing on behalf of A Community of Friends (ACOF) regarding the I-710 Environmental Impact Report. I am concerned that all of the build alternatives would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse which provides services to people who are homeless in Los Angeles County.

Our agency ACOF is a nonprofit affordable housing development corporation that provides affordable housing and supportive services to formerly homeless individuals and families whose head of household also have a diagnosed mental illness. Created in 1988, ACOF currently houses over 1300 households including 500 children.

Shelter Partnership's Resource Bank is a valuable program for ACOF and many other nonprofit organizations that are involved in the goal of ending homelessness. Since 1997, our agency has been a recipient of valuable new goods from the S. Mark Taper Foundation Shelter Resource Bank, totaling over $1.1 million. The goods have included personal care products, cleaning supplies, clothing, shoes, household goods, and so much more, which is provided at no cost to the tenants living in our buildings. If this valuable program were to be seriously disrupted or eliminated due to the I-710 expansion, our ability to support our formerly homeless tenants would be compromised.

We encourage you to consider in your deliberations the impact of the I-710 expansion project on this most valuable regional resource.

Sincerely,

Dora Leong Gallo
Chief Executive Officer

3701 Wilshire Boulevard, Suite 700 :: Los Angeles, CA 90010 :: (213) 480-0809 :: Fax (213) 480-4189 :: www.acof.org

Covenant House California
Opening Doors for Homeless Youth

September 12, 2012

Mr. Ronald Koskinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

I am writing on behalf of Covenant House California regarding the I-710 Environmental Impact Report. I am concerned that all of the build alternatives would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse serving the Los Angeles County homeless population.

Since 1991, our agency has been a recipient of valuable new goods from the S. Mark Taper Foundation Shelter Resource Bank. During that time, we have received a total of $838,134 in new goods that support both our program operations and provide needed goods directly to the homeless youth that we serve, at no cost to our agency. The goods have included personal care products, cleaning supplies, clothing, shoes, household goods, and so much more.

The S. Mark Taper Foundation Shelter Resource Bank donations are critical to our success. If this valuable program were to be seriously disrupted or eliminated our ability to support our homeless population would be compromised.

Covenant House California responds to a critical service gap for nearly 4,000 individual homeless youth in Los Angeles each year, providing life saving outreach, shelter and opportunities to gain the long-term self sufficiency skills for productive citizenry. At a time of unprecedented need and scarce resources, Shelter Partnership's contributions enable our Hollywood residential campus to address the basic human needs of more than 100 homeless, transition-age youth per day, offering safe alternatives to the streets with 36,500 nights of care each year.

We encourage you to consider in your deliberations the impact of the I-710 expansion project on this most valuable regional resource.

Sincerely,

George R. Lozano
Executive Director

Los Angeles Program and Administration
1325 N. Western Ave. • Hollywood, CA 90027
Telephone (323) 461-3131 • Fax (323) 461-6491
www.covenanthousecalifornia.org

Bay Area Program
200 Harrison St. • Oakland, CA 94607
Telephone (510) 379-1010 • Fax (510) 379-1036

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William E. Harris

September 6, 2012

Mr. Ronald Koskinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

I am writing on behalf of Hollywood Community Housing Corporation (HCHC) regarding the I-710 Environmental Impact Report. I am concerned that all of the build alternatives would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse serving the Los Angeles County homeless population.

Since 2001, our agency has been a recipient of valuable new goods from the S. Mark Taper Foundation Shelter Resource Bank. During that time, we have received $349,150.77 in new goods that support both our program operations and provide needed goods directly to the clients that we serve, at no cost to our agency. The goods have included personal care products, cleaning supplies, clothing, shoes, household goods, and so much more.

The S. Mark Taper Foundation Shelter Resource Bank donations are critical to our success. If this valuable program were to be seriously disrupted or eliminated our ability to support our homeless population would be compromised.

For over 20 years, HCHC has been developing safe, attractive, affordable housing for households who get by on 25% to 60% of the Area Median Income. For a four-person household, this means total annual earnings between $21,350 and $51,240. The essential goods received from Shelter Partnership make an enormous difference in the lives of those who must count every penny. Today we have 22 buildings with 718 units serving approximately 1,700 people, including seniors, large families and individuals. Approximately 25% of our units are

designated for Special Needs households, this is, those who are disabled by HIV/AIDS and, in many cases, previously homeless. Our Food Pantry, through which the household goods from Shelter Partnership are distributed, serves the low-income community at large in addition to our residents. With the number of community members served by the Pantry added to our resident service population, over 2,000 individuals each year benefit from the goods we receive from Shelter Partnership.

We encourage you to consider in your deliberations the impact of the I-710 expansion project on this most valuable regional resource.

Sincerely,

William F. Harris
Executive Director

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HOUSING

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September 12, 2012

Mr. Ronald Koskinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

I am writing on behalf of L.A. Family Housing regarding the I-710 Environmental Impact Report. I am concerned that all of the build alternatives would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse serving the Los Angeles County homeless population.

Since 1989, our agency has been a recipient of valuable new goods from the S. Mark Taper Foundation Shelter Resource Bank. During that time, we have received $1,356,259 in new goods that support both our program operations and provide needed goods directly to the clients that we serve, at no cost to our agency. The goods have included personal care products, cleaning supplies, clothing, shoes, household goods, and so much more.

The S. Mark Taper Foundation Shelter Resource Bank donations are critical to our success. If this valuable program were to be seriously disrupted or eliminated our ability to support our homeless population would be compromised.

Last year, our agency helped 3,500 people transition out of homelessness and poverty through a continuum of housing enriched with supportive services including job training, mental and physical health programs, legal services, case management, child care and financial literacy programs.

We encourage you to consider in your deliberations the impact of the I-710 expansion project on this most valuable regional resource.

Sincerely,

Stephanie Klasky-Gamer
President & CEO
L.A. Family Housing

Los Angeles
Mission
The Crossroads of Hope

September 6, 2012

Mr. Ronald Koskinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

I am writing on behalf of The Los Angeles Mission regarding the I-710 Environmental Impact Report. I am concerned that all of the build alternatives would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse serving the Los Angeles County homeless population.

Since 1989, our agency has been a recipient of valuable new goods from the S. Mark Taper Foundation Shelter Resource Bank. During that time, we have received $1,860,012.72 in new goods that support both our program operations and provide needed goods directly to the clients that we serve, at no cost to our agency. The goods have included personal care products, cleaning supplies, clothing, shoes, household goods, and so much more.

The S. Mark Taper Foundation Shelter Resource Bank donations are critical to our success. If this valuable program were to be seriously disrupted or eliminated our ability to support our homeless population would be compromised.

Our agency exists to serve the homeless living on the streets of downtown's Skid Row and beyond. The Los Angeles Mission focuses on emergency services, drug and alcohol rehabilitation, education, employment and spiritual life. The Mission seeks to take individuals from the street to being productive citizens and relies heavily on these valuable goods while providing assistance for more than 4,500 annually.

We encourage you to consider in your deliberations the impact of the I-710 expansion project on this most valuable regional resource.

Sincerely,

Herbert L. Smith
President & CEO

303 East 5th Street Los Angeles, CA 90013
telephone: (213) 629-1227 facsimile: (213) 629-0036 www.losangelesmission.org

Mental Health America
of Los Angeles

September 11, 2012

Mr. Ronald Koskinski
Caltrans District 7
Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

As president and chief executive officer of Mental Health America of Los Angeles (MHA), I am writing regarding the I-710 Environmental Impact Report. We at MHA are concerned that all of the build alternatives would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse serving the Los Angeles County homeless population.

Our organization and the homeless adults and young adults we serve have been recipients of new goods from the Resource Bank for 22 years. During this time, we have received goods valued at more than $700,000 to provide for some of the essential needs of homeless individuals and to support our homeless assistance programs in their work, at no charge to our organization.

The S. Mark Taper Foundation Shelter Resource Bank donations are important to our success. One of our most crucial services is "outreach and engagement," when we make contact with homeless people directly on the streets and engage them in services by providing for some of their immediate needs. Because of the Resource Bank's generous support, we are able to offer items such as personal care products, clothing and shoes to help them right away and to engage them in our services that help put a permanent end to their homelessness. If the Resource Bank's work was to be disrupted or eliminated, we and the people we serve would be without this crucial community resource.

MHA has a 25-year history of service to homeless people with mental illness, many of whom also have serious health problems and substance abuse recovery needs. Last year, we served 1,134 individuals in our homeless assistance programs.

As you deliberate, we encourage you to consider the impact of the I-710 expansion project on this valuable resource that benefits so many in our community.

Sincerely,

Dave Pilon, Ph.D.
President and CEO

100 West Broadway, Suite 5010, Long Beach, CA 90802 ◦ P: 562.285.1330 ◦ F: 562-263-3395

OPCC
Empowering people to rebuild their lives

RECEIVED SEP 0 7 2012

Access Center

Campion Mental Health Center

Daybreak Day Center
& Shelter

k9 connection

Night Light Youth
Outreach Services

Safe Haven

SAMOSHEL

SHWASHLOCK

Sojourn Services
For Battered Women
And Their Children

Turning Point
Transitional Housing

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Stephen L. Scheier, Esq.
Charles E. Smith
Diane Wilson

September 7, 2012

Mr. Ronald Koskinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

I am writing on behalf of OPCC regarding the I-710 Environmental Impact Report. I am concerned that all of the build alternatives would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse serving the Los Angeles County homeless population.

Since 1989, our agency has been a recipient of valuable new goods from the S. Mark Taper Foundation Shelter Resource Bank. During that time, we have received $1.5 million in new goods that support both our program operations and provide needed goods directly to the clients that we serve, at no cost to our agency. The goods have included personal care products, cleaning supplies, clothing, shoes, household goods, and so much more.

The S. Mark Taper Foundation Shelter Resource Bank donations are critical to our success. If this valuable program were to be seriously disrupted or eliminated our ability to support our homeless population would be compromised.

Our agency provides services to low-income and homeless youth, adults and families, battered women and their children, at-risk youth and people living with mental illness. Each year we provide everything from basic needs such as food, clothing, showers and laundry, to interim housing, mental and physical health care, transportation, case management, domestic violence services and permanent supportive housing to over 5,000 individuals a year.

We encourage you to consider in your deliberations the impact of the I-710 expansion project on this most valuable regional resource.

Sincerely,

John Maceri
Executive Director

1453 16th Street, Santa Monica, CA 90404 310-264-6646 phone 310-264-6647 fax www.opcc.org

Formerly Ocean Park Community Center

SRO HOUSING CORPORATION

RECEIVED SEP 14 2012

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CRYSTAL BREEDLOVE
ROBERT J. MACKIN

CHIEF EXECUTIVE OFFICER
ANITA U. NELSON

September 12, 2012

Mr. Ronald Koskinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

I am writing on behalf of SRO Housing Corporation regarding the I-710 Environmental Impact Report. I am deeply concerned about the negative impact it may have on Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank and the low-income and homeless population we serve. Since Shelter Partnership's inception, SRO Housing Corporation has received over $1,100,000 of free goods such as personal care products, cleaning supplies, clothing, shoes, household goods, and so much more.

SRO Housing Corporation provides over 2,300 units of housing to low-income and homeless individuals in the Central City East community of downtown Los Angeles, an area more commonly known as Skid Row. This area has the largest concentration of homelessness and poverty in Los Angeles and arguably the nation. Thousands of community members depend upon the items that are received from the S. Mark Taper Foundation Shelter Resource Bank and would be negatively impacted if this program is disrupted or eliminated.

Therefore we are asking for you to take this into consideration as you deliberate the impact of the I-710 expansion project on this vital regional resource.

Sincerely,

Anita U. Nelson, MBA
Chief Executive Officer

354 S. Spring Street, Suite 400
Los Angeles, CA 90013
TEL - (213) 229-9640 FAX - (213) 229-9677

Opening Doors and Transforming Lives . . .

Union Rescue Mission®
the way home

September 7, 2012

Mr. Ronald Koskinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: I-710 Corridor Project and DEIR/EIS Impact on the Shelter Partnership S. Mark Taper Foundation Shelter Resource Bank

Dear Mr. Koskinski:

I am writing on behalf of Shelter Partnership regarding the I-710 Environmental Impact Report. I am concerned that all of the build alternatives would negatively impact Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank warehouse serving the Los Angeles County homeless population.

Since July 1989, our agency has been a recipient of valuable new goods from the S. Mark Taper Foundation Shelter Resource Bank. During that time, we have received $2,495,195.07 in new goods that support both our program operations and provide needed goods directly to the clients that we serve, at no cost to our agency. The goods have included personal care products, cleaning supplies, clothing, shoes, household goods, and so much more.

The S. Mark Taper Foundation Shelter Resource Bank donations are critical to our success. If this valuable program were to be seriously disrupted or eliminated our ability to support our homeless population would be compromised.

Our agency serves those experiencing homelessness, women and children, young men and the elderly through its facilities. Programs include restoration, food and shelter designed to restore self-sufficient living.

We encourage you to consider in your deliberations the impact of the I-710 expansion project on this most valuable regional resource.

Sincerely,

Andrew Bales, CEO
213 673 4803
abales@urm.org

EXHIBIT D

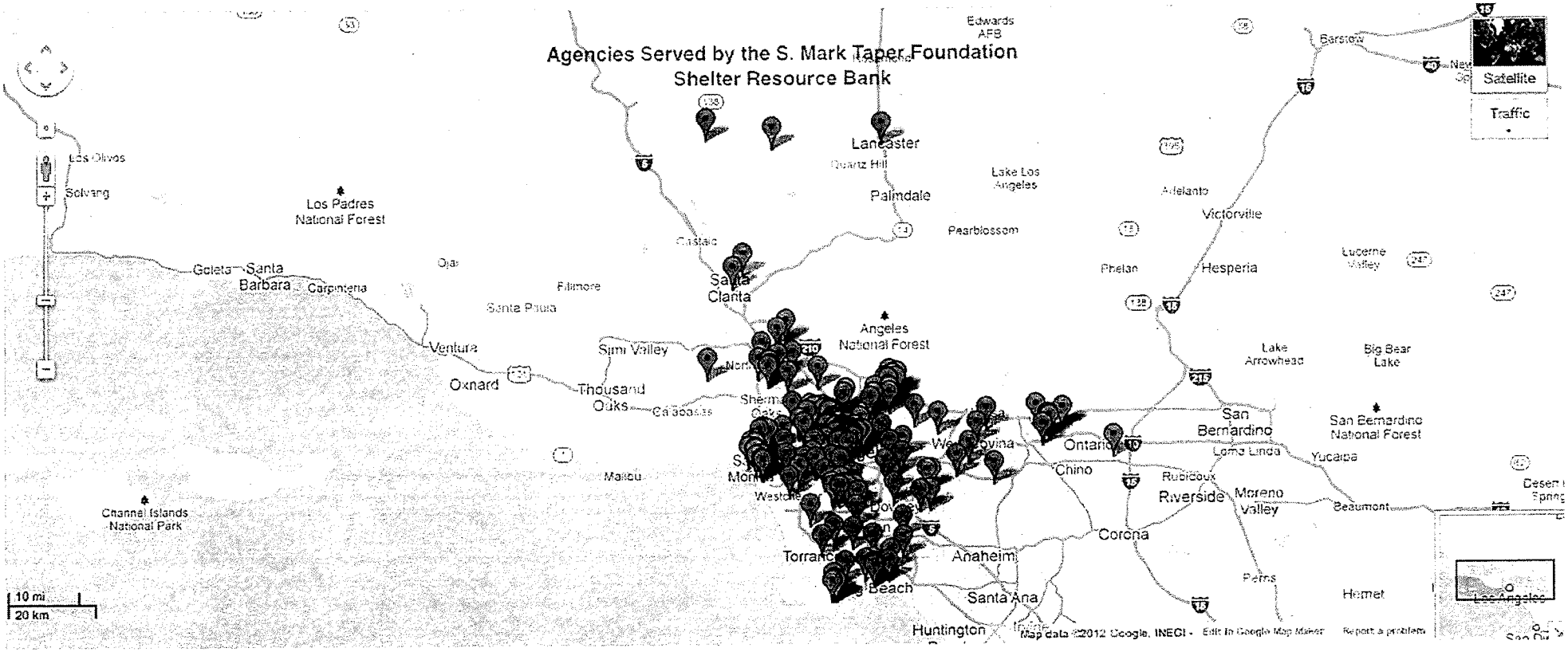

Agencies Served by the S. Mark Taper Foundation
Shelter Resource Bank
Satellite
Traffic
Los Olivos
Solvang
Los Padres
National Forest
Goleta
Santa
Barbara
Carpinteria
Ojai
Fillmore
Santa Paula
Ventura
Oxnard
Simi Valley
Thousand
Oaks
Malibu
Channel Islands
National Park
Edwards
AFB
Lancaster
Quartz Hill
Palmdale
Lake Los
Angeles
Pearblossom
Castaic
Santa
Clanta
Angeles
National Forest
Barstow
Adelanto
Victorville
Phelan
Hesperia
Lucerne
Valley
Lake
Arrowhead
Big Bear
Lake
San
Bernardino
San Bernardino
National Forest
Ontario
Chino
Lomo Linda
Yucaipa
Rubidoux
Riverside
Moreno
Valley
Beaumont
Corona
Anaheim
Santa Ana
Torrance
Beach
Huntington
Perris
Hemet
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20 km
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Report a problem

EXHIBIT E

Appendix L PARCEL ACQUISITION TABLES AND MAPS

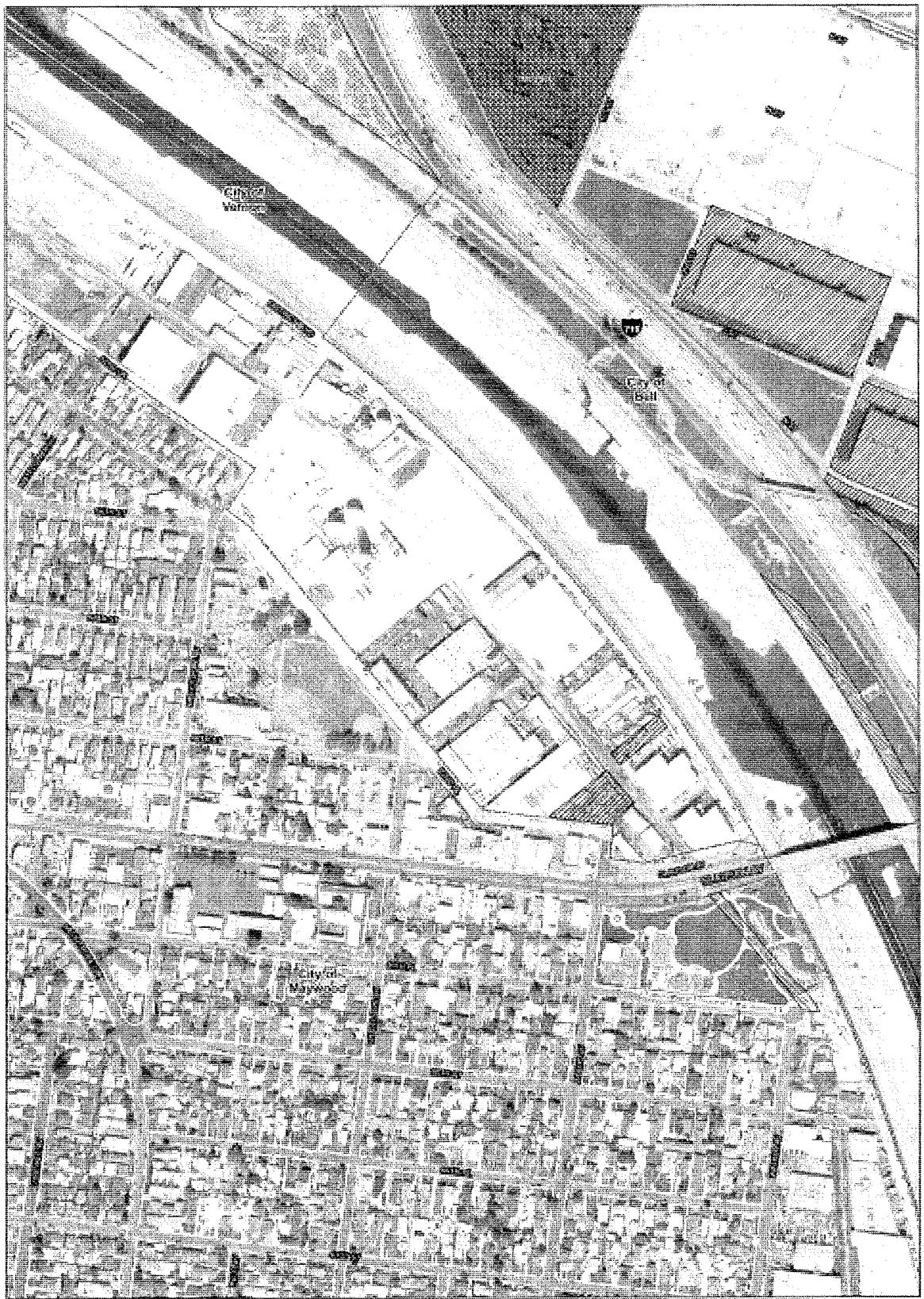
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Table L-1 Parcel Acquisitions

APN	Address	City	Alternative 5A	Relocation Required?	Alternatives 6A/B/C: Options 1, 2, or 3	Relocation Required?
6224038273		Bell	Partial		N/A	
6224039900		Bell			Partial	
6224040272		Bell	Partial		Partial	
6224040900		Bell	Full		Full	
6224040901		Bell	Full		Full	
6225005405	4410 Florence Ave.	Bell	Full	1	Full	1
6225005406		Bell	Partial		Partial	
6225005903		Bell	Partial		Partial	
6226005011		Bell	Partial		N/A	
6226033002	5427 Clara St.	Bell	Full		Full	
6226033270		Bell	Partial		N/A	
6226033900		Bell	Partial		N/A	
6226034002	5427 Clara St.	Bell	Full	1	Full	1
6314034802		Bell	Partial		N/A	
6315031001		Bell	Full		N/A	
6315031002		Bell	Full		N/A	
6315031272		Bell	Partial		N/A	
6325024017		Bell	Partial		Partial	
6325024021		Bell	Partial		Partial	
6327039001	5412 Gage Ave.	Bell	Partial	1	Full	1
6327039001	5412 Gage Ave.	Bell	Partial	1	Full	1
6327039001	5412 Gage Ave.	Bell	Partial	1	Full	1
6327039001	5412 Gage Ave.	Bell	Partial	1	Full	1
6327039001	5412 Gage Ave.	Bell	Partial	1	Full	1
6327039001	5412 Gage Ave.	Bell	Partial	1	Full	1
6327039270		Bell	Partial		N/A	
6327039900		Bell	Partial		N/A	
6327039901		Bell	Partial		N/A	
6332002019	5400 Linbergh Ln.	Bell			Partial - Option 2	1
6332002020	Perrin Bernard Supowitz Inc.	Bell	Partial	1	Partial - Option 1	1
6332002020	Cheli Distribution Center Inc.	Bell	Partial		Full - Option 2	1
6332002020	5300 E. Lindbergh Ln.	Bell			Full - Option 3	1
6332002021	5300 E. Lindbergh Ln.	Bell	Full		Full - Option 1	1
6332002021	Cheli Distribution Center Inc.	Bell	Full	1	Full - Option 2	1
6332002021	5600 Rickenbacker Rd.	Bell	Full		Full - Option 2	1
6332002021	5600 Rickenbacker Rd.	Bell			Full - Option 3	1
6332002022	5600 Rickenbacker Rd.	Bell	Full		N/A	
6332002022	5600 Rickenbacker Rd.	Bell			Full - Option 1	

Table L-1 Parcel Acquisitions

APN	Address	City	Alternative 5A	Relocation Required?	Alternatives 6A/B/C: Options 1, 2, or 3	Relocation Required?
6332002022	5600 Rickenbacker Rd.	Bell			Full - Option 2	
6332002022	5600 Rickenbacker Rd.	Bell			Full - Option 3	1
6332002035	5600 Rickenbacker Rd.	Bell			Full	1
6332002036	5600 Rickenbacker Rd.	Bell			Full	1
6332002036	5074 Bandini Blvd.	Bell			Full	1
6332002036	5300 E. Bandini Blvd.	Bell			Full	1
6332002036	U.S. Govt.	Bell			Full	1
6332002036	Not Found	Bell			Full	1
6332002036	Not Found	Bell			Full	1
6332002036	5654 Shull St.	Bell			Full	1
6332002805	5640 Shull St.	Bell	Full		N/A	
6332002920	5636 Shull St.	Bell	Partial	1	N/A	
6332002920	5666 Shull St.	Bell			Partial - Option 1	1
6332002920	5678 Shull St.	Bell			Partial - Option 2	1
6332002920	5724 Shull St.	Bell			Full - Option 3	1
6332002937	8457 Eastern Ave.	Bell	Full		N/A	
6332002937	8476 Garfield Ave.	Bell			Full - Option 1	
6332002937	8462 Garfield Ave.	Bell			Full - Option 2	
6332013801	1334 S. Eastern Ave.	Bell	Full		N/A	
6332013802	Not Found	Bell	Full		N/A	
6332013806	1459 S. Sydney Dr.	Bell	Full		N/A	
6227026005	1457 S. Sydney Dr.	Bell Gardens	Partial	1	N/A	
6227034007	1455 S. Sydney Dr.	Bell Gardens			Partial	6
6227034008	1451 S. Sydney Dr.	Bell Gardens			Partial	
6227034906	1449 S. Sydney Dr.	Bell Gardens			Partial	
6227035002	1445 S. Sydney Dr.	Bell Gardens			Partial	8
6227035004	1441 S. Sydney Dr.	Bell Gardens			Partial	7
6227035011	1433 S. Sydney Dr.	Bell Gardens			Partial	1
6227035012	1433.5 S. Sydney Dr.	Bell Gardens			Full	1
6230032021	1435 S. Sydney Dr.	Bell Gardens			Full	1
6230032036	1431 S. Sydney Dr.	Bell Gardens			Full	1
7306011029	1425 S. Sydney Dr.	Carson	Partial		Partial	
7306011031	1425.5 S. Sydney Dr.	Carson	Partial		Partial	
7306026021	1427 S. Sydney Dr.	Carson	Full	1	Full	1
7306026022	1421 S. Sydney Dr.	Carson	Full	1	Full	1
7306026023	1417 S. Sydney Dr.	Carson	Full	1	Full	1
7306026024	1415 S. Sydney Dr.	Carson	Partial		Full	1
7306026026	1413 S. Sydney Dr.	Carson	Partial		Full	1
7306026026	1413.5 S. Sydney Dr.	Carson	Partial		Full	1
7306026026	1411 S. Sydney Dr.	Carson	Partial		Full	1



LEGEND

Alternative 5A Parcel Acquisitions
- Full Acquisition
- Partial Acquisition

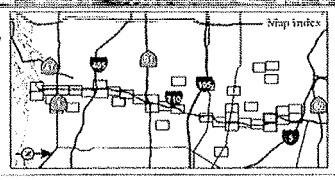
Alternative 6A/B/C Parcel Acquisitions
- Full Acquisition
- Partial Acquisition
- Option 1
- Option 2
- Option 3

N

0 150 300
Feet

SOURCE: Bing (2009); THM (2007)

I:\LRS0901A\GIS\EIR EIS\Parcel Acquisitions 2012.mxd (6/14/12)



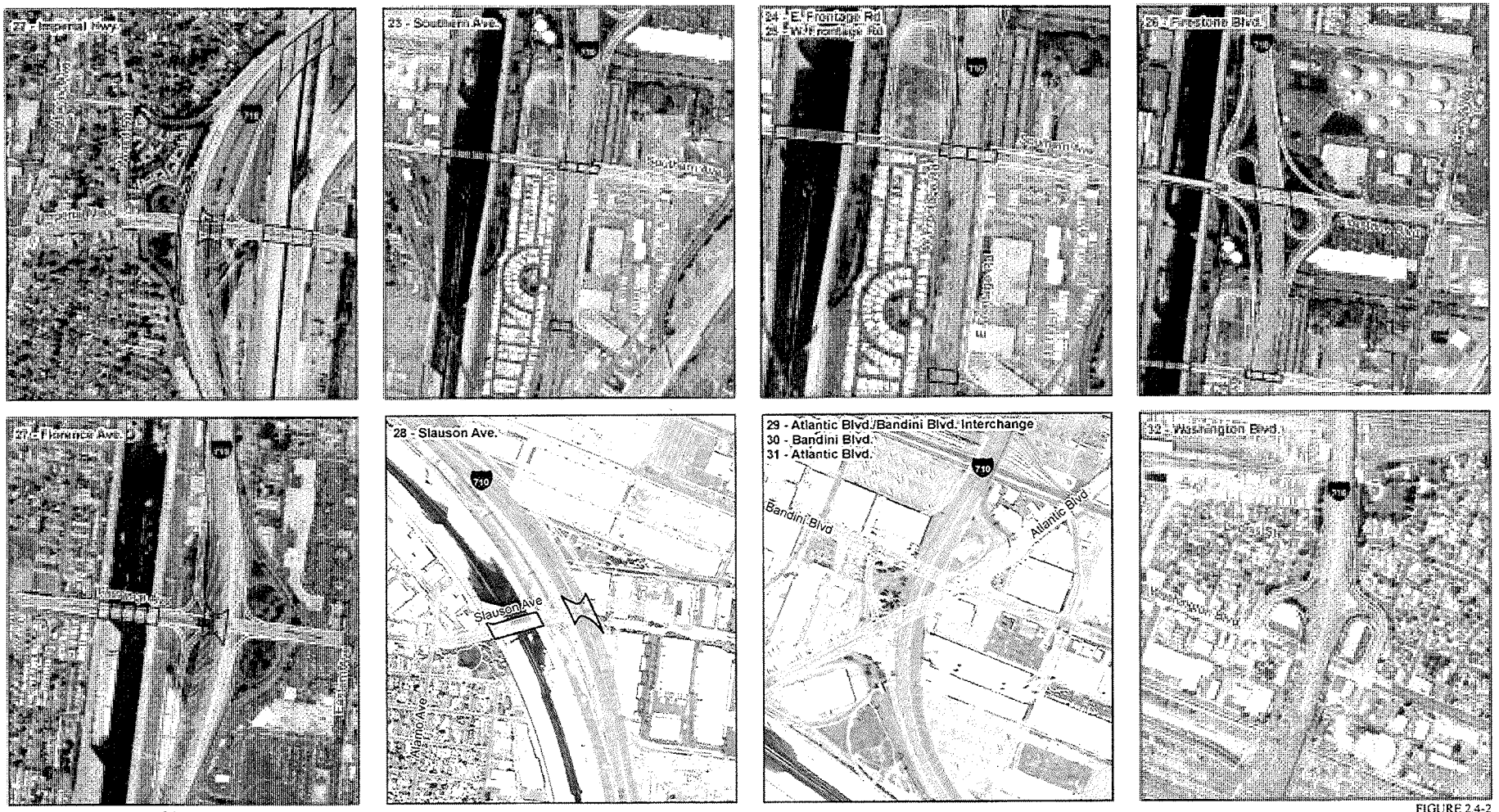
APPENDIX E
Sheet 36 of 41

I-710 Corridor Project EIR/EIS

Parcel Acquisitions

07-LA-710- PM 4.9/24.9
EA 249900

EXHIBIT F



LEGEND

- Mainline
- Ramps, Collectors and Distributors
- Elevated Structure

NO SCALE

SOURCE: Bing Maps (c 2008)

I:\URS0801A GIS EIR_EIS\Interchange_Mapping_22-32_Alt5.mxd (6/12/12)

FIGURE 2.4-2
Sheet 3 of 3

I-710 Corridor Project EIR/EIS

Alternative 5A Improvements to Local Arterial Interchanges, Crossings, and Frontage Roads

PM 4.9/24.9
EA 249900

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IP-122-1

As described in detail in Section 3.3.2.3 of the Recirculated Draft EIR/Supplemental Draft EIS, the revised build alternatives have been redesigned to avoid the need to relocate the Shelter Partnership's S. Mark Taper Foundation Shelter Resource Bank in the City of Bell under at least one build alternative. Under Alternative 5C, a partial acquisition would occur along the western portion of the property. It is possible that the redesign of the loading docks/zones, driveway areas, and traffic circulation patterns in the area could be done to avoid a relocation of the Resource Bank under Alternative 5C and retain the interrelated operational nature of the Bell Shelter and the Resource Bank. No relocation of the Bell Shelter would occur under Alternative 5C. Because Alternative 7 entails the addition of a separate freight corridor structure, and this location is constrained in terms of right of way due to the nearby utility corridor, Los Angeles River, and rail lines, impacts to the Bell Shelter/Resource Bank were unable to be avoided under Alternative 7. Specifically, Alternative 7 would require the acquisition/displacement of Bell Shelter's transitional housing structures, and the full acquisition and relocation of the Resource Bank. Please see Section 3.3.1 of the Recirculated Draft EIR/Supplemental Draft EIS for an updated discussion of community facilities, including the S. Mark Taper Shelter Resource Bank in the City of Bell.

IP-122-2

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-3

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-4

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-5

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-6

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-7

This comment expresses concern about potential access impacts to the S. Mark Taper Shelter Resource Bank during construction of the I-710 Corridor Project. Access to all properties in the Study Area will be maintained through implementation of the TMP described in Section 3.24.4 of the Recirculated Draft EIR/Supplemental Draft EIS.

IP-122-8

This comment expresses concern about potential air quality impacts to the S. Mark Taper Shelter Resource Bank during construction of the I-710 Corridor Project. Air quality construction impacts and mitigation is discussed in Section 3.24.3.13 of the Recirculated Draft EIR/ Supplemental Draft EIS.

IP-122-9

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-10

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-11

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-12

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-13

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-14

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-15

This comment requests consideration of a number of mitigation measures related to the S. Mark Taper Shelter Resource Bank in the City of Bell. Environmental justice mitigation measures have been incorporated into the RDEIR/SDEIS; please see Section 3.3.3 for more detailed information. Caltrans will work with Shelter Partnership to continue to refine the design near the Resource Bank to be as least impactful as is feasible.

IP-122-16

This comment requests a ventilation system be installed at the S. Mark Taper Shelter Resource Bank. Although not proposed as specific mitigation for the I-710 Corridor Project, such as system would be eligible for funding under the Community Health and Benefit grant program that is included under both proposed build alternatives and described in Section 2.3.2.1 of the Recirculated Draft EIR/Supplemental Draft EIS.

IP-122-17

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives.

IP-122-18

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives. With regard to the request to include the low-income and minority populations served by the S. Mark Taper Shelter Resource Bank in the environmental justice analysis in the EIR/EIS, all low-income and minority populations within the Study Area have been considered in the environmental justice analysis.

IP-122-19

As noted above in Response to Comment IP-122-1, impacts to the Bell Shelter and the S. Mark Taper Shelter Resource Bank in the City of Bell have been avoided/minimized in the design of one of the revised build alternatives. The updated information and analysis of any impacts to the S. Mark Taper Shelter Resource Bank have been addressed in this Recirculated Draft EIR/Supplemental Draft EIS.

Exhibit 3

From: Chaves, Ernesto
To: Rose, Kristin; Brown, Julia; Ruth Schwartz; Rhonda Villanueva; Horowitz, David I.; Ozurovich, Allie Kathleen
Subject: RE: I710 Corridor Project - Meeting with Shelter Partnership
Date: Thursday, October 5, 2017 2:41:21 PM

Kristen et. al,

As a follow up to our meeting yesterday, here are a couple of items:

1. The Noise Study Report (2016) can be found here: http://www.dot.ca.gov/d7/env-docs/docs/710corr-eir/Technical%20Studies/Noise%20Study%20Report%20May%202016.pdf. This is the report that documents the noise analysis done for the 710 Project. As you will see in Page 139 of the report, there are no proposed soundwalls in the vicinity of the Shelter Partnership because there were no sensitive receptors identified in this area and therefore no noise readings were taken. As we discussed, this is something you can point out in your comment letter and we will follow up.
2. I checked into the language of IP-122-1 in the Response to Comments of the 2012 DEIR/DEIS. What's described is a partial acquisition of the parcel, so essentially a sliver of parcel to accommodate the ramp. The reason the language also makes reference to redesigning driveways and docks is because we didn't know if that sliver would compromise any of the operations of the facility. If for some reason a configuration of the facility is required, then that would be covered under this document. Just to confirm, the building itself is not impacted.

Let me know if you have any other questions.

Thanks,

Ernesto Chaves
LA Metro
Sr. Director
Program Management/Highway Program
213.418.3142 W (New Phone Number)
metro.net | facebook.com/losangelesmetro | @metrolosangeles
Metro provides excellence in service and support.

-----Original Appointment-----
From: Rose, Kristin [mailto:kristin.rose@kirkland.com]
Sent: Wednesday, September 13, 2017 5:56 PM
To: Rose, Kristin; Brown, Julia; Chaves, Ernesto; Paola Bassignana; Esmeralda Garcia; Ruth Schwartz; Rhonda Villanueva; Horowitz, David I.; Ozurovich, Allie Kathleen
Subject: I710 Corridor Project - Meeting with Shelter Partnership
When: Wednesday, October 04, 2017 1:00 PM-2:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Kirkland & Ellis - 333 South Hope Street, 29th Floor, Los Angeles CA 90071

Calendar reminder for our meeting on Wednesday October 4.

Location:
KIRKLAND & ELLIS LLP

333 South Hope Street, 29th Floor, Los Angeles, CA 90071

Parking:
If you choose to park in the building, please enter the parking garage from Hope Street, near the intersection with 3rd. Please take your parking ticket with you and we will provide validation.

The information contained in this communication is confidential, may be attorney-client privileged, may constitute inside information, and is intended only for the use of the addressee. It is the property of Kirkland & Ellis LLP or Kirkland & Ellis International LLP. Unauthorized use, disclosure or copying of this communication or any part thereof is strictly prohibited and may be unlawful. If you have received this communication in error, please notify us immediately by return email or by email to postmaster@kirkland.com, and destroy this communication and all copies thereof, including all attachments.

IP-35-1

Caltrans and Metro thank the commenter for their input. The commenter's support of Alternative 5C and opposition to Alternative 7 are acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

IP-35-2

As noted in the comment, Alternative 5C would require a partial acquisition of the property and Alternative 7 would require a full acquisition of the property associated with the S. Mark Taper Foundation Shelter Resource Bank. The commenters concern that the acquisitions would reduce or suspend operations of the S. Mark Taper Foundation Shelter Resource Bank is acknowledged and noted in the public record. The acquisitions at this property are discussed in Table 3.3-8 in Section 3.3.1 of the RDEIR/SDEIS, as well as being detailed in the tables and depicted on Sheet 30 Figures L-1 and L-2 in Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, of the Final EIR/EIS. As discussed in the RDEIR/SDEIS, Alternative 1 (No Build) has been identified as the Preferred Alternative, which will not displace the Bell Shelter or S. Mark Taper Foundation Shelter Resource Bank.

IP-35-3

As discussed in Response to Comment IP-35-2, above, Alternative 1 (No Build) was identified as the Preferred Alternative and will not require relocation of the S. Mark Taper Foundation Shelter Resource Bank.

IP-35-4

Please refer to Response to Comment IP-35-2 regarding the relocation of the S. Mark Taper Foundation Shelter Resource Bank.

IP-35-5

Please refer to Response to Comment IP-35-2 regarding the relocation of the S. Mark Taper Foundation Shelter Resource Bank.

IP-35-6

Caltrans and Metro acknowledge that construction-related impacts may occur as a result of the build alternatives, which are described in more detail in Section 3.24 of this Final EIR/EIS. However, the build alternatives propose Measure CON-TR-1 which would provide for the preparation of a TMP, which, should a build alternative be selected as the Preferred Alternative, would include public outreach, including information on current and upcoming construction activities, lane and other closures, detours, and other information to assist residents, students, visitors, and business patrons to more effectively travel around and in the vicinity of active construction areas. However, as stated in Response to Comment IP-35-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no construction-related impacts will occur.

IP-35-7

Potential construction-related impacts resulting from the build alternatives, including air quality, were discussed in Section 3.24 of the RDEIR/SDEIS. Avoidance and mitigation measures proposed for the build alternatives for construction-related air quality and noise impacts are specifically located in Sections 3.24.4.13 and 3.24.4.14 of this Final EIR/EIS. In addition, as a non-profit organization, Shelter Partnership may be eligible for Community Health Benefit Program funding, which is a programmatic element of the build alternatives. The Community Health Benefit Program would aim to provide funding for projects intended to improve air quality and public health, of which air filtration/HVAC installation is considered eligible. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

IP-35-8

Please refer to Response to Comment IP-35-7 for more detailed information regarding the Community Health Benefit Program. Because the S. Mark Taper Foundation Resource Bank acts as a warehousing facility, there is no Noise Abatement Criteria applicable to this facility (which falls into activity category F), and noise abatement is not considered for structures of this type.

IP-35-9

Please refer to Response to Comment IP-35-2 regarding the relocation of the S. Mark Taper Foundation Shelter Resource Bank.

IP-35-10

Shelter Partnership's preference of Alternative 5C because the S. Mark Taper Foundation Shelter Resource Bank would not be impacted under Alternative 5C is acknowledged and noted in the public record. Potential relocation impacts to the S. Mark Taper Foundation Shelter Resource Bank as a result of the build alternatives were analyzed and disclosed to the public in Section 3.3.1, Community Character and Cohesion, of the RDEIR/SDEIS. Please refer to Response to Comment IP-35-2 regarding the relocation of the S. Mark Taper Foundation Shelter Resource Bank.

IP-35-11

Please refer to Section 1.5 of this appendix regarding impacts to the Bell Shelter.

IP-35-12

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS fails to provide adequate assurances that the relocation plan proposed for the build alternatives complies with the requirements of the Uniform Act. As discussed in Section 3.3.2, Relocations and Real Property Acquisition, of the RDEIR/SDEIS, property acquisition and relocation should a build alternative be selected as the Preferred Alternative, relocations would be handled in accordance with the Federal and State laws (the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, also known as the Uniform Act, and California Government Code, Chapter 16, Section 7260, et seq.). Details of the Caltrans Transportation Relocation Assistance Program were provided in Appendix D of the RDEIR/SDEIS. Caltrans complies with this program, and with the requirements of the Uniform Act, on all projects. However, as stated in Response to Comment IP-35-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no acquisitions or relocations.

IP-35-13

Although the S. Mark Taper Foundation Shelter Resource Bank serves a noble purpose in providing support to homeless services organizations throughout Los Angeles County, under the Caltrans Traffic Noise Analysis Protocol, it is not considered a noise-sensitive land use, as it does not have an exterior area of frequent human use. An area of frequent human use is defined as an area where people are exposed to traffic noise for an extended period of time on a regular basis. Also in accordance with the Protocol, noise abatement is only considered where frequent human use occurs and where a lowered noise level would be of benefit. Please also refer to Response to Comment IP-35-8 regarding the Community Health Benefit Program.

IP-35-14

Please refer to Response to Comment IP-35-13 regarding noise abetment at the S. Mark Taper Foundation Shelter Resource Bank.

IP-35-15

As a non-profit organization, Shelter Partnership is an eligible applicant for Community Health Benefit Program funding, of which air filtration/HVAC installation would be considered an eligible project. Shelter Partnership is encouraged to apply for funding through the Program to implement these types of improvements. However, as stated previously, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program. In addition, since the No Build Alternative has been selected as the Preferred Alternative and no construction will occur, the S. Mark Taper Foundation Shelter Resource Bank will not experience air quality impacts during construction.

IP-35-16

Please refer to Response to Comment IP-35-6 regarding construction-related impacts to the S. Mark Taper Foundation Shelter Resource Bank.

IP-35-17

Caltrans and Metro respectfully disagree that the RDEIR/SDEIS is inadequate because it fails to analyze the Shelter Partnerships ability to comply with the Department of Health and Human Services' condition that the Shelter Partnership continuously use the property for public health purposes. The purpose of the RDEIR/SDEIS is to analyze environmental and social impacts related to the implementation of a transportation project. The RDEIR/SDEIS also discloses the Caltrans relocation process, which includes coordination with both the owner and occupants of displaced properties, both of who are eligible for relocation compensation and benefits. The Department of Health and Human Services' interest in the property does not change the environmental impacts, proposed avoidance, minimization, and/or mitigation measures for the build alternatives, and conclusion of the RDEIR/SDEIS related to the potential acquisition of the S. Mark Taper Foundation Shelter Resource Bank property resulting from the build alternatives.

IP-36

Brad Jensen

From: claramsolis@earthlink.net
Sent: Monday, October 23, 2017 5:10 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Clara Solis
Organization:
Phone: 3234226446
Mailing Address:
City, State:
Zip:
Comment/Question:
These comments are made in addition to my previous comments:

Current noise pollution from the I-710 should be reduced or not be increased by the project that is selected. Sound walls must be provided if they reduce the sound level even if the reduction is not to acceptable levels. If the sound walls do not decrease the noise to acceptable levels the noise pollution must be reduced by other means such as taller or better sound walls, landscaping, quieter road materials, soundproofing and retrofitting of all dwellings affected including but not limited to: schools, homes, public buildings, Churches and businesses. IP-36-1

Sound Wall SW519 should be built. Mitigation must be provided to reduce the increase in noise to the no build levels. IP-36-2

The visual impacts from Options 3A/3B are significant and unacceptable. The elevated SR 60 will loom over residents. It will change the way East Los Angeles residents feel about their community. It will become the predominant view for residents on Burger. East Los Angeles Option 3A/3B should be rejected. IP-36-3

*You received this message because Clara Solis submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-36-1

Caltrans has analyzed the traffic noise impacts of the build alternatives at all noise-sensitive receptors and recommended reasonable and feasible noise abatement, based on State and Federal requirements and policies. However, it is important to note that Caltrans is not required to decrease noise levels to a certain level of acceptability. The potential for interior noise impacts has also been considered at those qualifying noise sensitive land uses as defined by the Caltrans Traffic Noise Abatement Protocol. No interior noise impacts from the build alternatives have been identified at any of the activity categories listed on Table 3.14-1 in Section 3.14.1.2 of this Final EIR/EIS. Residences are not considered a qualifying land use for interior noise impacts, per the Protocol. Currently, quieter pavement is not listed as a noise abatement measure for which Federal funding may be utilized.

IP-36-2

As discussed in further detail in Section 3.14.5.8 of this Final EIR/EIS, SW-519 was deemed both acoustically feasible and cost-reasonable, and was therefore recommended for construction, should a build alternative be selected as the Preferred Alternative. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. As a result, that particular soundwall was only necessary with implementation of Design Option 3A, which is no longer under consideration. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-36-3

The commenter’s opposition to Design Options 3A and 3B are acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative, and Design Option 3A has been withdrawn from further consideration. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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Clara M. Solis
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Juan Vasquez
Sydney Neighborhood Group
537 S Sydney Drive
East Los Angeles, CA 90022

Rachel Vermillion
Humphreys Neighborhood Group
348 S Humphreys Avenue
East Los Angeles, CA 90022

October 23, 2017

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16
Los Angeles, CA 90012

Dear Mr. Kosinski,

DRAFT ENVIRONMENTAL IMPACT REPORT/
ENVIRONMENTAL IMPACT STATEMENT (EIR/EIS)
I-710 CORRIDOR PROJECT

Thank you for considering all of the comments included in this letter. Please consider seriously how much the community of East Los Angeles has suffered because of the impacts from the I-710 and all of the other freeways that run through it and around it.

Each of the issues and problems described in these comments should be addressed not only upon the issue raised but also as an environmental justice issue and as a violation of CEQA and NEPA standards. East Los Angeles is 97 percent Latino/Hispanic and a greater number of ELA residents are living below the poverty level than in Los Angeles County as a whole. A greater percentage of East Los Angeles residents live below the poverty level than in the study area. Additionally, East Los Angeles residents have a greater percentage of Latino/Hispanic residents than the percentage in the study area. IP-37-1

The 2017 Recirculated Draft EIR/EIS is deficient, it should be withdrawn and re-done and recirculated. East Los Angeles Option 3A/3B should be not be included in the redrawn EIR/EIS. Community Alternative 7 should be included for study. Caltrans should abide by Motion 22.1. Community input from East Los Angeles residents should be obtained regarding any options or alternatives impacting East Los Angeles prior to inclusion in the redrawn EIR/EIS. IP-37-2

If this project should go forward, we request mitigation for each and every one of the items brought up in all of this comment letter.

All of the issues raised unless otherwise stated are specific to the unincorporated area of East Los Angeles.

ENVIRONMENTAL JUSTICE

East Los Angeles is an environmental justice community. Ninety-Seven percent of the community is Latino. The percentage of Latinos in East Los Angeles far exceeds the numbers in the study area and in the County as a whole. The number of residents living below the poverty level exceeds the number of residents living below the poverty level in the study area. East Los Angeles is one of the most impoverished areas in the study area and is one of the areas with the highest number of Hispanic/Latinos in the study area.

SUPPRESSION OF THE ABILITY OF EAST LOS ANGELES RESIDENTS TO PARTICIPATE FULLY IN THE 2017 DRAFT EIR/EIS PROCESS

There seems to be an intentional attempt to suppress the ability of the East Los Angeles community to participate in the EIR/EIS process. The document was once again released in the summer and did not give sufficient time for residents to be informed and participate in the project. This same exact comment was made in 2012. Yet, here we are again. The staff and consultants had years to prepare this document but only 90 days were given to residents to become aware of the project, review the 10,000 plus page document and make comments. The 2010 US Census reports that fully 87.6 percent of the residents of East Los Angeles speak a language other than English at home compared to the California number of 43.6 percent, yet the majority of materials were in English. Additionally, many residents did not even learn of the project until October 18th when Los Angeles County Supervisor Solis held a community forum in East Los Angeles. Despite repeated attempts from residents and their elected officials to obtain a full 120 comment period, Caltrans refused. See attached letter of Congresswoman Lucille Roybal-Allard. There are also many errors in the document which make it difficult for East Los Angeles residents to fully understand what the ↓

IP-37-3

IP-37-4

IP-37-5

IP-37-6

impacts of this project are. Some of these errors include: Appendix L, an acquisitions page which says "Los Angeles" instead of East Los Angeles when describing the properties to be acquired and which lists residential properties as being Industrial, underestimates of the number of homes to be acquired listing 19 units instead of 24, underestimates the number of people to be displaced, 76 rather than 98, improperly lists a 10 unit apartment building as having 5 units, misidentifies East Los Angeles as the City of Los Angeles, and states that there are an adequate number of replacement homes for East Los Angeles residents. When the document was first released, the link to the comments section was not easily found. It was not until repeated phone calls and the advocacy of East Los Angeles elected officials that the comment link was moved to a location more easily found. Additionally, the link to the main pdf was not operating properly for the majority of the comment period. Finally, people submitting comments are not able to submit pdf files online. All of this left the residents of East Los Angeles unable to fully participate in the Recirculated Draft EIR/EIS process.

IP-37-6

IP-37-7

IP-37-8

ALL OF EAST LOS ANGELES SHOULD HAVE BEEN STUDIED

There also appears there was an intentional plan to suppress the ability for East Los Angeles residents to participate in the EIR/EIS process by splitting the community in two and placing approximately half of the community in the I-710 Corridor Project (South) and the SR 710 Project North even though the entire community is impacted by both projects. Additionally, one portion of the community is not covered by either project. In addition to being an environmental justice issue, this is a civil rights issue.

IP-37-9

By not including all of East Los Angeles, an area affected, the Draft EIR/EIS is misleading the public. The regional air quality and traffic is much worse than is being stated. There are obvious impacts to the area north of the SR 60. East Los Angeles is the only community which has the I-710 running through it that is not completely studied. It is also the only community directly impacted by two projects, the SR 710 and the I-710. Although, the current plan for the SR 710 is the TSM/TDM, it still will have impacts that should have been studied. East Los Angeles is also the only community that is split in half by each of the projects. It is one of the poorest communities with one of the largest Hispanic/Latino population in the entire I 710 Study area. This is an environmental justice issue. East Los Angeles is facing negative impacts from traffic and air pollution from both Alternative 7 and Alternative 5c. These impacts are intentionally being minimized by splitting the community in half. This has resulted in the impacts being underestimated by half.

IP-37-10

IP-37-11

IP-37-12

Leaving a great portion of East Los Angeles, an environmental justice community that is obviously affected by the project, out of the study area is a violation of CEQA and

IP-37-13

NEPA and is simply unjust. If this is allowed, it will result in a dangerous precedent. A project which results in huge increases in traffic, air pollution, cancer risks, health impacts to a community could merely be excluded from the study area to avoid having to do CEQA and NEPA analysis of impacts. This is surely not the intent of these laws. Was it not the intent of the NEPA and CEQA environmental justice laws to protect communities like East Los Angeles which is 97 percent Hispanic/Latino and has a one of the largest percentage of the population living below the poverty level than almost any other community in the study area. East Los Angeles is an environmental justice community that is being treated in a manner that is contrary to the spirit of environmental justice laws. IP-37-13

The CEQA Guidelines state that the analysis of a proposed project shall discuss "...changes induced in population distribution, population concentration, the human use of land (including commercial and residential development) ... analyze any significant environmental effects the project might cause by bringing development and people into the area affected."

The Environmental Justice Section of this report states:

All projects involving a Federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President Clinton on February 11, 1994.

This EO directs Federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of Federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law.

This Draft EIR/EIS does not take the appropriate and necessary steps to identify and address disproportionately high and adverse impacts of this project.

1) It did not complete a health impact assessment which would have identified additional impacts to the community, such as exacerbation of asthma and new cases of asthma, Reduced lung function, Cardiovascular heart disease, Preterm birth, low birth weight and pregnancy disorders, Autism, Aging of the brain, possibly obesity and Type 2 diabetes, overall burden of disease related to near roadway air pollution, increased risk of autism spectrum disorders to children born to mothers living near freeways, increased risks to the elderly. IP-37-14
2) The impacts to East Los Angeles which is clearly an environmental justice community are disproportionate and are not adequately addressed. IP-37-15
3) It did not address the disproportionate impacts to low income and minority communities in a meaningful manner. IP-37-16

The Draft EIR/EIS is deficient, replete with errors, misleading to community members, and does not properly study the impacts to East Los Angeles. Additionally, each of the deficiencies violate environmental justice standards.

This draft EIR/EIS should be thrown out and re-scoped incorporating meaningful input from East Los Angeles. Options 3A/3B should never have been included in the Draft EIR/EIS without first being presented to the I-710 East Los Angeles Local Advisory Committee. A new corrected draft EIR/EIS without East Los Angeles Options 3A and 3B should then be completed and recirculated for comment. IP-37-17

Each of the issues and problems enumerated in these comments should be addressed not only upon the issue raised but also as an environmental justice concern and as a violation of CEQA and NEPA standards. IP-37-18

A consolidating study of the environmental impacts from both projects to the entire community of East Los Angeles must be completed incorporating the latest information. A complete health impact assessment which includes all of the latest research of the impacts from living near freeways should be included. It is not like there is not significant research into the impacts of freeways on health. To ignore these studies is equivalent to the tobacco industry knowing that smoking kills and not disclosing that fact to consumers. IP-37-19 IP-37-20

EAST LOS ANGELES DESIGN OPTIONS 3A/3B:

DESIGN OPTION 3A/3B INCLUDED ON THE 2017 RECIRCULATED DRAFT OF THE EIR/EIS IS DEFICIENT BECAUSE THE IMPACTS DO NOT JUSTIFY THE BENEFITS.

We are opposed to East Los Angeles Option 3A/3B. East Los Angeles residents are opposed to East Los Angeles Design Option 3A/3B because it causes significant harm to residents and impacts community cohesion.

EAST LOS ANGELES OPTION 3A/3B CAUSES SIGNIFICANT HARM TO THE COMMUNITY OF EAST LOS ANGELES IP-37-21

THE 2017 RECIRCULATED DRAFT EIR/EIS FOR EAST LOS ANGELES OPTION 3A/3B IS DEFICIENT BECAUSE IT DOES NOT SUFFICIENTLY STUDY THE NEGATIVE IMPACTS TO THE COMMUNITY OF EAST LOS ANGELES AND CONTAINS SIGNIFICANT OMISSIONS AND ERRORS.

EAST LOS ANGELES OPTION 3A/3B IMPACTS COMMUNITY COHESION

The taking of properties on Sydney Drive and of the businesses in East Los Angeles will impact Community Cohesion.

Section 3.2.2.3 Community Character and Cohesion

East Los Angeles is a place where community cohesion is strong. The Draft EIR/EIS documents this somewhat in statistics about this community. In the community impact assessment, Section 5.13.4 it states:

> Community cohesion is the degree to which residents have a sense of belonging to their neighborhood, a high level of commitment to the community, or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time (California Department of Transportation [Caltrans] 2011).1 According to several indicators of community cohesion for the community of East Los Angeles described in Section 4.14.6, including the long tenure of many of the residents in the study area, the high degree of ethnic homogeneity, the high percentage of persons either age 65 and over or under age 19, and the large number of residents who are pedestrians (as confirmed through the finding of high percentages of transit-dependent persons), it can be concluded that there is a high degree of community cohesion in the unincorporated community of East Los Angeles.
> This section states that CEQA requires:
>
> > Alternatively, economic or social effects of a physical change may be used to determine that the physical change is a significant effect on the environment. If the physical change causes adverse economic or social effects on people, those adverse effects may be used as the basis for determining that the physical change is significant.

IP-37-21

EAST LOS ANGELES OPTION 3A/3B CAUSES SIGNIFICANT HARM TO EAST LOS ANGELES RESIDENTS

EAST LOS ANGELES OPTION 3A/3B CAUSES PHYSICAL CHANGE TO EAST LOS ANGELES, AN ENVIRONMENTAL JUSTICE COMMUNITY:

EAST LOS ANGELES RESIDENTS ARE OPPOSED TO THE TAKING OF ANY HOMES OR BUSINESSES IN EAST LOS ANGELES

Residents feel that with the four freeways running through East Los Angeles they have met their burden. They should not have to give any more property and they should not have to endure any more pollution from these projects.

Residents of East Los Angeles will suffer both economic and social effects when their homes are acquired by Caltrans from the physical change oft adding an auxiliary lane and moving the Olympic exit to Whittier Blvd. in Option 3A/3B.

The occupants of the apartment building at 626 S Sydney Drive and of other properties that would be acquired by this project on Sydney Drive are occupied by renters. Other properties that would be required are owned by residents on Sydney.

Many families on Sydney Drive have family members who also live in East Los Angeles. East Los Angeles is an environmental justice community 97.1 percent of the population is Latino. 27.1 percent of the population have incomes below poverty level. Families with low incomes depend on extended family when money runs short. Family, and extended family is culturally important in East Los Angeles. Community members depend on their family and extended family for support. Additionally, as indicated in the East Los Angeles community profile 42.6 percent of residents are transit dependent. Marcia Carteret, M. Ed., states: IP-37-22

> "Latinos tend to be highly group-oriented. A strong emphasis is placed on family as the major source of one's identity and protection against the hardships of life. This sense of family belonging is intense and limited to family and close friends. People who are not family or close friends are often slow to be given trust. The family model is an extended one; grandparents, aunts, cousins, and even people who are not biologically related may be considered part of the immediate family.... Financial support of the family by the individual and vice versa is important and expected." http://www.dimensionsofculture.com/2011/03/cultural-values-of-latino-patients-and-families/

Expecting East Los Angeles residents to move from homes where they have extended networks of family to new homes far away from the support groups when they have no cars to visit those family members will hurt these community members both economically, socially and psychologically. Further, many of those impacted are senior citizens whose health would be impacted by one of life's great stressors... moving.

Los Angeles currently has a housing shortage. Rents are historically high throughout the Los Angeles. Community members will have difficulty finding properties to rent that are equal to and priced similarly to the rentals that they currently live at. Additionally, many renters who are given relocation money to move after one year run out of the relocation money because they are forced to pay higher rents. This has contributed to the increase in homelessness in Los Angeles. IP-37-23

As indicated in the East Los Angeles community profile, East Los Angeles has many longtime residents. The number of residents who have lived in East Los Angeles for a long period of time is greater than the County wide average. Attached are letters from residents who would be impacted if their homes on Sydney Drive are acquired through eminent domain.

Juana Cortez, age 70 lives at 600 S Sydney Drive and has lived 35 years at her home.

She states,

> "I am a senior citizen. My family who lives in East Los Angeles visit me and help me. At my age it would be hard and stressful for me to move to another location away from my family who provides for me both financially and emotionally. I also depend on my family for rides to the supermarket and doctor."

Additionally, federal law does not allow payment for relocation benefits for undocumented Immigrants. In communities like East Los Angeles with substantial numbers of Spanish speaking immigrants, it is likely that there may be undocumented immigrants who if required to move will be severely economically impacted by this project. This will cause significant harm to this population and to the overall community of East Los Angeles. IP-37-24

Additionally, the Relocation Impact Assessment is deficient in its analysis of East Los Angeles. It does not offer East Los Angeles residents the information necessary to provide comments on how this project will impact them. This is an environmental justice is as well. The Relocation Impact Report is totally flawed in its analysis of East Los Angeles. This puts East Los Angeles at a complete disadvantage. The Acquisitions Report, and Risk Maps list East Los Angeles homes as the City of Los Angeles. The map below is just one of the places within this document which misidentifies East Los Angeles as the City of Los Angeles. See map at below: IP-37-25



The Relocation Impact Report for every community facing property acquisitions except East Los Angeles, looks at housing sales, housing rentals, demographics, prices, and housing availability within that community. Caltrans appears to have included a generic Los Angeles category instead of studying East Los Angeles and providing detailed information on the availability of housing in East Los Angeles and how likely it would be

for residents to relocate within East Los Angeles. If Caltrans wanted to include the City of Los Angeles as a source of housing, they should have listed it separately, and studied East Los Angeles as an unincorporated separate community like all of the other communities were. It should be noted that none of the acquisitions of property actually occur in the City of Los Angeles. Only 14 of the 205 properties sales listings for Los Angeles are in East Los Angeles. Almost half, 102 of the sales listings are in two zip codes in South Los Angeles (90002 and 90059). (See Exhibit) Likewise, the listings for Multi-family homes are for the City of Los Angeles not one of the 55 Multifamily homes are in East Los Angeles. A good number are near downtown 90012.

IP-37-25

The Relocation Impact Study and the Community Impact Assessment incorrectly states that there are 19 homes that will be required when in fact the true number is 24. The apartment building at 626 S. Sydney Drive is a 10 unit building not a 5 unit building. This has resulted in the community of East Los Angeles not being fully analyzed for impacts and possible mitigation.

IP-37-26

This failure to adequately analyze East Los Angeles in the Relocation Impact Report means that East Los Angeles was identified as having a lack of comparable replacement housing and was not considered for further mitigation. Section 8.5 of the Relocations Sections states:

> Within the Cities of Cudahy, Vernon, and Commerce, current market conditions indicate a lack of comparable replacement housing.... While adequate comparable replacement housing appears to exist presently in neighboring cities, new replacement dwellings under Last Resort Housing may be considered for these cities as a method of providing comparable replacement housing to displaced persons who reside in areas where the replacement housing is low.

IP-37-27

The chart below is from the replacement area report.

1. **Housing stock for the study area:**

Cities	A. Number of SFR		B. Number of Multi-Family		C. Number of Mobile Homes
	For Sale	For Rent	For Sale	For Rent	For Sale
Long Beach	294	61	184	50	26
Carson	35	7	22	5	12
Compton	123	2	6	4	9
Cudahy	3	0	2	0	1
Los Angeles	205	336	55	180	0
Lynwood	32	0	1	6	1
Paramount	21	1	12	7	11
South Gate	30	2	4	1	1
Bell Gardens	5	0	3	0	0
Bell	4	0	0	2	0
Commerce	1	0	1	0	0
Maywood	3	0	1	0	0
Vernon	0	0	0	0	0
TOTAL	756	409	291	255	61

IP-37-27

The 2017 Recirculated Draft EIR/EIS is deficient in analyzing the Impacts from East Los Angeles Options 3A/3B

The impacts from East Los Angeles Options 3A/3B are not studied in the Health Risk Assessment nor in the Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study. IP-37-28

ELEVATED STRUCTURE ON BURGER:

The elevated structure that would be built adjacent to Burger Avenue will bring increased traffic to I 710 freeway through East Los Angeles as indicated below in Table 5 and 6. As capacity will increase with Options 3A/3B even more traffic will pass through East Los Angeles on the I-710. However, this has not been fully addressed in the EIR/EIS. IP-37-29

Additionally, this traffic will be closer to residents on Burger Avenue. The HRA indicates that pollution will increase more on the East side of the I-710 especially north of the I-5 and South of the SR 60. The impact that this will have on the residents who will now be closer to the freeway is not studied. The EIR/EIS is deficient. The impacts of noise from the elevated structure to residents farther from the freeway is not studied. The likely increased noise and pollution impacts are not acceptable. Options 3A and 3B should be rejected. IP-37-30

ADDITIONAL PROBLEMS WITH EAST LOS ANGELES OPTION 3A/3B

The EIR/EIS is deficient for failing to adequately review the impacts listed below:

Option 3A/3B will close the exit at Olympic moving it to Whittier Blvd.

A study analyzing the use of Olympic by trucks and vehicles has not been completed. Olympic Blvd is used by traffic going to and from Downtown Los Angeles. Many more vehicles including trucks use Olympic Bl. than use Whittier. How will moving the exit impact traffic on Eastern? Will increased traffic increase pollution in East Los Angeles?

IP-37-31

Vehicles coming off the SR 60 Pomona Freeway will be able to exit on the new Whittier Blvd. exit but traffic from the I-710 mainline will not. Therefore, vehicles searching for an exit will use the 3rd Street exit increasing traffic and cross-through traffic through a residential neighborhood.

A jogging path is due to be constructed around Calvary Cemetery which has its Eastern border on Eastern Avenue. This increased traffic will conflict with the communities use of the jogging path. The increased traffic will also increase pollution and noise. Additionally, cars speeding off the freeway frequently crash. This can make it dangerous for joggers.

IP-37-32

A signal should be placed at Eastern and Eagle to make it safer.

IP-37-33

OPTION 3A/3B will no longer allow vehicles merging from the SR 60 to access the I-5 South

IP-37-34

Vehicles coming from the SR 60 will no longer be able to exit on the 5 South. These vehicles may exit on the new Whittier exit and use East Los Angeles streets to get to the I-5 freeway. They also may stay on the SR 60 freeway and exit on Atlantic Blvd. A study of the freeway exit at Atlantic should be done to analyze this. Also, Atlantic and 3rd and Atlantic and Whittier should be analyzed. Downey Rd. may also be used by vehicles searching for another way to the I-5 freeway. This must also be analyzed. All of these possible impacts should have been studied. The increase in cross-through traffic on the streets of East Los Angeles can increase traffic on streets, increase pollution and make the community less safe.

IP-37-35

The intersection traffic assessment did not show increased traffic at Eagle and Humphreys at the 3rd St. South exit, yet Eagle, Humphreys, and Eastern are proposed for widening in anticipation of more traffic and possibly more truck traffic. When asked about the widening Engineer Shannon explained this was the reason for the increase. When asked how many more cars would exit he said 1 to 2 a minute. That is a substantial increase for a residential community. How will increased traffic impact these residential streets? Already, Eagle has experienced increased traffic when the Gold Line no longer allowed left turns from Humphreys to 3rd St. Residents on Eagle, Humphreys, and Eastern complain frequently about cars speeding off the freeway and through their neighborhoods. Accidents from cars speeding off the freeway frequently occur. Many of these go unreported because they are hit and run accidents and the residents do not have comprehensive insurance for the older vehicles that are parked on the streets.

IP-37-36

EASTERN, HUMPHREYS AND EAGLE WILL BE WIDENED.

This will make it more dangerous for pedestrians. The cars speeding off the freeway will be closer to the pedestrians. They will also be closer to homes. Cars coming off the freeway

IP-37-37

have hit parked, vehicles fences, bicyclists. The last accident on Eagle St. earlier this year came within inches of hitting the fence of a home. It took out the US Mail box near the corner of Eagle and Humphreys. IP-37-37

There is not sufficient room on Eagle at the condominiums to widen the street. The sidewalk is only 5.5 feet on both sides. A resident in the condo unit uses a wheel chair. There are also other residents who live in the neighborhood who use wheel chairs. The street sidewalk needs to be fully in ADA compliance. IP-37-38

Option 3A/3B is a bad idea. IP-37-39

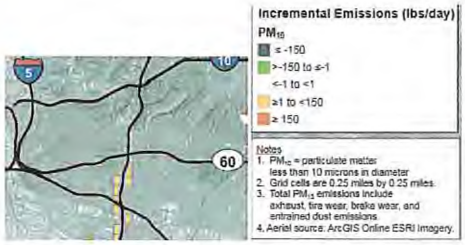
HEALTH RISKS:

The current 2017 Recirculated Draft EIR/EIS is deficient. It does not include all of East Los Angeles yet there are impacts from the two build projects to all of East Los Angeles see below the PM10 pollution comparisons:



Comparison of
2035 Alternative 7 to 2035 Alternative 1
Total PM_{10} Emissions

Figure 7



Comparison of
2035 Alternative 5C to 2035 Alternative 1
Total PM_{10} Emissions

Figure 6

The current Draft EIR/EIS is deficient. It does not adequately study the impacts from pollution on the residents of East Los Angeles. With this plan there are pockets of increased cancer risk, PM10 and PM2.5 pollution with the build alternatives. It is contrary to law that the environmental justice community of East Los Angeles will face increased pollution from the build alternatives. The Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Study states at ES.6.1, Page 31, : IP-37-40

> Both 2035 build alternatives predominantly display decreases in cancer risk with small increases within 100 meters of the I-710 when compared to the 2035 Alternative 1 (No Build). For Alternative 7, the increase in risk is less than 1 in a million. For Alternative 5C, the maximum increase in risk is approximately 3 in a million. The primary location of increased risk for Alternative 5C is along a small portion of the I-710 just south of its intersection with SR-60; the absolute risk level at this location from I-710 traffic sources is 17.4 in a million (compared to 14.2 in a million for Alternative 1 and 14.9 in million for Alternative 7).

East Los Angeles is the only community along the corridor that shows increases in incremental cancer risk. See Figure ES8. The impacts of Alternative 7 PM10 pollution is especially troubling as is the increased cancer risk to Humphreys Avenue Elementary

School students and the residents around it from Alternative 5C. The impacts from this pollution is not adequately studied and does not contain sufficient data regarding health outcomes from the effects of PM10, PM2.5 and ultrafines. Further, the study of the impact from other pollutants is not adequately addressed. The increased cancer risk is unacceptable. IP-37-40

A Health Risk Assessment alone is not sufficient especially for a community like East Los Angeles that has 4 major freeways running through it. Additionally, East Los Angeles Option 3A/3B, impacts residents of East Los Angeles who reside within a triangle of freeways with the SR 60 to the North, the I710 to the East and the I-5 to the West. Thousands of residents within this triangle live within a few hundred feet of these freeways. Some live as close as 30 feet from the I710. This proximity requires a closer study of the impacts from the freeway on this environmental justice community. The Health Risk Assessment only addresses Cancer Risk, but Cancer Risk is not the only danger from pollution to resident's health. A Health Impact Assessment would have identified additional impacts to the community, such as exacerbation of asthma and new cases of asthma, Reduced lung function, Cardiovascular heart disease, Preterm birth, low birth weight and pregnancy disorders, Autism, Aging of the brain, possibly obesity and Type 2 diabetes, overall burden of disease related to near roadway air pollution, increased risk of autism spectrum disorders to children born to mothers living near freeways, and increased risks to the elderly. A Health Impact Assessment is needed. IP-37-41

Many studies have been completed about the impacts of air pollution on residents living near freeways. Andrea Hricko and other scientists included a listing of these studies in their comments to the SR710. This DEIR/EIS is deficient in not including these studies when reviewing the impacts. This is attached as an Exhibit.

Additionally, the impacts from pollution is not adequately studied and does not contain sufficient data regarding health outcomes from the effects of PM10, PM2.5 and ultrafines. Cancer risk is not the only danger from pollution to resident's health.

The Health Risk Assessment is flawed. The DEIR/EIS should be withdrawn, redone and recirculated.
A STUDY OF THE IMPACT OF ULTRAFINES ON EAST LOS ANGELES RESIDENTS WAS NOT INCLUDED:
Many of the homes in the East Los Angeles neighborhood near the I-710 freeway are less than a 100 feet from the freeway. Some are as close as 30 feet from the freeway. East Los Angeles Option 3A/3B would bring thousands of residents closer to the freeway, yet the impact of Ultrafines was not studied. The impact of Ultrafines to residents closer to freeways was not included. IP-37-42

In the Hricko, et al comments (Attached Exhibit), they state the following about Ultrafines:

"7. Failure to include information on the health impacts of ultrafine particles (UFPs), ...

a. Ultrafine particles (UFP; aerodynamic diameter < 0.1 micrometers) are a ubiquitous exposure in the urban environment and are elevated near highways (Fuller et al, 2012; Zhu et al, 2002a; Zhu et al 2002b; Zhu et al 2006). These particles are considered especially toxic because they can enter the lung, and stay there or get into the systemic circulation.

b. A study done by UCLA and USC researchers documented very high concentration of ultrafine particles in close proximity to the I-710 Freeway in SE Los Angeles. It found that the pollutants start to

level off at about 150 meters from the freeway and are "back to background" in about 300 meters [985 feet] from the freeway during daytime dilution conditions. See diagram below from the study (Zhu et al, 2002). In fact, the impacts for ultrafine particles are 10 to 15 times further from the source than are the daytime impacts.

c. These researchers from UCLA and USC also found that at night time when winds shifted, the pollutant levels of ultrafine particles did not reach background until 300 meters from the freeway (Zhu et al, 2006).

d. Other researchers from UCLA and USC also found that at night time when winds decrease, the concentrations of ultrafine particles did not reach background until 2500 feet from the freeway (Hu et al., 2009).

e. In fact, the impacts for ultrafine particles are 10 to 15 times further from the source than are the daytime impacts.

IP-37-42

f. The DEIR/EIS contains no estimates on what levels of UFPs one would expect to find when driving through the enclosed environment of the tunnel, nor what ambient concentrations might be expected downwind from the ventilation stacks or portals. g. Another study, by UC Davis researchers looked at a number of studies with regard to concentrations from the roadways (Karner et al, 2010). They conclude: 'In general, concentrations decay to background within a few hundred meters downwind of a road, although studies measuring pollutants solely in the evening hours indicate that higher concentrations persist beyond 500 m (1640 feet)" (citing Zhu et al, 2006). Other researchers from UCLA and USC also found that at night time when winds decrease, the concentrations of ultrafine particles did not reach background until 2500 feet from the freeway (Hu et al., 2009). See graph below from Hu et al, 2009."

Further in the Health Risk Assessment, no information is provided regarding East Los Angeles Options 3A and 3B. Options 3A/3B will remove the 24 homes of almost 100 people, included is a two-story apartment building of 10 units at 626 S. Sydney. The removal of these homes will bring the freeway closer to thousands of people living in this neighborhood. The study suggests that the sound walls will act as a barrier to pollution for residents living adjacent to the wall, but the wall on Sydney will be across the street from the remaining residences, meaning that there will be no protection from the pollution. In fact, it is anticipated that the pollution will drop onto these resident's homes. The apartment building at 626 S. Sydney because of its height acts a barrier from noise and pollution to residents across the street from it. The impacts from the increased noise and pollution without this apartment building were not analyzed.

IP-37-43

Additionally, an elevated auxiliary lane running adjacent to Burger Avenue, will bring the freeway closer to residents on the east side of the I-710 as well. The impacts to the residents are not known putting this community at a disadvantage in analyzing the impacts and understanding what the health risks are. Additionally, adding these auxiliary lanes does add capacity to the freeway which in turn increases PM10 and PM2.5 pollution from brake wear, tire wear and entrained road dust and exhaust pollution from the increased number of vehicles.

IP-37-44

Six businesses and one cell tower will be taken with East Los Angeles Option 3A/3B. One of those businesses is a Dialysis Center – Davita Doctors Dialysis Center. A google search shows only four Dialysis centers in East Los Angeles. Option 3A/3B will then remove 25 percent of the available centers. DaVita is reported to be a large Dialysis Center with 24 stations. Additionally, East Los Angeles is a Health

IP-37-45

Professional Shortage area. The population of East Los Angeles is highly transit dependent – 42.6 percent according to Table 4.14B of the East Los Angeles profile. Which means it is more difficult for residents to travel far distances for health care. Additionally, dialysis takes a lot of time making it more difficult for residents to travel far distances. Several studies have indicated that residents living near freeways who have Diabetes often have poorer health outcomes. Additionally, end stage renal failure can be a poor outcome among diabetes patients and often necessitates dialysis. Therefore, removing one of four dialysis centers will be very impactful to the community. It is ironic, living near a freeway makes diabetes worse yet Caltrans is suggesting that the treatment for that outcome be more difficult to obtain. The Draft EIR/EIS fails to study how the removal of this Dialysis Center will impact the residents of East Los Angeles. The Draft EIR/EIS is deficient. IP-37-45

The project should provide air quality monitoring to all sensitive receptors adjacent to the freeway, including but not limited to the following:

Ford elementary school (1112 S Ford Blvd)
Humphreys Avenue Elementary School (500 S Humphreys Ave)
Marianna Avenue Elementary School (4215 Gleason St)
Alphonso B. Perez Special Education Center (Michigan Ave at Ford Blvd)
Brooklyn Avenue Elementary School (4620 East Cesar E Chavez Avenue)
Hilda L. Solis Learning Academy (319 N Humphreys Ave) IP-37-46
Eastman Avenue Elementary School (4112 E Olympic Blvd)
Winter Gardens Elementary School (1277 Clela Ave)
Rowan Avenue Elementary School (600 S Rowan Ave)
KIIP Iluminar Academy (4800 East Cesar E Chavez Avenue)
Morris K. Hamasaki Elementary School (4865 E 1st St)
Belvedere Elementary School (3724 E 1st St)
Centro Estrella (4701 East Cesar E Chavez Avenue

CONSTRUCTION IMPACTS:

Sufficient information is not given to determine the extent of the construction impacts. The Recirculated Draft EIR/EIS is deficient in analyzing the impacts to residents. It is anticipated if Option 3A/3B is chosen the noise and pollution impacts to East Los Angeles residents will be considerable. During past projects, the lights and noise effected residents ability to sleep at night. The noise and pollution will substantially impact the health of residents. Many residents live less than a 30 feet from the proposed construction areas. IP-37-47

If any project is built the impacts from air pollution and noise pollution must be mitigated.

LEAD

Lead in soil will be kicked up during construction. This has not been adequately addressed in the Health Risk Assessment. Lead testing of areas where construction is IP-37-48

to occur should be tested. East Los Angeles has been contaminated with lead from Exide. The impacts of lead in the soil around construction areas to East Los Angeles residents has not been adequately studied. The extent of lead contamination in the soil to the residents north of Whittier Blvd adjacent to the I-710 is not fully known. Exide testing was limited to properties south of Whittier Blvd. CHP prior to the closure of Exide had cited trucks dripping battery acid. Because of the proximity to the Exide facilities and the I-710 there could be lead contamination on properties adjacent to the freeway. IP-37-48

It is also a concern that during construction, the Los Angeles County Fire Department's ability to enter and exit its facilities may be obstructed. It does not appear that an adequate study has been made of how to deal with this. What if a natural disaster to occur? Would the Fire Department be able exit its facilities? Seconds count in dealing with health emergencies. What is the plan to make certain that these precious seconds are not lost by construction delays? IP-37-49

TRAFFIC

The traffic analysis did not show improved Level of Service either on the I-710 nor on the streets through East Los Angeles. In fact, without the mitigation it appears that intersection Level of Service declines. Additionally, in many intersections that were not chosen for mitigation delays increased. IP-37-50

A comprehensive traffic study within East Los Angeles should be completed as indicated in the Los Angeles County Department of Public works comments and the comments of the East Los Angeles Local Advisory Committee.

The traffic study only included 4 counting stations in East LA, 3 along Whittier Blvd and 1 on Atlantic Blvd, to determine Daily Traffic Volumes. We feel that 4 segments are not acceptable to capture traffic volumes in this community, which is centered between four freeways. The project should include a comprehensive traffic study of East LA to identify the effects of spillovers, bottlenecks, and incident response on the freeway. The study should include all intersections along all main arterials including the following: IP-37-51

First Street, from Indiana Street to Vancouver Avenue
Cesar Chavez Avenue from Indiana Street to Vancouver Avenue
Eastern Avenue from Medford Avenue to Telegraph Rd
Ford Blvd from Floral Drive to Telegraph Road
Olympic Blvd from Indiana Street to Montebello Blvd
3rd Street from Indiana Street to Pomona Blvd
Whittier Blvd from Indiana Street to Garfield Ave
Atlantic Blvd from SR-60 to Telegraph Road

The current alternatives and options introduced by Caltrans provide no real traffic relief within East Los Angeles either on the freeway or on its streets. East Los Angeles streets are currently used as cross through roadways by commuters from other jurisdictions which causes pollution and congestion within East Los Angeles. During peak hours traffic spills over from the freeways to East Los Angeles streets causing traffic delays bringing pollution and misery to East Los Angeles residents. Alternatives 5c and 7 do not improve this situation in East Los Angeles. Options 3A and 3B likewise do not improve traffic within East Los Angeles. We suggest that the current Draft EIR/EIS be withdrawn and that other better alternatives and options be introduced which more fully incorporate Motion 22.1 and which study Community Alternative 7. Increasing capacity on the freeway does not reduce congestion on roadways. The adage if you build it they will come has been studied and it has been found that if you increase capacity by 10 percent driving then increases by 10 percent. See Duranton and Turner: *Duranton, Gilles, and Matthew A. Turner. 2011. "The Fundamental Law of Road Congestion: Evidence from US Cities." American Economic Review, 101(6): 2616-52.*

IP-37-52

Additionally, both truck and vehicle traffic through East Los Angeles for both Alternatives increases with the increased capacity. The Vehicle Miles Traveled through East Los Angeles increases over the no build alternatives. This increased traffic will bring more pollution and noise to the community. The anticipated Levels of Service on the I-710 through East Los Angeles show that the increased capacity merely fills up the freeway providing no benefit to East Los Angeles. This is not acceptable.

IP-37-53

Table 6. 2035 Alternative 7 Annual Average Daily Traffic Volumes
I-710 Corridor Project
Los Angeles County, California

Based on Post-Processed Traffic Data

I-710 Freeway Segment Description	AADT Volumes[2,3]					Increase in AADT Volumes[2] as Compared to 2035 Alternative 1[4]	
	Total	Heavy Duty Trucks (Includes ZE/NZE)	ZE/NZE Heavy Duty Trucks	% ZE/NZE in Heavy Duty Trucks	% Heavy Duty Trucks in Total	Total	Heavy Duty Trucks
Northbound							
Ford On to New York Off	86,599	11,671	4,788	41%	13%	9,002	4,194
I-5 On to Olympic On	128,298	22,971	11,667	51%	18%	26,889	9,900
Florence On to Atlantic and I-5 Off	139,182	28,779	17,734	62%	21%	26,809	11,932
Southbound							
Caesar Chavez On to Third On	79,898	10,329	3,860	37%	13%	7,307	1,741
Eastern Off to I-5 Off	110,778	22,823	10,181	45%	21%	20,476	7,134
I-5 On and Washington Off to Washington On	110,088	20,452	13,025	64%	19%	4,584	6,085

Table 5. 2035 Alternative 5C Annual Average Daily Traffic Volumes
I-710 Corridor Project
Los Angeles County, California

Based on Post-Processed Traffic Data

I-710 Freeway Segment Description	AADT Volumes[2,3]					Increase in AADT Volumes[2] as Compared to 2035 Alternative 1[4]	
	Total	Heavy Duty Trucks (Includes ZE/NZE)	ZE/NZE Heavy Duty Trucks	% ZE/NZE in Heavy Duty Trucks	% Heavy Duty Trucks in Total	Total	Heavy Duty Trucks
Northbound							
Ford On to New York Off	83,256	9,354	1,729	18%	11%	5,659	1,876
I-5 On to Olympic On	122,078	16,660	3,180	19%	14%	20,669	3,590
Florence On to Atlantic and I-5 Off	133,711	20,406	4,070	20%	15%	21,338	3,558
Southbound							
Caesar Chavez On to Third On	76,263	8,683	1,485	17%	11%	3,672	96
Eastern Off to I-5 Off	107,760	17,942	3,371	19%	17%	17,458	2,253
I-5 On and Washington Off to Washington On	106,461	14,464	2,639	18%	14%	957	97
Atlantic On to Florence Off	134,251	21,973	4,345	20%	16%	20,621	2,695

The closure of the 3rd Street Exit South as a way of reducing cross through traffic exiting on the residential streets of East Los Angeles should be studied. IP-37-54

The following suggestions in line with Motion 22.1 to ENCOURAGE THE USE OF PUBLIC TRANSPORTATION ALONG THE I-710 CORRIDOR are proposed:

INCENTIVES TO EMPLOYERS TO REDUCE USE OF THE I-710

Offer incentives to Employers to offer free public transportation to employees who use the I-710 freeway including but not limited to free bus passes/metro passes.

Offer incentives to Employers to allow employees to arrive at work 10 minutes late and leave work 10 minutes early if they use public transportation.

Allow employers to sign up for a zip car like program for employees to use if there is a family emergency.

Offer incentives to employers of large companies to allow their employees to more easily transfer to locations near their work. (For example: Vons supermarket employees who live in East Los Angeles but work in Long Beach would be allowed to transfer closer more easily by putting in a request with the headquarters rather than with their store manager.) IP-37-55

Offer incentives to large employers who offer flexible hours allowing their employees to commute during non-peak traffic hours. The incentives could range from bragging rights such as listing them as traffic reduction champion to providing tax incentives for any costs associated with their program.

Incentives for telecommuting. IP-37-55

OTHER PROGRAMS:

Initiate 1st mile last mile programs all along the corridor to get public transportation commuters to their destinations.

Implement a real time Uber/Lyft like carpooling program for people to use to commute to work. In this type of program there would be no payment for the ride only for the transportation cost associated with the drive (i.e. insurance, vehicle wear and tear, gas). This way the program would not hurt taxi and UBER/Drivers. The program would do background checks for participants to ensure that sexual predators and bad drivers cannot participate. IP-37-56

Offer substantially reduced cost bus passes to people who currently use the I-710.

REDUCE POLLUTION AND FREE UP ROADWAY ALONG THE I-710

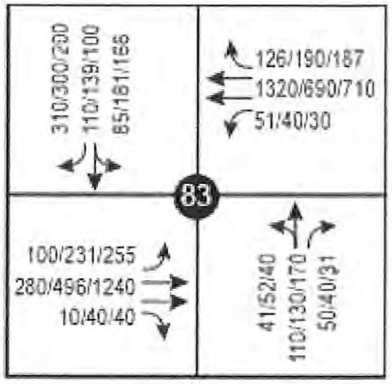
Implement an aggressive program which would identify older large vehicles driving along the I-710 freeway and offer them a program like "replace your ride" to replace the vehicles with cleaner smaller models. Smaller vehicles take up less space on the roadway and pollute less. IP-37-57

http://www.replaceyourride.com/
http://www.aqmd.gov/home/library/public-information/2015-news-archives/replaceyourridepr

COMMENTS: MITIGATION MEASURES INTERSECTION IMPACT ANALYSIS
Intersection 83, Indiana and Olympic
According to the formula used mitigation is needed for Intersection 83. With Alternative 7, the midday peak goes from a delay of 177.6 seconds to 293 seconds. It is suggested that adding a left hand turn lane and a shared through/right-turn lane for North and Southbound approaches, traffic will improve from the 293 second delay to a 30 second delay. This improvement seems a bit optimistic. The mid day peak volumes for southbound traffic left turning traffic is 180 vehicles, for vehicles going forward or turning right it is 439.. The mid day peak volumes for Northbound left turning vehicles is much smaller only 52, whereas the right and forward bound vehicles total 170. Will having a separate left turn lane here slow traffic? This area has a lot of pedestrian traffic. IP-37-58

Additionally, it seems that the majority of the mid day volume is not North and South bound but East and West bound. So are the delays due to North and Southbound traffic (Total Volume 842) or from East/West Volume (1687)? IP-37-59

Finally, it appears that many of the vehicles are already going left and straight at the same time when a vehicle is making a left. Will having the left hand turn actually delay traffic? Since cars waiting to turn right when a pedestrian is crossing will block forward moving traffic which will no longer be able to go around the vehicle because they can't use the left hand lane. IP-37-60



7.2 2035 Alternative 7 Mitigation Measures

Thirty (30) study intersections have been identified to be significantly impacted under Alternative 7 considering any of the three peak-hours analyzed. All impacted intersections identified under Alternative 7 have been analyzed to determine mitigation measures to improve intersection operations and delay back to the 2035 No Build (Alternative 1) conditions, which are presented below and summarized in **Table 7-8**.

- Indiana St/ Olympic Blvd (#83): Convert both the NB and SB approaches to provide a separate left-turn lane and a shared through/right-turn lane.

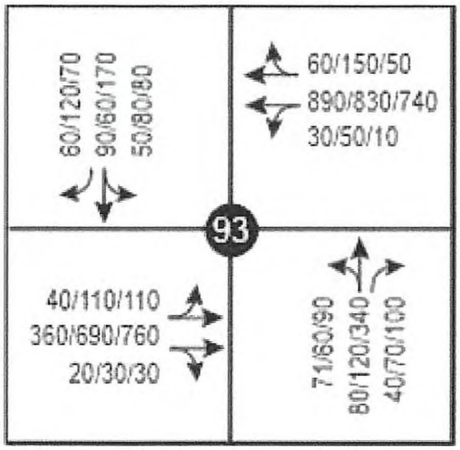

Jim's Burgers #8
Tacos Super Gallito
Daniel's Test Only
E Olympic Blvd
76
Lightning Motors



INTERSECTION 93, Ford and Whittier

According to the formula used mitigation is needed.
AM Peak traffic goes from a 49.9 second delay to a 64.8 second delay.
Mid Day Peak traffic goes from a 49.4 second delay to a 65.6 second delay, and
PM Peak traffic goes from a 212.2 second delay to a 35.8 second delay.
Again the same mitigation of having a left hand turn lane and a shared forward right hand turn lane is used. Again with astounding results which improve the delays for all peak periods to under 19.5 seconds. Improving the LOS scores from DDF to BBB.

IP-37-61



- Ford Blvd/ Whittier Blvd (#93):

Convert both the NB and SB approaches to provide a separate left-turn lane and a shared through/right-turn lane.

Northbound on Ford Blvd. at Whittier.





Southbound on Ford Bl. At Whittier.

Southbound on Ford at Whittier

IP-37-61



IP-37-61

This area is a business district with a lot of pedestrian traffic. Will having a separate left turn lane here slow traffic? As can be seen in the previous photo, traffic can proceed straight when vehicles are turning right. Will having the left hand turn actually delay traffic? Since cars waiting to turn right when a pedestrian is crossing will block forward moving traffic which will no longer be able to go around the vehicle because they can't use the left hand lane.

Additionally, as seen below there is a Bus stop near the South East corner of Ford and Whittier. So when a bus is stopped here vehicles will be stopped even if the Left hand turn lane is empty. If Bus lane is moved what would be the impacts?

IP-37-62

As with intersection 83, the majority of the traffic is East/West bound. So it is questionable if this mitigation measure really make that much of a difference?

IP-37-63



Intersection 97, Ford and 3rd

Mitigation is required because:

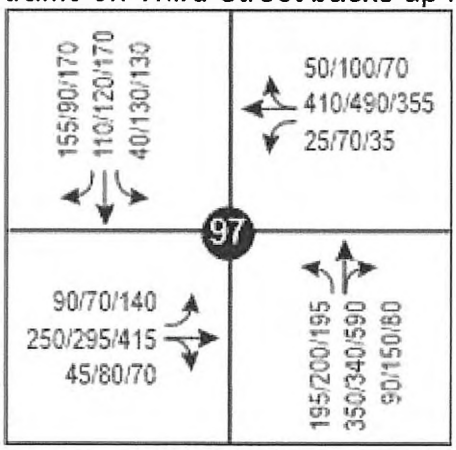
Midday Peak delays increase from 44.8 to 64 seconds.

IP-37-64

This is a busy intersection with lots of pedestrians who access both buses and the Gold Line.

It does not appear there is sufficient space to add a right hand turn lane without moving the center lane over to the other side. Additionally, if a right hand turn lane was added would it actually help since 3rd Street is frequently packed with vehicles. Frequently traffic on Third Street backs up into the middle of the street.

IP-37-64



- Ford Blvd/ 3rd St (#97): Add a separate right-turn lane on the NB approach



Looking South on Ford at 3rd Street



Looking East on 3rd at Ford Blvd.



Intersection 180, 3rd and Gage

According to the formula mitigation is needed because:
The AM delay increases from 34.6 to 57 seconds. (Grade C to E)
For some reason this intersection is listed as County instead of ELA (Unincorp). It would be nice if the designation was consistent. This is a part of ELA (Unincorp). IP-37-65
See photos below: It does not appear that there is sufficient space to add a right hand turn on Gage going westbound? The acquisition of property at the South/East corner of Gage is not indicated in the Acquisitions report.

A separate righthand lane onto the Pomona SR 60 is a good idea if Caltrans Right of way is used and sufficient sidewalk space exists to accommodate ADA pedestrians. IP-37-66



SUGGESTED COMMUNITY IMPROVEMENTS/MITIGATION MEASURES
COMMUNITY BENEFIT PROGRAM

Both Build Alternatives include a Community Health and Benefit Program, which would make funding available to local jurisdictions, school districts, day care centers, community health providers, senior centers and other non-profit, to implement projects/outreach activities targeted towards improving air quality and public health within the Study Area. Given the fact that the air quality in East LA is projected would deteriorate under both project's alternatives compared to No-Built condition, the program shall also make this funding available to resident/business located within ½ mile distance from the freeway.

IP-37-67

Given that East LA is one of the few communities where project's impacts to air quality is projected would be worse than "No Built" condition, the project should include green scape projects in all schools and learning centers, and planting of additional trees and landscaping on local streets adjacent and in the vicinity of I-710 to mitigate for air quality impacts

The following are some of the mitigations and community benefits were suggested in a brainstorming session of the East Los Angeles Local Advisory Committee:

light or stop sign on 3rd St

Hot spots: Project should include a traffic study that includes all hot spots

Air filtration system must include retrofitting of the building to provide adequate results.

Project shall include solar air filter units along all sensitive receptors.

Intersection design options do not reduce traffic on or off the fwy

Project shall include lighting/Landscaping/vegetation and water conservation projects on existing on/off ramps, freeway bridges, and adjacent Caltrans properties.

22 FEET VIEW LIGHT

Monitor Air Purifier

Project shall include fencing under freeway bridges to prevent homeless encampments.

Project shall include signage with contact information on all on/off ramps and other Caltrans properties along the freeway alignment so residents may report graffiti, illegal dumping, overgrown vegetation, etc,.

Project shall include a comprehensive traffic study of the community that incorporates complete streets, first and last mile, landscaping projects, improved pedestrian lighting at uncontrolled crossings.

Solar Stop at problem intersections

Holidays Project shall include Street Banners to promote local businesses and the community

More street and intersection Studies

Lights facing opposite side of freeway

22 foot wall impacts

Project shall include Air Quality monitors at all schools within 1500 feet.

Lights facing opposite side of freeway

Add improvements within 1000 ft

Transit Oriented Development

Commercial air purifiers

Land scaping Pigeon prevention

LA County DHS to review mitigations

Soundwalls on both sides of freeway

Near Roadway Pollution

Transit Oriented Development

Community Benefit Program

Noise abatement

Xwalks - LED / Solar Synchronized Lights

Holiday lights

Trees

Long Term Contracts

IP-37-67

Air Monitors

Steam washing sidewalks

Zero parking loss

Park in ride

Parking space Count

Business mitigation / Facade improvements

Green screens

22 ft Sound walls throughout East Los Angeles

Air quality monitors to monitor the air in East Los Angeles

Air purifiers

Pigeon prevention measures on freeway walls, overpasses, along freeway

Higher quality fencing

bike racks

water recycling

complete fencing. There should not be gaps. Between sound walls. The sound walls should provide a continuous barrier from the freeway and the community.

Medical Bills subsidies

Freeway cap

ADA (Americans with Disabilities Act) Improvements

IP-37-67

Recycled water product

Cross walk on Eastern and Eagle or Eastern and 5th Street.

Stop sign on bridge on Humphreys at 3rd Street South exit

Project shall study the benefits/impacts of closing I-710 3rd St Exit South at Humphreys & Eagle

Air conditioning units for homes and businesses

Solar paneling for homes and businesses (to keep electricity costs down)

Health Impact Assessment study

Local hiring and job training

raised medians with trees and uplighting / lights

improve aesthetics and lighting of underpasses (i.e. Pico Blvd & 10 fwy)

sustainable plants

NOISE

Noise exposure: Long term exposure to moderate levels of ambient noise can increase stress, hypertension, blood pressure, heart disease, sleep

disturbance, hearing impairment, and, in children, can lead to learning delays.

Sources: Van Kempen EEMM, Kruize H, Boshuizen HC, Amelin CB, Staatsen BAM, de Hollander AEM. (2002). The association between noise exposure and blood pressure and ischemic heart disease: A meta-analysis. Environmental Health Perspective 110:307-317.
Stansfeld SA, Berglund, B, Clark C, Lopez-Barrio I, Fischer P, Öhrstrom E, Haines MM, Head J, Hygge S, Kamp I, Berry BF, and RANCH study team. Aircraft and road traffic noise and children's cognition and health: a cross-national study. The Lancet, June 4-10,2005, Vol. 365 (9475): 1942-49
Stansfeld S, Haines M, Brown B. (2000). Noise and health in the urban environment. Rev Environmental Health 15(1-2): 43-82

East Los Angeles is surrounded by four major freeways. Throughout the community noise is a problem. It disrupts sleep and makes it difficult for children to study at home. It also is a problem in East Los Angeles playgrounds. A comprehensive study on noise and the impacts it has on residents is needed for East Los Angeles. IP-37-68

If East Los Angeles Option 3A/3B is built, the SR 60 interchange running adjacent to Burger Avenue will be elevated. This can cause additional noise throughout the community. This was not adequately addressed in the DEIR/EIS.
The recommended sound walls do not eliminate the increased noise throughout the community from this project. A sound wall that is 22 feet is preferred. IP-37-69

If this project is built, mitigation is requested. The planned sound walls do not eliminate all of the increased noise impacts from the project. Additionally, some sound walls are not being built even though there are increased noise levels. All sound walls studied should be built. Sound proofing for classrooms is needed and walls should be built around playgrounds to protect children from noise. East Los Angeles residents should be offered sound proofing for their homes. IP-37-70

Because there are probable future expansion plans on the I-5 freeway and possible expansion plans on the SR60 and a planned Gold Line extension as well as the cumulative impacts from previous freeway projects through East Los Angeles all sound walls considered should be built at the maximum height to provide protection to residents from the considerable noise impacts. IP-37-71

Alternative 5C
The recommended height at the following Sound walls will not completely eliminate the increased noise for the following:

SW516 and 517: (NB Olympic to Humphreys)
The increase will be 12 d BA: **A 16 ft wall will reduce sound by 10 dBA** IP-37-72

SW 518 (Near McD, immediately South of Cemetery)
The increase will be 8 dBA A 14 ft wall will reduce the sound by 1 dBA
A 16 ft wall will reduce the sound by 2 dBA IP-37-73

No sound wall is recommended for SW 518. A sound wall should be built as a jogging track which is a sensitive use will built around the Calvary Cemetery later this year.
Note: Under 5C ELA Option, the wall will be built to protect 13 receivers. It appears this is the same location. Why the variance? IP-37-73

Alternative 5C, ELA Option
SW 516, 516A, 516B, 517 (NB Olympic to Humphreys)
The increase will be 14 dBA **A 14 ft wall will reduce the sound by 9 dBA**
A 16 ft wall will reduce the sound by 10 dBA
The 16 foot fence would provide protection to 151 homes vs 142 to for the 14 ft wall. This location is near Ford Elementary School. The taller 16 foot wall is requested, if a 22 ft wall cannot be built. Additionally, 9 more homes will be protected by the 16 foot wall. IP-37-74

SW 519 & 520 (SB Whittier to Humphreys)
The increase will be 11 dBA **A 14 ft wall will reduce the sound by 8 dBA**
A 16 ft wall will reduce the sound by 8 dBA IP-37-75
The 16 foot wall is preferred if a 22 ft wall cannot be built.

Alternative 7
SW 716 and 717
The increase will be 13 dBA **A 16 ft wall will reduce the sound by 9 dBA** IP-37-76

SW 718 (Near McD South of Cemetery)
The increase will be 8 dBA A 14 ft wall will reduce the sound by 1 dBA
A 16 ft wall will reduce the sound by 2 dBA
No sound wall is recommended for SW 718. A sound wall should be built as a jogging track which is a sensitive use will built around the Calvary Cemetery later this year.
Note: Under 5C ELA Option, the wall will be built to protect 13 receivers. It appears this is the same location. Why the variance? IP-37-77

SW 719
The increase will be 10 dBA A 14 ft wall will reduce the sound by 1 dBA
A 16 ft wall will reduce the sound by 1 dBA IP-37-78

According to the Noise Abatement Decision Report, "The Protocol establishes a process for assessing the reasonableness and feasibility of noise abatement. Before publication of the draft environmental document, a preliminary noise abatement decision is made. The preliminary noise abatement decision is based on the feasibility of evaluated abatement and the preliminary reasonableness determination. Noise abatement is considered to be acoustically feasible if it provides noise reduction of at least 5 dBA at receivers subject to noise impacts."

Caltrans' noise reduction design goal is that a barrier must be predicted to provide at least 7 dBA of noise reduction at one or more benefited receptors. It is unacceptable that Caltrans is demanding noise reductions greater than provided by the protocol. IP-37-79

For Alternative 5C - SW518 and Alternative 7 – SW718, the sound walls although meeting the protocol of 6d BA claim only one residence would benefit. Yet with the ELA Design option it is recommended as providing relief to 12 residences with 5 d BA. IP-37-80

Soundwall SW-719 should be built. It benefits the sleeping quarters of Los Angeles County Firefighters. These firefighters provide an essential service and require undisturbed sleep. IP-37-81

SOUND WALLS/ Unabated Noise:

If a project is built and it's determined that a sound wall alone is not sufficient to mitigate the noise impact to equal or below than "No Built" conditions, then a combination of sound wall and property noise abatement measures should be implemented. Special consideration should be given to the sensitive receptors adjacent to the freeway, including but not limited to the following:

Ford elementary school (1112 S Ford Blvd)
Humphreys Avenue Elementary School (500 S Humphreys Ave)
Marianna Avenue Elementary School (4215 Gleason St)
Alphonso B. Perez Special Education Center (Michigan Ave at Ford Blvd)
Brooklyn Avenue Elementary School (4620 East Cesar E Chavez Avenue)
Hilda L. Solis Learning Academy (319 N Humphreys Ave)
Eastman Avenue Elementary School (4112 E Olympic Blvd)
Winter Gardens Elementary School (1277 Clela Ave)
Rowan Avenue Elementary School (600 S Rowan Ave)
KIIP Iluminar Academy (4800 East Cesar E Chavez Avenue)
Morris K. Hamasaki Elementary School (4865 E 1st St)
Belvedere Elementary School (3724 E 1st St)
Centro Estrella (4701 East Cesar E Chavez Avenue)

IP-37-82

Proposed new sound walls in East LA will introduce patch work of mix match walls that would negatively impact the esthetics in the community. Existing sound walls should be retrofitted in-kind to match new walls. All sound walls through East LA should be of same height, color, texture and design. IP-37-83

Proposed replacement sound wall on east side of the freeway near Humphreys Avenue, should be extended more to the north to minimize noise to Humphreys Avenue Elementary School. IP-37-84

PARKING ON ATLANTIC BL. AND BUS RAPID TRANSIT

Parking on Atlantic Blvd should not be restricted during Peak hours:

The parking study does not match the experience of anyone who lives in East Los Angeles. A frequent concern of residents throughout East Los Angele is that there is not enough parking. Businesses rely on Atlantic Blvd. rely on parking in front of their businesses to provide easy access for their customers. The majority of businesses traffic is during peak pm rush hour. Limiting parking during these hours would destroy these businesses.

In talking with business owners on Atlantic during the SR 710 project North, many business owners where alarmed that parking might be restricted. Additionally, parishioners from St. Alphonsus were also alarmed as they use parking for services. Kipp Raices Charter School also depends on street parking during morning and afternoon pickup.

In evening hours during peak traffic times is when the hunt for parking on residential streets begins. Restricting parking on Atlantic would create a nightmare for residents who live adjacent to Atlantic Blvd. IP-37-85

At the East LA community meeting, it was stated that this proposal is one of several programmatic elements included in the Recirculated Draft Environmental Impact Report and that it will not be implemented by Caltrans as the Lead Agency of the I-710 Corridor Project. It would be up to local jurisdictions, in this case the County, to approve the proposed parking restrictions.

If the project was implemented the project must replace the loss of on-street parking spaces at one to one ratio, either in the form of project build parking structures or financial contribution to the local jurisdictions to pursue these.

SEE ATTACHED EMAIL COMMENTS FROM BUSINESS OWNERS:

Only zero emission buses should be used if a Bus Rapid Transit line is implemented. This is not addressed adequately in the EIR/EIS. Pollution in East Los Angeles is a problem that causes significant health problems to residents. IP-37-86

OTHER:

Possible Gold line subway Construction on Atlantic:
How this project combined with the Gold Line project would impact East Los Angeles traffic, pollution and noise is not meaningfully considered. How would this project impact the Gold Line Construction project. Would traffic numbers change? What are the cumulative impacts. What are the combined construction impacts? IP-37-87

CUMULATIVE IMPACTS

CEQA Guidelines

Section 15130(a) requires that the EIR/EIS review and analyze the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," when the new projects incremental impacts together with those of past, current and probable future projects. The focus should be on the cumulative impacts which contribute to the current project. The EIR/EIS should discuss the cumulative impacts when the projects incremental contributions are "cumulatively considerable."

Each subsequent freeway project that adds capacity adds to the noise in East Los Angeles and contributes to the misery of East Los Angeles residents in having to live with it. Cumulatively, the four freeways that run through East Los Angeles have considerable impacts. It is anticipated that a new I-5 project will be in the works shortly. Additionally, in considering the Gold Line extension along the SR 60, Caltrans commented that they did not want the Gold Line project to interfere with Caltrans ability to expand the freeway in the future. This indicates that in the future Caltrans may expand the SR60. Caltrans must mitigate to the fullest extent possible all noise and air pollution impacts in East Los Angeles, because unmitigated impacts combined with possible and probable future and past projects cumulatively combine to produce significant impacts in East Los Angeles an environmental justice community. IP-37-88

The 2017 Recirculated Draft EIR/EIS is deficient, flawed and has many errors. It should be withdrawn, redone and recirculated. East Los Angeles Option 3A/3B should not be included in the redrawn EIR/EIS. Motion 22.1 elements should be meaningfully included in the redrawn EIR/EIS. The taking of homes must be minimized to the greatest extent possible all along the corridor. Community Alternative 7 should be studied in the redrawn EIR/EIS. Input from the community of East Los Angeles should be received on any East Los Angeles options before including them in the EIR/EIS. IP-37-89

Thank you for the opportunity to comment:

Clara Solis
claramsolis@earthlink.net

Juan Vasquez
Sydney Neighborhood Group
537 S Sydney Drive
East Los Angeles, CA 90022

Rachel Vermillion
Humphreys Neighborhood Group
348 S. Humphreys Avenue
East Los Angeles, CA 90022

ADDITIONAL COMMENTS

NOISE/AIR QUALITY IMPACTS:

1. Noise impacts are discussed in the RDEIR/RDEIS; however, California Department of Transportation protocol does not abate noise impacts to equal or below "No Built" conditions. If it's determined that a sound wall alone is not sufficient to mitigate the noise impact to equal or below than "No Built" conditions, then a combination of sound wall and property noise abatement measures should be implemented. Special consideration should be given to the sensitive receptors adjacent to the freeway, including but not limited to the following:

   Ford elementary school (1112 S Ford Blvd)
   Humphreys Avenue Elementary School (500 S Humphreys Ave)
   Marianna Avenue Elementary School (4215 Gleason St)
   Alphonso B. Perez Special Education Center (Michigan Ave at Ford Blvd)
   Brooklyn Avenue Elementary School (4620 East Cesar E Chavez Avenue)
   Hilda L. Solis Learning Academy (319 N Humphreys Ave)
   Eastman Avenue Elementary School (4112 E Olympic Blvd)
   Winter Gardens Elementary School (1277 Clela Ave)
   Rowan Avenue Elementary School (600 S Rowan Ave)
   KIIP Iluminar Academy (4800 East Cesar E Chavez Avenue)
   Morris K. Hamasaki Elementary School (4865 E 1st St)
   Belvedere Elementary School (3724 E 1st St)
   Centro Estrella (4701 East Cesar E Chavez Avenue)

   IP-37-90

2. The project should provide air quality monitoring to all sensitive receptors adjacent to the freeway, including but not limited to the following:

   Ford elementary school (1112 S Ford Blvd)
   Humphreys Avenue Elementary School (500 S Humphreys Ave)
   Marianna Avenue Elementary School (4215 Gleason St)
   Alphonso B. Perez Special Education Center (Michigan Ave at Ford Blvd)
   Brooklyn Avenue Elementary School (4620 East Cesar E Chavez Avenue)
   Hilda L. Solis Learning Academy (319 N Humphreys Ave)
   Eastman Avenue Elementary School (4112 E Olympic Blvd)
   Winter Gardens Elementary School (1277 Clela Ave)
   Rowan Avenue Elementary School (600 S Rowan Ave)
   KIIP Iluminar Academy (4800 East Cesar E Chavez Avenue)
   Morris K. Hamasaki Elementary School (4865 E 1st St)
   Belvedere Elementary School (3724 E 1st St)
   Centro Estrella (4701 East Cesar E Chavez Avenue

   IP-37-91

3. Proposed new sound walls in East LA will introduce patch work of mix match walls that would negatively impact the esthetics in the community. Existing sound walls should be retrofitted in-kind to match new walls. All sound walls through East LA should be of same height, color, texture and design. IP-37-92

4. Proposed replacement sound wall on east side of the freeway near Humphreys Avenue, should be extended more to the north to minimize noise to Humphreys Avenue Elementary School. IP-37-93

5. Both Build Alternatives include a Community Health and Benefit Program, which would make funding available to local jurisdictions, school districts, day care centers, community health providers, senior centers and other non-profit, to implement projects/outreach activities targeted towards improving air quality and public health within the Study Area. Given the fact that the air quality in East LA is projected would deteriorate under both project's alternatives compared to No-Built condition, the program shall also make this funding available to resident/business located within ½ mile distance from the freeway. IP-37-94

6. Given that East LA is one of the few communities where project's impacts to air quality is projected would be worse than "No Built" condition, the project should include green scape projects in all schools and learning centers, and planting of additional trees and landscaping on local streets adjacent and in the vicinity of I-710 to mitigate for air quality impacts. IP-37-95

TRAFFIC IMPACTS:

7. Although both Build Alternatives, which include additional capacity improvements to the footprints of the I-710, are predicted to improve traffic conditions throughout most of the alignment, neither of these will improve the Level of Service in the mainline section between the I-5 and the SR-60. The additional lanes on the freeway will lead to longer bottlenecks of traffic between the I-5 and its terminus near Valley Boulevard, resulting on spillovers onto local arterials. While the traffic study evaluated the impacts to intersections immediately adjacent to the freeway, it did not examine the effects of spillovers and the capacity of the main arterials in the area. The traffic study only included 4 counting stations in East LA, 3 along Whittier Blvd and 1 on Atlantic Blvd, to determine Daily Traffic Volumes. We feel that 4 segments are not acceptable to capture traffic volumes in this community, which is centered between four freeways. The project should include a comprehensive traffic study of East LA to identify the effects of spillovers, bottlenecks, and incident response on the freeway. The study should include all intersections along all main arterials including the following: IP-37-96

First Street, from Indiana Street to Vancouver Avenue
Cesar Chavez Avenue from Indiana Street to Vancouver Avenue
Eastern Avenue from Medford Avenue to Telegraph Rd
Ford Blvd from Floral Drive to Telegraph Road
Olympic Blvd from Indiana Street to Montebello Blvd
3rd Street from Indiana Street to Pomona Blvd
Whittier Blvd from Indiana Street to Garfield Ave
Atlantic Blvd from SR-60 to Telegraph Road

IP-37-96

8. Both Build Alternatives include proposed peak hour parking restrictions along four arterial roadways, two of these through East LA; Atlantic Blvd between Pacific Coast Hwy and SR-60; and Cherry Ave/Garfield Ave between Pacific Coast Hwy and SR-60. While proposed parking-restrictions predict a 17% capacity improvement throughout the entire area, these restrictions will have a negative economic impact to local businesses in East Los Angeles which depend on-street parking availability for their patrons. It's our understanding that this proposal is one of several programmatic elements included in the Recirculated Draft Environmental Impact Report and that it will not be implemented by Caltrans as the Lead Agency of the I-710 Corridor Project. It would be up to local jurisdictions, in this case the County, to approve the proposed parking restrictions. The project must replace the loss of on-street parking spaces at one to one ratio, either in the form of project build parking structures or financial contribution to the local jurisdictions to pursue these.

IP-37-97

9. Both Build Alternatives include an I-710 Congestion Relief Program that would provide funding to local jurisdictions for traffic signal upgrades and coordination, safety improvements, traffic calming measures, and intersection improvements on the arterial street system in the Study Area. Given that under both Build Alternatives the capacity improvements to the footprints of the I-710 end south of the I-5, and bottlenecks are expected during peak hours on I-710 between I-5 and its terminus at Valley Boulevard, the program should also consider including Green Scape Projects to help alleviate for air quality impacts, Pavement Rehabilitation Improvement Projects to help local jurisdictions paid for maintenance of roads adjacent to the freeway and used as cut-thought when freeway gets congested.

IP-37-98

PROPERTY IMPACTS:

10. Design Options 3A and 3B aim to further improve safety and operation of the freeway by reducing weaving conflicts between the I-5 and SR-60. To achieve the objective, the variation would reconfigure the SR-60, I-5, and Olympic Blvd. interchanges, and alter the freeway and local traffic circulation in East LA. However, the Traffic Study shows this segment of the freeway will continue to

IP-37-99

operate at Level of Service F during peak hours with these design options. Residents of East LA, oppose both Design Options and the taking of 24 residential properties and 7 businesses associated with this proposal. IP-37-99

11. If property loss is inevitable, the project shall mitigate by fair market value, the taking of land in ELA, and develop comparable land within the community to maintain a "no net loss" of commercial businesses and residential housing. Project can build replacement units or provide financial contribution to the County to pursue. In addition, all relocations should take place within the limits of East LA. IP-37-100

EAST LOS ANGELES RESIDENT'S COMMENTS

Juana Cortez
600 S. Sydney Drive
East Los Angeles, CA 90022

Ronald Kosinski
Caltrans District 7, Division of Environmental Planniing
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski,

My name is Juana Cortez . I have lived at 600 S. Sydney Drive, East Los Angeles, CA for over 35 years. I am 70 years old. I raised my family here on Sydney Drive. I have learned that my home will be taken with East Los Angeles Option 3A/3B. I am opposed to them taking my home. I am happy living here in East Los Angeles. Some of my family live in East Los Angeles. I am a senior citizen. My family who lives in East Los Angeles visit me and help me. At my age it would be hard and stressful for me to move to another location away from my family who provides for me both financially and emotionally. I also depend on my family for rides to the supermarket and doctor. IP-37-101

The relocation plan inadequate. It does not provide for how my family would be able to help me if I had to move away from East Los Angeles. There are few homes available for sale in East Los Angeles. The relocation plan only lists 14 homes in Unincorporated East Los Angeles where I live. More than half of the homes in the relocation plan are located in South Central far away from my family and friends in the Neighborhood. Also, all of the homes for sale are very expensive. We all know there is currently a housing shortage in East Los Angeles and in the nearby community. It is cruel for you to expect me at my age to leave the neighborhood where my life is. IP-37-102

I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes. I am opposed to the taking of any homes on Sydney Drive. I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles. IP-37-103

I am opposed to increasing truck traffic on the I-710. I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. I am concerned about noise increasing because there will be more trucks and traffic. The traffic noise is already too loud especially when the trucks brake. Also, I want all of the trucks that drive on the I-710 freeway to be zero emission. There is too much pollution in East Los Angeles for residents who live less than 100 feet from the freeway like me. IP-37-104

I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C. IP-37-105

If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles. The air filters for Schools must include retrofitting and filtration that is pressurized and include continuing maintenance for the systems. IP-37-106

East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed. IP-37-107

I want cleaner air. I am concerned about pollution impacts to people who live close to the freeway like me. IP-37-108

More sound walls need to be built because there is too much noise in East Los Angeles from the freeways. The sound walls should be 22 feet. They are that tall on the west side. IP-37-109

I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd. IP-37-110

Sincerely, Juana Cortez

Juana Cortez

Dear Ronald Kosinski, Cal Trans

(✓) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles. IP-37-111

(✓) Me opongo a que se lleven casas en Sydney Drive. IP-37-112

(✓) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante ____ años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional. IP-37-113

(✓) Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles. IP-37-114

(✓) Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd. IP-37-115

(✓) Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada. IP-37-116

(✓) Me opongo a aumentar el tráfico de camiones en la I-710.
(✓) Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.
(✓) Muchas personas en mi familia tienen asma. IP-37-117

(✓) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C. IP-37-118

(✓) Me preocupa que aumente el ruido porque habrá más camiones y más tráfico. IP-37-119

(✓) Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas. IP-37-120

(✓) Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas. IP-37-121

(✓) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido. IP-37-122

(✓) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo. IP-37-123

NOMBRE: Marciana Flores

DIRECCIÓN: 626 S SYDNEY ELA 90022

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(✓) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

(✓) Me opongo a que se lleven casas en Sydney Drive.

(✓) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante ____ años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

(✓) Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

(✓) Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

(✓) Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

(✓) Me opongo a aumentar el tráfico de camiones en la I-710.

(✓) Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.

(✓) Muchas personas en mi familia tienen asma.

IP-37-124

(✓) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

(✓) Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

(✓) Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

(✓) Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

(✓) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(✓) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: Juana Rojas

DIRECCIÓN: 626 S. Sydney Dr. Apt 105, E. L.A. 90022

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(✓) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

(✓) Me opongo a que se lleven casas en Sydney Drive.

(✓) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

(✓) He vivido aquí durante 10 años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

(✓) Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

(✓) Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

(✓) Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

(✓) Me opongo a aumentar el tráfico de camiones en la I-710.

(✓) Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.

() Muchas personas en mi familia tienen asma.

IP-37-125

(✓) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

(✓) Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

(✓) Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

(✓) Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

(✓) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(✓) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: HECTOR VELIZ

DIRECCIÓN: 710 S SYDNEY DR, ELA 90022

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(✓) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Angeles.

(✓) Me opongo a que se lleven casas en Sydney Drive.

(✓) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante ____ años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

(✓) Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

(✓) Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

(✓) Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

(✓) Me opongo a aumentar el tráfico de camiones en la I-710.

(✓) Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.

() Muchas personas en mi familia tienen asma.

IP-37-126

(✓) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

(✓) Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

() Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

() Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

() Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

() Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: ~~Isabel~~ Isabel Olivares

DIRECCIÓN: 626 S. Sydney Dr #104, ELA 90022

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(✓) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

(✓) Me opongo a que se lleven casas en Sydney Drive.

(✓) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante ____ años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

(✓) Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

(✓) Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

(✓) Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

(✓) Me opongo a aumentar el tráfico de camiones en la I-710.
(✓) Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.
(✓) Muchas personas en mi familia tienen asma.

IP-37-127

(✓) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

(✓) Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

(✓) Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

(✓) Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

(✓) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(✓) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: Elorna Ortega

DIRECCIÓN: 626 S. Sydney Dr #110, ELA 90022

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(X) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Angeles.

(X) Me opongo a que se lleven casas en Sydney Drive.

(X) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

(X) He vivido aquí durante 43 años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

(X) Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

() Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

() Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

() Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

() Me opongo a aumentar el tráfico de camiones en la I-710.
() Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.
() Muchas personas en mi familia tienen asma.

IP-37-128

() Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

() Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

() Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

() Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

() Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

() Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: Mariana Luz Salazar

DIRECCIÓN: 626 So. SYDNEY DR #109 LA, CA 90022

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Caltrans

(X) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.* | IP-37-129

(X) *I am opposed to the taking of any homes on Sydney Drive.* | IP-37-130

( ) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
( ) *I have lived here over 43 years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move. My economic support network is in East LA.*
( ) *I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.*
( ) *I use public transportation. My extended family lives in East LA. I count on them for support, both financial and emotional.* | IP-37-131

(X) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.* | IP-37-132

(X) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.* | IP-37-133

(X) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.* ( ) *The Third St exit South should be closed. It brings too much traffic and accidents to a residential area.* | IP-37-134

(X) *I am opposed to increasing truck traffic on the I-710.*
(X) *I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710.*
( ) *A lot of people in my family have Asthma.* | IP-37-135

( ) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.* | IP-37-136

(X) *I am concerned about noise increasing because there will be more trucks and traffic.* | IP-37-137

( ) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.* | IP-37-138

( ) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles. The air filters for Schools must include retrofitting and filtration that is pressurized and include continuing maintenance for the systems.* | IP-37-139

(X) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed. | IP-37-140

(X) I want cleaner air. I am concerned about pollution impacts to people who live close to the freeway like me. | IP-37-141

NAME: [signature]

ADDRESS: 426 S. Sydney Dr 90022

EMAIL:

Dear Ronald Kosinski, Caltrans

(X) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(X) *I am opposed to the taking of any homes on Sydney Drive.*

(X) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*

(X) *I have lived here over 43 years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move. My economic support network is in East LA.*

( ) *I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.*

( ) *I use public transportation. My extended family lives in East LA. I count on them for support, both financial and emotional.*

(X) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

( ) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(X) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.* ( ) *The Third St exit South should be closed. It brings too much traffic and accidents to a residential area.*

(X) *I am opposed to increasing truck traffic on the I-710.*

( ) *I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710.*

( ) *A lot of people in my family have Asthma.*

( ) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

IP-37-142

(X) *I am concerned about noise increasing because there will be more trucks and traffic.*

( ) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

( ) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles. The air filters for Schools must include retrofitting and filtration that is pressurized and include continuing maintenance for the systems.*

(X) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(X) I want cleaner air. I am concerned about pollution impacts to people who live close to the freeway like me.

NAME: ROSA SALAZAR

ADDRESS: 626 S. SYDNEY DR #109, L.A 90022

EMAIL: ~

Dear Ronald Kosinski, Caltrans

(X) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

( ) *I am opposed to the taking of any homes on Sydney Drive.*

( ) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
- ( ) *I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move. My economic support network is in East LA.*
- ( ) *I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.*
- ( ) *I use public transportation. My extended family lives in East LA. I count on them for support, both financial and emotional.*

(X) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

(X) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(X) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.* ( ) *The Third St exit South should be closed. It brings too much traffic and accidents to a residential area.*

IP-37-143

(X) *I am opposed to increasing truck traffic on the I-710.*
- ( ) *I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710.*
- ( ) *A lot of people in my family have Asthma.*

(X) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

(X) *I am concerned about noise increasing because there will be more trucks and traffic.*

(X) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

(X) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles. The air filters for Schools must include retrofitting and filtration that is pressurized and include continuing maintenance for the systems.*

(X) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(X) I want cleaner air. I am concerned about pollution impacts to people who live close to the freeway like me.

NAME: Juan Vazquez

ADDRESS: 537 S. Sydney Dr

EMAIL: JuanVZ@aol.com

Dear Ronald Kosinski, Caltrans

(✓) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(✓) I am opposed to the taking of any homes on Sydney Drive.

(✓) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.

(✓) I have lived here over 1 years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move. My economic support network is in East LA.

( ) I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( ) I use public transportation. My extended family lives in East LA. I count on them for support, both financial and emotional.

(✓) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

(✓) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(✓) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents. (✓) The Third St exit South should be closed. It brings too much traffic and accidents to a residential area.

(✓) I am opposed to increasing truck traffic on the I-710.

(✓) I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710.

( ) A lot of people in my family have Asthma.

IP-37-144

(✓) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

(✓) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

(✓) If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles. The air filters for Schools must include retrofitting and filtration that is pressurized and include continuing maintenance for the systems.

( ) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air. I am concerned about pollution impacts to people who live close to the freeway like me.

NAME: Cynthia Torres

ADDRESS: 626 Sydney D. #102 Los Angeles CA 90022

EMAIL: cynthiatorres2017@gmail.com

Dear Ronald Kosinski, Caltrans

(✓) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(✓) *I am opposed to the taking of any homes on Sydney Drive.*

(✓) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*

( ) *I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move. My economic support network is in East LA.*

( ) *I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.*

( ) *I use public transportation. My extended family lives in East LA. I count on them for support, both financial and emotional.*

(✓) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

(✓) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(✓) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.* ( ) *The Third St exit South should be closed. It brings too much traffic and accidents to a residential area.*

IP-37-145

(✓) *I am opposed to increasing truck traffic on the I-710.*

(✓) *I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710.*

(✓) *A lot of people in my family have Asthma.* I have asthma.

(✓) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

(✓) *I am concerned about noise increasing because there will be more trucks and traffic.*

(✓) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

(✓) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles. The air filters for Schools must include retrofitting and filtration that is pressurized and include continuing maintenance for the systems.*

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air. I am concerned about pollution impacts to people who live close to the freeway like me.

NAME: Paula Cortez

ADDRESS: 600 S. Sydney Dr., E.L.A. 90022

EMAIL: _____

Dear Ronald Kosinski, Caltrans

( ) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

( ) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

( ) I am opposed to the taking of any homes on Sydney Drive.

( ) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( )I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

IP-37-146

( ) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

( ) I am concerned about noise increasing because there will be more trucks and traffic.

( ) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( )If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

( )I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

( ) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

( ) I want cleaner air.

NAME: Renata Shlaen

ADDRESS: 4481 Whittier Blvd LA, CA

EMAIL:

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

( ) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

( ) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

( ) I am opposed to the taking of any homes on Sydney Drive.

( ) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( )I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

( ) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-147

( ) I am concerned about noise increasing because there will be more trucks and traffic.

( ) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( )If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

( )I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

( ) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

( ) I want cleaner air.

NAME: Igor Chernyavsky

ADDRESS: 4481 Whittier Blvd.

EMAIL:

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(✓) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(✓) I am opposed to the taking of any homes on Sydney Drive.

(✓) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

(✓) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(✓) I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(✓) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-148

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

(✓) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

(✓) If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

(✓) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Jose Aragon

ADDRESS: 4481 Whittier blvd LA, CA 90022

EMAIL: rexmedPharmacy@yahoo.com

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(✓) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(✓) I am opposed to the taking of any homes on Sydney Drive.

(✓) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( )I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(✓) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C. IP-37-149

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

( ) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( )If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

( )I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Elizabeth De Baca

ADDRESS: 618 San Angelo Ave La Puente, Ca. 91746

EMAIL: _____

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(✓) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

( ) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

( ) I am opposed to the taking of any homes on Sydney Drive.

( ) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( )I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

( ) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C. IP-37-150

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

( ) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( )If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

( )I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Michael Lopez

ADDRESS: 4326 Gratian St LA 90022

EMAIL: asaaapmidayt@gmail.com

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(/) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(/) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(/) I am opposed to the taking of any homes on Sydney Drive.

(/) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

(/) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(/)I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(/) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C. IP-37-151

(/) I am concerned about noise increasing because there will be more trucks and traffic.

(/) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

(/)If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

(/)I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(/) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(/) I want cleaner air.

NAME: Diana Rios

ADDRESS: 4477 Whittier Blvd. LA 90022

EMAIL: riosdiana@yahoo.com.

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

( ) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

( ) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

( ) I am opposed to the taking of any homes on Sydney Drive.

( ) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( )I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

( ) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-152

( ) I am concerned about noise increasing because there will be more trucks and traffic.

( ) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( )If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

( )I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

( ) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

( ) I want cleaner air.

NAME: Yvett ortiz

ADDRESS: 4477 whittier Blvd LA 90022

EMAIL: _____

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(✓) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.*
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(✓) *I am opposed to the taking of any homes on Sydney Drive.*

(✓) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

(✓) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
( ) *I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.*
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(✓) *I am opposed to increasing truck traffic on the I-710.*
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(✓) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

IP-37-153

(✓) *I am concerned about noise increasing because there will be more trucks and traffic.*

(✓) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

(✓) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.*

(✓) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Beatriz Casillas

ADDRESS: 4477 Whittier Blvd. LA 90022

EMAIL: _____

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

( ) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(✓) I am opposed to the taking of any homes on Sydney Drive.

(✓) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(✓) I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(✓) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-154

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

(✓) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

(✓) If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

(✓) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Martha Martinez

ADDRESS: 4477 Whittier Blvd. Loca 90022

EMAIL: Martha_rc@yahoo.com

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(√) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.*
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(X) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(X) *I am opposed to the taking of any homes on Sydney Drive.*

( ) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

(X) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
(√) *I have lived here over 10 years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.*
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(√) *I am opposed to increasing truck traffic on the I-710.*
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(√) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

IP-37-155

(√) *I am concerned about noise increasing because there will be more trucks and traffic.*

(X) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

( ) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.*

( ) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(X) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(X) I want cleaner air.

NAME: Julia Lomeli

ADDRESS: 4477 Whittier Blvd 90022

EMAIL: MSlomeli4ta@gmail

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(X) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.*
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(X) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(X) *I am opposed to the taking of any homes on Sydney Drive.*

(X) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

(X) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
( ) *I have lived here over 29 years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.*
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(X) *I am opposed to increasing truck traffic on the I-710.*
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(X) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

IP-37-156

(X) *I am concerned about noise increasing because there will be more trucks and traffic.*

(X) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

(X) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.*

(X) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(X) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(X) I want cleaner air.

NAME: Maria Zabaleta

ADDRESS: 4477 Whittier Blvd LA 90022

EMAIL: Zabaletamaria@ymail.com

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(✓) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.*
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(✓) *I am opposed to the taking of any homes on Sydney Drive.*

(✓) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

(✓) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
( ) *I have lived here over 20 years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.*
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(✓) *I am opposed to increasing truck traffic on the I-710.*
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

IP-37-157

(✓) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

(✓) *I am concerned about noise increasing because there will be more trucks and traffic.*

(✓) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

( ) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.*

(✓) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Rocio E. Carreon

ADDRESS: 4477 Whittier Blvd 90022

EMAIL: _____

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(✓) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.*
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(✓) *I am opposed to the taking of any homes on Sydney Drive.*

(✓) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

(✓) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
(✓) *I have lived here over 25 years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.*
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(✓) *I am opposed to increasing truck traffic on the I-710.*
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

IP-37-158

(✓) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

(✓) *I am concerned about noise increasing because there will be more trucks and traffic.*

(✓) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

( ) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.* No. No! No!!!!

(✓) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Adriana Flores

ADDRESS: 4477 Whittier Blvd. Los Angeles, Ca. 90022

EMAIL: adriana.flores1982@yahoo.com

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OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(✓) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

( ) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(✓) I am opposed to the taking of any homes on Sydney Drive.

( ) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( )I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(✓) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-159

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

( ) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( )If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

( )I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

( ) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

( ) I want cleaner air.

NAME: Kinna Dunbar

ADDRESS: 4571 Hubbard St.

EMAIL: kinnadunbar@gmail.com

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

( ) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

( ) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

( ) I am opposed to the taking of any homes on Sydney Drive.

( ) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( )I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

( ) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-160

( ) I am concerned about noise increasing because there will be more trucks and traffic.

( ) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( )If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

( )I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

( ) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

( ) I want cleaner air.

NAME: Krystal Arreola

ADDRESS: 6666 S Cm Donnell Avenue CA 90022

EMAIL: _____

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(✓) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.*
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(✓) *I am opposed to the taking of any homes on Sydney Drive.*

(✓) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

( ) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
( ) *I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.*
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(✓) *I am opposed to increasing truck traffic on the I-710.*
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(✓) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.* IP-37-161

(✓) *I am concerned about noise increasing because there will be more trucks and traffic.*

(✓) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

(✓) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.*

(✓) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

( ) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Brittany Nelson

ADDRESS: 10631 Haas Ave, Los Angeles 90047, CA

EMAIL: msbrittanylove@aol.com

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Dear Ronald Kosinski, Caltrans

(√) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(√) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(√) I am opposed to the taking of any homes on Sydney Drive.

(√) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

(√) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
(√) I have lived here over 14 years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(√) I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(√) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-162

(√) I am concerned about noise increasing because there will be more trucks and traffic.

(√) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

(√) If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

(√) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(√) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(√) I want cleaner air.

NAME: Marco Tulio Olivares Zuniga

ADDRESS: 3200 Glenn Ave Apt 365 Los Angeles CA 90023

EMAIL: Marco Olivares_44@Icloud.com

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100 South Main Street, MS 16A
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Dear Ronald Kosinski, Caltrans

(X) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.*
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(X) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(X) *I am opposed to the taking of any homes on Sydney Drive.*

(X) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

( ) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
( ) *I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.*
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(X) *I am opposed to increasing truck traffic on the I-710.*
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

IP-37-163

(X) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

(X) *I am concerned about noise increasing because there will be more trucks and traffic.*

( ) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

( ) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.*

(X) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(X) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(X) I want cleaner air.

NAME: Maanie Sanchez

ADDRESS: 5006 Valley Blvd

EMAIL: nelliegee02@gmail.com

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(X) *I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.*
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(X) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(X) *I am opposed to the taking of any homes on Sydney Drive.*

(X) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

( ) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
( ) *I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.*
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( ) *I am opposed to increasing truck traffic on the I-710.*
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(X) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

IP-37-164

( ) *I am concerned about noise increasing because there will be more trucks and traffic.*

( ) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

( ) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.*

(X) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(X) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(X) I want cleaner air.

NAME: Krystal Cabrera

ADDRESS: 5525 bohlig Rd Los Angeles CA.

EMAIL: CabreraKrys12@gmail.com.

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(✓) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(✓) I am opposed to the taking of any homes on Sydney Drive.

(✓) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
(✓) I have lived here over 16 years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(✓) I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(✓) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-165

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

(✓) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( ) If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

(✓) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Vanessa Olivares

ADDRESS: 3280 Glenn Ave #366 L.A. C.A. 90023

EMAIL: vanessaolivares41@gmail.com

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(✓) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(✓) I am opposed to the taking of any homes on Sydney Drive.

(✓) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

(✓) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over 20 years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( )I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

IP-37-166

( ) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

(✓) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( )If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

(✓) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: PRISCILLA MUÑOZ

ADDRESS: 846 N. Hendricks St. Montebello 90640

EMAIL: munozpriscilla23@gmail.com

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Los Angeles, CA 90012

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( ) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

( ) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

( ) I am opposed to the taking of any homes on Sydney Drive.

( ) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

( )I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

( ) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

( ) I am concerned about noise increasing because there will be more trucks and traffic.

( ) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( )If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

( )I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

( ) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

( ) I want cleaner air.

NAME: _____

ADDRESS: _____

EMAIL: _____

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(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(✓) I am opposed to the taking of any homes on Sydney Drive.

(✓) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

(✓) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(✓) I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(✓) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-167

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

(✓) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

(✓) If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

(✓) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Debad Taylor

ADDRESS: 310. s Jefferson St. 76, Placentia, CA 92870

EMAIL: Professor.dtaylor@gmail.com

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(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(✓) I am opposed to the taking of any homes on Sydney Drive.

(✓) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

(✓) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(✓) I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(✓) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C. IP-37-168

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

(✓) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

(✓) If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

(✓) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: David Garcia

ADDRESS: 1108 S Fourth street

EMAIL: davidgarcia79.dg@gmail.com

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(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(✓) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(✓) I am opposed to the taking of any homes on Sydney Drive.

(✓) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

(✓) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(✓) I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(✓) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-169

(✓) I am concerned about noise increasing because there will be more trucks and traffic.

(✓) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

(✓) If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

(✓) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air.

NAME: Yoan Cuevas

ADDRESS: 7034 Mountain View Ave. Apt. K

EMAIL: yoancuevas19@gmail.com

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(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(X) *I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.*

(X) *I am opposed to the taking of any homes on Sydney Drive.*

(X) *I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.*

(X) *If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.*
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(X) *I am opposed to increasing truck traffic on the I-710.*
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

IP-37-170

(X) *I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.*

(X) *I am concerned about noise increasing because there will be more trucks and traffic.*

( ) *More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.*

( ) *If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.*

(X) *I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.*

(X) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(X) I want cleaner air.

NAME: Angie Camez

ADDRESS: 14030 McClure Ave Paramount, CA 90723 APT #206

EMAIL: kristevy@gmail.com

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(X) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(X) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(X) I am opposed to the taking of any homes on Sydney Drive.

( ) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(X)I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

IP-37-171

( ) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

(X) I am concerned about noise increasing because there will be more trucks and traffic.

( ) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

(X)If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

( )I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

(X) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(X) I want cleaner air.

NAME: Ryan Badillo

ADDRESS: 3211 ½ Eagle Street 90063 CA

EMAIL: badillo@yahoo.com

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(√) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.
(If you live on Eagle and have had your car hit by cars speeding of the freeway, let them know. If you've seen car accidents, let them know. If the traffic on Eagle makes it difficult for you let them know.)

(√) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

(√) I am opposed to the taking of any homes on Sydney Drive.

(√) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

(√) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
( ) I have lived here over 10+ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move.
I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.

(√) I am opposed to increasing truck traffic on the I-710.
I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710. A lot of people in my family have Asthma.

(√) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C. IP-37-172

(√) I am concerned about noise increasing because there will be more trucks and traffic.

(√) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

(√) If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles.

(√) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

* (√) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(√) I want cleaner air.

NAME: Stephanie Reyes

ADDRESS: 5314 Hyde St, L.A, CA, 90032

EMAIL: mcbiestefani@gmail.com

SUBMIT YOUR LETTER AT: http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/
OR MAIL TO: Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

Dear Ronald Kosinski, Caltrans

(✓) I am opposed to option 3A/3B. I am opposed to the taking of any East Los Angeles homes.

( ) I am opposed to the taking of any homes on Sydney Drive.

( ) If I lose my home, there are not enough homes in East Los Angeles for me to relocate in East Los Angeles.
- *( ) I have lived here over ____ years. All of my family and friends live in East Los Angeles. I will no longer be able to easily visit my family if I have to move. My economic support network is in East LA.*
- *( )I am getting older, I may no longer be able to drive in a few years. My support network is here in East Los Angeles.*
- *( ) I use public transportation. My extended family lives in East LA. I count on them for support, both financial and emotional.*

( ) I am opposed to Option 3A/3B. I am opposed to the taking of any businesses in East Los Angeles.

( ) I am opposed to losing parking on Atlantic Blvd. during rush hour. That will hurt East Los Angeles businesses. We will lose jobs and the businesses we use on Atlantic Blvd.

( ) I am opposed to option 3A/3B. It will increase traffic on Eagle and Humphreys Street and cause more accidents.

( ) I am opposed to increasing truck traffic on the I-710.
- *( ) I am concerned that Truck Traffic it will increase PM10 pollution from truck tires and brakes and will kick up more dust. Already, my house gets dusty from the pollution from the I-710.*
- *( ) A lot of people in my family have Asthma.*

(✓) I believe a full Health Impact Assessment should be completed for this project. The Health Risk Assessment does not fully study how this project will impact East Los Angeles residents. Noise impacts children at the local schools. I am concerned about increased cancer risk to my children at Humphreys Elementary School from Alternative 5C.

IP-37-173

( ) I am concerned about noise increasing because there will be more trucks and traffic.

( ) More sound walls need to be built because there is too much noise in East Los Angeles from the freeways.

( )If a project goes forward, I want sound proofing and air filtration systems installed for homes and schools as part of a community project for East Los Angeles. The air filters for Schools must include retrofitting and filtration that is pressurized and include continuing maintenance for the systems.

(✓) East Los Angeles residents depend on the Kidney Dialysis Center on Eastern. It should not be removed.

(✓) I want cleaner air. I am concerned about pollution impacts to people who live close to the freeway like me.

NAME: Vanessa Ramirez

ADDRESS: 4431 Whittier Blvd.

EMAIL: _____

Dear Ronald Kosinski, Cal Trans

(✓) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

() Me opongo a que se lleven casas en Sydney Drive.

(✓) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante 25 años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

(✓) Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

(✓) Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

() Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

() Me opongo a aumentar el tráfico de camiones en la I-710.
() Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.
() Muchas personas en mi familia tienen asma.

IP-37-174

(✓) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

() Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

() Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

(✓) Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

(✓) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(✓) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: Rosa Oliveras

DIRECCIÓN: 1012 Burger Ave Los Angeles Cal

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

() Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

(✓) Me opongo a que se lleven casas en Sydney Drive.

(✓) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante 18 años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

() Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

() Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

() Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

() Me opongo a aumentar el tráfico de camiones en la I-710.
() Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.
() Muchas personas en mi familia tienen asma.

IP-37-175

(✓) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

() Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

() Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

(✓) Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

(✓) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(✓) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: Lourdes mota

DIRECCIÓN: 691 S Ford Blvd L A

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(X) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

(X) Me opongo a que se lleven casas en Sydney Drive.

(X) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante 12 años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

(X) Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

(X) Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

(X) Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

(X) Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

() Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

(X) Me opongo a aumentar el tráfico de camiones en la I-710.
(X) Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.
() Muchas personas en mi familia tienen asma.

(X) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

() Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

() Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

(X) Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

(X) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(X) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

IP-37-176

NOMBRE: Yolanda Ramirez

DIRECCIÓN: 4431 E Whittier Blvd.

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(X) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

(X) Me opongo a que se lleven casas en Sydney Drive.

(X) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante 20 años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

(X) Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

(X) Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

(X) Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

(X) Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

() Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

() Me opongo a aumentar el tráfico de camiones en la I-710.
() Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.
() Muchas personas en mi familia tienen asma.

IP-37-177

(X) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

(X) Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

(X) Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

(X) Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

(X) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(X) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: Manuel Moreno

DIRECCIÓN: Burger #926

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(X) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

(X) Me opongo a que se lleven casas en Sydney Drive.

(X) Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante 15 años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

(X) Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

(X) Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

(X) Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

(X) Me opongo a aumentar el tráfico de camiones en la I-710.
(X) Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.
(X) Muchas personas en mi familia tienen asma.

IP-37
178

() Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

(X) Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

() Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

() Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

() Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(X) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: Petra Puga

DIRECCIÓN: 4431 E Whittier Blvd

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(X) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

(X) Me opongo a que se lleven casas en Sydney Drive.

() Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante 28 años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

() Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

(X) Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

() Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

(X) Me opongo a aumentar el tráfico de camiones en la I-710.
() Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.
() Muchas personas en mi familia tienen asma.

(X) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

IP-37-179

() Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

() Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

(X) Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

(X) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(X) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: David Rosales

DIRECCIÓN: 759 Sydney Dr.

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(X) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

(X) Me opongo a que se lleven casas en Sydney Drive.

() Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante 14 años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

() Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

() Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

(X) Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

(X) Me opongo a aumentar el tráfico de camiones en la I-710.

(X) Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.

() Muchas personas en mi familia tienen asma.

IP-37-180

(X) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

() Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

() Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

(X) Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

(X) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(X) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: Esperanza Ruelas

DIRECCIÓN: #757 Sydney Dr.

CORREO ELECTRÓNICO: _____

Dear Ronald Kosinski, Cal Trans

(X) Me opongo a la opción 3A / 3B. Me opongo a la toma de cualquier casa del este de Los Ángeles.

(X) Me opongo a que se lleven casas en Sydney Drive.

() Si pierdo mi casa, no hay suficientes casas en East Los Angeles para que me mude en East Los Angeles.

() He vivido aquí durante 25 años. Todos mis familiares y amigos viven en East Los Angeles. Ya no podré visitar a mi familia fácilmente si tengo que mudarme. Mi red de apoyo económico está en East LA.

() Estoy envejeciendo, es posible que ya no pueda conducir en unos años. Mi red de apoyo está aquí en East Los Angeles.

() Uso el transporte público. Mi familia extendida vive en East LA. Cuento con ellos para apoyo, tanto financiero como emocional.

() Me opongo a la Opción 3A / 3B. Me opongo a que se tomen negocios en East Los Angeles.

() Me opongo a perder estacionamiento en Atlantic Blvd. durante la hora pico. Eso perjudicará a las empresas del Este de Los Ángeles. Perderemos trabajos y negocios que utilizamos en Atlantic Blvd.

() Me opongo a la opción 3A / 3B. Aumentará el tráfico en Eagle y Humphreys Street y causará más accidentes. () Creo que la Third St exit South debería estar cerrada.

(X) Me opongo a aumentar el tráfico de camiones en la I-710.
() Me preocupa que Truck Traffic aumentará la contaminación por PM10 de los neumáticos y frenos de los camiones y levantará más polvo. Ya mi casa se vuelve polvorienta por la contaminación del I-710.
() Muchas personas en mi familia tienen asma.

IP-37-181

(X) Creo que se debe completar una evaluación de impacto de salud completa para este proyecto. La Evaluación de riesgos de salud no estudia completamente cómo afectará este proyecto a los residentes de East Los Angeles. El ruido afecta a los niños en las escuelas locales. Me preocupa el aumento del riesgo de cáncer para mis hijos en la Escuela Primaria Humphreys de la Alternativa 5C.

() Me preocupa que aumente el ruido porque habrá más camiones y más tráfico.

() Deben construirse más muros acústicos porque hay mucho ruido en el este de Los Ángeles desde las autopistas.

() Si un proyecto continúa, quiero instalar sistemas de filtración de aire e insonorización para hogares y escuelas como parte de un proyecto comunitario para el Este de Los Ángeles. Los filtros de aire para las escuelas deben incluir el reacondicionamiento y la filtración presurizados e incluyen el mantenimiento continuo de los sistemas.

(X) Los residentes de East Los Angeles dependen del Kidney Dialysis Center en Eastern. No debería ser removido.

(X) Quiero aire más limpio. Me preocupan los impactos de la contaminación en las personas que viven cerca de la autopista como yo.

NOMBRE: Maria G Torres

DIRECCIÓN: 689 S Ford Blvd L.A. 90022

CORREO ELECTRÓNICO: _____

HRICKO, ET AL SCIENTISTS LETTER

SCH Number: 1982092310
File: O7-LA-710 (SR 710)
Project: EFIS 0700000191 (EA 187900)
State Route 710 North Project

Comments on the SR-710 DEIR/DEIS Submitted to Caltrans by Southern California Scientists and Colleagues Who Study the Health Effects of Air Pollution and Other Public Health Impacts from Transportation Infrastructure Projects and Related Traffic*

IP-37-182

Mr. Garrett Damrath
Chief Environmental Planner
Caltrans District 7
Division of Environmental Planning
100 S. Main Street, MS-16A
Los Angeles, CA 90012

Submitted via website link
Hard copy and CD-Rom hand-delivered to District 7 Caltrans

Dear Mr. Damrath:

As we understand it, a DEIR/EIS is designed to help policymakers better understand the potential impacts of their decisions concerning infrastructure and other projects. As documented below, we do not believe the DEIR/DEIS effectively or successfully serves this purpose. Policymakers reading this version of the DEIR/EIS will have a very difficult time understanding what the air pollution impacts of a proposed SR-710 extension would be, particularly as it pertains to the tunnel alternative.

We respectfully submit our concerns as a group of scientists and public health experts. Some of us have been studying the health effects of air pollution in southern California individually and collectively for decades. Others are experts in public health, working to ensure that the community is adequately informed of the potential health impacts of new infrastructure projects, and that proposed infrastructure projects are designed to minimize environmental and health impacts.

Southern California has a world-class community of scientists and experts studying the health impacts of air pollution and other impacts from infrastructure projects that is unique in this field. Despite there being hundreds upon hundreds of published papers on this topic by investigators from the University of Southern California (USC), University of California, Los Angeles and Irvine (UCLA and UCI), and other investigators around the world, the DEIR is completely lacking in a discussion of the health effects of air pollution related to the alternatives, other than diffuse claims that the project will "improve air quality."

corridor, yet the words "goods movement" or "freight" do not appear in the purpose and need statement.

b. Metro officials have previously stated that this, indeed, is why completing the 710 north gap closure is so valuable. Please see this 2011 statement by Douglas Failing, then executive director of highway programs for Metro: *"The 710 north gap closure between the I-10 and the I-210 would complete the natural goods corridor that was begun several decades ago."* Please find this quotation at: http://www.metro.net/news/simple_pr/metro s-highway-program-shifts-high-gear-18-new-pro/

c. Thus, the Purpose and Need of the Project, as stated, is erroneous because it fails to mention that a major purpose of the SR-710 tunnel project is to complete the "goods movement corridor" which heads north from the Ports of Los Angeles and Long Beach, between the I-10 and the I-210 Freeways. For this reason alone, the DEIR/EIS merits revision and recirculation for comments and additional opportunity for review.

3. **Failure for the DEIR/EIS to accurately inform the public and policy decision-makers about the volume and impact of heavy duty diesel big rig trucks in the tunnel – and along the lengthy approach to the tunnel's portals.**

a. The DEIR/DEIS's truck traffic estimates greatly minimize freight traffic, instead relying on a set of "FAQs" about goods movement which have no citations, admit that detailed truck studies were not performed, and are completely misleading to the public. An example is the following statement from the FAQs: *"Construction of a tunnel would not be expected to alter truck traffic destinations. Cars and trucks that are already going north (via surface streets or other freeways) may choose to take a tunnel to reduce their travel time, but no additional truck traffic will go north."* See http://media.metro.net/projects_studies/sr_710/images/sr_710_faqs_goods_movement.pdf. The public and policy makers deserve an accurate and appropriate method for estimating truck traffic in the Tunnel Alternatives – from the Ports and elsewhere – and the DEIR/DEIS should provide one. It currently does not. We request that Caltrans and Metro permanently remove this misleading set of "Frequently Asked Questions" from its web portals and websites.

b. On page 5-35 of the Air Quality Assessment, the DEIR/DEIS states *that "there is a possibility that some traffic currently utilizing other routes would be attracted to use the new facility."* This ignores the widely accepted concept of "induced demand," in which increases in traffic capacity are quickly met with increased traffic volumes whenever a new freeway is built or new lanes added. Certainly Caltrans is aware of the concept of "induced demand" when a new freeway is built. In a 2014 draft policy brief for the California Air Resources Board, two experts concluded that there is usually a growth in both vehicle miles traveled (that is there is "induced demand," as more people choose to use the new highway) and in greenhouse gas emissions after a "capacity expansion" of a highway. They argue that the "induced demand" generally offsets any reductions in greenhouse gas (GHG) emissions that would result from improved traffic flow (Handy and Boarnet, 2014. *"Given the induced travel effect, capacity expansion has limited potential as a strategy for reducing congestion*," Handy and Boarnet conclude. (See

http://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief-4-21-14.pdf.

c. Truck estimates vary widely throughout the document, and these assumptions are critical to the Health Risk Assessment, the Air Quality Assessment, and other issues in the DEIR/EIS.
   i. We note that the SR-710 tunnel project would allow, for the first time, trucks to travel north from the Ports for a continuous 30 miles on the I-710 to SR-710 Freeway directly to the I-210 (and then on north to the Central Valley or east to distribution centers in Riverside and San Bernardino Counties, or other points East). But Table 5.6 on increased VMT that will occur with tunnel project in the Air Quality Assessment makes little sense. It seems to show that at the I-210 eastbound on-ramp, there would be only about 400 more vehicles a day on the on-ramp if the tunnel allowed trucks than if it did not.
   ii. Inexplicably, Table 3.5.7 on Truck Performance (see below) shows nearly identical "Vehicle Miles Traveled (VMT) for trucks in the No Build, Light Rail, and Tunnel Alternatives. How can the same VMT for trucks traveling in the "No Trucks Allowed Tunnels" occur as in tunnels that allow trucks? It is imperative to have a valid estimation of trucks in the tunnel if one is to have a valid Health Risk Assessment.

Table 1. 2035 Truck VMT with various alternatives, from the DEIR/EIS

TABLE 3.5.7:
Opening Year (2020/2025) and Horizon Year (2035) Truck Performance by Alternative

Performance Measure	No Build	TSM/TDM	BRT	LRT	Freeway Tunnel Alternative					
					Single-Bore Design Variation			Dual-Bore Design Variation		
					Toll	Toll, No Trucks	Toll, Express Bus	No Toll	No Toll, No Trucks	Toll
Opening Year 2020 (for the TSM/TDM and BRT Alternatives)										
Daily Truck VMT per Lane Mile of Freeway	2,300	2,300	2,300	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Daily Truck VMT per Lane Mile of Arterials and Collectors	100	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Opening Year 2025 (for the LRT and Freeway Tunnel Alternatives)										
Daily Truck VMT per Lane Mile of Freeway	2,500	N/A	N/A	2,500	2,500	2,400	2,500	2,500	2,400	2,400
Daily Truck VMT per Lane Mile of Arterials and Collectors	105	N/A	N/A	105	95	105	95	95	100	95
Horizon Year 2035 (for all Build Alternatives)										
Daily Truck VMT per Lane Mile of Freeway	2,800	2,800	2,800	2,800	2,800	2,700	2,800	2,700	2,600	2,700
Daily Truck VMT per Lane Mile of Arterials and Collectors	115	115	115	115	105	115	105	95	105	105

Source: *Transportation Technical Report* (2014).
Note: The truck-related information provided in this table refers to heavy-duty trucks as defined in the Southern California Association of Governments 2012 Regional Transportation Plan travel demand model.
N/A = Not Applicable
VMT = vehicle miles traveled

   iii. In contrast to the above, which estimates a minimal amount of trucks expected with the Tunnel Alternative, Table 4-12 shows that in 2035 there would be 25,600 trucks a day in the tunnel.

Table 2. 2035 modeled truck counts along the I-710 and in the tunnel from the DEIR/EIS

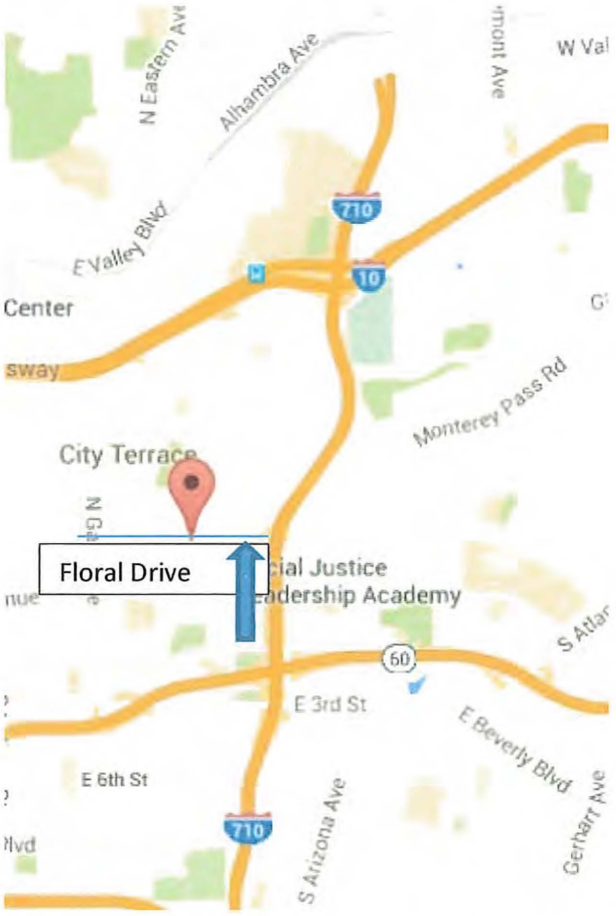
TABLE 4-12
Travel Model Comparison Summary: SR 710 North and I-710 South
SR 710 North Study, Los Angeles County, California

Location	SR 710 North Model (2035) [1]			I-710 South Model (2035) [1]			Comparison	
	Daily			Daily			Daily	
	Total	Trucks	% Trucks	Total	Trucks	% Trucks	% Diff	% Truck Diff
SR 710 Tunnel	177,600	25,600	14.4%	166,200	18,600	14.7%	-6%	-27%
I-710 North of Floral Drive	220,000	26,500	12.0%	226,900	20,300	14.7%	3%	-23%
I-710 North of Whittier Boulevard	265,800	37,000	13.9%	256,400	27,300	14.7%	-4%	-26%
I-710 North of Washington Boulevard	315,700	31,400	9.9%	274,700	30,200	14.7%	-13%	4%
I-710 South of Imperial Highway	272,100	37,500	13.8%	249,900	36,700	14.7%	-8%	-2%

[1] The model results shown for 2035 for both SR 710 North and I-710 South include the SR 710 North tunnel and the I-710 South truck lanes. Both models assumed the SR 710 tunnel was designed as the dual-bore tunnel without a toll variation.

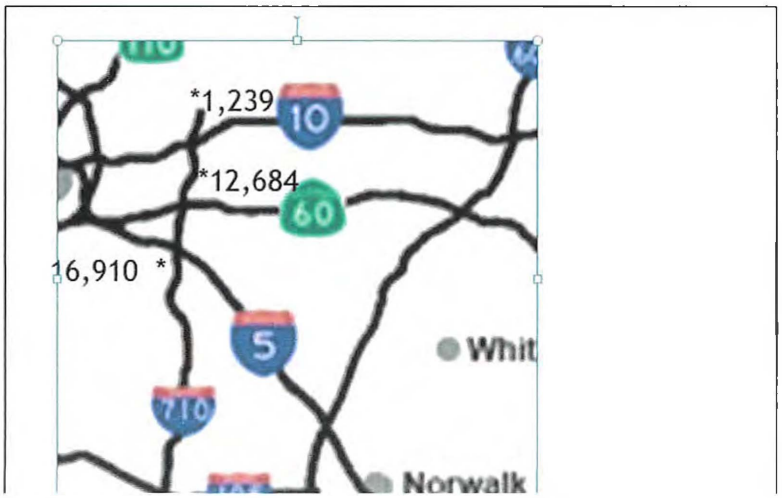
The above table also shows that on the I-710 north of Floral Drive there would be 26,500 trucks anticipated in 2035. Floral Drive is between the SR-60 and the I-10 Freeway. This is a clear indication that East Los Angeles will be seriously impacted by truck traffic when the tunnel opens. See map below for where Floral Drive is.

Map 1. Red mark and blue line showing east-west location of Floral Drive in East L.A. This can be matched with truck counts in Caltrans table above.



iv. The current volume of trucks that travel north of the SR-60 and north of the I-10 on the I-710 Freeway were obtained from Caltrans online truck counts and are shown below:

Map 2. Truck Counts Caltrans Data, 2013 in the study area



The above truck counts show that in 2013 there were 16,910 trucks (one way) on the I-710 north of the 5 Freeway. Some 4000 trucks exited on the SR-60. Another 11,000 trucks exited on the I-10, meaning that only 1,239 trucks were left on the I-710 when it ended in Alhambra. These data are from the following Caltrans table of truck counts:

Table 3. Caltrans truck counts along the I-710 during 2013

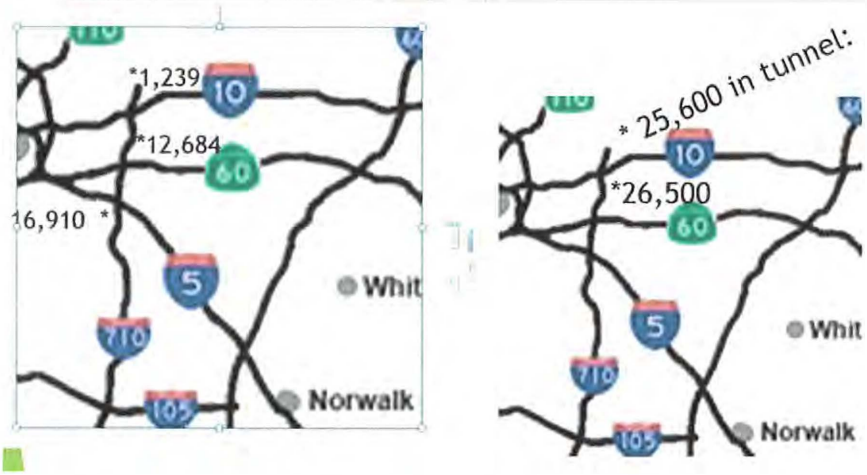
RTE	DIST	CNTY	POST MILE	LEG	DESCRIPTION	VEHICLE AADT TOTAL	TRUCK AADT TOTAL	% TRUCK TOT VEH	TRUCK AADT TOTAL By Axle 2	3	4	5+	% TRUCK AADT By Axle 2	3	4	5+	E 2- (1
710	07	LA	23.282	B	COMMERCE, JCT. RTE. 5, SANTA ANA FREEWAY INTERCHANGE	208000	16910	8.13	5712	2535	490	8173	33.78	14.99	2.9	48.33	
710	07	LA	23.282	A	COMMERCE, JCT. RTE. 5, SANTA ANA FREEWAY INTERCHANGE	177000	12514	7.07	3491	1784	572	6666	27.9	14.26	4.57	53.27	
710	07	LA	24.627	B	JCT. RTE. 60, POMONA FREEWAY INTERCHANGE	192000	12384	6.45	3455	1766	566	6597	27.9	14.26	4.57	53.27	
710	07	LA	24.627	A	JCT. RTE. 60, POMONA FREEWAY INTERCHANGE	124000	6064	4.89	2108	927	246	2783	34.77	15.28	4.05	45.9	
710	07	LA	26.497	A	MONTEREY PARK, JCT. RTE. 10, SAN BERNARDINO FREEWAY INTERCHANGE	43000	1329	3.09	617	357	76	279	46.4	26.87	5.75	20.98	
710	07	LA	R32.72	B	PASADENA, JCT. RTES. 134/210, VENTURA/FOOTHILL FREEWAYS INTERCHANGE	64000	781	1.22	491	173	36	81	62.91	22.11	4.55	10.43	

v. When using data from the Table 4-12 in the DEIR/EIS, the following maps show how many trucks are on the I-710 today in the study area versus how many are predicted through modeling for the future, when the tunnel is open.

Map 3. Comparison of truck counts in 2013 along the I-710 Freeway and 2035 predictions if the tunnel alternative is selected.

2013 truck counts

2035 truck predictions



vi.

4. **Failure to describe or discuss studies and rulings that conclude that diesel exhaust and diesel particulate are carcinogens, which is critical to understanding the potential health risks of a tunnel alternative.**
   a. We note that once constructed both the single bore tunnel and the dual bore tunnel would have "diesel PM emissions greater than or equal to the 2025 and 2035 emissions" (see page 35 of Executive Summary/DEIR/EIS).
   b. Despite the above, concerns about the health impacts of diesel exhaust and diesel PM are minimized in the DEIR/DEIS. We can locate no mention of the 1998 ruling by the California Air Resources Board naming diesel particulate as a Toxic Air Contaminant because it causes cancer, nor of the 2012 ruling by the World Health Organization's International Agency for Research on Cancer (IARC) designating "diesel exhaust as a Class I carcinogen."
   c. Page 2-17 of the HRA includes a lengthy description of OEHHA's risk assessment uncertainties in 2002, but does not include anything about OEHHA's diesel cancer risk assessment in 1998 (http://www.arb.ca.gov/toxics/dieseltac/part_b.pdf) which summarized more than 40 studies published before 1998 showing the diesel particulate causes cancer. The HRA also does not describe the new OEHHA Diesel Cancer Risk Guidelines

(proposed in 2014 and finalized in 2015). See 2014 proposal, issued before the DEIR was released and 2015 final guidance:
http://oehha.ca.gov/air/hot_spots/riskguidancedraft2014.html
http://oehha.ca.gov/air/hot_spots/hotspots2015.html.
To our knowledge, the DEIR/EIS has no discussion of the multitude of studies showing that diesel causes cancer and other health effects, summarized in the the OEHHA document cited above or more recent studies, examples of which are in the References (Zhu et al, 2002; Olsson et al, 2011; Silverman et al, 2012; Attfield et al, 2012; Bhatia et al, 2012; Silverman et al, 2014; Vermeulen et al, 2014).

d. Pages 5-25 and 5-26 of the Air Quality Assessment fail to mention action in California in 1998 that declared diesel as a Toxic Air Contaminant, with a unit risk value of cancer potency for cancer risk. But it has several pages about concerns and uncertainties expressed at the national level about diesel, from the Health Effects Institute and U.S. EPA, in an apparent attempt to downplay the health effects of diesel exhaust. For example: page 3.13-34 of the DEIR/EIS states that: "*... there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA and the Health Effects Institute have not established a basis for quantitative risk assessment of diesel PM in ambient* settings. *There is also the lack of a national consensus on an acceptable level of risk."* However, California's OEHHA and the regions South Coast AQMD have, respectively, adopted quantitative risk value and an acceptable level of risk, which the DEIR/EIS fails to acknowledge.

5. **Failure to use the most recent guidance from OEHHA in development of the Health Risk assessment for determining cancer risk from exposure to diesel exhaust; the HRA must be redone.**
   a. Although OEHHA had issued a draft of its new guidance document prior to completion of the DEIR/EIS, the Health Risk Assessment fails to include calculations for how this new guidance (now adopted) would impact the HRA. http://oehha.ca.gov/air/hot_spots/riskguidancedraft2014.html. The HRA should redone using the latest guidance document at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

6. **The Health Risk Assessment (HRA) has many other flaws including inadequate information about the most impacted individuals.**
   a. It fails to provide all necessary background assumptions about traffic volumes and minimizes the air pollution in both the approach (above SR-60 to the I-10) to and the exit from the South Portal (impacting East L.A. and Alhambra residents). In addition, the HRA does not provide a map showing the most impacted individuals/workers/students (see Table 3-4). An informative map must be included. The HRA must be redone to address traffic approaching the South Portal, to better address the cancer risk which is currently claimed to be "zero" due to the ventilation towers (see page ES-3) which states "Due to the installation of the particulate matter control system at the tunnel ventilation system, vehicle emissions from the tunnel ventilation towers contribute minimally to the cancer risks at the MEIR and MEIW locations" (that is most impacted

resident and most impacted worker). Please provide page numbers for these calculations.

b. The Health Risk Assesment states that "the maximum student cancer risk is at Maranatha H.S. west of the SR-710 near the north portal." Did Caltrans alert this school to the increased noise and cancer risk that this project would bring to the school and its students and teachers?

c. Page 3-8 of the HRA states that "the area with cancer risk greater than 10 in one million is a narrow strip around the north and south portals and the adjacent interchange. There appears to be no analyses performed for increased cancer risks between the SR-60 and the portal of the tunnel even though there would be thousands more vehicles on the freeway when the tunnel opens. This increase in traffic on the I-710 due to the tunnel opening is completely ignored in the DEIR/EIS and its analyses for cancer risk – and for noise (see below). This is a major flaw in the HRA and the DEIR/EIS.

7. **Failure to include information on the health impacts of ultrafine particles (UFPs), the levels of exposure to passengers traveling in the tunnel, whether the UFPs would be "captured" by the particulate filters that are planned in the ventilation stacks, and how far from the portals and approach roads the ultrafine particles would travel.**

   a. Ultrafine particles (UFP; aerodynamic diameter < 0.1 micrometers) are a ubiquitous exposure in the urban environment and are elevated near highways (Fuller et al, 2012; Zhu et al, 2002a; Zhu et al 2002b; Zhu et al 2006). These particles are considered especially toxic because they can enter the lung, and stay there or get into the systemic circulation.

   b. A study done by UCLA and USC researchers documented very high concentration of ultrafine particles in close proximity to the I-710 Freeway in SE Los Angeles. It found that the pollutants start to level off at about 150 meters from the freeway and are "back to background" in about 300 meters [985 feet] from the freeway during daytime dilution conditions. See diagram below from the study *(Zhu et al, 2002)*. In fact, the impacts for ultrafine particles are 10 to 15 times further from the source than are the daytime impacts.

Figure 1. Ultrafine particle size distributions near the I-710 Freeway

Fig. 4. Ultrafine particle size distribution at different sampling locations near the 710 freeway.

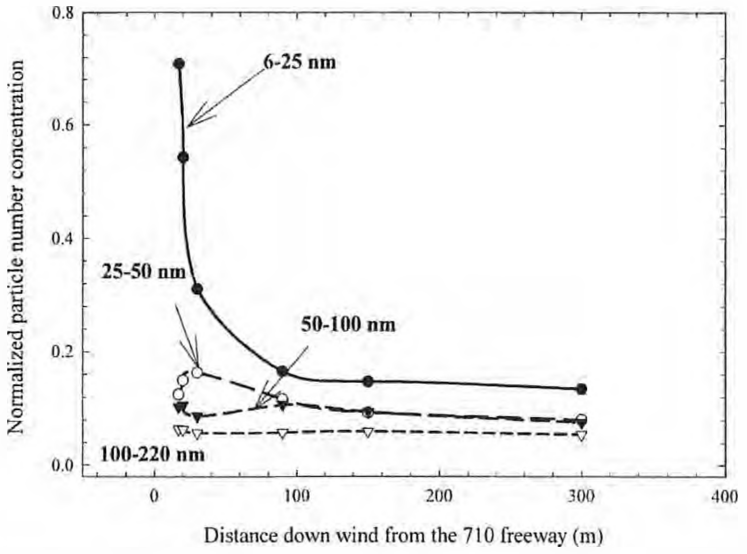


Fig. 5. Normalized particle number concentration for different size ranges as a function of distance from the 710 freeway.

c. These researchers from UCLA and USC also found that at night time when winds shifted, the pollutant levels of ultrafine particles did not reach background until 300 meters from the freeway (Zhu et al, 2006).
d. Other researchers from UCLA and USC also found that at night time when winds decrease, the concentrations of ultrafine particles did not reach background until 2500 feet from the freeway (Hu et al., 2009).
e. In fact, the impacts for ultrafine particles are 10 to 15 times further from the source than are the daytime impacts.
f. The DEIR/EIS contains no estimates on what levels of UFPs one would expect to find when driving through the enclosed environment of the tunnel, nor what ambient concentrations might be expected downwind from the ventilation stacks or portals.
g. Another study, by UC Davis researchers looked at a number of studies with regard to concentrations from the roadways (Karner et al, 2010). They conclude: *'In general, concentrations decay to background within a few hundred meters downwind of a road, although studies measuring pollutants solely in the evening hours indicate that higher concentrations persist beyond 500 m (1640 feet)"* (citing Zhu et al, 2006). Other researchers from UCLA and USC also found that at night time when winds decrease, the concentrations of ultrafine particles did not reach background until 2500 feet from the freeway (Hu et al., 2009). See graph below from Hu et al, 2009.

Figure 2. Ultrafine particles, distance from freeway

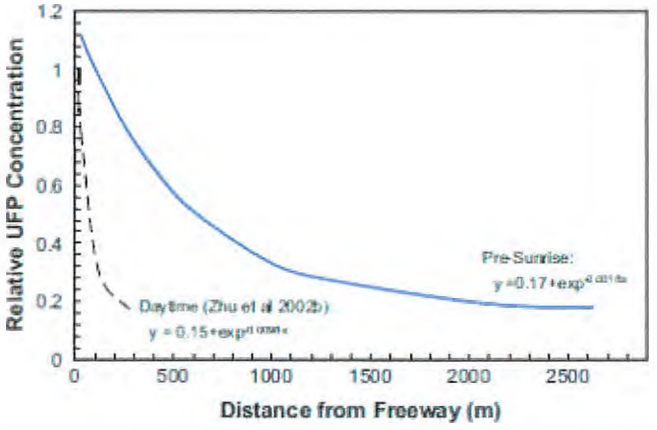


Fig. 6. Exponential fits to the downwind relative UFP concentrations with distance from the I-10 freeway during pre-sunrise hours, compared with fit to daytime data downwind of the I-405 freeway by Zhu et al. (2002b). Data were acquired continuously for pre-sunrise measurements, up to the edges of the freeway.

Also see table below from the UC Davis study which shows that many pollutants do not reach background level until 1000 meters or more (Karner et al, 2010).

Table 4. UC Davis Study summary

TABLE 1. Summary of Background Normalized Data

group	pollutant	approximate multiplier above background concentration at edge-of-road	approximate distance required to reach background concentration (m)[a]
rapid: >50% drop by 150 m	CO	21[b]	—[c]
	metal deposition	2.9	161
	UF1 particle no.	4.0	189
less rapid or gradual decay/change	benzene	2.1	280
	EC	1.7	420[d]
	NO	3.3	565[e]
	NO_2	2.9	380[f]
	NO_x	1.8	570[e]
	PM_{10}	1.3	176
	UF2 particle no.	4.8	910[e]
	VOC1	2.0	270

[a] The approximate distances were derived from an expanded version of Figure 2; the distance point at which the smoothed line reached a value of one on the *y*-axis is cited here as background. [b] Near-road CO concentrations extended outside of the range plotted in Figure 2. [c] CO concentrations did not reach background within the 285 m for which data were measured. [d] Background normalized concentrations attained an approximate minimum value of 1.1 at this distance from the road. [e] Reached background concentrations outside of the range plotted in Figure 2. [f] Background normalized concentrations attained an approximate minimum value of 1.08 at this distance from the road.

The authors concluded that *"background normalized results suggest that a range of approximately 160-400 meters [525-1312 feet] is sufficient to reach background concentrations for the majority of pollutants."*

Dozens of studies on ultrafine particles by investigators at the UCLA Particle Center directed by John Froines and by Costas Sioutas and his laboratory at USC are not included in any references or discussion in the DEIR/EIS. In fact, there are no

references to any studies on ultrafine particles, which is of great importance to the building of a tunnel alternative for the SR-710. (Examples: Delfino et al, 2005; Fanning et al, 2007; Kleinman et al, 2009; Fuller et al, 2012; Zhu et al, 2002; Zhu et al 2006)

8. **The Air Quality Assessment (the AQA) has multiple flaws and does not provide adequate information to either the public or policymakers who must select an alternative.**
    a. The AQA mentions "sensitive receptors" but fails to include a map of where all of the sensitive receptors are. Such a map must be included in a revised DEIR/DEIS. The public and policymakers cannot be expected to "imagine" where the most sensitive receptors are based on seven pages of coordinates rather than visually presenting them on a map in the DEIR/EIS.
    b. The Air Quality Assessment fails to describe operating filtration specifications of the ventilation system that will be installed in the tunnel and in the two ventilation stacks, making it nearly impossible to determine the accuracy of the claim that the stacks will remove 80% plus of the particles and gases.
    c. Air quality levels are shown in Table 3.13.1 at the South Wilson Pasadena station, but fail to show PM2.5 levels for 2013, without an explanation. Failing to include the most recent levels for a significant pollutant is not acceptable. Similar problem with Tables 4-1 and 4-2 of the air quality analysis which fail to show PM10 levels for multiple years at the Pasadena station.
    d. The assessment sometimes refers to tunnel mitigation measures as "scrubbers" and other times as "filtration devices." There is no discussion of best practices in ventilating tunnels throughout the world. Thus neither the public nor policymakers can evaluate the efficacy of the mitigation measures suggested in the context of experiences elsewhere.
    e. If a tunnel alternative is selected, there needs to be a better evaluation of what the contaminant levels and potential health risks inside the tunnel would be for those using the 4-mile tunnel. This needs to include truck estimates, based on validated truck studies (which have not been conducted according to the FAQs). A recent study (Orru et al, 2015.) estimated that there could be increased mortality due to tunnel exposures for those frequently using a proposed high volume urban tunnel in Stockholm.
    f. If a tunnel alternative is selected, there needs to be more information about the emissions and air dispersion from both portals of the tunnel and from the tunnel's ventilation stacks. The stacks are designed to primarily remove particles, not gases. Several experts have evaluated the tunnel ventilation and have submitted a separate set of comments on that topic.
    g. We request that Caltrans/Metro describe and detail the maintenance plans for how they will maintain the filtration devices as part of the tunnel air pollution control plan. This cannot be found in the DEIR/EIS.
    h. More information is needed to advise the public about details of an "exhaust duct along the entire length of the tunnel and jet fans within the tunnel." We can find no details about this technology.

9. **Failure to estimate what the pollution levels will be at the North and South Portals.**
    a. These portals are near schools and an acute care hospital and the air that rushes out from traffic will not be filtered at either portal. A voluminous medical literature has demonstrated the acute effects of particulate pollution on heart attacks, yet

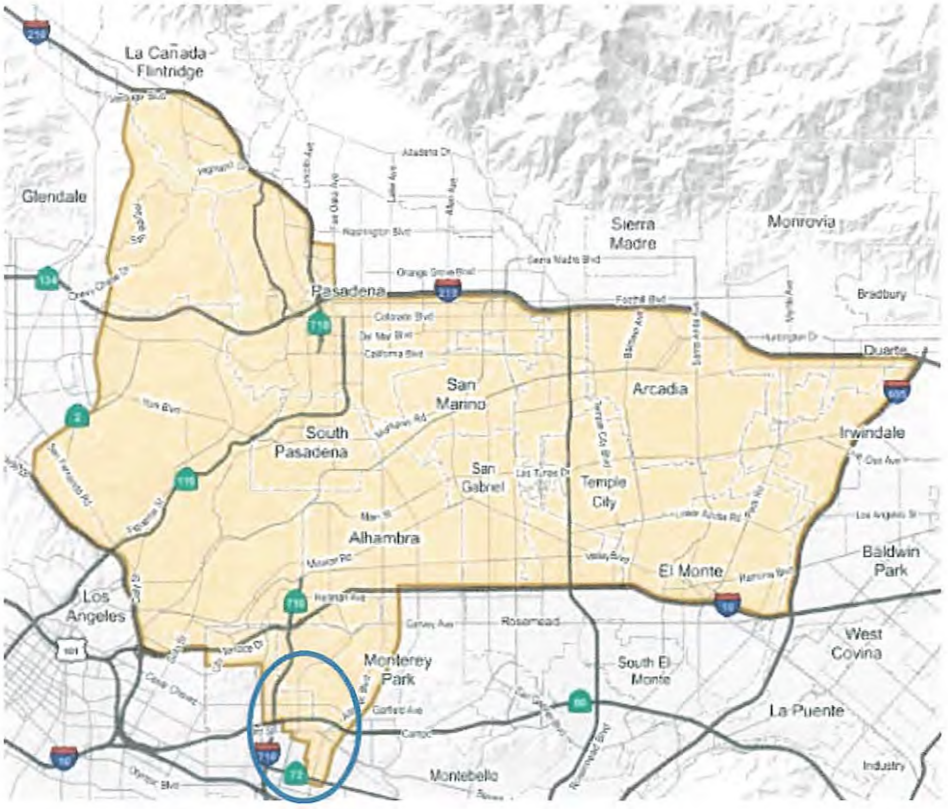
there is no consideration of the potential impact on patients with heart attacks at Huntington Hospital at high risk of lethal post-infarct arrhythmias.

i. We request that if we are incorrect and the DEIR/EIS includes information about these effects, that the pages on this be made public and sent to u as commenters.

10. **The DEIR/DEIS includes a faulty "study area" that fails to include impacted parts of unincorporated East Los Angeles, making this an environmental justice issue.**

a. The study area is described as "approximately 100 square miles and generally bounded by I-210 on the north, I-605 on the east, I-10 on the south, and I-5 and SR 2 on the west." (See front page of DEIR/DEIR). That means that the area between the SR-60 and the I-10 adjacent to the I-710 has not been studied with regard to the Freeway Tunnel Alternatives, thus failing to recognize the immense impact on East L.A. that vehicle traffic will create as drivers travel in or out of the South Portal. (See map below). The map below shows the study area – but the part of East L.A. that is shown is only studied with regard to the LRT alternative, not for the tunnel alternative

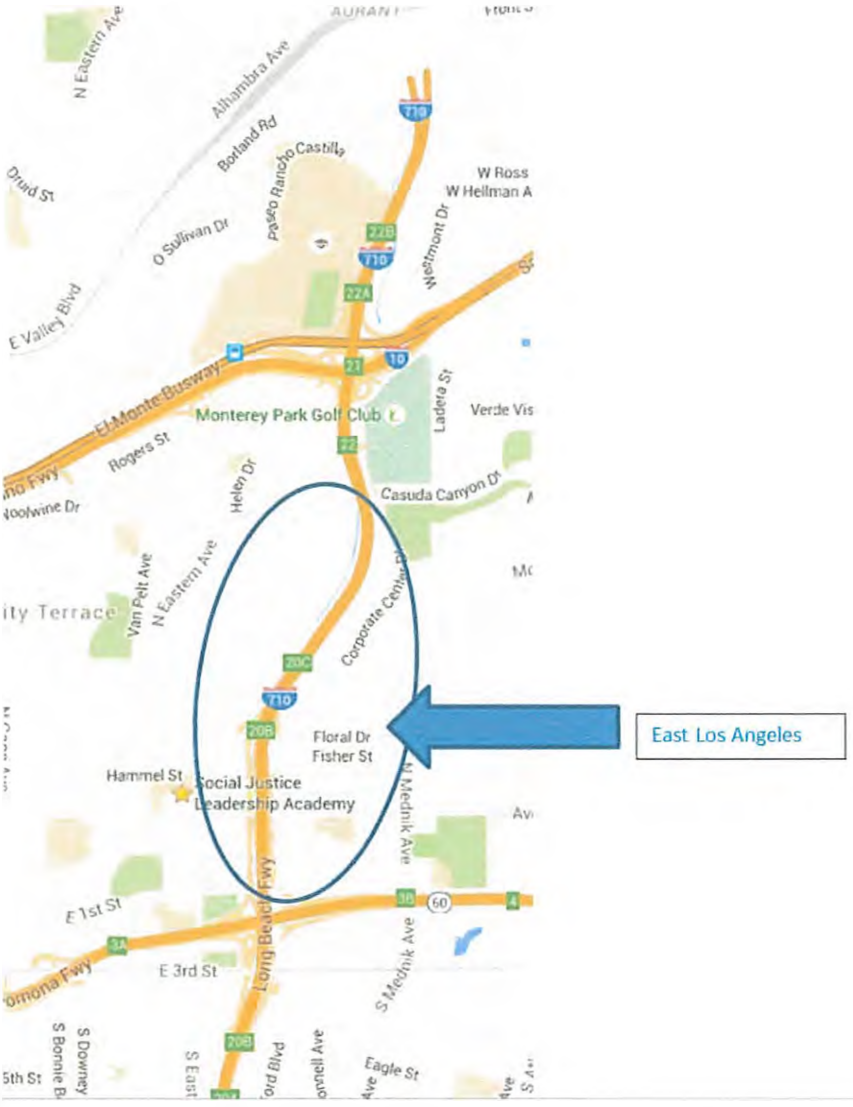
Map 4. DEIR/EIS Study Area. *Area circled was studied in the DEIR/EIS for the Light Rail Alternative but apparently not for the tunnel alternatives.*



b. In addition, the I-710 South DEIR/EIS evaluates impacts only from the south I-710 north to the SR-60, meaning that the East L.A. stretch of the I-710 is not evaluated in *either* DEIR/DEIS. East L.A. is 97% Hispanic, and there are multiple

sensitive receptors in this area. Failure to discuss the impacts of increased emissions and traffic in East LA make this is an environmental justice issue.

Map 5. The SR-710 DEIR/EIS "study area" exclusion zone. East L.A. was studied only for the Light Rail Alternative. It was not studied for volumes of additional truck or other vehicle traffic nor for noise mitigation nor for cancer risk.



c. Table 3-1 claims that there will be a "negative" cancer risk (that is reduced) as a result of building the tunnel alternative.
d. Also Table 3-4 calculates the "incremental cancer risks" for various alternatives. For some unexplained reason no addresses near the South Portal are included (See page 3-6 of HRA). We note that the text of the HRA states that "localized

cancer risk increases occur mostly near the tunnel portal areas and extend to the nearby interchanges and highways that vehicles would use as the main routes to or from the new freeway tunnel."... "In the south, cancer risks would increase near the south portal and extend south to the SR 710/I-10 interchange."

e. In fact, the cancer risks will not stop at the SR 710/1-10 interchange; they must be evaluated for the area within the area above, extending down to the SR-60. There will be thousands more trucks traversing the I-710 between the SR-60 and the SR-710 and these impacts of adjacent communities are not considered in SR-710 DEIR/EIS
    i. If the 25,000 pages of the DEIR/EIS include information about elevated cancer risk from more traffic and more trucks on the I-710 north of SR-60, please provide the page numbers where this information appears.
    ii. Again, this area of East L.A. is not considered in the DEIR/EIS and HRA – as though it does not exist and will not be impacted. This is a serious flaw and an environmental justice issue in the DEIR/EIS and HRA. (See page 3-8 of HRA).
f. Despite claims to the contrary in the DEIR/DEIS, if a tunnel alternative is selected, there will be significantly more traffic on the existing stretch of the I-710 Freeway heading north between the SR-60 and the I-10.
    i. The DEIR/DEIS must perform an evaluation of the air pollution impacts on homes and schools on this stretch of the I-710. Currently, homes and schools in East L.A. are evaluated only for the light rail alternative. There is no analysis of noise or air pollution impacts in this area, although it will be heavily affected by truck traffic from the Ports of Los Angeles and Long Beach traveling to or from the new tunnel. This is an environmental justice issue.

11. **The DEIR identifies high risk receptors near the north portal but not near the south portal.** In Table 3-4 of the HRA, a number of higher risk receptors are identified. Although there are higher risk receptors identified near the NORTH portal, there are none identified near the SOUTH portal. In addition, there is no map showing the areas with highest risk at the South Portal. Although page 3-8 of the HRA states that cancer risks would increase near the South Portal, there is no table showing the locations where that would occur. There need to be maps of the high risk receptors at both portals.

12. **The DEIR fails to look at zero emissions technology either for trucks going through the tunnel or for its Bus Rapid Transit (BRT) alternative.** Although Metro is the lead agency in the region of a collaborative on use of zero emissions technologies for transportation (see http://www.metro.net/projects/countywide-zero-emission-trucks-collaborative/), there is no discussion of requiring that trucks using the tunnel be zero emission technology nor of having truck age restrictions so that only newer trucks could use the tunnel. Although Metro has just bought five battery-electric buses for its fleet, there is no mention of using this zero emission technology for the BRT alternative, which is listed as an alternative to the tunnel.

13. **Concerns about increase noise levels from traffic entering and exiting the tunnel and increased traffic volumes along the approaches to the tunnel are minimized in the DEIR/EIS without scientifically sound analyses or even tables showing the noise measurements and analyses.**

a. The Project will generate two distinct types of noise impacts: construction equipment noise and traffic noise from the cars and trucks that will travel along the routes to the tunnel and into the tunnel. The World Health Organization recognizes noise, and in particular traffic noise, as a serious public health problem.
b. Given the proposed tunnel construction and increased traffic after it opens, it is likely that the Project will result in significant noise impacts. In addition to identifying residences, the revised document should seek to identify all sensitive receptor sites including each motel and hotel, library, religious institution, hospital, nursing home, active sports area, picnic area, recreation area, playground, active sport area and park that would be potentially affected by noise from the additional traffic that will be on the I-710 Freeway between SR-60 and the approach to the tunnel, if that alternative is selected.
c. Given the serious nature of the Project's potential noise impacts, in conjunction with the effect that increased noise levels have been shown to have on public health, it is incumbent upon Caltrans through its DEIR/EIS to engage in a meticulous assessment of these potential impacts. The document's analysis of this issue, however, is subject to the same type of cursory analysis and critical omissions found in the DEIR/S overall.
a. On page 3.3-34, the Community Impact section of the DEIR/DEIS states that both Cal State LA and Marantha High School would experience permanent noise increases of 3dB if the tunnel is built. The DEIR/EIR also states that "based on a visual inspection of the exteriors of these facilities and the warm climate in the portion of Los Angeles County in which these facilities are located, the University and the high school are likely to rely on air conditioning in lieu of opening windows for ventilation; therefore the permanent noise level increases ... with the freeway tunnel alternative ... would not adversely affect their ability to serve the community." The DEIR/EIS community impacts report goes on to state that outdoor events at these two campuses would not be likely to be noise-sensitive because they "typically would produce their own noise." Noise analyses and impact determinations should not be made by "looking" at a school or site. Measurements of existing and estimated future noise impacts should be carefully considered and included in the DEIR/EIS and -- if these have not been done, they should be done and then be included in a revised and recirculated DEIR/EIS. This is a particularly egregious flaw in the DEIR/EIS: evaluating noise impacts through a "visual inspection" is simply unacceptable.

14. Noise mitigation measures are not included for the stretch of the I-710 Freeway between the SR-60 and the I-10, with the exception of noise barriers at a Golf Course and at a Park along the I-710 in this location.

a. A redone and recirculated DEIR/EIS must include noise analyses and noise mitigation measures for the stretch of the I-710 Freeway north of the SR-60 and south of the I-10, which includes East Los Angeles among other communities. This is an environmental justice issue.

Maps 6 - 8. The noise mitigation area south of the I-10 along Corporate Center Drive, north of the SR-60, from the DEIR/EIS. *The shape includes a golf course in Monterey Park and an adjacent park both alongside Corporate Center Drive. No noise mitigation measures are described for any locations south of this location along the I-710 Freeway between the I-10 and the SR-60, despite the huge volumes of additional traffic there will be, from trucks alone, on this stretch of the Freeway as documented above:*

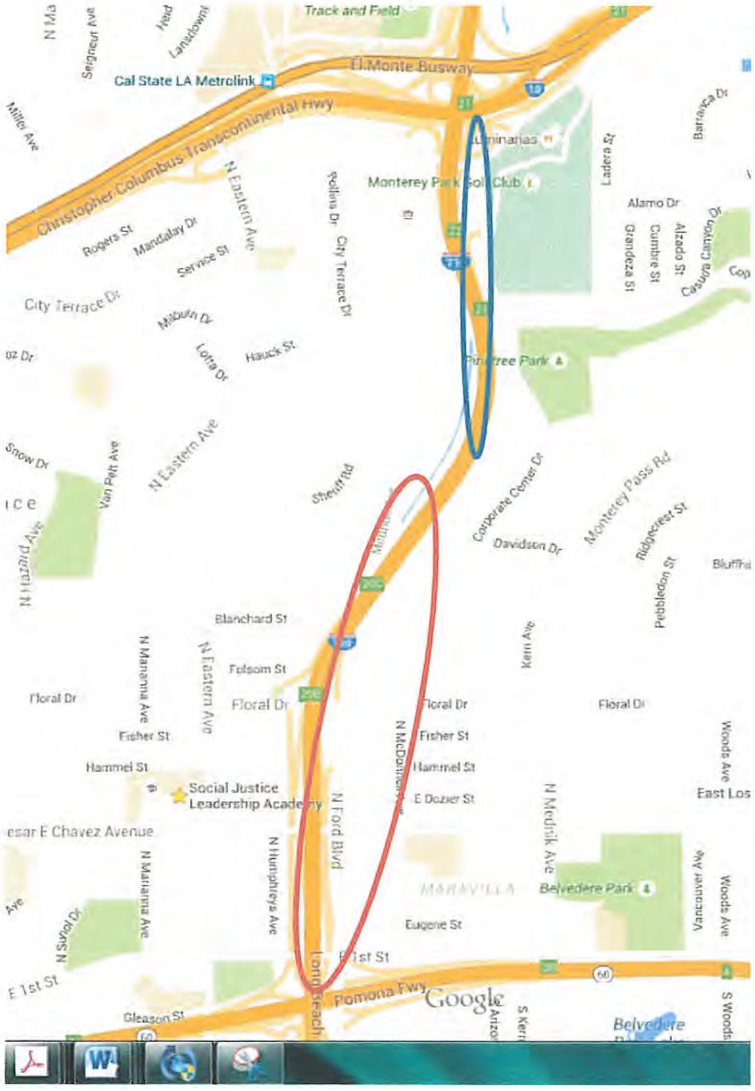
Map 6:



Map 7



Map 8



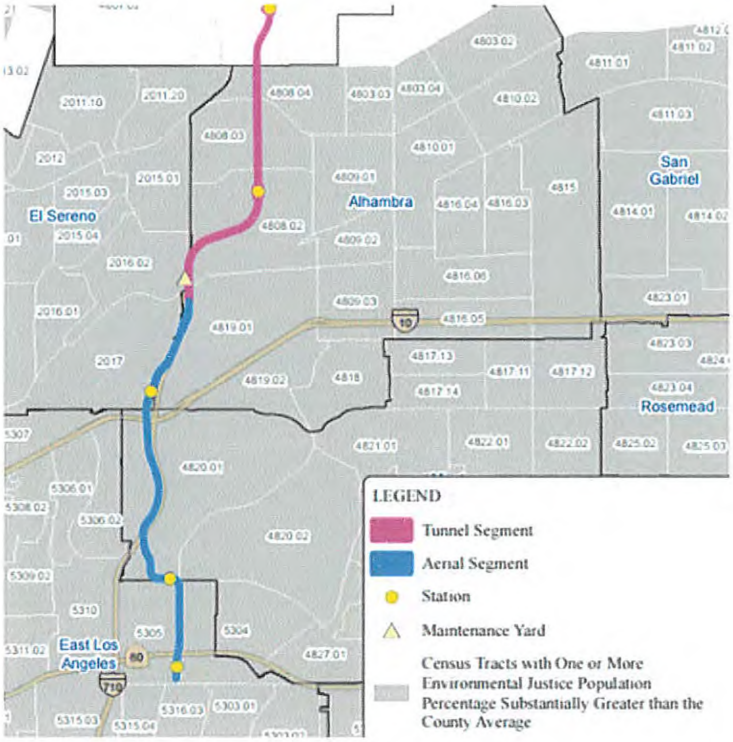
Blue oval = area of noise barrier mitigation near golf course and park

Red oval = area including East Los Angeles where no noise barriers are proposed despite the dramatic increase of truck traffic there will be in this stretch of the I-710.

15. **There are significant environmental justice issues from the various proposed alternatives, but these have been minimized by Caltrans even though various parts of East L.A. and El Sereno are documented in the DEIR/DEIS to have minority communities that would be disproportionately impacted.** Page 3.3-66/67 states that the Build Alternatives "would not cause disproportionately high and adverse effects on any minority or low-income populations under Executive Order 12898 regarding environmental justice." The graphic below shows the extent of the environmental justice population census tracts just in the area north of the SR-60 and South of the I-10 along the I-710 Freeway. An adequate I environmental justice analysis must be conducted and presented for review to the public.

Map 9.

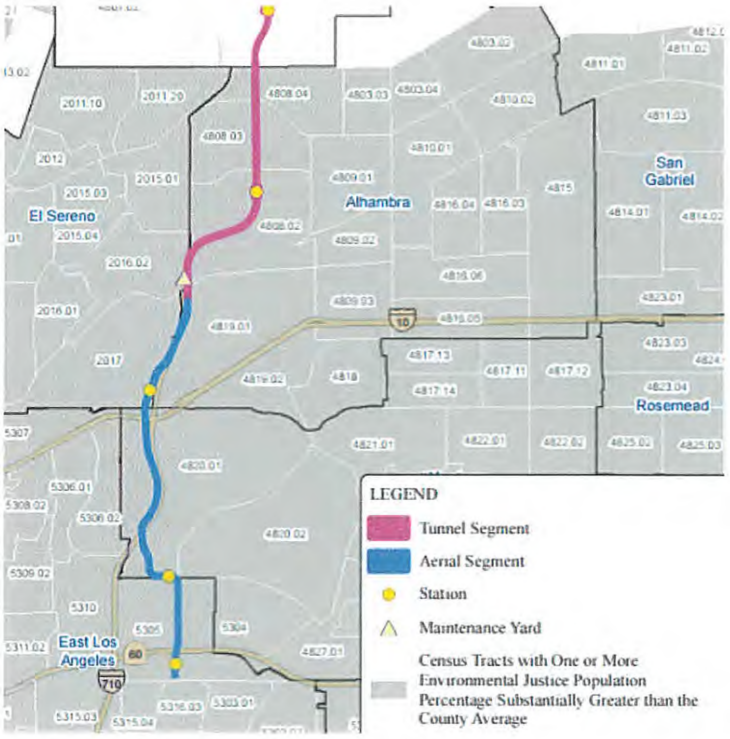
Graphic from DEIR/EIS showing the census tracts with "environmental justice population percentage substantially greater than the county average.



10

16. **There was a clear lack of public participation and community outreach by Caltrans and Metro to East L.A. in the process of developing the Light Rail (LRT) Alternative.**
    a. This alternative appears to have been a surprise to many in East L.A., indicating a lack of community engagement by Caltrans on this alternative. There are significant environmental justice issues with the LRT alternative, such as (1) the LRT would be elevated in East L.A. but be in an underground tunnel in wealthier parts of the County, and (2) it would put an elevated rail line down a very popular street in East L.A. See map below.

Map 10. The Light Rail alternative would be "aerial" (elevated) (shown in blue below) in East L.A. and would be underground (pink) in other communities, including Pasadena.



b. Significant effects are identified in the DEIR/EIS about this alternative, which would displace numerous businesses and "adversely affect the community character and cohesion of this part of East L.A.," which we note is 97% Latino.
c. In addition, the LRT alternative would cause permanent noise level increases at the Roybal Comprehensive Center, Catholic Mission of Soledad Church, Soledad Enrichment Action, East L.A. Education Center and Casa Maravilla (East L.A.), as well as Cal State L.A. (See page 3.3-33 of the Community Impacts report).
d. Many aspects of including this alternative, the lack of community awareness about it, and selection of a location that would adversely affect community cohesion and community character, indicate insensitivities by Caltrans and Metro to the East L.A. Latino community – an environmental justice issue. If this alternative is selected, a new stand-alone DEIR/DEIS on this alternative should be developed that includes extensive consultation with the East L.A. community.

For the reasons documented above, we request that the DEIR/DEIS be redone and recirculated for public review. Thank you for your consideration of our comments.

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[40] J. Wu, M. Wilhelm, J. Chung, and B. Ritz, "Comparing exposure assessment methods for traffic-related air pollution in an adverse pregnancy outcome study.," *Environ. Res.*, vol. 111, no. 5, pp. 685–92, Jul. 2011.

[41] Y. Zhu, W. C. Hinds, S. Kim, and C. Sioutas, "Concentration and size distribution of ultrafine particles near a major highway," *J. Air Waste Manag. Assoc.*, vol. 52, no. 9, pp. 1032–1042, 2002.

[42] Y. Zhu, W. C. Hinds, S. Kim, S. Shen, and C. Sioutas, "Study of ultrafine particles near a major highway with heavy-duty diesel traffic," *Atmos. Environ.*, vol. 36, no. 27, pp. 4323–4335, Sep. 2002.

[43] Y. Zhu, T. Kuhn, P. Mayo, and W. C. Hinds, "Comparison of Daytime and Nighttime Concentration Profiles and Size Distributions of Ultrafine Particles near a Major Highway," *Environ. Sci. Technol.*, vol. 40, no. 8, pp. 2531–2536, Apr. 2006.

‘LOS ANGELES’ RELOCATION GRAPHIC

Source: Pages 184 to 188 Relocation Impact Report, 2017 I-710 Recirculated Draft EIR/EIS

For every city facing the loss of property from the I-710 project along the corridor a report of the sales listings within the city was made except for East Los Angeles, instead they listed the following locations. Caltrans is by law required to make a report to show if there is enough available housing to relocate residents to. Why are East Los Angeles residents being treated differently than everyone else along the corridor?



90016 – 1 Listing | 90011 – 5 listings | 90003 - 5 | 90061 – 9 | 90001 - 14 Listings | **90002 - 48 Listings** | **90059 – 54 Listings** | 90048 - 1 Listings | 90026 – 2 Listings



90012 – 1 | 90065 – 7 Listings | 90042- 1 Listing | 90032 – 13 Listings | 90031 – 15 Listings | 90033 – 8 Listings | 90023 – 7 Listings (1 listing in East LA) | 90063 – 7 Listings | 90022 – 6 Listings

Only 14 of the 205 locations are actually in **East Los Angeles**. Approximately half of the listings are located in two adjacent zip codes – **90002 and 90059**.

IP-37-183

EMAILS FROM EAST LOS ANGELES BUSINESS OWNERS

Clara Solis

From: Victor Carabello <vgcmd@aol.com>
Sent: Thursday, September 7, 2017 5:46 PM
To: Tony DeMarco
Cc: Info Eastlachamber; Brown, Julia; eddie.torres; Phillip A. Washington; frine.medrano; Luz.castro@mail.house.gov; monica.loera-martinez; Kimberlee Tachiki; cindy.muro@mail.house.gov; Talia Leon; ana.figueroa; Joseph Martinez; Bertha Velazquez; claramsolis@earthlink.net; Martha Hernandez; Martha Hernandez; Cindy Chen; steelerserniegarcia1@yahoo.com; fx8384@lausd.net; danvet77@gmail.com; justbreathe.ds@gmail.com; Blanca Espinoza; Blanca Espinoza; Cantu, Mario; wrehman@bos.lacounty.gov; Ron Mukai; gvcamacho@yahoo.com; Diana Tarango; andy; Frank Mendez; Que Delicious; arnoldmooradian@sbcglobal.net; St. Alphonsus Catholic Church; Mayra Salazar; marthaofeliajz@yahoo.com; gloria sanchez-baca; Maria Valdez-Franco; Deborah Villar; Deborah Villar; Dante Carrasco; Dante Carrasco; Dante Carrasco; patsyma@bpinternational.net; mcmillant@metro.net; Lilian De Loza-Gutierrez
Subject: Re: 710 EIR/EIS Extension 120 Days . . . ELA Public Hearing

Ms. Brown,

I concur with Mr. Torres. The 710 EIR has several options that will heavily impact the 250 merchants along the Whittier Blvd Shopping District. Not to mention the loss of parking along Atlantic, where shoppers will be forced to use Whittier Blvd for parking. I own 1427 S. Atlantic Blvd. I'll be moving soon to that location and my patients need parking. Due to physical challenges they cannot park far from the clinic. We are greatly impacted by these proposals and my organization also requests an extension and more public hearings.

IP-37-184

Please consider our request.

Sincerely and respectfully,

Dr. Victor Carabello
Owner of Medical Clinic at 1427 S. Atlantic Blvd LA 90022

Sent from my iPhone

On Sep 7, 2017, at 5:26 PM, Tony DeMarco <westernloan@aol.com> wrote:

> Ms. Brown,
>
> I concur with Mr. Torres. The 710 EIR has several options that will heavily impact the 250 merchants alone the Whittier Blvd Shopping District. Not to mention the loss of parking along Atlantic, where shoppers will be forced to use Whittier Blvd for parking. We are greatly impacted by these proposals and my organization also requests an extension and more public hearings.
>
> IP-37-185
>
> Please consider our request.
>
> Respectfully
>
> Tony DeMarco

President
Whittier Blvd Merchants Association

4818 Whittier Blvd.
Los Angeles CA 90022
323-268-4120 Fx.323-268-1626
www.westernloan.com

IP-37-185

On Sep 7, 2017, at 4:29 PM, Info Eastlachamber <info@eastlachamber.com> wrote:

Dear Ms. Brown,

On behalf of the East Los Angeles Chamber of Commerce we would like to make a formal request for the 710 EIR/EIS public comment period to be extended to 120 days. IP-37-186

Secondly, for the East Los Angeles Unincorporated to be given a public hearing at Humphreys Elementary which is located in the heart of the impacted area. Currently we believe the deadline is October 23, 2017. IP-37-187

Please take note all of the alternatives in the 710 EIR/EIS have a negative impact on East Los Angeles both business' and residence will be displaced. IP-37-188

Also the 710 EIR/EIS mentiones bus lanes on Atlantic Boulevard in the am and pm that would take away public parking from the business's, Schools, and Medical Clinics on Atlantic Boulevard.The 710 EIR/EIS also states there is ample parking on side streets of Atlantic Boulevard that could be used during these time periods. From our membership alone we know that some teachers from Fourth Street Elementary and Garfield High School, Kipp Charter School use Atlantic Boulevard for parking because there is very little or no parking available on the side streets located next to the school. IP-37-189

For instance, Kipp Charter School rents a basketball court from St. Alphonsus for parents to park in the AM and PM while they pick up their children. 2 medical facilities that we know of are trying to rent parking for their staff to free up parking for their patients also East L.A. Womens Clinic, Atlantic Tax Services, Chalio Restaurant, Broatman Auto Body, 99 Cent Plus Store, Tacos Mexico, Servano's Auto Repair, just to mention a few that depend on public parking available from the time that they open to closing time.The 710 ELA-LAC which East L.A. Chamber of Commerce (ELACOC) has been a part of since about 2002 was present at a 2015 presentation given by Cal-Trans and Metro. During the presentation the committee was asked for its support just to do an analysis on the effects to East L.A. by expanding the lanes from the 710 North that linked the 60 freeway East. ***I Eddie Torres, Chairperson of the ELACOC was told the analysis was only a survey for findings and that the understanding was Metro/Cal-Trans would come back to the 710 ELA-LAC at a later date and present the impacts through East Los Angeles. However, this was not the case. Our ELA-LAC committee was never invited and given a presentation of the findings or informed. We as a committee representing East L.A. were misled and left out of the loop until the recent 710 EIR/EIS document surfaced. Unlike other communities along the 710 alignment were invited by Cal-Trans and Metro to have meetings pertaining to the 710 project representing their committiees and their communities.*** The ELACOC/LAC do not have the resources to read and fully understand these documents. We feel it is only fair to provide us with an extension of time and an East L.A. Public Hearing. IP-37-190

Respectfully,

Eddie Torres, Chairperson

East Los Angeles Chamber of Commerce

Board of Directors

East Los Angeles Chamber of Commerce

4716 Cesar E Chavez Avenue

Los Angeles, CA 90022

(323) 263-2005 Office

www.eastlachamber.com

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Clara Solis

From: Frank Mendez <frankmendez98@yahoo.com>
Sent: Thursday, September 7, 2017 7:31 PM
To: Andres Rodriguez
Cc: Victor Carabello; Tony DeMarco; Info Eastlachamber; Brown, Julia; eddie.torres; Phillip A. Washington; frine.medrano; Luz.castro@mail.house.gov; monica.loera-martinez; Kimberlee Tachiki; cindy.muro@mail.house.gov; Talia Leon; ana.figueroa; Joseph Martinez; Bertha Velazquez; claramsolis@earthlink.net; Martha Hernandez; Martha Hernandez; Cindy Chen; steelerserniegarcia1@yahoo.com; fx8384@lausd.net; danvet77 @gmail.com; justbreathe.ds@gmail.com; Blanca Espinoza; Blanca Espinoza; Cantu, Mario; wrehman@bos.lacounty.gov; Ron Mukai; gvcamacho@yahoo.com; Diana Tarango; Que Delicious; arnoldmooradian@sbcglobal.net; St. Alphonsus Catholic Church; Mayra Salazar; marthaofeliajz@yahoo.com; gloria sanchez-baca; Maria Valdez-Franco; Deborah Villar; Deborah Villar; Dante Carrasco; Dante Carrasco; Dante Carrasco; patsyma@bpinternational.net; mcmillant@metro.net; Lilian De Loza-Gutierrez
Subject: Re: 710 EIR/EIS Extension 120 Days . . . ELA Public Hearing

I agree with the ELA Chamber of Commerce request, for 120 day extension. Also a public hearing in ELA also I am the Manager of Chalio Restaurant at 760 S Atlantic Blvd. we employed over 20 ELA residents. We have a small parking lot at the rear of the restaurant. We often have to have vehicles towed away, that are not our customers due to the lack of parking in Atlantic Blvd. By taking away Parking in Atlantic Blvd for any period of time would have a negative impact in all businesses. IP-37-191 IP-37-192

Respectfully,
Frank Mendez Chalio Manger

On Sep 7, 2017, at 6:03 PM, Andres Rodriguez <andy@ataxcompany.com> wrote:

> I Agree with Mr torres. As the owner of Irservices on 746 s Atlantic blvd. The parking on Atlantic is already difficult this would make it a nightmare. We would like to have our own public hearing to represent our interests in East LA. And also we need a 120 day comment period time extension. IP-37-193 IP-37-194
>
> If you have any questions plz contact me and ill give you an earful.

Andres Rodriguez
CEO
IRSERVICES
746 S Atlantic Blvd
Los Angeles, CA 90022
Office (323) 263-3399 ext.107
Fax (323) 210-7020

On Thu, Sep 7, 2017 at 5:46 PM, Victor Carabello <vgcmd@aol.com> wrote:
Ms. Brown,

I concur with Mr. Torres. The 710 EIR has several options that will heavily impact the 250 merchants along the Whittier Blvd Shopping District. Not to mention the loss of parking along Atlantic, where shoppers will be forced to use Whittier Blvd for parking. I own 1427 S. Atlantic Blvd. I'll be moving soon to that location and my patients need parking. Due to physical challenges they cannot park far from the IP-37-195

clinic. We are greatly impacted by these proposals and my organization also requests an extension and more public hearings.

Please consider our request.

IP-37-195

Sincerely and respectfully,

Dr. Victor Carabello
Owner of Medical Clinic at 1427 S. Atlantic Blvd LA 90022

Sent from my iPhone

On Sep 7, 2017, at 5:26 PM, Tony DeMarco <westernloan@aol.com> wrote:

> Ms. Brown,
>
> I concur with Mr. Torres. The 710 EIR has several options that will heavily impact the 250 merchants alone the Whittier Blvd Shopping District. Not to mention the loss of parking along Atlantic, where shoppers will be forced to use Whittier Blvd for parking. We are greatly impacted by these proposals and my organization also requests an extension and more public hearings.
>
> Please consider our request.
>
> IP-37-196
>
> Respectfully
>
> Tony DeMarco
> President
> Whittier Blvd Merchants Association
>
> 4818 Whittier Blvd.
> Los Angeles CA 90022
> 323-268-4120 Fx.323-268-1626
> www.westernloan.com

On Sep 7, 2017, at 4:29 PM, Info Eastlachamber <info@eastlachamber.com> wrote:

> Dear Ms. Brown,
>
> On behalf of the East Los Angeles Chamber of Commerce we would like to make a formal request for the 710 EIR/EIS public comment period to be extended to 120 days. Secondly, for the East Los Angeles Unincorporated to be given a public hearing at Humphreys Elementary which is located in the heart of the impacted area. Currently we believe the deadline is October 23, 2017. Please take note all of the alternatives in the 710 EIR/EIS have a negative impact on East Los Angeles both business' and residence will be displaced. Also the 710 EIR/EIS mentiones bus lanes on Atlantic Boulevard in the am and
>
> IP-37-197

pm that would take away public parking from the business's, Schools, and Medical Clinics on Atlantic Boulevard.The 710 EIR/EIS also states there is ample parking on side streets of Atlantic Boulevard that could be used during these time periods. From our membership alone we know that some teachers from Fourth Street Elementary and Garfield High School, Kipp Charter School use Atlantic Boulevard for parking because there is very little or no parking available on the side streets located next to the school. For instance, Kipp Charter School rents a basketball court from St. Alphonsus for parents to park in the AM and PM while they pick up their children. 2 medical facilities that we know of are trying to rent parking for their staff to free up parking for their patients also East L.A. Womens Clinic, Atlantic Tax Services, Chalio Restaurant, Broatman Auto Body, 99 Cent Plus Store, Tacos Mexico, Servano's Auto Repair, just to mention a few that depend on public parking available from the time that they open to closing time.The 710 ELA-LAC which East L.A. Chamber of Commerce (ELACOC) has been a part of since about 2002 was present at a 2015 presentation given by Cal-Trans and Metro. During the presentation the committee was asked for its support just to do an analysis on the effects to East L.A. by expanding the lanes from the 710 North that linked the 60 freeway East. ***I Eddie Torres, Chairperson of the ELACOC was told the analysis was only a survey for findings and that the understanding was Metro/Cal-Trans would come back to the 710 ELA-LAC at a later date and present the impacts through East Los Angeles. However, this was not the case. Our ELA-LAC committee was never invited and given a presentation of the findings or informed. We as a committee representing East L.A. were misled and left out of the loop until the recent 710 EIR/EIS document surfaced. Unlike other communities along the 710 alignment were invited by Cal-Trans and Metro to have meetings pertaining to the 710 project representing their committiees and their communities.*** The ELACOC/LAC do not have the resources to read and fully understand these documents. We feel it is only fair to provide us with an extension of time and an East L.A. Public Hearing.

IP-37-197

Respectfully,

Eddie Torres, Chairperson

East Los Angeles Chamber of Commerce

Board of Directors

East Los Angeles Chamber of Commerce

4716 Cesar E Chavez Avenue

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Clara Solis

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Sent: Thursday, September 7, 2017 6:03 PM
To: Victor Carabello
Cc: Tony DeMarco; Info Eastlachamber; Brown, Julia; eddie.torres; Phillip A. Washington; frine.medrano; Luz.castro@mail.house.gov; monica.loera-martinez; Kimberlee Tachiki; cindy.muro@mail.house.gov; Talia Leon; ana.figueroa; Joseph Martinez; Bertha Velazquez; claramsolis@earthlink.net; Martha Hernandez; Martha Hernandez; Cindy Chen; steelerserniegarcia1@yahoo.com; fx8384@lausd.net; danvet77@gmail.com; justbreathe.ds@gmail.com; Blanca Espinoza; Blanca Espinoza; Cantu, Mario; wrehman@bos.lacounty.gov; Ron Mukai; gvcamacho@yahoo.com; Diana Tarango; Frank Mendez; Que Delicious; arnoldmooradian@sbcglobal.net; St. Alphonsus Catholic Church; Mayra Salazar; marthaofeliajz@yahoo.com; gloria sanchez-baca; Maria Valdez-Franco; Deborah Villar; Deborah Villar; Dante Carrasco; Dante Carrasco; Dante Carrasco; patsyma@bpinternational.net; mcmillant@metro.net; Lilian De Loza-Gutierrez
Subject: Re: 710 EIR/EIS Extension 120 Days . . . ELA Public Hearing

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If you have any questions plz contact me and ill give you an earful.

IP-37-198

Andres Rodriguez
CEO
IRSERVICES
746 S Atlantic Blvd
Los Angeles, CA 90022
Office (323) 263-3399 ext.107
Fax (323) 210-7020

On Thu, Sep 7, 2017 at 5:46 PM, Victor Carabello <vgcmd@aol.com> wrote:

Ms. Brown,

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IP-37-199

Please consider our request.

Sincerely and respectfully,

Dr. Victor Carabello
Owner of Medical Clinic at 1427 S. Atlantic Blvd LA 90022

Sent from my iPhone

On Sep 7, 2017, at 5:26 PM, Tony DeMarco <westernloan@aol.com> wrote:

Ms. Brown,

I concur with Mr. Torres. The 710 EIR has several options that will heavily impact the 250 merchants alone the Whittier Blvd Shopping District. Not to mention the loss of parking along Atlantic, where shoppers will be forced to use Whittier Blvd for parking. We are greatly impacted by these proposals and my organization also requests an extension and more public hearings.

Please consider our request.

IP-37-200

Respectfully

Tony DeMarco
President
Whittier Blvd Merchants Association

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IP-37-201

presentation given by Cal-Trans and Metro. During the presentation the committee was asked for its support just to do an analysis on the effects to East L.A. by expanding the lanes from the 710 North that linked the 60 freeway East. ***I Eddie Torres, Chairperson of the ELACOC was told the analysis was only a survey for findings and that the understanding was Metro/Cal-Trans would come back to the 710 ELA-LAC at a later date and present the impacts through East Los Angeles. However, this was not the case. Our ELA-LAC committee was never invited and given a presentation of the findings or informed. We as a committee representing East L.A. were misled and left out of the loop until the recent 710 EIR/EIS document surfaced. Unlike other communities along the 710 alignment were invited by Cal-Trans and Metro to have meetings pertaining to the 710 project representing their committiees and their communities.*** The ELACOC/LAC do not have the resources to read and fully understand these documents. We feel it is only fair to provide us with an extension of time and an East L.A. Public Hearing.

IP-37-201

Respectfully,

Eddie Torres, Chairperson

East Los Angeles Chamber of Commerce

Board of Directors

East Los Angeles Chamber of Commerce

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IP-37-1

Caltrans and Metro both respectfully disagree that the document is in violation of CEQA and/or NEPA. The analyses performed in support of the RDEIR/SDEIS followed Caltrans guidelines as established on the Caltrans Standard Environmental Reference. Environmental justice for all corridor cities and unincorporated areas, including East Los Angeles, is addressed within this document in Section 3.3.3, Environmental Justice, of the RDEIR/SDEIS.

IP-37-2

The commenter's opposition to Options 3A and 3B are acknowledged and included in the project record. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, Design Option 3A is no longer under consideration, due in large part to community input. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-37-3

Caltrans and Metro both respectfully disagree that any portion of the project development process or outreach effort was intended to preclude any persons from fully participating in the environmental process. It is true that both the release of the Draft EIR/EIS in 2012 and the RDEIR/SDEIS in 2017 took place in the summer; it is simply coincidental that this occurred for both iterations of the draft. Moreover, the release of the RDEIR/SDEIS occurred as soon as it was approved and signed by Caltrans. Please refer to Section 1.2 of this appendix regarding the length of the public comment period.

IP-37-4

In order to facilitate access to the documents to the greatest extent feasible, the Executive Summary was translated into Khmer, Korean, Spanish, Tagalog, and Vietnamese. Translation of the entire RDEIR/SDEIS was deemed infeasible. Please note that English is considered the language of record for the project.

IP-37-5

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

IP-37-6

Because the community of East Los Angeles is an unincorporated area of Los Angeles County, the information contained in the County's parcel assessor lookup database (maps. assessor.lacounty.gov) lists addresses within unincorporated areas of the County as "Los Angeles." In order to clarify, the entries within Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, have been clarified to more accurately describe their location for the reader. In addition, the number of displaced units and persons under either of the build alternatives has been clarified and corrected in the document where applicable.

IP-37-7

When the RDEIR/SDEIS was made available on the Caltrans website online, the comment link was initially located at the bottom of the page, following the various download links to the translated Executive Summary and technical studies. After feedback was received, a link to the comment submittal form was also placed at the top of the web page. Regarding the PDF of the document itself, the Project Team only received one complaint during the comment period that a user was initially unable to access the file. The PDF file itself was tested on several different computers and confirmed to be accessible shortly after it was made available to the public.

IP-37-8

The commenter is correct in that the online portal was not able to allow for attachments to be submitted. This is due to the inability to screen attachments for potential viruses, as well as the increased chance of errors occurring. Caltrans and Metro both respectfully disagree that residents of East Los Angeles, or any city or community in the project area, were unable to fully participate in the RDEIR/SDEIS public circulation process.

IP-37-9

The delineation of the general Study Area as illustrated on Figure 1.1-2 in the RDEIR/SDEIS best reflects an area wherein actual impacts of the proposed project may reasonably occur. As stated in Section 1.1 of the RDEIR/SDEIS, "The Study Area includes…all *or portions of* the Ports, the Cities… [italics added]". The community of East Los Angeles was not treated differently than any other corridor area city or community in this regard. It is also important to note that specific study areas have been established for individual environmental analyses (including, but not limited to, the health risk assessment zone of influence and the community impact assessment focus area). Caltrans and Metro both respectfully disagree that the delineation of the general Study Area precluded an accurate analysis of impacts or introduced any civil rights issues.

IP-37-10

Please refer to Response to Comment IP-37-9 regarding the delineation of the general Study Area. Caltrans and Metro acknowledge that the community of East Los Angeles is within both the I-710 Corridor Project and SR-710 North Project study areas and have included cumulative impacts analyses within both environmental documents.

IP-37-11

This comment states that the cumulative impacts on East Los Angeles from the SR-710 project should be assessed. Section 3.25 currently includes an assessment of cumulative impacts from each of the SR-710 North Project Build Alternatives (Project T-2 in Table 3.25-1), including those resulting from implementation of the TSM/TDM Alternative.

IP-37-12

Please refer to Response to Comment IP-37-9 regarding the delineation of the general Study Area. Environmental justice for East Los Angeles is addressed within Section 3.3.3, Environmental Justice, of the RDEIR/SDEIS. Air quality impacts to environmental justice communities were discussed in detail, including contour maps, in Section 3.3.3.5 of the RDEIR/SDEIS.

IP-37-13

Environmental justice for all corridor cities and communities, including East Los Angeles, is addressed within Section 3.3.3, Environmental Justice, of the RDEIR/SDEIS. In addition, the supporting Community Impact Assessment technical study took into account the entire unincorporated community of East Los Angeles. Each of the cities and communities within the I-710 Corridor Study Area were treated uniformly in the methodologies for each environmental analysis that was performed in support of the RDEIR/SDEIS. Caltrans has evaluated the environmental justice impacts of the project in accordance with standard procedures.

IP-37-14

Neither FHWA nor Caltrans currently has an approved methodology addressing the health impacts of freeways, and these types of assessments are an emerging practice in the transportation sector in the United States. Currently, State Departments of Transportation generally have not yet begun to implement HIAs or related tools for transportation planning, with some exceptions. For example, San Francisco's Department of Public Health has employed the use of HIAs in evaluating the health impacts of transportation projects. The State of Massachusetts passed a law requiring HIAs on new transportation projects, and at least one is known to be complete (the McGrath Highway Corridor HIA). In addition, Caltrans Division of Research and Innovation is actively investigating the use of HIAs for transportation planning and

potential applicability to Caltrans projects.[11] However, it should also be noted that there are limitations associated with the preparation and use of Health Impact Assessments. According to an article published in 2000 in the British Medical Journal, "Currently there is neither an accepted gold standard nor even a simple, reliable, and evaluated method for carrying out health impact assessment" and "Several issues are unresolved in the methodology of health impact assessment…causal pathways are so complex that it is not often possible to say if an outcome will definitely be good or bad for the health of a population…The current evidence base for many health determinants is inadequate for accurately informing a process of assessment."[12] Hence, the preparation of an Air Quality/Health Risk Assessment for the I-710 Corridor Project was an effort to respond to the requests of the I-710 Corridor communities to study health-related impacts, while also ensuring the empirical analyses performed in support of the EIR/EIS process are factual and based on sound scientific, analytical, and/or engineering judgment.

IP-37-15

Environmental justice for all corridor cities and communities, including East Los Angeles, is addressed within Section 3.3.3, Environmental Justice, of the RDEIR/SDEIS. Impacts to environmental justice populations are discussed in Section 3.3.3.5, Environmental Consequences. The build alternatives propose Measure C-7, where, should a build alternative be selected as the Preferred Alternative, East Los Angeles would be eligible for funding that would be provided to local jurisdictions for targeted improvements that would improve air quality and public health, reduce traffic congestion, provide aesthetic/visual enhancements, and improve parks and recreation. Please refer to Section 3.3.3.7 for more detailed information regarding this measure. However, as stated in Response to Comment IP-37-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure C-7 will not be implemented.

IP-37-16

It is unclear how the commenter feels that the analysis included in Section 3.3.3 of the RDEIR/SDEIS did not address disproportionate impacts to low-income and minority communities in a meaningful manner. Measure C-7 is proposed to specifically address disproportionate impacts to environmental justice populations with regards to air quality, traffic, visual impacts, and land use/parks and recreation resulting from the build alternatives. Should a build alternative be selected as the Preferred Alternative, funding would be provided to local jurisdictions for targeted

[11] Caltrans Division of Research and Innovation. Preliminary Investigation. 2011. Transportation-Related Use of Health Impact Assessments and Similar Tools. August 5, 2011. Website: http://www.dot.ca.gov/research/researchreports/preliminary_investigations/docs/public_healthpreliminary_investigation_8-5-11_revised.pdf (accessed June 25, 2018).

[12] U.S. National Library of Medicine National Institutes of Health. Health Impact Assessment. May 20, 2000. Website: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1118057/ (accessed June 28, 2018).

improvements that would improve air quality and public health, reduce traffic congestion, provide aesthetic/visual enhancements, and improve parks and recreation in environmental justice communities. Please refer to Section 3.3.3.7 for more detailed information regarding this measure. However, as stated in Response to Comment IP-37-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure C-7 will not be implemented.

IP-37-17

Please refer to Section 1.1 of this appendix for more information regarding the identification of the Preferred Alternative. Options 3A and 3B are no longer under consideration. However, removal of alternatives and options from consideration are not triggers that would necessitate revision and recirculation of the EIR/EIS.

IP-37-18

Caltrans has not established, and has no intention to establish, CEQA thresholds, and NEPA does not have specific standards for each resource area. CEQA requires the disclosure and mitigation of significant impacts of a proposed project, and NEPA requires the assessment and disclosure of the environmental effects of proposed actions. The effects of the build alternatives, and measures to avoid, minimize, or mitigate those effects, were presented in the RDEIR/SDEIS. Therefore, Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS violated CEQA or NEPA standards. Environmental justice for all corridor cities and communities, including East Los Angeles, is addressed within Section 3.3.3, Environmental Justice, of the RDEIR/SDEIS.

IP-37-19

The potential cumulative impacts of the I-710 Corridor Project and the SR-710 North Project are disclosed in the Cumulative Impacts section of each respective environmental document. Therefore, a stand-alone study is not necessary and would not introduce any new information.

IP-37-20

Please refer to Response to Comment IP-37-14 regarding a Health Impact Assessment.

IP-37-21

The commenter’s opposition to Design Options 3A and 3B are acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and does not incorporate Design Option 3A, and therefore, would not result in the displacement of residents or business. Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, in this Final EIR/EIS contains a list of full or partial acquisitions and the relative displacement for each build alternative.

IP-37-22

The commenter's opposition to the displacement of families in East Los Angeles as a result of Design Options 3A and 3B are acknowledged and included in the project record. Please refer to Response to Comment IP-37-21 regarding the displacement of residents or businesses.

IP-37-23

The commenter's concern regarding homelessness and high rent rates in Los Angeles are acknowledged and included in the project record. The Preferred Alternative (Alternative 1 No Build), which does not incorporate Design Option 3A, will not result in the relocation of residents within East Los Angeles.

IP-37-24

As stated in Response to Comment IP-37-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no displacements or relocations.

IP-37-25

It is important to note that there would be no displacements of businesses or residents within East Los Angeles as a result of the Preferred Alternative. However, the replacements area for the build alternatives included the displacement communities as well as adjacent cities and communities along the I-710 Corridor. The search for replacement housing was confined to this replacement area, and did not include (for example) the entire City of Los Angeles. The replacement area map included as Appendix A to the *Draft Relocation Impact Report* (March 2017) shows the location of potential replacement sites along the I-710 Corridor. The community of East Los Angeles was included on the replacement area map as a portion of unincorporated Los Angeles County and a number of potential replacement sites were identified within East Los Angeles. Appendix E to the *Draft Relocation Impact Report* listed specific replacement dwellings for sale and for lease and included a number of potential replacement residences within the three zip codes that comprise East Los Angeles.

IP-37-26

Caltrans and Metro thank the commenter for this information, and the agencies regret the error. The property located at 626 S. Sydney Dr. in East Los Angeles was originally identified as being a five-unit property in the *Draft Relocation Impact Report* (March 2017) and the RDEIR/SDEIS; however, the property contains ten units. This information has been acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative. Therefore, no displacement of residents or businesses from the community of East Los Angeles will occur under the Preferred Alternative.

IP-37-27

Caltrans and Metro respectfully disagree that the RDEIR/SDEIS was deficient in analyzing impacts to East Los Angeles. The housing stock provided in the *Draft Relocation Impact Report* (March 2017) is an estimate based on the most currently available information at the time the RDEIR/SDEIS was prepared. It is important to note that Design Options 3A and 3B have been withdrawn from consideration. Under the Preferred Alternative (Alternative 1 No Build), no residential or business displacements would occur within East Los Angeles. Please also refer to Section 1.6 of this appendix for more information regarding the replacement area methodology used in the *Draft Relocation Impact Report*.

IP-37-28

As stated in Section 2.3.3.3 of the RDEIR/SDEIS, Design Options 3A and 3B extend from the north of the Washington Blvd., interchange to the SR-60 interchange, which is a distance of approximately two miles through the City of Commerce and the unincorporated areas of East Los Angeles. The traffic volumes travelling through the I-710 Corridor in Design Options 3A and 3B would be similar to those in respective Alternatives 5C and 7, the only difference being that they are configured differently. Thus, localized air quality and health risk impacts of Design Options 3A and 3B would be similar or lower than the respective Alternatives 5C and 7 because (1) overall traffic levels and emissions would be similar for the design options and related build alternatives (5C or 7), (2) the traffic in Design Options 3A and 3B would be spread out over a larger geographic area as compared to Alternatives 5C and 7 (i.e., lower emissions density), and (3) freeway mainline emissions would dominate local impacts. Design Options 3A and 3B were not selected by the Metro Board to be carried forward as part of the Preferred Alternative.

IP-37-29

Two design options were examined in the RDEIR/SDEIS that would modify local access to I-710 in the East Los Angeles area. Design Options 3A and 3B would limit access to I-710 in the northbound direction from the Olympic Blvd. on-ramp and would shift the ramp termini from I-710 in the southbound direction from Eastern Ave. to Whittier Blvd.

The detailed information included in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) and the *Intersection Traffic Impact Analysis Report* (March 2017) evaluated the effects that these modifications would have on twenty-four intersections examined on the local circulation network in East Los Angeles, which is surrounded by I-5, I-710 and SR-60. This information regarding the impacts of the Design Options was also summarized in Section 3.5.3 of the RDEIR/SDEIS. These effects, along with concerns related to community as well as right-of-way impacts, were considered along with public comments on the alternatives and design options evaluated in the RDEIR/SDEIS. As a result, Design Options 3A and 3B were removed from further consideration.

IP-37-30

Options 3A and 3B have been removed from further consideration. Please refer to Response to Comment IP-37-28 for a discussion on why localized air quality and health risk impacts of Design Options 3A and 3B would be expected to be similar or lower than the respective build Alternatives 5C and 7.

As described in Section ES.6.1 of the AQ/GHG/HRA Technical Study, the future (2035) build alternatives would reduce cancer risk as compared to the 2012 Baseline. These reductions would be a result of the cleaner diesel trucks as required by California Air Resources Board's (CARB) Truck and Bus rule and implementation of the Clean Trucks Program by the Port of Los Angeles and Port of Long Beach. The slight increases in health risk referred to in the comment refer to the comparisons of the 2035 build alternatives to the 2035 No Build Alternative. As stated in Section 8 of Appendix D to the AQ/GHG/HRA Technical Study, receptors for the Health Risk Assessment were placed as close as 150 feet from the edge of the mainline right-of-way. Receptors at this distance are fully consistent with (and in many cases, closer than) recent analyses of Port, railyard and other transportation projects in Southern California.

Impacts related to noise are described in detail in Section 3.14. The Preferred Alternative, Alternative 1 (No Build), does not include any elevated truck lanes and thereby would not produce noise impacts to residents from the elevated structures. Alternative 7 would use elevated truck lanes, and a discussion of proposed soundwall locations (including those in East Los Angeles, is provided in Section 3.14.5, Noise Abatement Considerations). However, as stated in Response to Comment IP-37-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, noise abatement will not be implemented.

IP-37-31

Please refer to Response to Comment IP-37-29 regarding the traffic analysis conducted for the I-710 Corridor Project.

IP-37-32

Access to and from Eastern Ave. would not be changed as a part of the Preferred Alternative (Alternative 1 No Build), which does not include Design Option 3A. Therefore, there will not be any conflict between the freeway improvements and any proposed pathway at Calvary Cemetery.

IP-37-33

The intersection of Eastern Ave. and Eagle St. in East Los Angeles is not within the jurisdiction of Caltrans or Metro. The commenter is encouraged to contact the Los Angeles County Department of Public Works at www.dpw.lacounty.gov or (626) 458-5100.

IP-37-34

Under Design Options 3A and 3B, vehicles traveling southbound on I-710 from SR-60 would still be able to access southbound I-5 in the same manner as is presently available. However, since the No Build Alternative has been selected as the Preferred Alternative, Design Options 3A and 3B have been withdrawn from consideration and no further analysis on these design options is necessary.

IP-37-35

Please refer to Response to Comment IP-37-29 regarding the traffic analysis conducted for the I-710 Corridor Project.

IP-37-36

Please refer to Response to Comment IP-37-29 regarding the traffic analysis conducted for the I-710 Corridor Project.

IP-37-37

Please refer to Response to Comment IP-37-2 regarding Design Option 3A.

IP-37-38

Please refer to Response to Comment IP-37-2 regarding Design Option 3A.

IP-37-39

Please refer to Response to Comment IP-37-2 regarding Design Option 3A.

IP-37-40

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. The increase in health risk resulting from increased

emissions was analyzed in the AQ/GHG/HRA Technical Study and summarized in Section 3.13, Air Quality, of the RDEIR/SDEIS. As detailed in the AQ/GHG/HRA Technical Study, the health risk assessment was conducted using a methodology that is consistent with the California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program Risk Assessment guidance and the SCAQMD Risk Assessment Guidelines for Assembly Bill 2588.

As discussed in Section 3.13 of the RDEIR/SDEIS, the increase in emissions would not increase cancer risk compared to the 2012 Baseline. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

The build alternatives propose Measures AQ-2 and AQ-3 to further reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710, including Humphreys Avenue Elementary School. Measure AQ-3 would require installation of solid barriers and installation of vegetation where soundwalls are not proposed to disperse pollution and reduce pollutant concentrations downwind. Additionally, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program would be a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

The RDEIR/SDEIS complies with the NEPA requirement that a project must evaluate impacts to environmental justice populations and develop mitigation measures specifically to address potential disproportionately high and adverse effects to minority and/or low-income communities. As discussed in Section 3.3.3, Environmental Justice, of the RDEIR/SDEIS, although there are air quality benefits associated with the build alternatives, and these benefits would be experienced by the environmental justice populations that predominantly reside near the I-710 freeway, there would also be near-roadway adverse impacts that would disproportionately burden environmental justice populations. The build alternatives propose Measures AQ-2 and AQ-3 that would reduce exposure of environmental justice to populations to increases in air pollutant concentrations, should a build alternative be selected as the Preferred Alternative. However, even when

considering these mitigation measures in addition to the beneficial effects of the build alternatives on air quality and public health, both build alternatives could potentially have an adverse and disproportionate air quality impact to environmental justice populations in localized areas within the I-710 Corridor. Therefore, Measure C-7 was included in the RDEIR/SDEIS to further reduce air quality impacts to environmental justice populations resulting from the build alternatives. Should a build alternative be selected as the Preferred Alternative, Measure C-7 would provide funding for targeted improvements that would improve air quality and public health, and would include (but would not be limited to) the installation or upgrade of filtration systems along I-710. However, as stated in Response to Comment IP-37-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure C-7 will not be implemented.

IP-37-41

Please refer to Response to Comment IP-37-14 for more information regarding Health Impact Assessments.

IP-37-42

A qualitative analysis of ultrafine particulates (UFP) was included in Section 3.13.3.4, Air Quality, of the RDEIR/SDEIS. It is important to note that UFPs are not currently regulated in the United States. Section 3.13.3.4 indicated that "information on UFP is limited at this time and is an area of active research…the existing state of knowledge does not yet support the derivation of reliable UFP emission models that account for the particulate growth and accumulation phases. Dispersion modeling of UFPs would also require additional information on the rate of UFP coagulation and absorption so that concentrations can be calculated. Given the lack of information to quantify emissions, dispersion, exposure, and health response to exposure, UFP emissions could not be quantified from the proposed project. However, a qualitative analysis has been conducted by using $PM_{2.5}$ exhaust emissions, and exposure as a surrogate for UFP exposure to assess the incremental impacts of the project alternatives as compared to the baselines." The near-roadway modeling indicated that implementation of either build alternative would decrease the public's health risk due to UFP relative to the 2012 Baseline and 2035 No Build Alternative, even near the I-710 freeway and/or freight corridor. However, as noted above, the No Build Alternative has been selected as the Preferred Alternative and the decrease in the public's health risk from the build alternatives would not be realized. Please refer to Section 3.13.3.4 of this Final EIR/EIS for further details on the qualitative analysis.

IP-37-43

Design Options 3A and 3B have been removed from consideration; therefore, the impacts cited in this comment would not occur. No further analysis is necessary.

IP-37-44

Design Options 3A and 3B have been withdrawn from consideration; therefore, the impacts cited in this comment would not occur. No further analysis is necessary.

IP-37-45

The commenter's opposition to Design Options 3A and 3B due to health impacts are acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative, and Design Option 3A has been removed from further consideration. Since the No Build Alternative has been selected as the Preferred Alternative, 946 S. Eastern Ave. where the DaVita Doctors Dialysis Center is located, will not be acquired.

IP-37-46

The build alternatives propose Measure AQ-1, as described in Section 3.13.4 of this Final EIR/EIS, which would require a funding contribution to be provided to the South Coast Air Quality Management District (SCAQMD) for the design and construction of four new air quality monitoring stations within the I-710 Corridor. Should a build alternative be selected as the Preferred Alternative, the specific locations of each monitoring station would be determined in coordination with SCAQMD, as the agency tasked with regulation and monitoring of air pollution; therefore, a specific commitment to a location or locations could not be made at the time the RDEIR/SDEIS was circulated for public review. Additionally, many of the 13 locations specified in this comment are within a mile of each other. Since the No Build Alternative has been selected as the Preferred Alternative, Measure AQ-1 will not be implemented. It should be noted that there are only 26 air quality monitoring sites within Los Angeles County (according to the California Air Resources Board[13]) and locations for sites are based on criteria including, but not limited to, spatial proximity to pollutant emissions sources, topography, wind direction, purpose of the monitoring, and others.

IP-37-47

Construction impacts from the build alternatives are discussed in detail in Section 3.24 of the RDEIR/SDEIS. Measures to address construction-related air pollution and noise resulting from the build alternatives are specifically discussed in Sections 3.24.4.13 and 3.24.4.14, respectively. Design Options 3A and 3B are no longer under consideration. Please also refer to Section 1.1 of this appendix for more information on the identification of the Preferred Alternative.

[13] CARB. 2018. Quality Assurance Air Monitoring Sites by County. Website: https://www.arb.ca.gov/qaweb/countyselect.php?c_arb_code=70 (accessed August 29, 2018).

IP-37-48

The potential for lead in soils was addressed in Section 3.12, Hazardous Waste, of the RDEIR/SDEIS, including measures to avoid and minimize exposure to lead resulting from the build alternatives. Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search limited to within a one-mile radius (i.e., ASTM International [ASTM] standard) of the I-710 Corridor Project build alternatives for facilities listed by regulatory agencies as potentially having environmental concerns. Additional readily accessible agency online databases were reviewed, including the California Department of Resources Recycling and Recovery (CalRecycle); Solid Waste Information System (SWIS); the California Department of Toxic Substance Control (DTSC) ENVIROSTOR database; and the State Water Resources Control Board's (SWRCB) GeoTracker database. The sites listed in Tables 3.12.1, 3.12.2, and 3.12.3 are sites identified as posing potential environmental concerns. The Exide Technologies, Inc. (Exide) battery recycling facility at 2700 S Indiana St., Vernon, CA 90058 (closed since 2015) is not listed in these tables because the facility was not within nor adjacent to any of the properties that would be acquired for the build alternatives. The DTSC is responsible for overseeing the cleanup of properties affected by contamination from the Exide facility. The most recent map of the cleanup area posted on the DTSC website (https://dtsc.maps.arcgis.com/apps/webappviewer/index.html?id=d8a6b586685f46f793e39759c71be3ef; accessed January 3, 2023) shows the status of the site assessment and cleanup of properties within the Preliminary Investigation Area for the Exide facility adjacent to I-710. None of these properties will be fully or partially acquired for the Preferred Alternative (Alternative 1 No Build).

IP-37-49

Refer to Section 3.24.3.4, Utilities/Emergency Services, which describes impacts to fire stations located within 0.5 mile of the general I-710 Study Area. In addition, the build alternatives propose Measure CON-U&ES-1 which states that prior to and during construction of either build alternative, Caltrans and the Construction Contractor would coordinate all temporary ramp closures and detour plans with fire providers to minimize temporary delays to emergency response times as part of the TMP, including the identification of alternative routes and routes across the construction areas for emergency vehicles, developed in coordination with the affected agencies. The likelihood of a natural disaster occurring that may prevent access to and from a fire department or other emergency service provider facility is beyond the scope of a project-level CEQA/NEPA environmental document, and as such, was not evaluated within the RDEIR/SDEIS. It is important to note that since the No Build Alternative has been selected as the Preferred Alternative, Measure CON-U&ES-1 will not be implemented.

IP-37-50

According to the traffic model, the Level of Service (LOS) designation on I-710 between I-5 and SR-60 would not change, should a build alternative be selected as the preferred Alternative. In

East Los Angeles, this section of I-710 is predicted to operate at LOS F under the future (2035) No Build Alternative. Under the build alternatives, this segment of I-710 would remain LOS F in 2035. However, given the severity of traffic congestion throughout the metropolitan region, there are different gradients of LOS F that can be quantified using alternative means. VISSIM traffic modeling software was utilized as an additional analysis tool for the highway capacity analysis to examine congestion bottlenecks in key areas along the I-710 Corridor for the p.m. peak hour in order to help inform the design during development of the build alternatives. This VISSIM analysis showed that the auxiliary lanes included in the design of the build alternatives would relieve the congestion bottleneck between I-5 and SR-60, but only slightly.

While delay for some of the local intersections would improve as a result of the build alternatives, and delay at others would decline slightly, the overall purpose of the intersection impact analysis was to identify significant adverse impacts within the I-710 Study Area. A few seconds of delay for an intersection that is already performing at LOS D or better is not considered a significant adverse impact. A significant adverse impact would occur if the level of service degrades to LOS E. Similarly, a few seconds decrease in delay for an intersection would not be considered a noticeable, beneficial improvement. These impact thresholds are described in detail at the beginning of Section 7 in the *Intersection Traffic Impact Analysis Report* (2017) and summarized in Section 4.2.4.4 of the RDEIR/SDEIS. The purpose of the traffic mitigation measure (Measure TR-1) proposed for the build alternatives would be to address the adverse impacts of the build alternatives for those intersections that would be *significantly* impacted by returning them to future No Build (Alternative 1) traffic conditions or better.

Additionally, the I-710 Congestion Relief Program is a programmatic feature of the build alternatives that would be targeted towards improving congested intersections on the arterial system in East Los Angeles under future year (2035) travel conditions. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-37-51

The main purpose of the proposed freeway improvements included in the build alternatives are to address congestion, design deficiencies, traffic operations, and safety concerns on I-710, as well as related air quality issues associated with operation of the I-710 freeway, as discussed in more detail in Section 1.2 of the RDEIR/SDEIS. Over 185 intersections were evaluated as part of the traffic analysis to determine if the build alternatives would result in traffic impacts to the arterial system, and if so, to identify measures to address these impacts. The number and locations of the study intersections were identified prior to the initiation of the traffic studies performed for the RDEIR/SDEIS, and were reviewed and approved by the I-710 Technical Advisory Committee. Approximately 24 of these selected intersections are located within East Los Angeles, more than

any other local jurisdiction in the I-710 Study Area, with the exception of the City of Long Beach. Nearly half of the I-710 Corridor is located in the City of Long Beach. Traffic counts were obtained for all 24 of these intersections.

IP-37-52

In East Los Angeles, the section of I-710 between I-5 and SR-60 would operate at Level of Service (LOS) F under the future No Build Alternative. Under the build alternatives in 2035, this segment of I-710 would remain LOS F. However, given the severity of traffic congestion throughout the metropolitan region, there are different gradients of LOS F that can be quantified using alternative means. VISSIM traffic modeling software was utilized as an additional analysis tool to examine congestion bottlenecks in key areas along the I-710 Corridor for the p.m. peak hour in order to help inform the design during development of the build alternatives. This VISSIM analysis showed that the auxiliary lanes included in the build alternatives would relieve the congestion bottleneck between I-5 and SR-60 to some extent. Vehicle density would be reduced and freeway speeds would still be low, but would improve by 3 mph in the southbound direction and 12 mph in the northbound direction under Alternative 5C relative to the future No Build Alternative in this congestion hot spot location. In addition, Tables 5-1, 5-2, 5-7, and 5-8 provided in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) demonstrate that levels of service on I-710 north of SR-60 would not be affected by implementation of Alternative 5C. However, as shown in Tables 5-1, 5-2, 5-10, and 5-11 provided in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017), levels of service on I-710 north of SR-60 under Alternative 7 would be slightly worse in the northbound direction during the PM peak hour and slightly higher in the southbound direction during the AM and midday peak hours. However, as stated previously, the No Build Alternative has been selected as the Preferred Alternative and this impact under Alternative 7 would not occur. It should be noted that Design Options 3A and 3B are no longer under consideration.

When capacity is added to freeways, traffic volumes on the freeways increase as motorists shift routes to take advantage of the improved travel conditions offered by the capacity increase. While some of this traffic may represent new vehicle trips, much of the observed increase in traffic comes from trips that were already being made before the increase in highway capacity, or reflect predictable behavior that is accounted for in travel demand forecasts. “Induced travel” is characterized as the additional demand for travel that occurs as a result of a decrease in the generalized cost of travel, including both travel-time and out-of-pocket costs. I-710 is part of a highly congested metropolitan roadway network and is located within an urbanized area, which is essentially built out. Given the high levels of congestion in the peak periods, the I-710 travel demand forecast model is particularly sensitive to changes in travel times. The proposed improvements included in the build alternatives would improve speeds and would reduce travel times on I-710, which in turn would attract more traffic to the facility relative to the No Build Alternative. The modernization of the current freeway design proposed as part of the build

alternatives would improve traffic operations and safety, and the traffic analysis summarized in Section 3.5 of the RDEIR/SDEIS showed that even carrying higher traffic volumes than the No Build Alternative, the build alternatives would provide an overall improved Level of Service (LOS) within the I-710 Corridor, which is indicative of reduced traffic congestion. The predicted shifts in traffic were accounted for in the analysis presented in Section 3.5 of the RDEIR/SDEIS for both Alternatives 5C and 7.

IP-37-53

The traffic volumes on I-710 through East Los Angeles would increase for both build alternatives as compared to the No Build Alternative. The vehicle miles traveled (VMT) on the I-710 Corridor in East Los Angeles would increase as well. The build alternatives include programmatic funding for ZE/NZE heavy-duty trucks that travel on I-710, and it is forecast that about one-third of the future heavy-duty truck volume on I-710 through East Los Angeles would be comprised of these ZE/NZE trucks. The RDEIR/SDEIS disclosed the associated air quality and noise effects in East Los Angeles from the increased traffic volumes associated with these alternatives, along with the effects of these alternatives on local mobility, in Sections 3.13, 3.14, and 3.5, respectively.

IP-37-54

There is no existing off ramp from I-710 to 3rd St. in the southbound direction. However, there is an on-ramp from 3rd St. to southbound I-710 in East Los Angeles. The closure of this existing on-ramp was not considered as part of the build alternatives as it would eliminate an important access point for East Los Angeles residents in an area that already has limited access to the freeway system within this triangular portion of East Los Angeles that is bounded by the I-5, SR-60, and I-710.

IP-37-55

Although these suggestions are innovative, Caltrans and Metro do not have the authority to mandate that employers offer the incentives to encourage employees to use public transportation, utilize zip line programs, move closer to work, commute during off-peak hours, or telecommute. It is the discretion of each individual employer to decide what incentives they want to offer employees. Additionally, transportation funds earmarked for roadway improvements cannot be diverted to fund these types of incentives which should funded by each individual employer.

IP-37-56

Metro currently has programs in place to encourage carpooling and to provide reduced fares to eligible applicants. The Metro commuter and employer rideshare programs assist drivers with finding people to carpool with and provides full assistance to employers for Average Vehicle Rider (AVR) reports, ride-matching services, and marketing workshops. More information on the Metro

ride share program can be accessed at https://www.metro.net/riding/rideshare/. The Metro reduced fares program provides discounted Metro passes, transit subsidies, and reduced group rates to employers. More information on the Metro reduced rates program can be accessed at https://www.metro.net/riding/fares/reduced-fares/. Caltrans and Metro have no authority to mandate that people and employers take advantage of the programs that are already in place to encourage ridesharing and use of transit.

IP-37-57

As noted in the comment, there are already programs in place in Los Angeles County for drivers to replace their vehicle with less polluting models. In the Los Angeles area, the program is known as Replace Your Ride. Caltrans and Metro have no authority to mandate that people take advantage of the programs that are already in place to encourage replacement of older vehicles with newer, less polluting models.

IP-37-58

Caltrans and Metro strive to develop and present the most appropriate avoidance, minimization and/or mitigation measures taking into consideration right-of-way constraints, safety, and feasibility in implementing any proposed mitigation for the build alternatives. In general, left-turning vehicles would experience more delay when they are waiting for sufficient gaps in the on-coming traffic to clear the intersection, which would create long queues. By providing an exclusive left-turn lane and by separating these left-turn vehicles from through traffic, these queues would now be shorter, and the safety and delay for the intersection as a whole (i.e., all approaches) would be improved. Therefore, the average total delay at the intersection would be reduced and level of service for the intersection would improve. The Synchro analysis conducted for this intersection demonstrated that this intersection would be improved by adding an exclusive left-turn lane. These detailed LOS analysis worksheets were provided in the appendices to the *Intersection Traffic Impact Analysis Report* (March 2017). In addition, the delay at this intersection under Alternative 5C would not be as severe as what would occur under Alternative 7, which was an additional factor to consider when viewing the pre- and post-mitigation traffic analysis results.

IP-37-59

The overall intersection delay as reported would be a combination of the average delay for all approaches. By reducing the approach delays for the north and southbound directions, the overall intersection delay would be reduced as well, since the amount of “green time” would now be optimized for all approaches. By adding an exclusive left-turn lane on the northbound and southbound approaches, the total delay at the intersection could be reduced to better than what was projected under the 2035 No Build Alternative.

IP-37-60

In general, left-turning vehicles would experience more delay waiting for sufficient gaps in the on-coming traffic to clear the intersection. It is true that when a through lane is shared with a right-turn lane, sometimes right-turning traffic blocks through traffic while waiting for pedestrians to cross the street on a green. However, right-turning vehicles are permitted to turn right on red signal unless they are specifically prohibited from doing so. By making legal right turns on a red signal, those vehicles would avoid pedestrians in the crosswalk, who are prohibited from crossing on a red, and thus help clear the overall intersection by leaving more “green time” for through traffic.

IP-37-61

Measure TR-1 would, should a build alternative be selected as the Preferred Alternative, take into consideration right-of-way constraints, safety, and feasibility in implementing any proposed mitigation. In general, left-turning vehicles experience more delay when they are waiting for sufficient gaps in the on-coming traffic to clear the intersection, creating long queues. By providing an exclusive left-turn lane and by separating these left-turn vehicles from through traffic, these queues would now be shorter, and the safety and delay for the intersection as a whole (i.e., all approaches) would be improved. Therefore, the average total delay at the intersection would be reduced and level of service for the intersection would improve. The Synchro analysis conducted for this intersection demonstrated that this intersection would be improved by adding an exclusive left-turn lane. These detailed LOS analysis worksheets were provided in the appendices to the *Intersection Traffic Impact Analysis Report* (March 2017).

IP-37-62

The proposed improvements at this intersection as described in Measure TR-1 would improve traffic operations and reduce queues resulting from the build alternatives. There would not be any need to move the bus stop from its current location. It is important to note that since the No Build Alternative has been selected as the Preferred Alternative, Measure TR-1 will not be implemented.

IP-37-63

The overall intersection delay as reported is a combination of the average delay for all approaches. By reducing the approach delays for the north and southbound directions, the overall intersection delay would be reduced as well. Should a build alternative be selected as the Preferred Alternative, Measure TR-1 identified in Section 3.5.4 of the RDEIR/SDEIS would aim to improve the impacted intersection delay from poor operating conditions (LOS E or F) under the build alternatives to a level equal to or better than the LOS projected for the 2035 No Build Alternative. By adding an exclusive left-turn lane on the northbound and southbound approaches,

the total delay at the intersection would be reduced to better than that projected for the 2035 No Build Alternative.

IP-37-64

It is important to note that the referenced intersection (Intersection ID No. 97, Ford Blvd./3rd St.) is impacted only under Alternative 7. There was no impact identified at this intersection under Alternative 5C.

With respect to Alternative 7, the analysis conducted for this location demonstrated that the intersection would benefit with the additional northbound right-turn lane, and the conceptual sketches illustrating the improvements proposed under Alternative 7 showed that there would be a partial right-of-way acquisition needed to implement this mitigation improvement. For reference, these conceptual sketches were included in the appendices to the *Intersection Traffic Impact Analysis Report* (March 2017).

IP-37-65

The row in Table 3.5-7 containing Intersection ID No. 180 (3rd St./S Gage Ave.) has been updated for consistency in this Final EIR/EIS to read “East Los Angeles (unincorp)” rather than “County.” Measure TR-1 would include improvements at this intersection, should a build alternative be selected as the Preferred Alternative.

IP-37-66

Conceptual sketches illustrating the recommended improvements proposed under Measure TR-1 showed that sliver right-of-way acquisition(s) would be necessary to implement the proposed improvements at this location, should a build alternative be selected as the Preferred Alternative. The use of these commercial properties would not be affected, as the acquisitions would not result in displacement of the property. These conceptual sketches were included as Appendix E to the *Intersection Traffic Impact Analysis Report* (March 2017). It is important to note that since the No Build Alternative has been selected as the Preferred Alternative, Measure TR-1 will not be implemented.

IP-37-67

The Community Health Benefit Program is a programmatic feature of the build alternatives. It is intended to be a project enhancement and is not a mitigation measure or intended to address the impacts of the build alternatives specifically. Many of the suggestions listed, such as greenscape projects in schools and learning centers, additional landscape and tree planting, water conservation projects, and air purifiers, may be projects eligible for funding under the Community Health Benefit Program, and the commenter is encouraged to apply for funding for these projects. However, since a build alternative has not been selected as the Preferred Alternative, this

programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-37-68

The noise impacts of the I-710 Corridor Project were evaluated in Section 3.14, Noise, of the RDEIR/SDEIS. CEQA and NEPA only require that the RDEIR/SDEIS evaluate and abate noise impacts resulting from the build alternatives. Noise studies encompassing all of East Los Angeles are not required for a single transportation project. However, any future planned projects within East Los Angeles would be similarly required to evaluate and abate for noise impacts.

IP-37-69

Design Options 3A and 3B are no longer under consideration. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

IP-37-70

As detailed in Section 3.14, per the Caltrans Traffic Noise Analysis Protocol, reasonable (i.e., cost does not exceed total reasonable allowance) and feasible (i.e., achieving greater than a 5 dBA noise reduction) soundwalls would be constructed should a build alternative be selected as the Preferred Alternative. In addition, the I-710 Corridor Community Health Benefit Program is included as a programmatic component of the build alternatives. Should a build alternative be selected as the Preferred Alternative, the I-710 Corridor Community Health Benefit Program would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve public health related to I-710 travel and goods movement, including impacts related to noise. One of the categories of project that would be eligible and considered for funding under the program would include noise reduction measures at local schools and other sensitive receptors or related sites. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information on the Community Health Benefit Program.

IP-37-71

This comment requests that the build alternatives be revised so that all soundwalls in East Los Angeles are constructed at maximum height to address cumulative impacts from existing, proposed, and probable future I-5 freeway, SR-60, and Gold Line expansions. Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS considered a potential extension of the Gold Line along SR-60 (the Eastside Transit Corridor Phase 2 [Project T-76 in Table 3.25-1]) and a potential widening of I-5 between I-605 and I-710 in the East Los Angeles area (the I-5 Corridor

Improvement Project [Project T-5 in Table 3.25-1]). Although Section 3.25 considered potential impacts related to the SR-60 Freeway Improvement Project (Project T-18 in Table 3.25-1), which constructed high-occupancy vehicle (HOV) lanes in both directions on SR-60 between SR-57 and I-605, Caltrans has no current plans to widen SR-60 through East Los Angeles. Because State CEQA Guidelines Section 15187(d) discourages lead agencies from engaging in speculation or conjecture when conducting environmental analyses, the cumulative impacts analysis only reflects projects that have been proposed, planned, approved, or under construction.

The cumulative noise analysis included in Section 3.25.4.13, Noise, of the RDEIR/SDEIS acknowledges that some of the reasonably foreseeable transportation projects would result in increases in ambient noise levels in the long term that would not be able to be avoided or substantially mitigated. The build alternatives propose some new soundwalls, as well as increases in heights in existing soundwalls along the I-710 Corridor and would result in only a minor increase in ambient noise levels. It is also expected that many of the other cumulative transportation and land use projects in the area would also result in increases in long-term noise levels in the Resource Study Area. As noted in the Response to Comment IP-37-68, any future projects within East Los Angeles would each be similarly required to evaluate and abate noise impacts; however, some of those impacts may not be substantially or feasibly abated. Therefore, the build alternatives may contribute to long-term cumulative adverse noise impacts, specifically in the vicinity of Commerce and East Los Angeles. However, since a build alternative has not been selected as the Preferred Alternative, there will be no cumulative impact related to noise from the build alternatives.

IP-37-72

The design of soundwalls as a form of noise abatement is not intended to eliminate the entire increase in noise created by the build alternatives. Per the Caltrans Traffic Noise Analysis Protocol, a soundwall is considered for construction if it is determined to be both feasible and reasonable. A soundwall is considered to be feasible if should it reduce noise levels by a minimum of 5 dB at an impacted receptor. A soundwall is considered reasonable if it meets the acoustical design goal of a 7 dB or more reduction at one or more benefited receptor and is found to be cost-effective. The Traffic Noise Protocol goes on to specify that the Noise Abatement Criteria are not design goals for noise abatement, but rather thresholds at which noise impacts are considered to occur.

As shown in Table 2-3 of the Noise Abatement Decision Report, at this location, Alternative 5C would remove the existing wall which would increase the noise level by 12 dB compared to existing conditions, which would result in a predicted 76 dBA noise level for the 2035 design year. Should a build alternative be selected as the Preferred Alternative, SW-516 and SW-517 would be constructed at this location at a height of 16 feet to replace the existing wall, which would be removed as part of the build alternatives and would reduce noise levels at this location by up to

10 dBA at one or more benefitted receptors. However, since the No Build Alternative has been selected as the Preferred Alternative, removal of existing walls will not occur.

IP-37-73

The design of SW-518 under Design Option 3A has a different, longer on-ramp alignment that would place the top of the proposed soundwall at a higher elevation than that of SW-518 under the Alternative 5C base option. This difference in elevation caused the second row of homes to benefit and reach a reduction in noise of 5 dBA, thereby making SW-518 under the Design Option cost-reasonable. The Calvary Cemetery is the primary land use and without a formalized memorial gathering area, cemeteries are not considered a noise-sensitive land use according to the Caltrans Traffic Noise Analysis Protocol, and were not evaluated for impacts. A jogging track would be considered an “active sport area” as listed in Table 3.14-1 of Section 3.14 of the RDEIR/SDEIS, thereby falling into Activity Category C. Activity Category C also includes cemeteries. Therefore, the installation of a jogging track at Calvary Cemetery would not change the activity criteria values at this location used for impact determination.

In addition, the term benefited receptor only refers to receptors at which a 5 dBA or greater reduction in noise levels would occur and not to any nearby receptor.

IP-37-74

This comment specifically refers to Alternative 5C, Option 3A, which has been removed from consideration due, in part, to public input. No further analysis will be done on this design option.

IP-37-75

The Protocol goes on to specify that the Noise Abatement Criteria are not design goals for noise abatement, but rather are thresholds at which noise impacts are considered to occur. Additionally, the 11 dBA increase does not trigger the threshold for a substantial increase which is considered to be 12 dBA.

In regards to the wall height potentially chosen for construction, as shown in Table 2-4, because a 16-foot- high wall would provide no additional noise reduction nor would it add benefited receptors, the 14-foot- high wall was chosen for consideration to be constructed. A 22-foot-high wall was not considered in this analysis. However, since the No Build Alternative has been selected as the Preferred Alternative, soundwalls will not be constructed as part of the build alternatives.

IP-37-76

The Protocol specifies that the design of soundwalls as a form of noise abatement is not intended to eliminate the entire increase in noise created by the build alternatives and that the Noise Abatement Criteria are not design goals for noise abatement, but rather are thresholds at which noise impacts are considered to occur.

As shown in Table 3-8 of the Noise Abatement Decision Report, at this location, Alternative 7 would remove the existing walls which would increase the noise level by 13 dB compared to existing conditions, which would result in a predicted 77 dBA noise level for the 2035 design year. Should a build alternative be selected as the Preferred Alternative, SW-716 and SW-717 would be constructed at this location at a height of 16 feet to replace the existing wall, which would be removed as part of the build alternatives and would reduce noise levels at this location by up to 9 dBA at one or more benefitted receptors. However, it is important to note that a build alternative has not been identified as the Preferred Alternative and SW-716 and SW-717 will not be constructed.

IP-37-77

Please refer to Response to Comment IP-37-73 regarding provision of a soundwall at Calvary Cemetery.

IP-37-78

The commenter suggests that for SW-719 that the increase will be 10 dBA and that a 14-foot wall or 16-foot wall will reduce sound by 1 dBA. As shown in Table 2-8 of the Noise Abatement Decision Report, the reduction that would be expected at these heights would be 5 dBA.

IP-37-79

The reasonableness and feasibility of the soundwalls proposed for the build alternatives were determined in accordance with the requirements of the Caltrans Traffic Noise Analysis Protocol. The 5 dBA reduction is considered in determining if a soundwall is feasible, whereas the 7 dBA reduction is considered in determining if a soundwall is reasonable. A soundwall must be considered both feasible and reasonable in order to be constructed. As discussed in Section 3.14.5.7, Feasibility, in Section 3.14, Noise, of the RDEIR/SDEIS, per the Caltrans Traffic Noise Analysis Protocol, abatement measures are considered acoustically feasible if a minimum noise reduction of 5 dBA at impacted receiver locations is predicted with implementation of the abatement measures. Other considerations include topography, access requirements, other noise sources, and safety considerations.

As discussed in Section 3.14.5.8, Reasonableness, in Section 3.14, Noise, of the RDEIR/SDEIS, the reasonableness of a soundwall is determined by comparing the estimated cost of the

soundwall construction against the total reasonable allowance. The total reasonable allowance is determined based on the number of benefited residences multiplied by the reasonable allowance per residence. Additionally, in accordance with the Caltrans Traffic Noise Analysis Protocol, each soundwall must provide at least 7 dBA of noise reduction at one or more benefited receiver(s) to be considered reasonable.

IP-37-80

Please refer to Response to Comment IP-37-73 regarding SW-518 and SW-718.

IP-37-81

Soundwall SW-719 was not presented for further consideration because it would not meet the 7 dBA design goal, nor would it be cost effective; thus it was identified as unreasonable.

IP-37-82

All schools within the Study Area were considered for impacts, and feasible and reasonable abatement has been recommended where those impacts resulting from the build alternatives have been identified. All schools listed in this comment (with the exception of Ford Elementary and Humphreys Avenue Elementary Schools) are beyond the limits of the proposed improvements of the build alternatives (e.g., north of SR-60) or far enough from the I-710 mainline that noise impacts would not occur. Two 16-foot-high soundwalls were recommended for the build alternatives at Ford Elementary School that would provide noise reduction. The existing 12-foot-high soundwalls at Humphreys Avenue Elementary School currently provide traffic noise abatement, and increasing the height of these soundwalls would not provide a noticeable noise reduction. However, since the No Build Alternative has been selected as the Preferred Alternative, these soundwalls would not be constructed as part of the build alternatives. It should be noted that noise reduction measures at local schools and other sensitive receptors or related sites are considered eligible projects for funding under the Community Health Benefit Program, a programmatic element of the build alternatives, for which school districts would be encouraged to apply. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

IP-37-83

Soundwall aesthetic treatments were discussed in Measures VIS-1 and VIS-4, detailed in Section 3.6.4 of the RDEIR/SDEIS. Per Measure VIS-1, the *I-710 Corridor Aesthetics Master Plan* (2014) has been developed in a context-sensitive design process in consultation with the affected local agencies and would include involvement of local community members as determined by the local

agencies, should a build alternative be selected as the Preferred Alternative. However, since the No Build Alternative has been selected as the Preferred Alternative, Measure VIS-1 will not be implemented.

IP-37-84

The proposed soundwalls for the build alternatives were designed as required in the Caltrans Protocol and Technical Noise Supplement. In order to extend a wall, an impacted receptor must be identified. If a receptor, regardless of classification, is not identified as impacted, noise abatement is not typically considered.

IP-37-85

Since the No Build Alternative has been selected as the Preferred Alternative, the programmatic parking restrictions proposed in the RDEIR/SDEIS are no longer under consideration.

IP-37-86

Caltrans and Metro welcome the comment to consider only ZE buses for the Rapid Bus Transit line through East Los Angeles included in the programmatic features for the build alternatives. Metro has already moved towards cleaner buses, which operate on recycled compressed natural gas and which reduce vehicle NO_X emissions to 90 percent lower than the current EPA limit of 0.2 grams per brake horsepower-hour. In 2017, the Metro Board adopted plans to transition to a 100 percent ZE bus fleet and issued contracts for the first phase of 95 electric buses. While Metro's fleet transition plan to ZE buses is contingent on continuous advancements in electric bus technology and a drop in vehicle prices as the technology develops, under the current proposal, the phased plan would reach its target of full zero emissions by 2030 (Metro Board Report No. 50, July 27, 2017.)

IP-37-87

This comment suggests that the cumulative impacts from the build alternatives and the Gold Line project are not fully assessed in Section 3.25 of the RDEIR/SDEIS. Please refer to Response to Comment L-31-117 regarding the cumulative impacts assessment.

IP-37-88

This comment states that cumulative noise and pollution impacts in East Los Angeles from existing, proposed, and potential future freeway projects need to be mitigated to the fullest extent possible in the RDEIR/SDEIS. Section 3.25, Cumulative, in the RDEIR/SDEIS and this Final EIR/EIS discusses a potential extension of the Gold Line along SR-60 (the Eastside Transit Corridor Phase 2 [Project T-76 in Table 3.25-1]) and a potential widening of I-5 between I-605 and I-710 in the East Los Angeles area (the I-5 Corridor Improvement Project [Project T-5 in Table

3.25-1]). As stated in Sections 3.25.4.12 and 3.25.4.13 of the RDEIR/SDEIS and this Final EIR/EIS, the I-710 Corridor Project may contribute to long-term cumulative air quality and noise impacts at receivers near the I-710 Corridor. Should a build alternative be selected as the Preferred Alternative, impacts related to air quality and noise would be mitigated to the maximum extent feasible as described in Section 3.13, Air Quality, and Section 3.14, Noise, of the RDEIR/SDEIS and this Final EIR/EIS, respectively. Although Caltrans has not currently identified any potential highway widening projects along SR-60 in East Los Angeles, Caltrans has a standing policy of evaluating proposed projects near any highway facilities to determine if they could interfere with possible future freeway projects. However, as stated in Response to Comment L-31-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no cumulative impacts related to the build alternatives.

IP-37-89

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS is deficient. Based, in part, on community feedback, the No Build Alternative has been selected as the Preferred Alternative, and Design Options 3A and 3B have been withdrawn from consideration. Please refer to Section 1.8 of this appendix for more information regarding Motion 22.1 and the CA-7 Alternative, and how it was discussed in the RDEIR/SDEIS. Section 3.3.2.3, Motion 22.1 Right of Way Avoidance Analysis, in the RDEIR/SDEIS contained a discussion of the analysis undertaken to examine the potential right-of-way impacts of Alternative 7. Please refer to Section 1.7 of this appendix for more information regarding the Early Action Program. For clarity, this Early Action Program is now referred to as the “Initial Construction Stages” program.

IP-37-90

As discussed in Chapter 5 of the *Traffic Noise Study Report* (May 2016), a field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the build alternatives, which included schools. As stated in the Protocol, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Based on the distance from the Study Area and intervening structures, Ford Elementary School, Marianna Avenue Elementary School, Alphonso B. Perez Special Education Center, Brooklyn Avenue Elementary School, Hilda L. Solis Learning Academy, Winter Garden Elementary School, Rowan Avenue Elementary School, KIIP Iluminar Academy, Morris K. Hamasaki Elementary School, and Centro Estrella would not be subject to increased construction and traffic noise from the build alternatives.

Noise impacts from the project were evaluated at the Humphreys Avenue Elementary School. There are existing 12-foot-high soundwalls along the northbound I-710 that provide noise reduction to this school. Noise abatement was considered at this location since freeway traffic noise impacts resulting from the build alternatives were predicted for this area. However, based on the noise analysis, increasing the height of the existing 12-foot-high soundwall to 16 feet would

only provide a noise level reduction of one to two dB. Therefore, a higher soundwall would not provide the minimum required noise reduction of five dB for acoustical feasibility and seven dB noise reduction to at least one receptor for reasonableness.

IP-37-91

Please refer to Response to Comment IP-37-46 regarding air quality monitoring to all sensitive receptors along I-710.

IP-37-92

Please refer to Response to Comment IP-37-83 regarding aesthetic impacts as a result of soundwalls.

IP-37-93

Please refer to Response to Comment IP-37-84 regarding provision of a soundwall at the Humphrey's Avenue Elementary School.

IP-37-94

The Community Health Benefit Program is a programmatic element of the build alternatives and has been developed beyond what was included in the RDEIR/SDEIS, and those details can be found in Section 2.3.2.1 of this Final EIR/EIS. Eligible applicants would include public and some private agencies. Individual private citizens and businesses are not considered eligible applicants. However, since a build alternative has not been selected as the Preferred Alternative, the Community Health Benefit Program would need to be implemented as part of a separate process.

IP-37-95

The projects listed, including passive greenscape projects and additional trees and landscaping, may be eligible for funding under the Community Health Benefit Program. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-37-96

With regard to build alternatives, the Level of Service (LOS) designation on I-710 would not change in the future year (2035). In East Los Angeles, the section of I-710 between I-5 and SR-60 would operate at LOS F under the future No Build Alternative. Under the build alternatives, this segment of I-710 would remain LOS F. However, given the severity of traffic congestion throughout the metropolitan region, there are different gradients of LOS F that can be quantified

using alternative means. VISSIM traffic modeling software was utilized as an additional analysis tool to examine congestion bottlenecks in key areas along the I-710 for the p.m. peak hour in order to help inform the design of the build alternatives during project development. This VISSIM analysis shows that the auxiliary lanes included in the build alternatives would relieve the congestion bottleneck between I-5 and SR-60 to some extent. Vehicle density would be reduced and freeway speeds would still be low, but would improve by 3 mph in the southbound direction and 12 mph in the northbound direction under Alternative 5C relative to future No Build conditions in this congestion hot spot location. In addition, Tables 5-1, 5-2, 5-7, and 5-8 provided in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) demonstrate that levels of service on I-710 north of SR-60 would not be affected by implementation of Alternative 5C. However, as shown in Tables 5-1, 5-2, 5-10, and 5-11 provided in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017), levels of service on I-710 north of SR-60 under Alternative 7 would be slightly worse in the northbound direction during the PM peak hour and slightly higher in the southbound direction during the AM and midday peak hours. However, as stated previously, the No Build Alternative has been selected as the Preferred Alternative and this impact under Alternative 7 would not occur.

The main purpose of the proposed project as discussed in Section 1.2 of the RDEIR/SDEIS are to address congestion, design deficiencies, traffic operations, and safety concerns on I-710 as well as related air quality issues associated with operation of the I-710 freeway as a result of the build alternatives. Over 185 local intersections were evaluated as part of this process to determine if the proposed build alternatives would result in traffic impacts to the arterial system, and if so, to identify mitigation. The number and locations of the study intersections were identified prior to the initiation of the traffic studies performed for the RDEIR/SDEIS, and were reviewed and approved by the I-710 Technical Advisory Committee. Approximately 24 of these traffic analysis intersections are located within East Los Angeles, more than any other local jurisdiction in the I-710 Study Area, with the exception of the City of Long Beach. Nearly half of the I-710 Corridor is located in the City of Long Beach.

Additionally, a component of the build alternatives targeted to addressing mobility, safety, and congestion traffic concerns on the local arterial system within the I-710 Study Area is the Congestion Relief Program, described in Section 2.3.2.1 of the RDEIR/SDEIS and this Final EIR/EIS. The program would be structured to provide the flexibility necessary to respond to local needs and issues. The program would provide funding directly to local jurisdictions, including the County of Los Angeles acting on behalf of East Los Angeles, to set priorities for congested intersections most influenced by the freeway system within the I-710 Study Area under future No Build conditions. Should a build alternative be selected as the Preferred Alternative, the County of Los Angeles, working with Metro, would play a material role in identifying the need for improvements and in developing essential, competitive projects for the area. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element

will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

IP-37-97

Since the No Build Alternative has been selected as the Preferred Alternative, the programmatic parking restrictions on arterials have been removed from further consideration.

IP-37-98

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. The build alternatives propose Measure AQ-3 which would provide for the installation of vegetation in combination with solid barriers, where feasible, to disperse pollution and reduce pollutant concentrations downwind. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality. However, since a build alternative has not been selected as the Preferred Alternative, Measure AQ-3 will not be implemented and the Community Health Benefit Program will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

The commenter's concern regarding pavement deterioration on local streets as a result of increased traffic from the build alternatives is acknowledged and included in the project record. However, since the No Build Alternative has been selected as the Preferred Alternative, no pavement deterioration on local streets will occur as a result of the build alternatives.

IP-37-99

The commenter's opposition to Design Options 3A and 3B are acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative, and Design Option 3A is no longer under consideration.

IP-37-100

The commenter's opposition to the acquisition of land and the displacement of commercial businesses and residential housing in East Los Angeles are acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and would not result in the displacement of any residents or businesses in East Los Angeles.

IP-37-101

The commenter's opposition to Design Options 3A and 3B is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative, and Design Option 3A is no longer under consideration. Therefore, the parcel at 600 S. Sydney Dr. would not be acquired.

IP-37-102

Please refer to Response to Comment IP-37-101 regarding acquisition of the parcel at 600 S. Sydney Dr.

IP-37-103

Please refer to Response to Comment IP-37-101 regarding acquisition of the parcel at 600 S. Sydney Dr.

IP-37-104

The commenter's opposition to the increased truck traffic resulting in increased air quality pollution and noise, and support of zero emissions is acknowledged and included in the project record.

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, the purpose of the project includes accommodating projected traffic volumes and addressing increased traffic volumes resulting from projected growth in population; and employment, and economic activities related to goods movement. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions. The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of filters on the ventilation systems of schools within 0.25 mile of I-710. Measure AQ-3 would provide for the installation of solid barriers and installation of vegetation where soundwalls are not proposed to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives would include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer

to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

As detailed in Section 3.14, per the Caltrans Traffic Noise Analysis Protocol, reasonable (i.e., cost does not exceed total reasonable allowance) and feasible (i.e., achieving greater than a 5 dBA noise reduction) soundwalls would be constructed as part of the build alternatives. However, since the No Build Alternative has been selected as the Preferred Alternative, no soundwalls will be constructed.

IP-37-105

Please refer to Response to Comment IP-37-14 for more information regarding Health Impact Assessments.

It should be noted that the increase in cancer risk under Alternative 5C that includes Humphreys Avenue Elementary School would be very small (an increase of one in one million), and measures to add or enhance filtration systems at the school are proposed for the build alternatives. The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of filters on the ventilation systems of schools within 0.25 mile of I-710, including Humphreys Avenue Elementary School and Measure AQ-3 would require installation of solid barriers and installation of vegetation where soundwalls are not proposed to disperse pollution and reduce pollutant concentrations downwind. However, since the No Build Alternative has been selected as the Preferred Alternative, Measures AQ-2 and AQ-3 will not be implemented.

IP-37-106

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and C-8 (described in more detail in Sections 3.13.4 and 3.3.3.7, respectively) would be implemented and would require that schools within 0.25 mile of the build alternatives and sensitive receptors falling within an area of pollutant increase would receive upgraded or new filtration or HVAC systems. No other specific mitigation for the build alternatives is proposed at this time. However, should Metro or other public agencies with jurisdiction over a particular element of the Community Health Benefit Program implement the program as a part of a separate process, eligible facilities would be encouraged to apply.

IP-37-107

The commenter’s opposition to the removal of the DaVita Doctors Dialysis Center on Eastern is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and therefore, will not result in the displacement of the Dialysis Center

IP-37-108

The commenter's concern about effects of air quality pollution on residents living near the freeway is acknowledged and noted for the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions but no increase in cancer risk compared to the 2012 Baseline.

When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

The build alternatives propose Measures AQ-2 and AQ-3 to reduce emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would require installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives would include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freewa. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

IP-37-109

Under the build alternatives, several soundwalls are proposed to be located along I-710 in East Los Angeles between SR-60 and I-5. Please refer to sheets 33 through 35 of Figure 3.14-2 in the RDEIR/SDEIS for the soundwalls proposed in East Los Angeles for Alternative 5C, and sheets 32 and 33 of Figure 3.14-3 in the RDEIR/SDEIS for the soundwalls proposed in East Los Angeles for Alternative 7. However, as stated in Response to Comment L-37-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, these soundwalls will not be constructed.

IP-37-110

As stated in Response to Comment L-37-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, the programmatic parking restrictions on arterials proposed as part of the build alternatives have been removed from further consideration.

IP-37-111 (comment submitted in Spanish)

The commenter's opposition to Design Options 3A and 3B are acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative (Alternative 1 No Build).

La oposición de la comentarista a las Opciones de Diseño3A and 3B es reconocido y consignará en el documento del proyecto. Por favor, haga referencia a la Section 1.1 de este apéndice para más discusión sobre la identificación del Preferred Alternative.

IP-37-112 (comment submitted in Spanish)

The commenter's opposition to the acquisition of homes on S. Sydney Dr. in East Los Angeles is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and therefore, no homes on S. Sydney Dr. will be subject to relocation.

La oposición de la comentarista de la toma de viviendas en S. Sydney Dr. en East Los Angeles es reconocido y consignará en el documento del proyecto. La Alternativa 5C ha sido identificada como la Preferred Alternative. Al parte de la Preferred Alternative, ninguna casa en S. Sydney Drive estará sujeta a reubicación. La Preferred Alternative incluye una adquisición parcial de terrenos de las residencias en 656, 680, 700, 710 y 716 S. Sydney Drive; sin embargo, las adquisiciones no requerirán el desplazamiento de estas casas. Por favor, haga referencia al Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, en este Final EIR / EIS, para obtener una lista completa de las adquisiciones de propiedades.

IP-37-113 (comment submitted in Spanish)

Please refer to Response to Comment IP-37-112 regarding the acquisition of homes on S. Sydney Dr.

Por favor, haga referencia al Comentario IP-37-112 en relación con la adquisición de viviendas en S. Sydney Dr.

IP-37-114 (comment submitted in Spanish)

Please refer to Response to Comment IP-37-112 regarding the acquisition of homes on S. Sydney Dr.

Por favor, haga referencia al Comentario IP-37-112 en relación con la adquisición de viviendas en S. Sydney Dr

IP-37-115 (comment submitted in Spanish)

As stated in Response to Comment L-37-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, the programmatic parking restrictions on arterials proposed as part of the build alternatives have been removed from further consideration.

Como se indicó en la respuesta al comentario L-37-2, la alternativa de no construir ha sido seleccionada como la alternativa preferida y, por lo tanto, las restricciones programáticas de estacionamiento en las arterias propuestas como parte de las alternativas de construir han sido eliminadas de consideración.

IP-37-116 (comment submitted in Spanish)

The commenter's opposition to Design Options 3A and 3B are acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and Design Options 3A and 3B are no longer under consideration.

La oposición del comentador a las Opciones de Diseño 3A y 3B son reconocidas e incluidas en el expediente del proyecto. La Alternativa 1 (No Construir) ha sido identificada como la Alternativa Preferida y las Opciones de Diseño 3A y 3B ya no están bajo consideración..

IP-37-117 (comment submitted in Spanish)

The commenter's opposition to increasing truck traffic on I-710 is acknowledged and included in the project record. As discussed in Section 3.14, Air Quality, the build alternatives would increase PM_{10} emissions in the vicinity of I-710 from increases in entrained road dust, tire wear and brake wear (which are a direct function of vehicle miles traveled) compared to the 2012 Baseline and the 2035 No Build Alternative.

La oposición del autor del comentario al aumento del tráfico de camiones en la I 710 se reconoce y se incluye en el expediente del proyecto. Como se discutió en la Sección 3.14, Calidad del Aire, las alternativas de construcción aumentarían las emisiones de PM10 en las inmediaciones de la I 710 por el aumento de polvo arrastrado por la carretera, el desgaste de los neumáticos y el desgaste de los frenos (que son una función directa de las millas recorridas por los vehículos) en comparación con la línea de base de 2012 y la alternativa de no construir en 2035.

IP-37-118 (comment submitted in Spanish)

Please refer to Response to Comment IP-37-14 for more information regarding Health Impact Assessments.

Schools (from kindergarten through 12th grade) are considered sensitive receptors under the Caltrans Traffic Noise Analysis Protocol and were taken into consideration in the noise analysis.

It should be noted that the increase in cancer risk under Alternative 5C that includes Humphreys Avenue Elementary School would be very small (an increase of one in one million), and measures to add or enhance filtration systems at the school are proposed for the build alternatives. Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for installation of filters on the ventilation systems of schools within 0.25 mile of I-710, including Humphreys Avenue Elementary School. Measure AQ-3 would provide for the installation of solid barriers and installation of vegetation where soundwalls are not proposed to disperse pollution and reduce pollutant concentrations downwind. However, since the No Build Alternative has been selected as the Preferred Alternative, Measures AQ-2 and AQ-3 will not be implemented.

Consulte la respuesta al comentario IP-37-14 para obtener más información sobre las evaluaciones del impacto sobre la salud.

Las escuelas (desde el jardín de infancia hasta el 12º grado) se consideran receptores sensibles según el Protocolo de análisis del ruido del tráfico de Caltrans y se tuvieron en cuenta en el análisis del ruido.

Cabe señalar que el aumento del riesgo de cáncer en la alternativa 5C que incluye la escuela primaria Humphreys Avenue sería muy pequeño (un aumento de uno en un millón), y se proponen medidas para añadir o mejorar los sistemas de filtración en la escuela para las alternativas de construcción. En caso de que se elija una alternativa de construcción como alternativa preferida, las medidas AQ-2 y AQ-3 reducirían la exposición a las emisiones en lugares cercanos a la carretera. La medida AQ-2 dispondría la instalación de filtros en los sistemas de ventilación de las escuelas situadas a 0,25 millas de la I 710, incluida la Escuela Primaria Humphreys Avenue. La medida AQ-3 dispondría la instalación de barreras sólidas y la instalación de vegetación donde no se propongan pantallas acústicas para dispersar la contaminación y reducir las concentraciones de contaminantes a sotavento. Sin embargo, dado

que la alternativa de no construir ha sido seleccionada como la alternativa preferida, las medidas AQ-2 y AQ-3 no se implementarán.

IP-37-119 (comment submitted in Spanish)

Noise increases in East Los Angeles were modeled at Receptors NB-46 through NB-55. As shown in Table 3.12-2 in Section 3.14, Noise, of the RDEIR/SDEIS, the change in noise levels at these receptors would range from -1.4 dBA to 12.6 dBA for Alternative 5C and from -1.1 dBA to 12.9 dBA for Alternative 7. Soundwalls were considered at all impacted receptors to reduce noise impacts resulting from the build alternatives. As detailed in Section 3.14, per the Caltrans Traffic Noise Analysis Protocol, reasonable (i.e., wherein the cost does not exceed total reasonable allowance) and feasible (i.e., achieving greater than a 5 dBA noise reduction) soundwalls would be constructed should a build alternative be selected as the Preferred Alternative. Soundwalls determined to be feasible and reasonable were outlined in Section 3.14.5.10, Preliminary Decision on Soundwalls, of the RDEIR/SDEIS. However, since the No Build Alternative was selected as the Preferred Alternative, no soundwalls will be constructed.

Los aumentos de ruido en el este de Los Ángeles se modelaron en los receptores NB-46 a NB-55. Como se muestra en la Tabla 3.12-2 de la Sección 3.14, Ruido, del RDEIR/SDEIS, el cambio en los niveles de ruido en estos receptores oscilaría entre -1,4 dBA y 12,6 dBA para la Alternativa 5C y entre -1,1 dBA y 12,9 dBA para la Alternativa 7. Se consideraron muros de contención acústica en todos los receptores afectados para reducir el impacto acústico resultante de las alternativas de construcción. Se estudió la posibilidad de instalar pantallas acústicas en todos los receptores afectados para reducir el impacto acústico resultante de las alternativas de construcción. Como se detalla en la sección 3.14, según el protocolo de análisis del ruido del tráfico de Caltrans, se construirían pantallas acústicas razonables (es decir, cuyo coste no supere la asignación total razonable) y viables (es decir, que logren una reducción del ruido superior a 5 dBA) si se selecciona una alternativa de construcción como alternativa preferida. En la sección 3.14.5.10, Decisión preliminar sobre muros de contención acústica, de la RDEIR/SDEIS, se describen los muros de contención acústica considerados viables y razonables. Sin embargo, dado que se seleccionó la alternativa de no construir como alternativa preferida, no se construirán muros de contención acústica.

IP-37-120 (comment submitted in Spanish)

Should a build alternative be selected as the Preferred Alternative, several soundwalls along I-710 in East Los Angeles between SR-60 and I-5 would likely be constructed. Please refer to sheets 33 through 35 of Figure 3.14-2 in the RDEIR/SDEIS for the soundwalls proposed in East Los Angeles for Alternative 5C and sheets 32 and 33 of Figure 3.14-3 in the RDEIR/SDEIS for the soundwalls proposed in East Los Angeles for Alternative 7. However, since the No Build Alternative was selected as the Preferred Alternative, no soundwalls will be constructed.

Si se selecciona una alternativa de construcción como la Alternativa Preferida, es probable que se construyan varios muros de contención acústica a lo largo de la I 710 en el Este de Los Ángeles entre la SR-60 y la I 5. Consulte las hojas 33 a 35 de la Figura 3.14-2 en el RDEIR/SDEIS para conocer los muros de contención acústica propuestos en el este de Los Ángeles para la Alternativa 5C y las hojas 32 y 33 de la Figura 3.14-3 en el RDEIR/SDEIS para conocer los muros de contención acústica propuestos en el este de Los Ángeles para la Alternativa 7. Sin embargo, dado que se eligió la alternativa de no construir como alternativa preferida, no se construirán muros de contención acústica.

IP-37-121 (comment submitted in Spanish)

As described in more detail in Section 3.14, Noise, of the Final EIR/EIS, soundwalls are proposed where feasible and reasonable throughout the I-710 Corridor to abate freeway noise impacts as a result of the build alternatives. Section 3.13 of the Final EIR/EIS, Air Quality, describes air quality-related impacts and proposed avoidance, minimization, and/or mitigation measures for the build alternatives. Further, Section 3.3.3 of the Final EIR/EIS outlines proposed mitigation measures for disproportionate adverse impacts to environmental justice communities resulting from the build alternatives, which include noise abatement and air filtration systems in specific areas. The locations of abatement or filtration systems was determined by whether or not they would fall into an area of increased noise or increased pollutants as a result of the build alternatives. However, since the No Build Alternative was selected as the Preferred Alternative, no soundwalls will be constructed and mitigation measures related to air quality will not be implemented.

Como se describe con más detalle en la Sección 3.14, Ruido, del EIR/EIS Final, se proponen muros de sonido donde sea factible y razonable a lo largo del Corredor I 710 para disminuir los impactos del ruido de la autopista como resultado de las alternativas de construcción. La Sección 3.13 del EIR/EIS Final, Calidad del Aire, describe los impactos relacionados con la calidad del aire y las medidas propuestas para evitar, minimizar y/o mitigar las alternativas de construcción. Además, la Sección 3.3.3 del EIR/EIS Final describe las medidas de mitigación propuestas para los impactos adversos desproporcionados a las comunidades de justicia ambiental resultantes de las alternativas de construcción, que incluyen la reducción del ruido y sistemas de filtración de aire en áreas específicas. La ubicación de los sistemas de reducción o filtración se determinó en función de si se encontrarían o no en una zona de aumento de ruido o de aumento de contaminantes como consecuencia de las alternativas de construcción. Sin embargo, dado que la alternativa preferida es la de no construir, no se construirán pantallas acústicas ni se aplicarán medidas de mitigación relacionadas con la calidad del aire.

IP-37-122 (comment submitted in Spanish)

The commenter's opposition to the removal of the DaVita Doctors Dialysis Center on Eastern is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative and therefore, the DaVita Doctors Dialysis Center will not be displaced.

Se reconoce e incluye en el expediente del proyecto la oposición del comentador a la eliminación del Centro de Diálisis DaVita Doctors en Eastern. La Alternativa 1 (No Construir) ha sido identificada como la Alternativa Preferida y, por lo tanto, el Centro de Diálisis DaVita Doctors no será desplazado.

IP-37-123 (comment submitted in Spanish)

The commenter's concern about effects of air quality pollution on residents living near the freeway is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions, but no increase in cancer risk when compared to the 2012 Baseline.

When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce emissions at near-roadway locations. Measure AQ-2 would require filters on the ventilation systems of schools near I-710. Measure AQ-3 would require installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the

owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more details regarding the Community Health Benefit Program.

La preocupación del autor del comentario sobre los efectos de la contaminación de la calidad del aire en los residentes que viven cerca de la autopista se reconoce y se incluye en el expediente del proyecto. Como se discute en la Sección 1.2.2 en el Capítulo 1.0, Proyecto Propuesto, del RDEIR/SDEIS, uno de los propósitos del proyecto es mejorar la calidad del aire y la salud pública. Como se discute en la Sección 3.13, Calidad del Aire, en el RDEIR/SDEIS, todas las alternativas de construcción mejorarían en general la calidad del aire y reducirían el riesgo para la salud pública. A lo largo de la I 710, la calidad del aire mejoraría y el riesgo para la salud pública se reduciría en la mayoría de los lugares, pero habría unos pocos lugares cerca de la carretera donde habría un aumento de ciertas emisiones, pero no un aumento en el riesgo de cáncer en comparación con la línea de base de 2012.

En comparación con la alternativa de no construir en 2035, ambas alternativas de construcción reducirían el riesgo de cáncer en la mayoría de las ubicaciones; sin embargo, se produciría un pequeño aumento del riesgo de cáncer en algunas ubicaciones dentro de los 100 metros de la I 710. Para la alternativa 5C, el aumento máximo del riesgo sería de aproximadamente tres en un millón. En comparación con la alternativa de no construir en 2035, ambas alternativas de construcción reducirían el riesgo de cáncer en la mayoría de los lugares; sin embargo, se produciría un pequeño aumento del riesgo de cáncer en algunos lugares dentro de los 100 metros de la I 710. Para la alternativa 5C, el aumento máximo del riesgo sería de aproximadamente tres en un millón. La ubicación principal del aumento del riesgo para la alternativa 5C ocurriría a lo largo de una pequeña porción de la I 710 justo al sur de la SR-60. En el caso de la variante 7, el aumento del riesgo sería inferior a uno entre un millón. Para la variante 7, el aumento del riesgo sería inferior a uno en un millón.

En caso de que se elija la alternativa de construcción como alternativa preferida, las medidas AQ-2 y AQ-3 reducirían las emisiones en las proximidades de las carreteras. La medida AQ-2 requeriría filtros en los sistemas de ventilación de las escuelas cercanas a la I 710. La medida AQ-3 exigiría la instalación de barreras sólidas donde no se propongan pantallas acústicas y la instalación de vegetación para dispersar la contaminación y reducir las concentraciones de contaminantes a sotavento. Además, las alternativas de construcción incluyen componentes programáticos para ayudar a mejorar la calidad del aire y la salud pública en el corredor de la I 710. El Programa de Beneficios para la Salud de la Comunidad del Corredor I 710 es un componente programático de las alternativas de construcción y tomaría la forma de un programa de subvenciones estructurado para proporcionar a las comunidades del corredor la oportunidad de implementar proyectos o actividades de divulgación que mejorarían la calidad del aire y la salud pública relacionadas con los viajes y el movimiento de mercancías en la I 710. Sin embargo, dado que no se ha seleccionado una alternativa de construcción como Alternativa Preferida, este elemento programático no será implementado por Caltrans como agencia líder bajo CEQA y

NEPA y como propietario/operador de la autopista I-710. Consulte la Sección 1.10 de este apéndice para obtener más detalles sobre el Programa Comunitario de Beneficios para la Salud.

IP-37-124 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for specific responses to comments related to impacts in East Los Angeles.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para conocer las respuestas específicas a los comentarios relacionados con los impactos en el este de Los Ángeles.

IP-37-125 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for specific responses to comments related to impacts in East Los Angeles.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para conocer las respuestas específicas a los comentarios relacionados con los impactos en el este de Los Ángeles.

IP-37-126 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for specific responses to comments related to impacts in East Los Angeles.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para conocer las respuestas específicas a los comentarios relacionados con los impactos en el este de Los Ángeles.

IP-37-127 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for specific responses to comments related to impacts in East Los Angeles.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para conocer las respuestas específicas a los comentarios relacionados con los impactos en el este de Los Ángeles.

IP-37-128 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for specific responses to comments related to impacts in East Los Angeles.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para conocer las respuestas específicas a los comentarios relacionados con los impactos en el este de Los Ángeles.

IP-37-129

The commenter's opposition to Design Options 3A and 3B are acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative (Alternative 1 No Build).

IP-37-130

The commenter's opposition to the taking of homes on S. Sydney Dr. in East Los Angeles is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative. As part of the Preferred Alternative, no homes on S. Sydney Dr. will be subject to relocation.

IP-37-131

Please refer to Response to Comment IP-37-130 regarding the acquisition of homes on S. Sydney Dr. in East Los Angeles.

IP-37-132

Please refer to Response to Comment IP-37-130 regarding the acquisition of homes on S. Sydney Dr. in East Los Angeles.

IP-37-133

As stated in Response to Comment L-37-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, the programmatic parking restrictions on arterials proposed as part of the build alternatives have been removed from further consideration.

IP-37-134

Please refer to Response to Comment IP-37-129 regarding Design Options 3A and 3B.

IP-37-135

The commenter's opposition to increasing truck traffic on I-710 is acknowledged and included in the project record. As discussed in Section 3.14, Air Quality, the build alternatives would increase PM_{10} emissions in the vicinity of I-710 from increases in entrained road dust, tire wear and brake wear (which are a direct function of vehicle miles traveled) compared to 2012 Baseline and compared to the 2035 No Build Alternative.

IP-37-136

Please refer to Response to Comment IP-37-14 for more information regarding Health Impact Assessments.

Schools (from kindergarten through 12th grade) are considered sensitive receptors under the Caltrans Traffic Noise Analysis Protocol and were taken into consideration in the noise analysis. It should be noted that the increase in cancer risk under Alternative 5C that would include Humphreys Avenue Elementary School would be very small (an increase of one in one million), and, should a build alternative be selected as the Preferred Alternative, measures to add or enhance filtration systems at the school would be implemented. The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of filters on the ventilation systems of schools within 0.25 mile of I-710, including Humphreys Avenue Elementary School. Measure AQ-3 would require installation of solid barriers and installation of vegetation where soundwalls are not proposed to disperse pollution and reduce pollutant concentrations downwind. However, since the No Build Alternative was selected as the Preferred Alternative, Measures AQ-2 and AQ-3 will not be implemented.

IP-37-137

Noise increases in East Los Angeles were modeled at Receptors NB-46 through NB-55. As shown in Table 3.12-2 in Section 3.14, Noise, of the RDEIR/SDEIS, the change in noise levels at these receptors would range from -1.4 dBA to 12.6 dBA for Alternative 5C and from -1.1 dBA to 12.9 dBA for Alternative 7. Soundwalls were considered at all impacted receptors to reduce noise impacts resulting from the build alternatives. As detailed in Section 3.14, per the Caltrans Traffic Noise Analysis Protocol, should a build alternative be selected as the Preferred Alternative, reasonable (i.e., wherein the cost does not exceed total reasonable allowance) and feasible (i.e., achieving greater than a 5 dBA noise reduction) soundwalls would be constructed. Soundwalls determined to be feasible and reasonable are outlined in Section 3.14.5.10, Preliminary Decision on Soundwalls, of the RDEIR/SDEIS. However, since the No Build Alternative was selected as the Preferred Alternative, soundwalls will not be constructed as part of the build alternatives.

IP-37-138

The build alternatives propose several soundwalls along I-710 in East Los Angeles between SR-60 and I-5. Please refer to sheets 33 through 35 of Figure 3.14-2 in the RDEIR/SDEIS for the soundwalls proposed in East Los Angeles for Alternative 5C and sheets 32 and 33 of Figure 3.14-3 in the RDEIR/SDEIS for the soundwalls proposed in East Los Angeles for Alternative 7. However, since the No Build Alternative was selected as the Preferred Alternative, these soundwalls will not be constructed as part of the build alternatives.

IP-37-139

As described in more detail in Section 3.14, Noise, of the Final EIR/EIS, soundwalls are proposed where feasible and reasonable throughout the I-710 Corridor to abate freeway noise impacts as a result of the build alternatives. Section 3.13 of this Final EIR/EIS, Air Quality, describes air quality-related impacts and proposed avoidance, minimization, and/or mitigation measures for the build alternatives. Further, Section 3.3.3 of this Final EIR/EIS outlines proposed mitigation measures for disproportionate adverse impacts to environmental justice communities resulting from the build alternatives, which would include noise abatement and air filtration systems in specific areas. The locations of abatement or filtration systems was determined by whether or not they would fall into an area of increased noise or increased pollutants as a result of the build alternatives. However, since the No Build Alternative was selected as the Preferred Alternative, these noise and air quality mitigation measures will not be implemented.

IP-37-140

The commenter's opposition to the removal of the DaVita Doctors Dialysis Center on Eastern is acknowledged and included in the project record. Alternative 1 (No Build) has been identified as the Preferred Alternative. Under the Preferred Alternative, the DaVita Doctors Dialysis Center will not be displaced.

IP-37-141

The commenter's concern about effects of air quality pollution on residents living near the freeway is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along I-710, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions, but no increase in cancer risk when compared to the 2012 Baseline.

When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would be implemented to reduce emissions at near-roadway locations. Measure AQ-2 would require filters on the ventilation systems of schools near I-710. Measure AQ-3 would require

installation of solid barriers where soundwalls are not proposed to reduce noise impacts and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives would include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information on the Community Health Benefit Program.

IP-37-142

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-143

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-144

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-145

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-146

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-147

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-148

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-149

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-150

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-151

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-152

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-153

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-154

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-155

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-156

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IP-37-157

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IP-37-158

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IP-37-159

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IP-37-160

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IP-37-161

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IP-37-162

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-163

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IP-37-164

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IP-37-165

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IP-37-166

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IP-37-167

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-168

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-169

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-170

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-171

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-172

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-173

Please refer to Responses to Comments IP-37-129 through IP-37-141 for detailed responses to your comments.

IP-37-174 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for detailed responses to your comments.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para obtener respuestas detalladas a sus comentarios.

IP-37-175 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for detailed responses to your comments.

Por favor, haga referencia a las Responses to Comments IP-37-111 a IP-37-123 for detailed responses to your comments.

IP-37-176 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for detailed responses to your comments.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para obtener respuestas detalladas a sus comentarios.

IP-37-177 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for detailed responses to your comments.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para obtener respuestas detalladas a sus comentarios.

IP-37-178 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for detailed responses to your comments.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para obtener respuestas detalladas a sus comentarios.

IP-37-179 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for detailed responses to your comments.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para obtener respuestas detalladas a sus comentarios..

IP-37-180 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for detailed responses to your comments.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para obtener respuestas detalladas a sus comentarios.

IP-37-181 (comment submitted in Spanish)

Please refer to Responses to Comments IP-37-111 through IP-37-123 for detailed responses to your comments.

Consulte las respuestas a los comentarios IP-37-111 a IP-37-123 para obtener respuestas detalladas a sus comentarios.

IP-37-182

The comments provided herein were made on the SR-710 North Project Draft EIR/EIS, which was released for public circulation in 2015. The SR-710 North Project is a separate SR-710 project distinct from that of the I-710 Corridor Project, which terminates at SR-60, over two miles south of the SR-710 North Project southern terminus. These comments will be responded to in the Final EIR/EIS for the SR-710 North Project.

IP-37-183

Please refer to Response to Comment IP-37-25 regarding acquisitions in East Los Angeles.

IP-37-184

As stated in Response to Comment IP-37-2, the programmatic parking restrictions on arterials proposed as part of the build alternatives have been removed from further consideration.

IP-37-185

Please refer to Response to Comment IP-37-184 regarding parking restrictions on arterials.

IP-37-186

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

IP-37-187

Please refer to Section 1.2 of this appendix for more information regarding the public hearings held for the project. In general, Commerce was selected as the location of the public hearing for the northern end of the Study Area because of the greater amount of relocation impacts that would occur within the City as a result of the build alternatives.

IP-37-188

The commenter's opposition to all build alternatives and concern for displacement of residents and businesses in East Los Angeles as a result of the build alternatives are acknowledged and included in the project record. Caltrans and Metro determined there was a need for the build alternatives to improve air quality, address freeway capacity and transportation demands, and improve traffic safety. Please refer to Section 1.2, Need and Purpose, of this Final EIR/EIS for more details regarding the need for the project. Alternative 1 (No Build) has been identified as the Preferred Alternative and would not result in the displacement of residents or business in East Los Angeles. However, Appendix L, Parcel Acquisitions Under Alternatives 5C and 7, in this Final EIR/EIS, contains a list of full or partial acquisitions and the relative displacement for each build alternative. However, since the No Build Alternative has been selected as the Preferred Alternative, no full or partial acquisitions will be necessary.

IP-37-189

As stated in Response to Comment IP-37-2, the programmatic parking restrictions on arterials proposed as part of the build alternatives have been removed from further consideration.

IP-37-190

The motion to consider a Design Option within the East Los Angeles area was made by the County representative at the Project Committee meeting in July 2014, and the East Los Angeles LAC was briefed on the Design Options prior to performing the analysis that informed the RDEIR/SDEIS in April 2015.

IP-37-191

Please refer to Response to Comment IP-37-187 regarding the public hearings held for the project.

IP-37-192

Please refer to Response to Comment IP-37-189 the programmatic parking restrictions on arterials.

IP-37-193

Please refer to Response to Comment IP-37-189 the programmatic parking restrictions on arterials.

IP-37-194

Please refer to Response to Comment IP-37-187 regarding the public hearings held for the project.

IP-37-195

Please refer to Response to Comment IP-37-189 regarding the programmatic parking restrictions on arterials.

IP-37-196

Please refer to Response to Comment IP-37-189 regarding the programmatic parking restrictions on arterials.

IP-37-197

Please refer to Responses to Comments IP-37-186 through IP-37-190 for detailed responses to your comments.

IP-37-198

Please refer to Responses to Comments IP-37-193 and IP-37-194 for detailed responses to your comments.

IP-37-199

Please refer to Response to Comment IP-37-189 regarding the programmatic parking restrictions on arterials.

IP-37-200

Please refer to Response to Comment IP-37-185 regarding the programmatic parking restrictions on arterials.

IP-37-201

Please refer to Responses to Comments IP-37-186 through IP-37-190 for detailed responses to your comments.

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October 23, 2017

Via U.S. Mail and Electronic Mail

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Re: Union Pacific Railroad Company's Comments to the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) For the Interstate 710 (710) Corridor Project

Dear Mr. Kosinski:

Union Pacific Railroad Company ("UP") appreciates this opportunity to comment on the July 2017 Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement ("RDEIR/SDEIS") for the Interstate 710 ("710") Corridor Project ("710 Project" or "Project"), prepared by the California Department of Transportation ("Caltrans").[1]

UP has a specific interest in the proposed Project because construction and implementation of the Project will significantly impact UP rail infrastructure and operations throughout the 710 Corridor. Such impacts include permanent encroachments and construction easements upon UP's right-of-way and other operating property resulting in the loss of existing rail lines and infrastructure. The loss of rail infrastructure and land will impact the design and functioning of existing rail facilities, disrupt rail operations, and ultimately negatively affect UP's service to its customers. Given the Project impacts on UP, Caltrans must obtain a Memorandum of Understanding and Construction and Maintenance ("C&M") Agreements with UP prior to any construction within or above any railroad right-of-way.[2] IP-38-1

UP previously commented on an earlier version of the Project analyzed in a 2012 Draft EIR/EIS. UP appreciates Caltrans' desire for modernization of the existing 710 Corridor and is supportive of the proposed Project as a whole. However, the RDEIR/SDEIS introduces considerable changes to the proposed Project and a large number of new and potentially substantial impacts to UP's rail lines and operations as compared to the former 2012 plan. As a result, for reasons discussed more fully below, UP opposes the two Build Alternatives (Alternative 5C and Alternative 7) identified in the RDEIR/SDEIS to the extent that they impact IP-38-2

[1] Caltrans, in cooperation with the Los Angeles County Metropolitan Transportation Authority, the Gateway Cities Council of Governments, the Southern California Association of Governments, the Ports of Los Angeles and Long Beach, and the Interstate 5 Joint Powers Authority, are proposing to improve Interstate 710 in Los Angeles County between Ocean Blvd. and State Route 60. Caltrans is the lead agency under the National Environmental Policy Act ("NEPA") and the California Environmental Quality Act ("CEQA").
[2] These necessary approvals are acknowledged on page 2-96 of the RSEIR/SDEIS.

or potentially impact UP rail infrastructure and operations, absent reaching agreement with Caltrans regarding the full scope of potential impacts to UP's rail infrastructure and operations, implementation of feasible mitigations, and adequate compensatory solutions to address non-mitigatable Project impacts. To this end, UP requests that Caltrans initiate substantive discussions with UP's project, engineering, real estate, and legal teams prior to preparation of the Final EIR/EIS. UP also requests that Caltrans explicitly recognize and acknowledge that the Project will adhere to UP's operational and rail standards (specific to grade separation, design, health and safety, public crossing, operating standards, etc.), as applicable. IP-38-2 IP-38-3

I. UP Owns and Operates Critical Rail Lines and Rail Facilities within the Project Area, Many of Which Will be Significantly Affected by the Proposed Project

A. General

UP owns and operates a common carrier railroad network in the western half of the United States, including the State of California. Specifically, UP owns and operates main rail lines connecting San Francisco and Sacramento and points east and north, and to Los Angeles and points east and southeast. UP is the largest rail carrier in California in terms of both mileage and train operations. UP's rail network is vital to the economic health of California and the nation as a whole and its rail service to customers in the Los Angeles and 710 Corridor Area is crucial to the future success and growth of its customers.

The Ports of Los Angeles and Long Beach are the gate of entry for approximately forty percent of the goods imported into the United States, a significant portion of which are carried by rail across the Los Angeles Basin to the rest of the country. Some 1.6 million jobs in Southern California depend on the movement of these goods and UP's rail network in the Basin is a key engine of this critical component of the State's economy.

Unlike road infrastructure, railroads are fixed systems that cannot easily accommodate detours or obstructions. Each component of the rail network is critical to the overall fluidity and velocity of rail operations, and disruptions in one location can cause a cascading series of delays that can impact operations and communities, including those many miles away. For these reasons, UP is especially concerned that the proposed Project Description, as it relates to construction activities that could affect UP's rail and railyard operations, is not sufficiently detailed to allow such indirect impacts to be identified. For example, construction planned for the overpass traversing the UP East Los Angeles/Commerce Intermodal Railyard ("East LA Railyard") could cause significant disruptions in yard operations, which could affect not only the residents of Commerce, but those in communities many miles away, from the neighborhoods in Carson to those in Colton. Any limitation of the environmental evaluation of rail construction impacts that does not take into account such potential impacts is inadequate. IP-38-4

B. East LA Intermodal Railyard

Although rail disruptions anywhere on UP's lines could have significant impacts, UP's East LA Railyard is an especially important component of the UP rail network that appears particularly impacted by the proposed Project. This yard is approximately four miles southeast of downtown Los Angeles and runs directly parallel (for about a mile) and across Washington Boulevard from the largest intermodal railyard in the United States, BNSF Railway Hobart

Railyard. The UP East LA Railyard covers a triangular area surrounded by both residential and commercial properties, as well as several major freeways. An overpass for the 710 freeway bisects the East LA Railyard. To the south side of the railyard (on both sides of the 710 overpass), residences are located between the railyard fence line and Washington Boulevard. Bandini Elementary School is also located in this area. The north side of the UP East LA Railyard is surrounded by commercial properties and residential housing. Residential properties are located north of the railyard on both sides of the 710 freeway overpass, approximately 200 feet from the railyard.

Facilities within the East LA Railyard include: classification tracks, a gate complex for inbound and outbound intermodal truck traffic, intermodal loading and unloading tracks, a locomotive service track, a locomotive maintenance shop, a freight car repair shop, an on-site wastewater treatment plant, and various buildings and facilities supporting railroad and contractor operations.

The East LA Railyard is a cargo handling facility with a focus on domestic containers. An estimated 450,000 containers are processed each year. Cargo containers and other freight are received, sorted, and distributed from the facility. Intermodal containers may arrive at the facility by truck to be loaded onto trains for transport to distant destinations, or arrive by train and unloaded onto chassis for transport by truck to local destinations. Cargo containers and chassis are also temporarily stored at the railyard. The railyard also includes facilities for crane and yard hostler maintenance, locomotive service and repair, and on-site wastewater treatment.

Activities at the UP East LA Railyard include receiving inbound trains, switching rail cars, loading and unloading intermodal trains, storing intermodal containers and truck chassis, building and departing outbound trains, and repairing freight cars and intermodal containers/chassis. The railyard includes a bypassing main line with freight and passenger train traffic that is not part of the railyard operations.

Within the East LA Railyard, the primary locomotive operations are associated with arriving, departing, and servicing interstate line haul locomotives. Arriving and departing line haul locomotives are fueled in the locomotive service area after arrival, and are sent back into the railyard or to other railyards after service. A locomotive maintenance shop also performs periodic and unscheduled maintenance on locomotives. Three switch locomotives (i.e., dedicated to moving rail cars within the railyard) also operate within the railyard— one on the west end of the railyard, and a pair on the east end of the railyard. They are used to move sections of inbound trains to appropriate areas within the railyard (e.g., intermodal rail cars go to the intermodal ramp for unloading and loading), and to move sections of outbound trains to tracks from which they will depart.

In order for UP to remain a presence in the intermodal business, we modernize facilities based on present and future demands. This proposed Project needs to ensure that those future needs can be met. Any disruption of these operations can slow the processing of containers, which can result in increased truck queuing time and congestion on area streets, increased idling emissions for trucks and locomotives, intensified use of alternative routes with increased noise and emission impacts and increased congestion along the alternative routes, among other things.

The complexity of these critical operations and the impact of the Project upon them must be thoroughly analyzed in order to properly identify the Project's impacts and develop appropriate mitigation measures. IP-38-5

II. Preemption: Railroad Operations are Under the Exclusive Jurisdiction of the Federal Surface Transportation Board

Federal law recognizes the critical nature of rail operations and the needs for consistent, predictable operating conditions. Accordingly, only the Federal Surface Transportation Board ("STB") has authority to regulate the use of railroad property. As set forth in the Interstate Commerce Commission Termination Act ("ICCTA"), the STB has exclusive and preemptive jurisdiction over:

(1) transportation by rail carriers, and the remedies provided in this part with respect to rates, classifications, rules (including car service, interchange, and other operating rules), practices, routes, services, and facilities of such carriers; and

(2) the construction, acquisition, operation, abandonment, or discontinuance of spur, industrial, team, switching, or side tracks, or facilities, even if the tracks are located, or intended to be located, entirely in one State, is exclusive. Except as otherwise provided in this part, the remedies provided under this part with respect to regulation of rail transportation are exclusive and preempt the remedies provided under Federal or State law. 49 U.S.C. § 10501(b) (emphasis added).

Thus, UP's continued operation of its rail lines cannot be disturbed except as directed by the STB. Accordingly, the RDEIR/SDEIS should not assume that any (even potentially temporary) encroachment of railroad right-of-way and/or relocation or acquisition of UP's rail lines as a result of the proposed Project is feasible, and such encroachment or relocation must be thoroughly described in order to evaluate not only its impacts, but whether such requirements are preempted. IP-38-6

III. The RDEIR/SDEIS Fails to Provide Necessary Information Required for Informed Decision-Making under NEPA

As noted above, the RDEIR/SDEIS does not adequately contain sufficient detail to allow the public to understand the relevant environmental consequences of the proposed Project as related to UP rail infrastructure and operations. For the reasons set forth below, the analysis of the project is insufficient under NEPA, thereby undermining reasoned judgment on the project and failing the required purposes of such environmental and information-gathering statutes. *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) (noting NEPA's purposes are to ensure the agency will have detailed information on significant environmental impacts when it makes its decisions and to guarantee that this information will be available to a larger audience); 40 C.F.R. §§ 1502.1, 1502.14.

A. The RDEIR/SDEIS does not contain sufficient detail about potential environmental impacts of the proposed Project on rail infrastructure and operations.

NEPA requires agencies to take a good faith "hard look" at the potential consequences of a project, analyze its potential impact on the environment and identify unavoidable adverse consequences of the proposed action and of alternative actions. *See* 42 U.S.C. § 4332(C). In addition, NEPA requires agencies to consider all substantial evidence when analyzing significant impacts and consider impacts within the setting in which they occur. *See* 40 CFR § 1508.27(a)).

Here, the RDEIR/SDEIS is insufficient because it does not include a sufficiently detailed analysis of the Project's potential impacts on existing UP rail lines and operations. Instead, the environmental analysis of the two build project alternatives focuses on basic design components and the RDEIR/SDEIS includes only a mere single half page of general descriptions regarding proposed modifications to rail facilities.[3] Appendix O (Concept Plans) provides more detailed mapping showing the design features of the revised build alternatives and the locations of those features, but it is not clear from those maps whether and/or to what extent rail is impacted (see discussion in Section IV below). IP-38-7

B. <u>The RDEIR/SDEIS does not consider the importance and interdependence of UP's rail lines and rail facilities within the larger 710 Corridor, as well as their integral role in the national transportation infrastructure.</u>

NEPA requires a "full and fair discussion of significant environmental impacts" as part of an EIS. 40 C.F.R. § 1502.1; *see also* 42 U.S.C. § 4332 (C); 40 C.F.R. §, 1508.7. This includes analysis of both direct and indirect environmental impacts of the proposed action. 40 C.F.R. § 1508.8. Direct effects are caused by the action and occur at the same time and place. 40 C.F.R. § 1508.8(a). Indirect effects are those caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. *See* 40 C.F.R § 1508.8(b). Both include "effects on natural resources and on the components, structures, and functioning of affected ecosystems," as well as "aesthetic, historic, cultural, economic, social, or health [effects]." *Id.* (emphasis added). NEPA requires that federal agencies explain and evaluate economic effects to the extent they are interrelated to the natural or physical environment (*id.* at § 1508.14).

Here, however, the RDEIR/SDEIS does not adequately discuss the effects of the proposed Project on UP rail lines and operations, nor the cascading or spillover effects such impacts could have on the larger interconnected regional and national rail network and UP's goods movement activities. As noted above, UP's rail lines and the East LA Railyard are key components of the vital goods movement economy in Southern California and serve markets across the country. Disruptions of these operations can have cascading impacts not only on rail operations and communities across the Basin, but also in the Ports. For example, UP's San Pedro and Alameda Corridor rail lines both connect the Ports of Los Angeles and Long Beach to the BNSF and UP rail facilities in East Los Angeles, which in turn connect the Ports to the rest of the country. Should operations on the lines be impacted by the Project, traffic at the Ports could be backed up, causing delays in container ship unloading, shipment of containers, etc. Rerouting traffic to trucks or changing the usual rail route could have adverse impacts on neighborhoods not currently affected by goods movement. These changes could result in new and/or more concentrated impacts to residential neighborhoods and other areas not originally included in project baseline assumptions. Even temporary rail disruptions could have far- IP-38-8

[3] *See* RDEIR/SDEIS, pp. 2-13, 2-18.

reaching environmental and economic consequences. Caltrans must provide an analysis of how it will minimize those consequences in its construction and engineering planning. IP-38-8

IV. The RDEIR/SDEIS Does Not Sufficiently Analyze Potential Impacts to Rail Infrastructure and/or Operations Even Though the Project as Currently Proposed Likely: (1) Requires Relocation and/or Redirection of UP's Property, (2) Results in Significant Adverse Impacts, and (3) Obstructs UP's Ongoing and Future Operations in the Region.

The RDEIR/SDEIS analyzes a new set of Project alternatives, including Alternative 1 (No Build), Alternative 5C (Modernization of 710 Freeway)[4], and Alternative 7 (Modernization and Addition of a Clean-Emission Freight Corridor)[5].

The RDEIR/SDEIS acknowledges that the proposed Project will require significant modifications to rail facilities[6], but the discussion is limited to a single half page and focuses on big picture generalities, such as "[r]oadway or railway grade separation structures would be replaced, widened, added and/or removed in order to accommodate lane additions, modified freeway alignments, and reconfigured interchanges. Some intersecting roadways and railroad crossings entail realignment of local roadways and/or railroads."[7] The RDEIR/SDEIS specifies the following UP railroad crossings as requiring modifications under either build alternative:

- Reconstruction of the UP Railroad San Pedro Subdivision at I-405 and at 710, in Long Beach.
- Widening of the UP Railroad San Pedro Subdivision at 710, in South Gate.
- Reconstruction of UP Railroad Patata Industrial Lead at 710, in South Gate, to accommodate the wider freeway.
- Reconstruction of UP Railroad La Habra Subdivision at 710, in Bell, to accommodate the wider freeway.
- Reconstruction of UP Railroad East Yard overpass at 710, in Commerce.[8]

The RDEIR/SDEIS's narrative analysis does not provide much more substantive detail regarding UP rail impacts beyond the general description of rail modifications and noted railroad crossings mentioned above. Appendix O (Concept Plans) includes maps depicting design features of the build alternatives, but it is often unclear from the limited information provided on these maps whether and to what extent UP rail infrastructure or operations may be impacted. Nevertheless, it appears that the following UP right-of-ways and operations in at least ten different locations will be significantly impacted by the proposed Project, as follows: IP-38-9

[4] Alternative 5C proposes to widen the 710 mainline by adding mixed-flow lanes (one in each direction) between I-405 and I-105, and between I-105 and SR-60. Truck bypass lanes are also proposed on 710 through the I-405 interchange. This alternative will modernize the design at the I-405, SR-91, and I-5 interchanges, modernize and reconfigure most local arterial interchanges throughout the 710 corridor, modify freeway access at various locations, and shift the 710 centerline at various locations to reduce right-of-way impacts.

[5] Alternative 7 includes all the components of Alternative 5C described above, but rather than the addition of mixed-flow through lanes and truck bypass lanes, Alternative 7 includes the addition of two separate truck-only lanes in each direction (a total of four lanes, on a combination of viaduct and/or retaining wall structures and at-grade roadbeds adjacent to, or in the median of, the freeway) between Long Beach and Commerce, adjacent to the freeway, approximately 16 miles in length.

[6] *See* RDEIR/SDEIS, pp. 2-13, 2-18.

[7] *Id.* at p. 2-13.

[8] *Id.* at pp. 2-13, 2-18.

1. San Pedro MP 18.54, DOT 811216V, I-405 overpass widening
2. San Pedro MP 17.36, DOT 811210E, 710 overpass widening
3. Del Amo Industrial Lead MP 498, temporary construction easement proposed on active track
4. Reyes Lead MP 1 off the Patata Ind Lead, temporary construction easement proposed on active track
5. Patata Ind Lead / Reyes Lead MP 0 PHL, DOT 921627E – SR-91 overpass
6. San Pedro Sub MP 8.84, DOT 810964N, 710 overpass
7. San Pedro Sub MP 8.23, DOT 810961T, Southern Ave at-grade crossing
8. Patata Ind Lead MP 12.29, DOT 748096L, 710 underpass and Los Angeles River underpass
9. La Habra Sub MP 5.20, DOT 761605L, 710 underpass and Los Angeles River underpass
10. Los Angeles Sub MP 4.87, DOT 811029M, 710 overpass at East LA Intermodal Facility

IP-38-9

Most of the locations identified above appear on the maps to likely involve pier/footing/aerial easements, temporary or permanent track relocations or track shifts, new bridges, temporary construction easements and the like. Many of these impacts may be addressed as part of coordinating and drafting C&M Agreements with Caltrans. Some Project impacts, including those to any grade crossing such as #7 (San Pedro Sub MP), however, will require a CPUC diagnostic process before UP could agree to any new or upgraded work. Other likely Project impacts, such as those to #10 (Commerce/East Yard overpass) will be quite substantial. For instance, the earlier iteration of the proposed Project analyzed in the 2012 EIR/EIS contemplated a 44-foot widening (22 feet on each side of the overpass) and the current proposed Project appears to contemplate a 200-foot widening. As a result, the scope of impacts, and degree of mitigation to address such impacts, will be extensive and much more involved in order to maintain our ability to modernize and increase capacity to meet present and future demand.

The proposed Project's impacts to UP rail lines and infrastructure identified above may result in adverse impacts to air quality, land use, traffic and circulation, noise, community impacts, utilities, aesthetics, hazardous materials, hydrology, plant/animal species, and other environmental considerations and interfere with UP's ongoing and future operations. Additionally, potential closure, relocation and rerouting of existing rail lines will likely result in delays for both rerouted rail traffic and for rail traffic on the lines to which traffic is rerouted (see Section 3(B), above). The RDEIR/SDEIS does not address these potential impacts, nor does it examine how closure, relocation or rerouting of lines will be managed, particularly during construction activities.

IP-38-10

Given the above, UP requests that Caltrans coordinate with UP as soon as possible to identify the suite and scope of potential Project impacts to UP infrastructure and operations and what and whether feasible mitigation measures may be implemented.

IP-38-11

******

In summary, UP is supportive of the proposed 710 Project overall. However, UP opposes the two build alternatives to the extent they impact UP rail infrastructure and operations, absent reaching agreement with Caltrans prior to preparation of the Final EIR/EIS regarding actual potential impacts, feasible mitigations, and compensation to address non-mitigatable impacts, as well as the Project's adherence to UP's operational and rail standards where appropriate. IP-38-12

UP looks forward to an opportunity to work collaboratively with Caltrans going forward in this process. If you have any questions or require additional information from UP, please coordinate directly with Peggy Ygbuhay, Senior Manager Industry & Public Projects – Engineering, at 916-789-5033 and pygbuhay@up.com.

Very truly yours,

ROBERT C. BYLSMA

cc: Melissa Hagen, Union Pacific Railroad Company
Madeline Roebke, Union Pacific Railroad Company
Peggy Ygbuhay, Union Pacific Railroad Company
Jennifer Jeffers, Morrison & Foerster

IP-38-1

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, a Memorandum of Understanding and a Construction and Maintenance Agreement with the Union Pacific Railroad (UP Railroad) will not need to be obtained prior to any construction within or above railroad right-of-way. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-38-2

UP Railroad's opposition to the build alternatives is acknowledged. Please refer to Section 1.1 of this appendix regarding the identification of the Preferred Alternative.

IP-38-3

As stated in Response to Comment IP-38-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, UP Railroad's operational and rail standards no longer apply.

IP-38-4

As stated in Response to Comment IP-38-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no disruption to yard operations and no need for a Construction and Maintenance agreement.

IP-38-5

Please refer to Response to Comment IP-38-4 regarding the need for a Construction and Maintenance agreement. At the time the RDEIR/SDEIS was circulated for public review, specific construction staging details were not available. However, as stated in Response to Comment IP-38-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, UP Railroad operations will not be impacted.

IP-38-6

Please refer to Response to Comment IP-38-4 regarding disruption to yard operations and the need for a Construction and Maintenance agreement.

IP-38-7

It should be clarified that modifications to UP Railroad rail lines as outlined in Section 2.3.2.1 of the RDEIR/SDEIS are proposed as such in that the geometric design of the build alternatives would require these modifications due to conflicts. In response to this comment, Section 2.3.2.1 of this Final EIR/EIS has been revised to more clearly indicate the modifications to rail facilities proposed as part of the build alternatives. However, as stated in Response to Comment IP-38-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no conflicts with UP Railroad.

IP-38-8

Please refer to Response to Comment IP-38-4 regarding disruption to yard operations and the need for a Construction and Maintenance agreement.

IP-38-9

Please refer to Response to Comment IP-38-4 regarding disruption to yard operations and the need for a Construction and Maintenance agreement.

IP-38-10

The proposed project's impacts to air quality, land use, traffic and circulation, noise, community impacts, utilities, aesthetics, hazardous materials, hydrology, plant/animal species, and other environmental considerations have been analyzed and disclosed throughout Chapter 3.0, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures, of the RDEIR/SDEIS. These analyses included all aspects of the build alternatives, including infrastructure such as UP Railroad. However, as stated in Response to Comment IP-38-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to UP Railroad facilities.

IP-38-11

As stated in Response to Comment IP-38-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to UP Railroad facilities and no mitigation will be implemented.

IP-38-12

UP Railroad's support of the project and opposition to impacts to UP railway infrastructure is acknowledged and noted in the public record. As stated in Response to Comment IP-38-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, there will be no impacts to UP Railroad facilities.

Community Outreach and Engagement Team
Southern California Environmental Health Sciences Center
Keck School of Medicine of USC
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2001 N. Soto Street, Room 225Q
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October 23, 2017

Mr. Ronald Kosinski
CALTRANS District 7
Department of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012

RE: Recirculated Draft Environmental Impact Report (RDEIR)/Supplemental Draft Environmental Impact Study (SDEIS) on the I-710 Corridor

Dear Mr. Kosinski:

On behalf of our Community Outreach and Engagement Team at USC Keck School of Medicine, I submit these comments on the RDEIR/SDEIS for the proposed I-710 Corridor Expansion Project.

As you are well-aware, I have participated in good faith in this environmental review process for more than 15 years. .

CHOICE OF ALTERNATIVE: CALTRANS NEEDS TO ADOPT THE ZERO EMISSION ALTERNATIVE WITH ADDITIONAL COMMUNITY-PREFERRED SUGGESTIONS

I urge Caltrans to select Alternative 7 Design ZE restricting use to zero emission trucks and to adopt all parts of the CA-7 alternative that are legally allowable. I urge that the I-710 not be expanded in terms of any additional lanes for cars, which would thereby put the near-roadway traffic pollution in closer proximity to homes and schools. IP-39-1

Our research at USC shows that near roadway pollution is harmful to health. In Appendix A and Appendix B, I attach two “infographics” we have created at USC, which link to a collection of scientific articles that support the statements in the fact sheets. One of these is on Diesel and Your Health and another is on Near Roadway Pollution. Full text copies of key scientific articles supporting these

documents – and the adverse health effects that will result from expanding the I-710 Freeway -- are also included in Appendices A and B.

I could not find any location within the RDEIR/SDEIS or its Appendices where the adverse health effects of freeway expansion and higher traffic volumes are described. This is a major flaw in the document. IP-39-2

MAJOR ISSUES IN THE RDEIR

1. **THE RDEIR CLAIMS THE PROJECT WILL "IMPROVE AIR QUALITY AND PUBLIC HEALTH.** This was identified as the #1 priority in the "I-710 Tier 2 Community Advisory Committee" which was part of the I-710 Major Corridor Study. This document is inexplicably absent from the RDEIR, so I have attached it as Appendix C. It can also be found here: http://www.gatewaycog.org/gateway/cog-archives/gateway-cities-cog-studies/?item=6390. Please note that the claim of improved air quality can be considered accurate only if the Zero Emissions Truck Corridor, without expansion of the I-710 car lanes, is the adopted alternative. The RDEIR fails to take into consideration the Tier 2 Community Impact Report which stressed the need to reduce noise and air pollution along the I-710 as the very top priorities in selecting alternatives for the I-710 expansion. IP-39-3

2. **EMISSIONS ANALYSES/FAULTY TRUCK VOLUME ASSUMPTIONS/ FAULTY HEALTH RISK AND AIR QUALITY ANALYSIS**
   a. The RDEIR emissions analysis shows emissions with and without the BNSF SCIG (Southern California International Gateway) in operation and the UP ICTF having been expanded. This is an appropriate way to do the evaluation, since it is completely unclear if either project will ever be built/expanded. The RDEIR's HRA, however, grossly underestimates the emissions because it inexplicably assumes that the BNSF SCIG and Union Pacific Intermodal Container Transfer Facility (UP ICTF) *will both be operating*. As a result of assuming that the SCIG and nearby UP ICTF will be expanded (and also inappropriately assuming that these operations will reduce truck volumes on the I-710 even if imports at the Ports go up), the emissions that will result from the I-710 Expansion are grossly underestimated in the HRA. IP-39-4

      The RDEIR's calculation of number of big-rig trucks that would be on the I-710 after the expansion inappropriately assumes that the BNSF Hobart Yard at the northern end of the I-710 will essentially be empty, arguing that containers would instead be going to the new SCIG. Again, this is faulty logic, because a) it is very possible that the SCIG will never be built, as noted in section 3, below, and IP-39-5

b) if the SCIG is built there is zero evidence that the BNSF Hobart Yard will be "empty" due to an expected increase in Port imports. Thus the assumptions in the HRA are, to put it bluntly, "bogus" and they adopt all of the same wrong assumptions that the Port of L.A. and BNSF made in the FEIR for the BNSF SCIG, which were found faulty by a judge in the court case.

IP-39-5

c) The RDEIR/SDEIS's Technical Appendices show the traffic volume figures on which calculations of emissions and health risk are based. We note that the claimed volume of trucks in the future is a great odds with the claims made in the I-710 Major Corridor Study, as noted below:



Mobility and Congestion on the Freeway and in Our Communities

- 35,000 Trucks Per Day from the Two Ports
- 90,000 to 100,000 by Year 2030
- 70,000 Trucks Per Day on I-710 South of I-405 in 2030
- 224,600 Trucks and Cars on the I-710 South of I-405 by 2030

IP-39-6

The following table is from the Traffic Demand Methodology Memo, page 104, and reflects *"Port truck volumes (both directions combined) at six representative locations along the I-710 RDEIR/SDEIS study area."* Note that the I-710 Major Corridor Study calculated 70,000 cars south of the I-405 in 2030, whereas the TDM memo calculates 45,800 with the SCIG/ICTF and 43,000 without those projects. No explanation is provided in the RDEIR/SDEIS for these discrepancies in numbers, which result in underestimating congestion, emissions and health risk.

Table 38. I-710 Daily Port Truck Volumes With / Without SCIG & ICTF Projects

IP-39-6

I-710 Location	No-Project (With SCIG & ICTF Expansion)	Without SCIG & ICTF Expansion	Numeric Difference	Percent Difference
North of Yards	4,500	4,300	-200	-4%
South of Yards	7,000	16,400	9,400	134%
North of I-105	10,500	19,800	9,300	89%
North of SR 91	24,900	33,400	8,500	34%
North of I-405	33,200	41,200	8,000	24%
South of I-405	40,100	45,800	5,700	14%

Source: Cambridge Systematics

Citation for above: *http://www.dot.ca.gov/d7/env-docs/docs/710corr-eir/Technical%20Studies/Travel%20Demand%20Methodology%20Tech%20Memo%20June%202017.pdf*

3. **BNSF SCIG**: There is little reason to assume that the SCIG will actually be built due to a recent court decision – a decision that is cited in the RDEIR/SDEIS. The Court's decision was on March 30, 2016, more than a year before release of the RDEIR/SDEIS: http://www.aqmd.gov/home/library/public-information/2016-news-archives/scig-win-pr: *"The Honorable Barry P. Goode of Contra Costa County Superior Court ruled today that the Port of Los Angeles failed to comply with the California Environmental Quality Act in approving an Environmental Impact Report (EIR) for BNSF Railway's Southern California International Gateway (SCIG) project. The court's decision requires the Port to correct all problems with the environmental analysis before the project can move forward."* Legal proceedings are still underway.

IP-39-7

4. **UP ICTF**: No action had been taken on expansion of the Union Pacific ICTF for at least three years before the RDEIR/SDEIS was released, seeming to make untenable the RDEIR's assumption that the UP ICTF will be expanded and fully operating if/when the I-710 is expanded. Below is an excerpt from minutes of the UP ICTF Joint Powers Authority meeting held November 9, 2016: http://www.ictf-jpa.org/pdf/4-19-17/Item%20B%20-%20Meeting%20Minutes%20from%20November%209%202016.pdf

IP-39-8

> **VI. Progress/Status Report on the Preparation of the Environmental Impact Report**
>
> Mr. Cannon from the Port of Los Angles was present and provided an update on the preparation of the environmental impact report.
>
> Mr. Cannon said that the preparation of the environmental impact report for the ICTF modernization project remains on hold, pending resolution of other outstanding matters.

5. **FAILURE FOR THE RDEIR TO INCLUDE THE DRAMATIC RISE IN TRANSLOADING OF CARGO CONTAINERS ALSO MINIMIZES FUTURE TRUCK VOLUMES ON I-710.** The RDEIR does not take into account the dramatic rise in transload activity over the past 15 years. Transloading changes the truck traffic volumes and truck routing on the I-710 Freeway. In this system, three ocean-going shipping containers from the Ports of L.A. and Long Beach are transferred into two 53-foot domestic containers at facilities near the Ports called "transload centers," to save shipping costs. See calculations from the "Transload Paper" submitted by Andrea Hricko of USC to the proceedings about the FEIR for the BNSF SCIG, Appendix D.

IP-39-9

When there is an increase in "transloading," these containers cannot go to the ICTF and the BNSF SCIG (if these were built/expanded) because currently those railyards handle only 40-foot ocean-going containers, not 53-foot domestic containers. The BNSF Hobart Yard at the very north of I-710 does accept 53 foot containers, and thus much of the transloaded containers heading to rail will go to the Hobart Yard. The *Journal of Commerce*, in a March 3, 2071 article entitled "US transloading growth reshaping cargo routing" by Bill Mongelluzzo, stated: *"... in Southern California, which is the transloading capital of the country, transloading's share of intermodal freight increased from 52 percent in 2011 to 58 percent in 2016, whereas intact intermodal's share dropped from 47 percent in 2011 to 42 percent."* This trend is NOT reflected in the RDEIR, creating a major flaw because it minimizes future truck traffic on the I-710.

In fact, the figures used in the RDEIR's technical appendices are much lower than are reported in the Journal of Commerce article:

> "For 2012, out of the total import loaded containers, 27 percent are transloaded and sent to off-dock railyards (this is called transload to rail) and 13% are transloaded and sent by tractor trailer (this is called transload to truck). For future years transload to rail is expected to increase and the assumption that is used in the model is 30 percent of loaded imports. The transload to truck portion is assumed to remain at 13 percent in the future."

IP-39-9

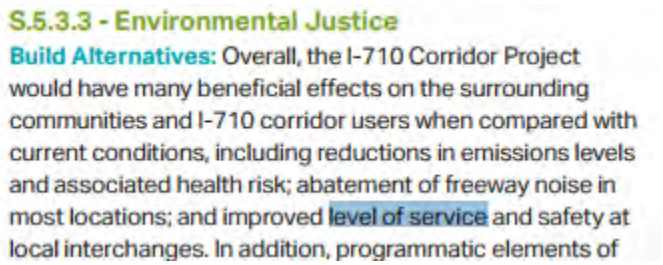
These figures add up to 43% of loaded imports said to transloaded, whereas the Journal of Commerce reports that 58% were transloaded in 2016. Again, a major flaw in the assumptions that go into the traffic volume (and therefore emissions/health risk) calculations.

6. FAILURE TO CONSIDER 'INDUCED DEMAND' AND THE METHODOLOGIES RECOMMENDED BY SB 743 TO USE VMT (VEHICLES MILED TRAVELED) INSTEAD OF LOS (LEVEL OF SERVICE) IN CALCULATIONS. The RDEIR fails to take into account the well-known problem of "induced demand" – the fact that when a new freeway is built more cars and trucks decide to use it. The words "induced demand" do not even appear in the document. In addition, the words "SB 743" do not appear in the RDEIR/SDEIS, the importance of which is described below.

a. In 2013 the state legislature passed a bill called SB 743, which requires that, in the future, traffic impacts of new transportation projects be evaluated by looking at VMT (vehicle miles traveled) instead of LOS (level of service). VMT looks at excess traffic (induced demand) and LOS at traffic "delays."
b. Despite the clear direction of the SB 743 law for Caltrans and other agencies, the RDEIR/SDEIS looks primarily at LOS instead of at VMT. Granted, Caltrans did not have to do its calculations based on VMT, because the law's full implementation deadlines have not been reached yet. But one might have thought that Caltrans would want to evaluate the true impacts of the I-710 expansion using the metrics that will be law in just a few years. Instead, Caltrans simply ignored the new law (now 4 years since it was passed) and used the old standard of LOS in its calculations. It could have provided at the very least a supplemental analysis of VMT versus LOS in the RDEIR/SDEIS.
c. See Appendix E for reports/studies about Induced Demand.

IP-39-10

d. Here is one example where the RDEIR/SDEIS says there will be "improved levels of service" (i.e., fewer traffic delays)… but it fails to state what the VMT will be on the future expanded 710 freeway.


S.5.3.3 - Environmental Justice

Build Alternatives: Overall, the I-710 Corridor Project would have many beneficial effects on the surrounding communities and I-710 corridor users when compared with current conditions, including reductions in emissions levels and associated health risk; abatement of freeway noise in most locations; and improved level of service and safety at local interchanges. In addition, programmatic elements of

IP-39-11

7. **CONSTRUCTIONS IMPACTS ARE NOT INCLUDED AS PART OF THE HEALTH RISK AND AIR QUALITY ANALYSIS.** These analyses should be redone to show the impacts that emissions will have on residents living along the Corridor. During committee meetings prior to completion of the I-710 Major Corridor Study, the need to include construction emissions was repeatedly mentioned.

IP-39-12

8. **THE COMMUNITY IMPACT ASSESSMENT (CIA) DEMONSTRATES DISPROPROTIONATE IMPACTS, INCLUDING CANCER RISK AND EXPOSURE TO HIGH NOISE LEVELS, ON EJ COMMUNITIES AFTER THE PROJECT IS BUILT.**

   a. ***Air Toxics, PM10 and PM2.5, and Cancer Risk***

      i. The CIA states that air toxics will decrease for build alternatives as compared to 2035 No Build Alternative. But again, these estimates are based on traffic volume projections that assume the building of SCIG and expansion of the UP ICTF, which are faulty assumptions. Therefore, no one can trust the statements that air toxics will decrease.

      IP-39-13

      ii. On the other hand, the CIA states that "tire wear, brake wear and entrained road dust PM10 and PM2.5" will go up.

      IP-39-14

      iii. Cancer risk will be supposedly be reduced overall except "in some near-roadway areas that fall within the locations of the environmental justice populations. See excerpt below from CIA pertaining to **a I, II, III.**

6.3.1.6 CONCLUSIONS

Overall, air toxics generally decrease for the build alternatives as compared to the 2035 No Build Alternative. In the South Coast Air Basin, the incremental emissions of the build alternatives compared to the 2035 No Build scenario are essentially zero for all pollutants with the exception of oxides of nitrogen (NO_X), which decrease under the build alternatives. Along the I-710 freeway, with the exception of NO_X and diesel-related MSAT emissions, exhaust emissions for the build alternatives generally increase compared to the 2035 No Build scenario. The increases in PM_{10} and $PM_{2.5}$ can be attributed to entrained road dust, rather than exhaust emissions (and the modeled analyses included herein are conservative). Cancer risk is lower overall, with the exceptions of some near-roadway areas that fall within the locations of environmental justice populations. Under Alternative 5C, the maximum increase in risk is approximately three in one million. Under Alternative 7, that maximum increase in risk is less than one in one million.

When compared to existing conditions, tire wear, brake wear, and entrained road dust PM_{10} and $PM_{2.5}$ emissions increase under all of the build alternatives. These emissions are proportional to VMT, which increases with the rise in vehicle activity in 2035 as compared to existing conditions. However, when compared to existing conditions, exhaust emissions decrease for all build alternatives with the exception of a slight increase in SO_2 on I-710 under Alternative 7. Cancer risk also decreases under both build alternatives (more so under Alternative 7) as compared to existing conditions, with focused decreases occurring in the AOI and along the I-710 freeway, where environmental justice populations are concentrated.

b. ***Impacts on EJ communities, information from the CIA.***
   i. Impacts include near-roadway pollution that cannot be reduced or eliminated.
   ii. Sensitive receptors impacted include schools and child care centers.
   iii. Mitigation measures are proposed, specifically air filters, ventilation and HVAC systems.

I urge Caltrans to provide filters to any sensitive receptors close to the I-710 Freeway, not just to the schools and child care centers noted below. In addition, the South Coast Air Quality Management District has extensive experience with filters, ventilation systems and HVAC systems and I urge Caltrans to carefully review comments submitted by AQMD to Caltrans specifically about this topic. IP-39-15

that predominantly reside near the I-710 freeway, there are also near-roadway adverse impacts that would disproportionately burden these communities. The AQ/GHG/HRA does not currently identify or propose mitigation measures that would reduce or eliminate increases in pollutant concentrations. Therefore, balancing the beneficial effects of the project, both I-710 Corridor Project build alternatives would have an adverse and disproportionate air quality impact to environmental justice populations. Overall analyses indicate that operationally, Alternative 7 would have a greater impact than Alternative 5C.

Sensitive receptors that have been identified as located within an area of increased pollutants under Alternative 5C include Marlow Park Child Development Center and Inclusion Specialized Programs LLC in the City of Bell Gardens for PM_{10}, and Humphreys Elementary School in the community of East Los Angeles for increased cancer risk. Under Alternative 7, sensitive receptors that have been identified within areas of increase for both annual and 24-hour PM_{10} include the RMR Care Facility, St. John's School, and YMCA First Friendships State Preschool, all in the City of Long Beach; Bell Gardens Elementary School, Briarcrest Nursing Center Nursing Home, Bell Gardens Elementary School, Marlow Park Child Development Center, and Inclusion Specialized Programs LLC Residential Facility, all in the City of Bell Gardens, and Humphreys Elementary School in the community of East Los Angeles. These sensitive receptors have been proposed for mitigation measures. Specifically, provision of new or upgraded air filtration and/or heating, ventilation, and air conditioning (HVAC) systems would be funded by the project as mitigation to reduce exposure to pollutants at these sensitive receptors.

c. The Community Impact Assessment includes information about noise studies that were done in 200 locations of the Corridor. The CIA says the conclusion was that all but three locations with high noise levels could be mitigated by sound walls. The three locations are identified below and they are all considered to be "infeasible" for sound walls because the sound walls would not provide the required 5 dBA noise abatement required by Caltrans' protocol. All are identified as disproportionately impacted EJ communities, as noted in the CIA excerpt immediately below:

> As these impacts are all located in census tracts identified as containing minority and/or low-income populations, it can be concluded that with respect to noise, and after consideration of abatement, both I-710 Corridor Project build alternatives have a disproportionately high and adverse impact to environmental justice populations.

Because of the high noise levels and the nature of the communities, I urge Caltrans to re-consider its protocol and build sound walls to protect residents in East Los Angeles, Paramount and Long Beach as noted below, in excerpt from CIA.

IP-39-16

6.3.2 NOISE

Increases in future (2035) worst-hour noise levels, compared to existing levels, were estimated in a *Traffic Noise Study Report* (2016)[4] at over 200 locations for the I-710 Corridor Project build alternatives.

The need for noise abatement is determined according to which areas may experience noise that approaches or exceeds the Federal Noise Abatement Criteria (NAC). The NAC varies depending on the land use activities being evaluated. The *Traffic Noise Study Report* (2016) found that most parts of the study area will exceed the NAC. As a result, soundwalls are proposed at locations throughout the I-710 Corridor.

For purposes of this analysis, those sound measurement or monitoring locations (receptors) were identified where either build alternative would result in a noise increase that approached or exceeded the NAC, or if a predicted noise level in the design year substantially exceeds the existing noise level (exceeding the existing worst-hour noise level by 12 A-weighted decibels [dBA] or more). The *Traffic Noise Study Report* (2016) identified and recommended acoustically feasible soundwalls. In most cases, the recommended soundwalls would provide adequate noise abatement (defined as five dBA in the Caltrans 2011 *Traffic Noise Analysis Protocol*). Please note that some soundwalls are assumed to be constructed under the Early Action Soundwall Project.

The exceptions are at locations where soundwalls are not considered acoustically feasible because they do not provide the minimum required five dBA noise abatement and are listed as follows:

- Under both Alternatives 5C and 7, along westbound Wardlow Rd. from I-710 to Delta Ave. in the City of Long Beach (designated MSB16A-C), noise abatement in the form of a soundwall (SW-502D) was considered but found to be infeasible as it only provided a two-to-three dBA noise reduction to the residential area. This area falls within a census tract that exceeds the County percentage for minority residents. At this location, the NAC is 67 dBA. The worst-hour noise levels under Alternative 5C range from 65.8–73.6 dBA. The increase in noise levels under Alternative 5C ranges from 7.7–9.2 dBA compared to the existing condition, and 3.5–8.4 dBA compared to Alternative 1. Under Alternative 7, the future worst-hour noise levels at this location range from 65.8–69.8 dBA. The increase in noise levels under Alternative 7 as compared to the existing condition ranges from 5.4–8.6 dBA, and the increase in noise levels as compared to Alternative 1 ranges from 3.5–4.6 dBA.

- Under Alternative 5C, along the edge of shoulder at the southbound I-710 off-ramp at Eastern Ave. in East Los Angeles, noise abatement in the form of a soundwall (SW-519) was considered but found to be infeasible as it did not provide the minimum five dBA noise reduction. This area falls within a census tract that exceeds the County percentages for both minority and low-income residents. The impacted location, labeled SB-71M1 in the NSR, has an NAC of 67 dBA and experiences a worst-hour noise level of 68.8 dBA. The noise increase, as compared to the existing condition, is approximately 5.4 dBA at this location, and a 2.4 dBA increase under Alternative 5C, as compared to Alternative 1, would occur.

- Under Alternative 7, along the northbound freight corridor from SR-91 to Rosecrans Ave. (designated receivers NB-25 through NB-30), noise abatement in the form of a soundwall (SW-708TLN) was considered but found to be infeasible as it only provided a three dBA noise reduction to the residential area east of the Los Angeles River within the City of Paramount. This residential area falls within census tracts that exceed the County percentages for both minority and low-income residents. At these locations, the NAC is 67 dBA, and the worst-hour noise levels under Alternative 7 range from 63.2–69.0 dBA. The noise increase under Alternative 7, as compared to the existing condition, ranges from 6.0–14.3 dBA. When compared to Alternative 1, the increase in noise levels ranges from 4.7–11.1 dBA.

As these impacts are all located in census tracts identified as containing minority and/or low-income populations, it can be concluded that with respect to noise, and after consideration of abatement, both I-710 Corridor Project build alternatives have a disproportionately high and adverse impact to environmental justice populations.

d. Limitations of the Community Impact Assessment. The CIA is based on some technical analyses that were not completed at the time of release of the RDEIR/SDEIS. It is unclear why the RDEIR/SDEIS would be released with incomplete studies that were still being finalized. IP-39-17

9. The RDEIR fails to include the Health Impact Assessment, which was commissioned by the Gateway Cities Council of Governments and which the Project Committee of the I-710 Major Corridor Study voted should be part of the EIR. This situation is completely explained in the NRDC and IP-39-18

CEHAJ comments submitted as part of the DEIR/DEIS. Caltrans unilaterally decided not to include the HIA in the DEIR. Please note, neither the words HIA nor Health Impact Assessment appear in the RDEIR/SDEIS.

IP-39-18

10. Materials submitted between 2001 and 2015 to Gateway Council of Governments were assumed to be part of the "Administrative Record" in this proceeding.

I participated in dozens of meetings about the I-710 Corridor from 2001 until the present. RDEIR was released. Between 2001 and 2015 I submitted dozens of scientific studies on near-roadway air pollution to the GCCOG staff during committee meetings. Only much later did I learn that none of the articles I submitted were moved forward to the DEIR process. No one ever advised the public that the years of meetings were only to inform the I-710 Major Corridor Study and were not part of the "administrative record" for the EIR/EIS process.

IP-39-19

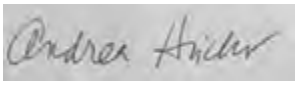
11. More than 10 years of background documents and records about the I-710 Major Corridor Study and meetings concerning the 710 are missing from the Gateway Cities Council of Governments' website

Dozens of public meetings were held about I-710 Major Corridor, starting in 2001. The websites of Metro and Gateway Cities Council of Governments (GCCOG) have materials only since 2012 on them. Thus no one can read the early documents, public comments, minutes of meetings, etc. When I complained about this, a staff person at Gateway COG found a box/boxes of such materials onsite, but I did not have time to go to Paramount to look through them prior to submitting these comments. It seems simply inappropriate to remove more than 10 years of records of proceedings from the Gateway Cities COG website before the RDEIR/SDEIS of the I-710 was certified.

IP-39-20

Thank you for the opportunity to submit these comments.

Sincerely yours,



Andrea Hricko
Professor Emerita of Preventive Medicine
USC Keck School of Medicine

LIST OF APPENDICES

A. Health effects of exposure to diesel exhaust
B. Health effects of exposure to near-roadway air pollution
C. I-710 Tier 2 Community Advisory Committee report
D. Traffic assumptions; excerpts from Committee Meeting Minutes concerning transloading and traffic volumes; Transload Report by Andrea Hricko; JOC article on Transload Stats
E. Studies and reports about induced demand, SB 743 and VMT

APPENDIX A : HEALTH IMPACTS OF EXPOSURE TO DIESEL EXHAUST

1. Infographic by USC
2. References to infographic
3. Full text of some key scientific articles

Research on health risks from...

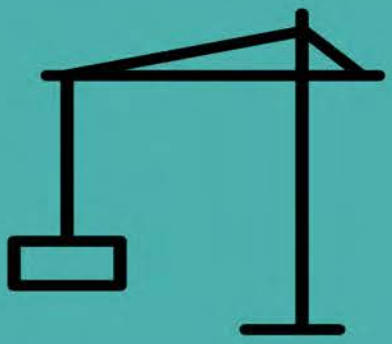
Living near diesel exhaust



WHERE does diesel exhaust come from?











WHO is most affected?

Research shows higher risks of cancer in



Workers



railroad workers
truck drivers
dock workers
other jobs near diesel exhaust

Residents

who live near:
rail yards
ports
freeways with diesel trucks
warehouses

Environmental Justice Concern: a higher proportion of working poor households and people of color live near diesel sources





Southern CA Environmental Health Centers based at USC

usceh.blogspot.com @uscehc @USC_EH_Outreach /USCEHC

Supported by: The Kresge Foundation (Grant # 251549), National Institute of Environmental Health Sciences (Grants #5P30ES007048 and #P01ES022845), Environmental Protection Agency (Grant # 83544101), and National Institute on Minority Health and Health Disparities (Grant #1P50ES026086-01)

WHAT is in diesel exhaust?

Diesel exhaust contains more than 40 toxic chemicals

Very high numbers of tiny ultrafine particles

High levels of harmful gases, such as nitrogen dioxide

HOW does diesel exhaust affect our health?

Short-term effects:

Irritation to the eyes, nose, throat and lungs

Cough, headache, nausea



Long-term effects:

Lung cancer

Bladder cancer

Worse allergies, asthma attacks, and lung illnesses

Heart disease

Get involved



City
County
State
National

Cleaner technology is available now. Trucks, buses and yard equipment can be ZERO EMISSIONS

Lower Emissions = Fewer Health Impacts



For more information connect with the Moving Forward Network

www.movingforwardnetwork.com

What is in diesel exhaust?

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Health Effects of Diesel Exhaust

A fact sheet by
Cal/EPA's Office of Environmental Health Hazard Assessment and
The American Lung Association of California.

Diesel fuel is widely used throughout our society. It powers trucks that deliver products to our communities, buses that carry us to school and work, agricultural equipment that plants and harvests our food, and backup generators that can provide electricity during emergencies. It is also used for many other applications. Diesel engines have historically been more versatile and cheaper to run than gasoline engines or other sources of power. Unfortunately, the exhaust from these engines contains substances that can pose a risk to human health.

In 1998, the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) completed a comprehensive health assessment of diesel exhaust. This assessment formed the basis for a decision by the California Air Resources Board (ARB) to formally identify particles in diesel exhaust as a toxic air contaminant that may pose a threat to human health. The American Lung Association of California (ALAC) and its 15 local associations work to prevent lung disease and promote lung health. Since 1904, the American Lung Association has been fighting lung disease through education, community service, advocacy and research.

This fact sheet by OEHHA and ALAC provides information on health hazards associated with diesel exhaust.

Diesel exhaust contains more than 40 toxic air contaminants

What is diesel exhaust?

Diesel exhaust is produced when an engine burns diesel fuel. It is a complex mixture of thousands of gases and fine particles (commonly known as soot) that contains more than 40 toxic air contaminants. These include many known or suspected cancer-causing substances, such as benzene, arsenic and formaldehyde. It also contains other harmful pollutants, including nitrogen oxides (a component of urban smog).

How are people exposed to diesel exhaust?

Diesel exhaust particles and gases are suspended in the air, so exposure to this pollutant occurs whenever a person breathes air that contains these substances. The prevalence of diesel-powered engines makes it almost impossible to avoid exposure to diesel exhaust or its byproducts, regardless of whether you live in a rural or urban setting. However, people living and working in urban and industrial areas are more likely to be exposed to this pollutant. Those spending time on or near roads and freeways, truck loading and unloading operations, operating diesel-powered machinery or

working near diesel equipment face exposure to higher levels of diesel exhaust and face higher health risks.

What are the health effects of diesel exhaust?

As we breathe, the toxic gases and small particles of diesel exhaust are drawn into the lungs. The microscopic particles in diesel exhaust are less than one-fifth the thickness of a human hair and are small enough to penetrate deep into the lungs, where they contribute to a range of health problems.

Diesel exhaust and many individual substances contained in it (including arsenic, benzene, formaldehyde and nickel) have the potential to contribute to mutations in cells that can lead to cancer. In fact, long-term exposure to diesel exhaust particles poses the highest cancer risk of any toxic air contaminant evaluated by OEHHA. ARB estimates that about 70 percent of the cancer risk that the average Californian faces from breathing toxic air pollutants stems from diesel exhaust particles.

Diesel exhaust increases the risk of cancer…

In its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Using information from OEHHA's assessment, ARB estimates that diesel-particle levels measured in California's air in 2000 could cause 540 "excess" cancers (beyond what would occur if there were no diesel particles in the air) in a population of 1 million people over a 70-year lifetime. Other researchers and scientific organizations, including the National Institute for Occupational Safety and Health, have calculated cancer risks from diesel exhaust that are similar to those developed by OEHHA and ARB.

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat and lungs, and it can cause coughs, headaches, light-headedness and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

… And it can cause coughs and aggravate asthma

Diesel engines are a major source of fine-particle pollution. The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks and premature deaths among those suffering from respiratory problems. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses and can also reduce lung function in children.

Like all fuel-burning equipment, diesel engines produce nitrogen oxides, a common air pollutant in California. Nitrogen oxides can damage lung tissue, lower the body's resistance to respiratory infection and worsen chronic lung diseases, such as asthma. They also react with other pollutants in the atmosphere to form ozone, a major component of smog.

What is being done to reduce the health risks from diesel exhaust?

Improvements to diesel fuel and diesel engines have already reduced emissions of some of the pollutants associated with diesel exhaust. However, diesel exhaust is still one of the most widespread and toxic substances in California's air.

ARB's Diesel Risk Reduction Plan, when fully implemented, will result in a 75 percent reduction in particle emissions from diesel equipment by 2010 (compared to 2000 levels), and an 85 percent reduction by 2020. The plan calls for the use of cleaner-burning diesel fuel, retrofitting of existing engines with particle-trapping filters, and the use in new diesel engines of advanced technologies that produce nearly 90 percent fewer particle emissions, as well as the use of alternative fuels.

Diesel exhaust contributes to smog and fine-particle pollution

The use of other fuels, such as natural gas, propane and electricity offer alternatives to diesel fuel. All of them produce fewer polluting emissions than current formulations of diesel fuel. As a result of ARB and local air-quality regulations, public transit agencies throughout California are using increasing numbers of passenger buses that operate with alternative fuels or retrofitted equipment.

For further information

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(916) 324-7572
www.oehha.ca.gov

Air Resources Board

1001 I Street, Sacramento, CA 95814
(800) 363-7664
www.arb.ca.gov

American Lung Association of California

921 11th Street, Suite 700, Sacramento, CA 95814
(916) 442-4446
For your local office, call (800) LUNG-USA
www.californialung.org

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see OEHHA's web site at www.oehha.ca.gov

Carcinogenicity of diesel-engine and gasoline-engine exhausts and some nitroarenes

In June, 2012, 24 experts from seven countries met at the International Agency for Research on Cancer (IARC; Lyon, France) to assess the carcinogenicity of diesel and gasoline engine exhausts, and some nitroarenes. These assessments will be published as Volume 105 of the IARC Monographs.[1]

Diesel engines are used for on-road and non-road transport (eg, trains, ships) and (heavy) equipment in various industrial sectors (eg, mining, construction), and in electricity generators, particularly in developing countries. Gasoline engines are used for cars and hand-held equipment (eg, chainsaws).

Emissions from these engines are complex, with varying composition. The gas phase consists of carbon monoxide, nitrogen oxides, and volatile organic compounds such as benzene and formaldehyde. Particles consist of elemental and organic carbon, ash, sulfate, and metals. Polycyclic aromatic hydrocarbons and nitroarenes are distributed over the gas and the particle phase. The qualitative and quantitative composition of exhausts depends on the fuel, the type and age of the engine, the state of its tuning and maintenance, the emission control system, and pattern of use. Diesel-engine exhaust from engines with no or limited emission controls contains more particulate matter.[2]

In the past two decades, progressively tighter emission standards for on-road vehicles, introduced in North America, Europe, and elsewhere, have triggered advances in diesel technology that resulted in lower emission of particulate matter, nitrogen oxides, and hydrocarbons. Emission standards in non-road applications are lagging and therefore are still largely uncontrolled today. Moreover, in many less developed countries standards are not in place for both on-road and non-road use of diesel and gasoline engines.

The most influential epidemiological studies assessing cancer risks associated with diesel-engine exhausts investigated occupational exposure among non-metal miners, railroad workers, and workers in the trucking industry. The US miners study included a cohort analysis[3] and a nested case–control analysis that was adjusted for tobacco smoking.[4] Both showed positive trends in lung cancer risk with increasing exposure to diesel exhaust, as quantified via estimated elemental carbon as a proxy of exposure. Trends were significant in the nested case–control study, with a 2–3-fold increased risk in the highest categories of cumulative or average exposure. This study provides some of the strongest evidence of an association between exposure to diesel-engine exhaust and lung cancer since there were few potential confounding exposures in these underground mines, and high diesel exposures were well documented in current surveys.

In another US study,[5] a 40% increased risk for lung cancer was observed in railroad workers exposed to diesel exhaust compared with individuals exposed to low levels of or no emissions. Indirect adjustment for smoking suggested that differences in smoking could not have influenced this excess risk substantially. This study was later extended by estimating diesel exposure on the basis of work history and history of dieselisation of different railroads, and showed a significantly increased risk for exposed workers of 70–80%; risk increased with duration of exposure but not with cumulative exposure.[6]

A large cohort study in the US trucking industry[7] reported a 15–40% increased lung cancer risk in drivers and dockworkers with regular exposure to diesel exhaust. There was a significant trend of increasing risks with longer duration of employment, with 20 years of employment roughly doubling the risk after adjusting for tobacco smoking. When this study was extended with an exposure assessment involving contemporary measurements and exposure reconstruction on the basis of elemental carbon, positive trends were observed for cumulative but not average exposure. These trends were more pronounced when adjustment for duration of work was included.[8]

The findings of these cohort studies were supported by those in other occupational groups and by case–control studies including various occupations involving exposure to diesel-engine exhaust. A positive exposure–response relationship was found in several studies from Europe and the USA, many of which were adjusted for tobacco smoking. Most notably, a pooled analysis of 11 population-based case–control studies from Europe and Canada showed a smoking-adjusted increased risk for lung cancer after exposure to diesel engine exhaust, which was assessed by a job exposure matrix, and a positive dose response in terms of both a cumulative exposure index and duration of exposure.[9]

These epidemiological studies support a causal association between exposure to diesel-engine exhaust and lung cancer. An increased risk for bladder cancer was also noted in many but not all available case–control studies. However, such risks were not observed in cohort studies. The Working Group concluded that there was "sufficient evidence" in humans for the carcinogenicity of diesel-engine exhaust.

The diesel-engine exhausts and their extracts used in carcinogenicity studies with experimental animals were generated from fuels and diesel engines produced before 2000. The studies were considered by type of

Published Online
June 15, 2012
DOI:10.1016/S1470-2045(12)70280-2

For more on the **IARC monographs** see http://monographs.iarc.fr/

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Conflicts of interest

DBK has received research funding from Caterpillar and from British Petroleum. MvT has received research funding from Statoil, CONCAWE, and CEFIC. JG has received research funding from CONCAWE. DG is the President of the Health Effects Institute (the Institute's funding comes in equal part from the US Environmental Protection Agency and the makers of motor vehicles for sale in the USA). TH is an employee of Navistar (manufacturer of diesel trucks and engines). TLL served as a consultant to the diesel industry through Cambridge Environmental. RM serves as a consultant for the Engine Manufacturers Association, Navistar International, Cummins Engine Company, Shell Exploration and Production Company, Union Pacific, and the American Petroleum Institute. PM is a member of the Scientific Advisory Group of European Research Group on Environment and Health in the Transport Sector. DP holds stock in Daimler-Benz AG and was employed until 2008 by BASF. JCW is Vice President and Chief Technical Officer of Cummins, and holds stock and patents. SM holds stock in BHP Billiton Limited. All other Working Group members, specialists, representatives, and secretariat declare that they have no conflicts of interest.

See Online for appendix

	Evidence of carcinogenicity in experimental animals	Mechanistic evidence	Overall evaluation
3,7-Dinitrofluoranthene	Suffi cient	Weak	2B
3,9-Dinitrofluoranthene	Suffi cient	Weak	2B
1,3-Dinitropyrene	Suffi cient	Weak	2B
1,6-Dinitropyrene	Suffi cient	Moderate	2B
1,8-Dinitropyrene	Suffi cient	Moderate	2B
3-Nitrobenzanthrone	Limited	Strong	2B*
6-Nitrochrysene	Suffi cient	Strong	2A*
2-Nitrofluorene	Suffi cient	Weak	2B
1-Nitropyrene	Suffi cient	Strong	2A*
4-Nitropyrene	Suffi cient	Moderate	2B

*Strong mechanistic evidence contributed to the overall evaluation.

Table: **Evaluation of some nitroarenes**

exposure: whole diesel-engine exhaust; gas-phase diesel-engine exhaust (with particles removed); and extracts of diesel-engine exhaust particles. Whole diesel-engine exhaust caused an increased incidence of lung tumours in rats.[10] Diesel-engine exhaust particles instilled intratracheally caused benign and malignant lung tumours in rats,[11] and the particle extracts also caused lung carcinomas in rats and sarcomas at the injection site in mice.[12,13] Gas-phase diesel-engine exhaust did not increase incidence of respiratory tumours in any species tested. The Working Group concluded that there was "suffi cient evidence" in experimental animals for the carcinogenicity of whole diesel-engine exhaust, of diesel-engine exhaust particles and of extracts of diesel-engine exhaust particles.

Diesel-engine exhaust, diesel-exhaust particles, diesel-exhaust condensates, and organic solvent extracts of diesel-engine exhaust particles induced, in vitro and in vivo, various forms of DNA damage, including bulky adducts, oxidative damage, strand breaks, unscheduled synthesis, mutations, sister chromatid exchange, morphological cell transformation in mammalian cells, and mutations in bacteria.[14] Increased expression of genes involved in xenobiotic metabolism, oxidative stress, inflammation, antioxidant response, apoptosis, and cell cycle in mammalian cells was observed.

Positive genotoxicity biomarkers of exposure and effect were also observed in humans exposed to diesel engine exhaust. The Working Group concluded that there is "strong evidence" for the ability of whole diesel-engine exhaust to induce cancer in humans through genotoxicity.

Gasoline exhaust and cancer risk was investigated in only a few epidemiological studies and, because of the diffi culty to separate effect of diesel and gasoline exhaust, evidence for carcinogenicity was evaluated as "inadequate".

The Working Group considered the animal carcinogenicity studies of gasoline-engine exhaust by type of exposure: whole gasoline-engine exhaust; and extracts of gasoline-engine exhaust condensate. Organic extracts of gasoline engine-exhaust condensate induced a significant increase in lung carcinomas and papillomas of the skin in mice.[15] In rats, the gasoline-exhaust condensate induced a significant increase in lung carcinomas.[16] The Working Group concluded that there was "suffi cient evidence" in experimental animals for the carcinogenicity of condensates of gasoline-engine exhaust.

Gasoline-engine exhaust induced chromosomal damage in mice, and changes in gene expression in rat lung that involved pathways related to xenobiotic metabolism and inflammation. In mammalian cells, gasoline-engine exhaust particles and organic extracts thereof induce DNA adducts, DNA strand breaks, oxidative DNA damage, chromosomal aberrations, and morphological cell transformation, as well as gene mutations in bacteria. In mammalian cells, extracts of gasoline-exhaust engine particles altered expression of genes involved in inflammation, xenobiotic metabolism, tumour progression, and cell cycle. The gaseous phase of gasoline-engine exhaust was mutagenic to bacteria. The Working Group concluded that there is "strong evidence" for a genotoxic mechanism for the carcinogenicity of organic solvent extracts of particles from gasoline engine exhaust.

In conclusion, the Working Group classified diesel engine exhaust as "carcinogenic to humans" (Group 1) and gasoline engine exhaust as "possibly carcinogenic to humans" (Group 2B).

Evaluations for ten nitroarenes, all of which have been detected in diesel-engine exhaust, are shown in the table. Biomonitoring studies have shown that workers and the general population are exposed to these substances.[17–19] All the nitroarenes were genotoxic to various extents in different assays. The Working Group reaffirmed the Group 2B classification of seven. Strong evidence for genotoxicity led to an upgrade of 3-nitrobenzanthrone to Group 2B, and similar findings in human cells led to an upgrade of 1-nitropyrene and 6-nitrochrysene to Group 2A.

Lamia Benbrahim-Tallaa, Robert A Baan, Yann Grosse, Béatrice Lauby-Secretan, Fatiha El Ghissassi, Véronique Bouvard, Neela Guha, Dana Loomis, Kurt Straif, on behalf of the International Agency for Research on Cancer Monograph Working Group
IARC, Lyon, France

We declare that we have no conflicts of interest.

For references see appendix.

From: https://www.arb.ca.gov/toxics/dieseltac/de-fnds.htm

The Report on Diesel Exhaust

This page last reviewed July 21, 2015

Findings of the Scientific Review Panel On

The Report on Diesel Exhaust

As Adopted at the Panel's April 22, 1998 Meeting

Pursuant to Health and Safety Code section 39661, the Scientific Review Panel (SRP / Panel) has reviewed the report *Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant* by the staffs of the California Air Resources Board (ARB or Board) and the Office of Environmental Health Hazard Assessment (OEHHA) describing the public exposure to, and health effects of, diesel exhaust. The Panel members also reviewed the public comments received on this report.

Panel members participated in workshops devoted to discussion of the exposure and health issues associated with diesel exhaust in September 1994, January 1996, July 1997, and March 1998. The SRP reviewed the issues at its meetings in October 1997 and April 1998. A special meeting of the SRP was held on March 11, 1998, to hear testimony on health issues including the quantitative risk assessment from highly respected scientists invited by the Panel. Based on these reviews and information provided at scientific workshops and meetings, the SRP makes the following findings pursuant to Health and Safety Code section 39661:

Exposure Related Conclusions:

1. Diesel exhaust is a complex mixture of gases and fine particles emitted by a diesel-fueled internal combustion engine.

2. The gaseous fraction is composed of typical combustion gases such as nitrogen, oxygen, carbon dioxide, and water vapor. However, as a result of incomplete combustion, the gaseous fraction also contains air pollutants such as carbon monoxide, sulfur oxides, nitrogen oxides, volatile organics, alkenes, aromatic hydrocarbons, and aldehydes, such as formaldehyde and 1,3-butadiene and low-molecular weight polycyclic aromatic hydrocarbons (PAH) and PAH-derivatives.

3. One of the main characteristics of diesel exhaust is the release of particles at a markedly greater rate than from gasoline-fueled vehicles, on an equivalent fuel energy basis. The particles are mainly aggregates of spherical carbon particles coated with inorganic and organic substances. The inorganic fraction primarily consists of small solid carbon (or elemental carbon) particles ranging from 0.01 to 0.08 microns in diameter. The organic fraction consists of soluble organic compounds such as aldehydes, alkanes and alkenes, and high-molecular weight PAH and PAH-derivatives, such as nitro-PAHs. Many of these PAHs and PAH-derivatives, especially nitro-PAHs, have been found to be potent mutagens and carcinogens. Nitro-PAH compounds can also be formed during transport through the atmosphere by reactions of adsorbed PAH with nitric acid and by gas-phase radical-initiated reactions in the presence of oxides of nitrogen.

4. Diesel exhaust includes over 40 substances that are listed by the United States Environmental Protection Agency (U.S. EPA) as hazardous air pollutants and by the ARB as toxic air contaminants. Fifteen of these substances are listed by the International Agency for Research on Cancer (IARC) as carcinogenic to humans, or as a probable or possible human carcinogen. Some of these substances are: acetaldehyde; antimony compounds; arsenic; benzene; beryllium compounds; bis(2-ethylhexyl)phthalate; dioxins and dibenzofurans; formaldehyde; inorganic lead; mercury compounds; nickel; POM (including PAHs); and styrene.

5. Almost all of the diesel particle mass is in the fine particle range of 10 microns or less in diameter (PM10). Approximately 94 percent of the mass of these particles are less than 2.5 microns in diameter. Because of their small size, these particles can be inhaled and a portion will eventually become trapped within the small airways and alveolar regions of the lung.

6. The estimated population-weighted average outdoor diesel exhaust PM10 concentration in California for 1995 is 2.2 microgram per cubic meter ($\mu g/m^3$). Several independent studies have reported similar outdoor air diesel exhaust PM10 concentrations. The 1995 estimated average indoor exposure concentration is approximately 1.5 $\mu g/m^3$.

7. The population time-weighted average total air exposure to diesel exhaust particle concentrations across all environments (including outdoors) is estimated to be 1.5 $\mu g/m^3$ in 1995. This total exposure estimate may underestimate many Californians' actual total exposure because it excludes elevated exposures near roadways, railroad tracks, and inside vehicles. Near-source exposures to diesel exhaust may be as much as five times higher than the 1995 population time-weighted average total air exposure. It also excludes other routes of exposure to diesel exhaust, such as ingestion and dermal absorption.

8. Diesel engine exhaust contains small carbonaceous particles and a large number of chemicals that are adsorbed onto these particles or present as vapors. These particles have been the subject of many studies because of their adverse effects on human health and the environment. A recent study conducted for the Health Effects Institute showed that, despite a substantial reduction in the weight of the total particulate matter, the total number of particles from a 1991-model engine was 15 to 35 times greater than the number of particles from a 1988 engine when both engines were operated without emission control devices. This suggests that more fine particles, a potential health concern, could be formed as a result of new technologies. Further study is needed since the extent of these findings only measured exhaust from two engines and engine technologies.

9. The major sources of diesel exhaust in ambient outdoor air are estimated to emit approximately 27,000 tons per year in 1995. On-road mobile sources (heavy-duty trucks, buses, light-duty cars and trucks) contribute the majority of total diesel exhaust PM10 emissions in California. Other mobile sources (mobile equipment, ships, trains, and boats) and stationary sources contribute the remaining emissions.

10. Significant progress has been made as a result of federal and state regulations that have addressed particulate matter levels from diesel engines. Emissions of on-road mobile source diesel exhaust PM10 in California are expected to decline by approximately 85 percent from 1990 to 2010 as a result of mobile source regulations already adopted by the ARB.

11. The results of a study funded by the ARB at the University of California, Riverside, indicate that the diesel exhaust from the new fuel tested contained the same toxic air contaminants as the old fuel, although their concentrations and other components may differ. Further research would be helpful to quantify the amounts of specific compounds emitted from a variety of engine technologies, operating cycles, and fuel to characterize better any differences between old and new fuels and technologies.

Health Effects Associated with Diesel Exhaust:

12. A number of adverse short-term health effects have been associated with exposures to diesel exhaust. Occupational exposures to diesel exhaust particles have been associated with significant cross-shift decreases in lung function. Increased cough, labored breathing, chest tightness, and wheezing have been associated with exposure to diesel exhaust in bus garage workers. A significant increase in airway resistance and increases in eye and nasal irritation were observed in human volunteers following one-hour chamber exposure to diesel exhaust. In acute or subchronic animal studies, exposure to diesel exhaust particles induced inflammatory airway changes, lung function changes, and increased the animals' susceptibility to infection.

13. A number of adverse long-term noncancer effects have been associated with exposure to diesel exhaust. Occupational studies have shown that there may be a greater incidence of cough, phlegm and chronic bronchitis among those exposed to diesel exhaust than among those not exposed. Reductions in pulmonary function have also been reported following occupational exposures in chronic studies. Reduced pulmonary function was noted in monkeys during long-term exposure. Histopathological changes in the lung of diesel-exposed test animals reflect inflammation of the lung tissue. These changes include dose-dependent proliferations of Type II epithelial cells, marked infiltration of macrophages, plasma cells and fibroblasts into the alveolar septa, thickening of the alveolar walls, alveolar proteinosis, and focal fibrosis.

14. Studies have shown that diesel exhaust particles can induce immunological reactions and localized inflammatory responses in humans, as well as acting as an adjuvant for pollen allergy. Intranasal challenge with diesel exhaust particles in human volunteers resulted in increased nasal IgE antibody production and a significant increase in mRNA for pro-inflammatory cytokines. Co-exposure to diesel exhaust particles and ragweed pollen resulted in a nasal IgE response greater than that following pollen or diesel exhaust particles alone. Effects of intratracheal, intranasal, and inhalation exposures of laboratory animals are supportive of the findings in humans. These effects include eosinophilic infiltration into bronchi and bronchioles, elevated IgE response, increased mucus secretion and respiratory resistance, and airway constriction.

15. Based on the animal studies, the U.S. EPA determined a chronic inhalation Reference Concentration value of 5 $\mu g/m^3$ for noncancer effects of diesel exhaust. This estimate takes into consideration persons who may be more sensitive than others to the effects of diesel exhaust. The report supports the recommendation of 5 $\mu g/m^3$ as the California Reference Exposure Level (REL) (Table 1). It should be noted that this REL may need to be lowered further as more data emerge on potential adverse noncancer effects from diesel exhaust.

16. Diesel exhaust contains genotoxic compounds in both the vapor phase and the particle phase. Diesel exhaust particles or extracts of diesel exhaust particles are mutagenic in bacteria and in mammalian cell systems, and can induce chromosomal aberrations, aneuploidy, and sister chromatid exchange in rodents and in human cells *in vitro*. Diesel exhaust particles induced unscheduled DNA synthesis *in vitro* in mammalian cells. DNA adducts have been isolated from calf thymus DNA *in vitro* following treatment with diesel exhaust particle extracts. DNA adducts have been shown to increase following inhalation exposure of rodents and monkeys to whole diesel exhaust. Elevated levels of DNA adducts have been associated with occupational exposure to diesel exhaust. Results of inhalation bioassays in the rat, and with lesser certainty in mice, have demonstrated the carcinogenicity of diesel exhaust in test animals, although the mechanisms by which diesel exhaust induces lung tumors in animals remains uncertain.

17. Over 30 human epidemiological studies have investigated the potential carcinogenicity of diesel exhaust. These studies, on average, found that long-term occupational exposures to diesel exhaust were associated with a 40 percent increase in the relative risk of lung cancer. The lung cancer findings are consistent and the association is unlikely to be due to chance. These epidemiological studies strongly suggest a causal relationship between occupational diesel exhaust exposure and lung cancer.

18. Other agencies or scientific bodies have evaluated the health effects of diesel exhaust. The National Institute of Occupational Safety and Health first recommended in 1988 that whole diesel exhaust be regarded as a potential occupational carcinogen based upon animal and human evidence. The International Agency for Research on Cancer (IARC) concluded that diesel engine exhaust is probably carcinogenic to humans and classified diesel exhaust in Group 2A. Based upon the IARC findings, in 1990, the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) identified diesel exhaust as a chemical "known to the State to cause cancer." The U.S. EPA has proposed a conclusion similar to IARC in their draft documents. The 1998 draft U.S. EPA document concluded similarly that there was sufficient animal evidence of carcinogenicity and that the human evidence was limited.

19. There are data from human epidemiological studies of occupationally exposed populations which are useful for quantitative risk assessment. The estimated range of lung cancer risk (upper 95% confidence interval) based on human epidemiological data is 1.3×10^{-4} to 2.4×10^{-3} $(\mu g/m^3)^{-1}$ (Table 2). After considering the results of the meta-analysis of human studies, as well as the detailed analysis of railroad workers, the SRP concludes that 3×10^{-4} $(\mu g/m^3)^{-1}$ is a reasonable estimate of unit risk expressed in terms of diesel particulate. Thus this unit risk value was derived from two separate approaches which yield similar results. A comparison of estimates of risk can be found in Table 3.

20. Based on available scientific information, a level of diesel exhaust exposure below which no carcinogenic effects are anticipated has not been identified.

21. Based on available scientific evidence, as well as the results of the risk assessment, we conclude that diesel exhaust be identified as a Toxic Air Contaminant.

22. As with other substances evaluated by this Panel and after reviewing the field of published peer reviewed research studies on diesel exhaust, additional research is appropriate to clarify further the health effects of diesel exhaust. This research may have significance for estimating the unit risk value.

23. The Panel, after careful review of the February 1998 draft SRP version of the ARB report, *Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant*, as well as the scientific procedures and methods used to support the data, the data itself, and the conclusions and assessments on which the Report is based, finds this report with the changes specified during our October 16, 1997, meeting and as a result of comments made at the March 11, 1998, meeting, is based upon sound scientific knowledge, methods, and practices and represents a complete and balanced assessment of our current scientific understanding.

For these reasons, we agree with the science presented in Part A by ARB and Part B by OEHHA in the report on diesel exhaust and the ARB staff recommendation to its Board that diesel exhaust be listed by the ARB as a Toxic Air Contaminant.

I certify that the above is a true and correct copy of the findings adopted by the Scientific Review Panel on April 22, 1998.

Sincerely,
/s/
John R. Froines, Ph.D.
Acting Chairman
Scientific Review Panel

TABLE 1

NONCANCER HEALTH VALUES APPROVED BY THE

SCIENTIFIC REVIEW PANEL

1998

Compound	Health Value	End Point
Acetaldehyde	9 $\mu g/m^3$	Respiratory System
Diesel Exhaust	**5 $\mu g/m^3$**	**Respiratory System**
Inorganic Lead	4.6×10^{-4} ($\mu g/m^3)^{-1}$	Cardiovascular Mortality
Perchloroethylene	35 $\mu g/m^3$	Alimentary System (Liver)
$\mu g/m^3$: Microgram Per Cubic Meter		

TABLE 2

CANCER POTENCIES APPROVED BY THE SCIENTIFIC REVIEW PANEL

FROM 1984 TO 1998

(In Order of Cancer Potency)

Compound	Unit Risk ($\mu g/m^3)^{-1}$	Range ($\mu g/m^3)^{-1}$
Dioxins	3.8×10^{1}	2.4×10^{1} to 3.8×10^{1}
Chromium VI	1.5×10^{-1}	1.2×10^{-2} to 1.5×10^{-1}
Cadmium	4.2×10^{-3}	2.0×10^{-3} to 1.2×10^{-2}
Inorganic Arsenic	3.3×10^{-3}	6.3×10^{-4} to 1.3×10^{-2}
Benzo[a]pyrene	1.1×10^{-3}	1.1×10^{-3} to 3.3×10^{-3}
Diesel Exhaust	**3×10^{-4}**	**1.3×10^{-4} to 2.4×10^{-3}**
Nickel	2.6×10^{-4}	2.1×10^{-4} to 3.7×10^{-3}
1,3-Butadiene	1.7×10^{-4}	4.4×10^{-6} to 3.6×10^{-4}
Ethylene Oxide	8.8×10^{-5}	6.1×10^{-5} to 8.8×10^{-5}
Vinyl Chloride	7.8×10^{-5}	9.8×10^{-6} to 7.8×10^{-5}
Ethylene Dibromide	7.1×10^{-5}	1.3×10^{-5} to 7.1×10^{-5}
Carbon Tetrachloride	4.2×10^{-5}	1.0×10^{-5} to 4.2×10^{-5}
Benzene	2.9×10^{-5}	7.5×10^{-6} to 5.3×10^{-5}
Ethylene Dichloride	2.2×10^{-5}	1.3×10^{-5} to 2.2×10^{-5}
Inorganic Lead	1.2×10^{-5}	1.2×10^{-5} to 6.5×10^{-5}

Perchloroethylene	5.9×10^{-6}	3.0×10^{-7} to 1.1×10^{-5}
Formaldehyde	6.0×10^{-6}	2.5×10^{-7} to 3.3×10^{-5}
Chloroform	5.3×10^{-6}	6.0×10^{-7} to 2.0×10^{-5}
Acetaldehyde	2.7×10^{-6}	9.7×10^{-7} to 2.7×10^{-5}
Trichloroethylene	2.0×10^{-6}	8.0×10^{-7} to 1.0×10^{-5}
Methylene Chloride	1.0×10^{-6}	3.0×10^{-7} to 3.0×10^{-6}
Asbestos	1.9×10^{-4} (per 100 fiber/m^3)	Lung: 11 - 110 x 10^{-6} (per 100 fiber/m^3) Mesothelioma: 38 - 190 x 10^{-6} (per 100 fiber/m^3)
$\mu g/m^3$: Microgram Per Cubic Meter		

TABLE 3

COMPARISON OF OTHER ORGANIZATIONS' ESTIMATED 95 PERCENT UPPER CONFIDENCE LIMITS
OF LIFETIME RISK PER $\mu g/m^3$ DIESEL PARTICULATE MATTER FROM RISK ASSESSMENTS BASED ON EPIDEMIOLOGIC DATA WITH OEHHA ESTIMATES

Method	Unit Risk / Range	Basis of Assessment	Reference
Epidemiologic Analysis	3×10^{-4}	Based on Smoking-Adjusted Pooled RR	Smith, 1998
Epidemiologic	**3.6×10^{-4} to 2.4×10^{-3}**	**Case-Control Study of**	**OEHHA, Part B,**

Analysis[b]		**Garshick et al., 1987**	**Section 7.3.3**
Epidemiologic Analysis	**2.8 x 10^{-4} to 1.8 x 10^{-3}**	**Cohort Study of Garshick et al., 1988**	**OEHHA, Part B, Section 7.3.4**
Epidemiologic Analysis	**1.3 to 7.2 x 10^{-4}**	**Cohort Study, Time Varying Conc., Roof (3,50) Pattern**	**OEHHA, Part B, Appendix D**
Epidemiologic Analysis	**3.8 x 10^{-4} to 1.9 x 10^{-3}**	**Cohort Study, Time Varying Conc., Ramp (1,50) Pattern**	**OEHHA, Part B, Appendix D**
Epidemiologic Analysis	1.4 x 10^{-3}	London Transport Study[c]	Harris, 1983
Epidemiologic Analysis	2 x 10^{-3}	Epidemiologic Data of Garshick (Top End of U.S. EPA's Range)	U.S. EPA, 1998
Epidemiologic Analysis	1.3 x 10^{-4} to 1.3 x 10^{-2}	Using Smoking-Adjusted RR and Exposures of 5 or 500 $\mu g/m^3$	OEHHA, Part B, Section 7.3; Bracketed Risk Bounds

a) Bolded values are included in OEHHA's range of risk.

b) Obtained by applying Harris' slope of 5 x 10^{-4} ($\mu g/m^3$ x yr)$^{-1}$ to California life table.

Air Toxics Program

Particulate Emissions from Diesel-Fueled Engines as a TAC

Toxic Emisisons from Diesel-Fueled Engines

Occupational diesel exhaust exposure as a risk factor for chronic obstructive pulmonary disease

Jaime E. Hart[a], *Ellen A. Eisen*[b,c], *and Francine Laden*[a,c,d]

Purpose of review
Chronic obstructive pulmonary disease (COPD) is a major source of morbidity and mortality worldwide. Although cigarette smoking is the major cause of COPD, occupational exposures have emerged as an important risk factor, especially in nonsmokers. In this review, we assess the state of the literature on the association of COPD with a specific occupational exposure, diesel exhaust.

Recent findings
A large body of literature links general occupational exposures to dust and fumes with an increased risk of COPD, particularly in nonsmokers. Few studies, however, have explicitly examined the role of occupational diesel exhaust exposures to COPD risk. Suggestive recent findings link occupational diesel exposures to an increased risk of COPD.

Summary
The available literature directly examining the effects of occupational diesel exhaust on risk of COPD is quite small, but does suggest that increasing exposures are associated with increasing risk. Additional research, with more advanced exposure metrics, is needed to fully elucidate this association.

Keywords
chronic obstructive pulmonary disease, diesel exhaust, fumes, occupation

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is a common disease that results in considerable morbidity and mortality in the United States and worldwide. Its clinical course is characterized by acute exacerbations resulting in large numbers of physician and hospital outpatient visits (8 million), emergency department visits (1.5 million), and hospitalizations (726 000) in the USA [1]. COPD was the underlying cause in approximately 1 in 20 deaths in the USA in 2006 and was the fourth leading cause of death worldwide in 2008 [1–3].

Occupational exposures, especially to dust and fumes, have been identified as potentially significant risk factors for COPD [4]. Since 1989, a number of review articles have synthesized the association of occupation on risk of COPD and determined that it is an important risk factor [5–15]. Numerous studies have attempted to determine the population attributable risk percentage to account for the percentage of COPD due specifically to work-related factors. Estimates of this percentage for the general population range from 0 to 37%, with a median value of 15% [4]. Higher percentages were reported for nonsmokers (12–53%) [16–20]. In a recent analysis, an 8.8% reduction in occupational exposures to dust/gases/fumes would result in an estimated 20% reduction in the prevalence of COPD worldwide [21]. All of these reviews have highlighted the importance of exploring occupational risk factors for COPD.

Recent attention has focused specifically on diesel exhaust exposure as an important occupational risk factor. Diesel exhaust is a complex mixture of particulate matter and gases, and includes particles less than 1.0 μm in diameter with mutagenic and polycyclic aromatic hydrocarbon (PAH) carcinogenic compounds adsorbed to a carbon

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Curr Opin Pulm Med 2012, 18:151–154
DOI:10.1097/MCP.0b013e32834f0eaa

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KEY POINTS

- A large body of literature links general occupational exposures to dust and fumes with an increased risk of COPD, particularly in nonsmokers.
- The available literature directly examining the effects of occupational diesel exhaust on risk of COPD is quite small, but does suggest that increasing exposures are associated with increasing risk.
- Additional research, with more advanced exposure metrics, is needed to fully elucidate the impact of occupational diesel exposure on COPD risk.

core and ultrafine particles made up of condensed organics [22]. Individuals in a variety of occupations, including transportation (railroads, trucks, and buses), construction, mining, and maintenance, are routinely exposed to diesel exhaust. There is no one accepted measure specific to diesel exhaust. However, work in an exposed job, as determined by industrial hygiene assessment or expert review, or self-reported exposure to occupational dust and fumes or specifically to diesel exhaust have been used in the epidemiologic literature to assess associations with COPD.

The goal of this review is to assess the body of literature on the association of occupational diesel exhaust exposure and risk of COPD incidence and mortality. Results from observational epidemiology studies are presented, with emphasis on more recent publications. They are organized by specificity of exposure assessment for diesel exhaust.

OCCUPATIONS WITH LIKELY DIESEL EXHAUST EXPOSURE AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE RISK

One of the most comprehensive studies of occupations with exposure to diesel exhaust and COPD was based on data from the US Third National Health and Nutrition Examination Study (NHANES III). Using data on occupation and industry collected as part of the standardized interview, the association between 25 *a priori* selected occupational categories and COPD defined based on lung function testing was examined [18]. After adjustment for age, sex, race/ethnicity, body mass index, smoking (status and pack-years), educational level, and socioeconomic status, elevated odds ratios (ORs) were observed for industries with likely diesel exhaust exposure, such as construction [OR 1.3, 95% confidence interval (95% CI) 0.8–2.3] and transportation and trucking (OR 1.2, 95% CI 0.8–2.0), as shown in Fig. 1. The odds ratios were higher in never-smokers (construction OR 3.5; 95% CI 0.9–14.0, transportation and trucking OR 2.0; 95% CI 0.3–15.0). Odds ratios were also elevated when the analysis was performed by occupation, with ORs for occupations such as vehicle mechanics, transportation, construction workers, and motor vehicle operators ranging from 1.2 to 2.0 in the total sample and 2.1 to 3.4 in never-smokers.

In a cohort study [23] of workers in the US railroad industry, worker job histories were classified into years of work in different job categories with varying levels of exposure to diesel exhaust from locomotives. After adjusting for age, calendar year, and time since leaving work, each additional year of work in a job with locomotive exposure was associated with a 2.5% (95% CI 0.9–4.2%) increased risk of COPD mortality. These associations were robust to indirect control for cigarette smoking. These were similar to findings from an earlier case–control study in the same industry, where increasing years of work were associated with an OR of 1.02 (95% CI 1.01–1.04) [24].

DIESEL EXHAUST EXPOSURE AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE RISK

Few studies have had the ability to examine the effects of diesel exhaust specifically on the risk of COPD [25]. However, in a recent case–control study of participants in the Kaiser Permanente Northwest health maintenance organization, COPD cases and controls completed a questionnaire with information on demographics, family history, and a detailed work history [26]. As part of the job history, individuals reported routine (weekly) exposures to diesel exhaust. In addition, industrial hygienists assessed the potential for diesel exhaust exposure based on a review of the jobs and industries each individual reported. In logistic regression models adjusted for age and sex, individuals with any diesel exhaust had an OR of 1.9 (95% CI 1.3–3.0) compared to those with no exposure. The risk was higher among never-smokers (OR 6.4, 95% CI 1.3–31.6) and among those rated by the industrial hygienists to have moderate exposure.

OCCUPATIONAL DUST/FUME EXPOSURE AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE RISK

There are hundreds of studies looking at occupational dust/fume exposure. Excellent summaries of the literature were conducted by the American

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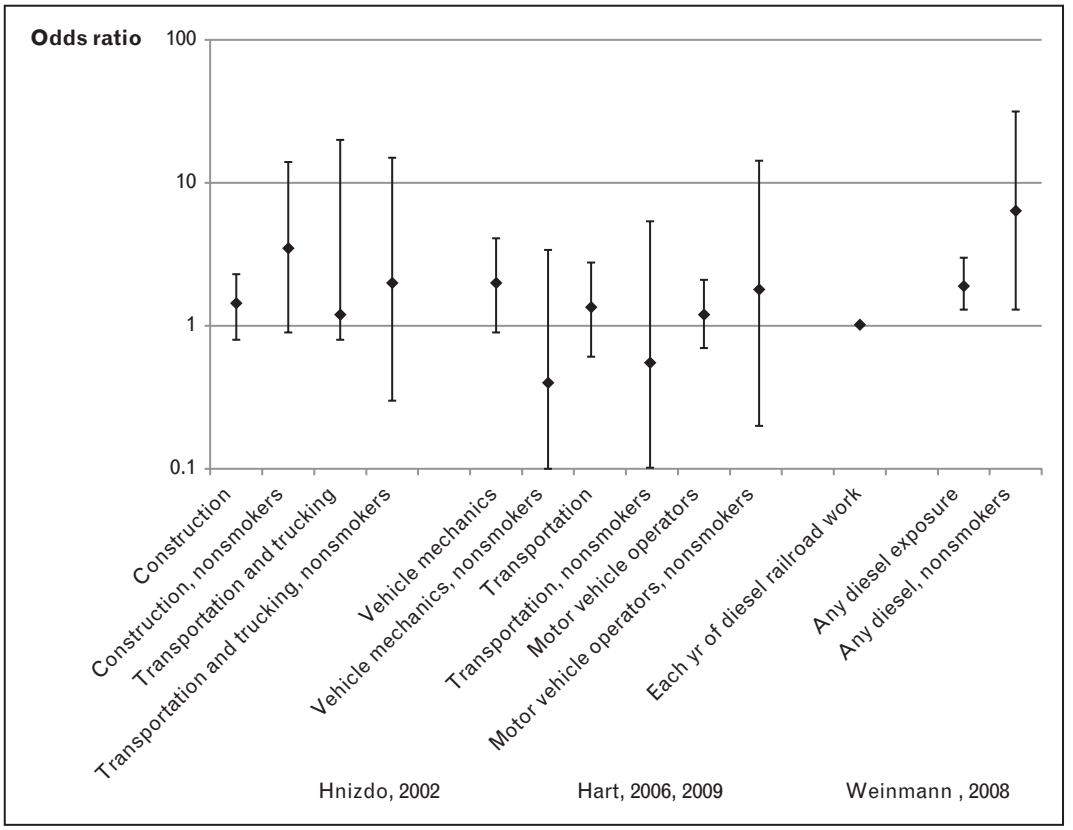


FIGURE 1. Chronic obstructive pulmonary disease odds ratios and 95% confidence intervals for various occupational diesel exhaust exposures.

Thoracic Society in 2003 [27] and again in 2010 [28▪]. In both cases, they concluded that occupational exposures were important risk factors for COPD. Diesel exhaust may be one of the fumes being referred to; however, this specificity is often not available.

Five recent studies have examined the effects of general occupational gas, dust, or fume exposure. In a US population-based case–control study, two methods were used to assess the exposure to vapors, gases, dust, and fumes: a question asking specifically if each job involved exposure to any of these four entities, and a job exposure matrix (JEM) based on an occupational history and expert review [29]. The OR for COPD with self-reported exposure was 2.1 (95% CI 1.4–3.0) and with high likelihood of exposure from the JEM was 1.2 (95% CI 0.6–2.3), after adjustment for age, sex, race/ethnicity, and smoking status.

In a South-African, hospital-based, case–control study, exposure to dust, gas, and fume exposure was determined from both self-reports and a JEM derived from occupational histories taken from each participant [30▪]. After adjustment for age, sex, smoking status, and history of tuberculosis, self-reported chemical, gas, and fume exposure years were associated with an OR of 2.9 (95% CI 1.3–6.3) for low exposure and 3.6 (95% CI 1.6–7.9) for high exposure. The equivalent measures from the JEM were associated with an OR of 2.2 (95% CI 1.1–4.7) for low exposure and 1.8 (95% CI 0.8–3.9) for high exposure.

Risk factors for COPD were examined among 4291 never-smokers participating in Burden of Obstructive Lung Disease (BOLD) from 14 different countries [31▪]. As part of the standardized questionnaire, participants were asked if they had worked for longer than 3 months in a list of occupations previously associated with risk of COPD (for gases/fumes/vapors: welding, fire fighting, chemical or plastic manufacturing, public transportation, or dry cleaning). In multivariable models, 10 or more years of work in a job with gas/fume/vapor exposure was associated with an OR of 1.54 (95% CI 0.71–3.34) in men and no association in women.

In a population-based study in the north of England, questionnaires were sent to a randomly selected subsample of the population [32▪]. The questionnaire specifically asked if each individual had prior occupational exposure to a variety of substances, including asbestos, welding, and dust/fumes. Among respondents who also underwent lung function testing, any occupational exposure was associated with an OR of 3.0 (95% CI 1.3–6.9),

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adjusted for age, sex, hay fever, cigarette smoking, and the interaction between sex and occupational exposures.

Among a series of 185 male patients with COPD at a large hospital in Spain, information was obtained on employment status and lifetime occupational history [33]. A JEM was constructed to determine the levels (none, low, and high) of three exposures, biological dust, mineral dust, and gases/fumes. Among those with any work ever in a job with a high level of gas/fume exposure, the relative risk (RR) of having an FEV1 less than 30% predicted (compared to >70% predicted) was 11.4 (95% CI 1.4–95.0), and each additional 10 years of work in such a job was associated with a RR of 1.9 (95% CI 1.0–3.7).

CONCLUSION

The available literature directly examining the effects of occupational diesel exhaust on risk of COPD is quite small. However, these investigations, along with a large body of literature exploring general occupational exposures to dust and fumes, suggest a role of occupational diesel exhaust exposure on risk of COPD. Additional research, with more advanced exposure metrics, is needed to fully elucidate this association.

Acknowledgements

The authors would like to thank Eric Garshick for helpful feedback and advice on the manuscript. This work was supported by the National Institutes of Health grant R01 ES016284.

Conflicts of interest

There are no conflicts of interest.

REFERENCES AND RECOMMENDED READING

Papers of particular interest, published within the annual period of review, have been highlighted as:

- ■ of special interest
- ■■ of outstanding interest

Additional references related to this topic can also be found in the Current World Literature section in this issue (p. 171).

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ORIGINAL ARTICLE

Ischaemic heart disease mortality and years of work in trucking industry workers

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Accepted 2 September 2011

To cite: Hart JE, Garshick E, Smith TJ, *et al*. *Occup Environ Med* 2013;**70**: 523–528.

ABSTRACT

Objectives Evidence from general population-based studies and occupational cohorts has identified air pollution from mobile sources as a risk factor for cardiovascular disease. In a cohort of US trucking industry workers, with regular exposure to vehicle exhaust, the authors previously observed elevated standardised mortality ratios for ischaemic heart disease (IHD) compared with members of the general US population. Therefore, the authors examined the association of increasing years of work in jobs with vehicle exhaust exposure and IHD mortality within the cohort.

Methods The authors calculated years of work in eight job groups for 30 758 workers using work records from four nationwide companies. Proportional hazard regression was used to examine relationships between IHD mortality, 1985–2000, and employment duration in each job group.

Results HRs for at least 1 year of work in each job were elevated for dockworkers, long haul drivers, pick-up and delivery drivers, combination workers, hostlers, and shop workers. There was a suggestion of an increased risk of IHD mortality with increasing years of work as a long haul driver, pick-up and delivery driver, combination worker, and dockworker.

Conclusion These results suggest an elevated risk of IHD mortality in workers with a previous history of regular exposure to vehicle exhaust.

What this paper adds

- Occupational studies of professional drivers, conducted mainly in Denmark and Sweden, have identified elevations in ischaemic heart disease in this occupational group.
- The results of this study suggest that workers in the US trucking industry with a variety of patterns of exposure to vehicle exhaust are at an increased risk of mortality from ischaemic heart disease and that this risk may increase with increasing years of work.

INTRODUCTION

There is growing evidence from population-based studies that fine particulate air pollution is a risk factor for cardiovascular disease.[1–5] The specific constituents responsible are currently not known; however, attention has focused on the importance of particles from motor vehicles that fall mostly within the fine (<2.5 microns in diameter—$PM_{2.5}$) range.[6] There is also suggestive evidence from occupational studies that professional drivers, a group with regular exposure to particulate matter (PM) from mobile sources, have an elevated risk of cardiovascular disease.[7–12] These occupational studies have mainly been conducted in Denmark and Sweden with exposure based on occupation reported in central registers or by self-report. Detailed occupational records in a large cohort of workers with regular exposure to traffic-related PM have not been available.

In a large US cohort of trucking industry workers, we have previously identified elevated standardised mortality ratios (SMR) for ischaemic heart disease (IHD) mortality (SMR=1.41; 95% CI 1.33 to 1.49) compared with the general US population.[13] We also found that, independent of occupational exposures, ambient long-term exposures to PM_{10}, NO_2 and SO_2 at the last known home address were associated with an increased risk of IHD mortality in this cohort.[14] In this industry, job and specific exposure-related duties have remained stable over time and the dates of diesel and other equipment usage are known.[15] An industrial hygiene job review was conducted to identify specific jobs and job duties in the industry and the use of diesel and non-diesel vehicles, and we conducted a national exposure assessment to characterise occupational exposures by job title.[16–20] Each company has provided us with detailed monthly work records for each individual. Thus, we have the unique opportunity to examine the effects of years of work in specific job titles within the industry on IHD mortality while controlling for ambient pollution exposures.

METHODS

Population

Details of the cohort are provided elsewhere.[13 21] Briefly, we obtained detailed computerised work records for unionised employees working in 1985 (54 319 men and 4007 women) from four large national companies. We used National Death Index record axis data, 1985–2000, that lists both underlying and contributing causes of death and identified all deaths with IHD (ICD-9410–414.9; ICD-10 I20–I25.9) listed. We also considered sensitivity analyses restricting to only those cases identified as the underlying cause of death. We limited

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analyses to men with at least 1 year of work in a trucking industry job (n=52 836) who also had ambient pollution information available (n=52 345) at their home address. Job title and duties are the same across companies, and the work records included start date, retirement and layoff dates. This allowed us to calculate years of work in each specific trucking industry job group for each employee. Study approval was obtained from the Institutional Review Boards of Brigham and Women's Hospital, Harvard School of Public Health and VA Boston Healthcare System.

Exposure assessment

We categorised exposure into eight job categories based on a review of job titles and duties from a 2001 to 2005 industrial hygiene exposure assessment[16–18] and information on the historical use of diesel and other vehicles by workers in the cohort.[15] The number of workers in each job in 1985 is summarised in table 1. Long haul drivers deliver freight from one large trucking terminal to another and are often away from home for up to 3 days. Pick-up and delivery drivers bring freight to and from customers in the surrounding area and the loading dock. Dockworkers move freight from one truck to another on the loading dock, primarily using propane-powered forklifts, while hostlers move trucks and trailers in the terminal yards. Combination workers perform the duties of a dockworker and of a pick-up and delivery driver as needed on a daily basis. Shop workers perform maintenance on tractors and trailers. Office workers (mostly clerks, managers and salespeople) spend the majority of their work time in an office environment. Each worker could potentially accumulate exposure in each job category throughout his career.

Table 1 Characteristics of the study population (N=52 345)

Characteristic	
	Mean±SD
Age in 1985	42.3±9.9
Year of Hire	1975±7.9
Average annual ambient pollution 1985–2000*	
PM_{10} ($\mu g/m^3$)	26.8±5.9
NO_2 (ppb)	14.1±7.0
SO_2 (ppb)	4.8±2.9
Job in 1985	Number (%)
Long haul driver	13 752
Pick-up and delivery driver	8930
Dockworker	12 652
Combination worker	8022
Hostler	1258
Shop worker	3199
Office worker	2284
Other jobs	2204
Census region of residence*	
Northeast	8483 (16.2)
South	18 755 (35.8)
Midwest	16 833 (32.2)
West	8274 (15.8)
Race/Ethnicity	
Asian	69 (0.1)
African–American	4831 (9.2)
Hispanic	2007 (3.8)
Native American	387 (0.7)
Caucasian	44 114 (84.3)
Other	937 (1.8)

*Based on the last known home address.

Statistical methods

Proportional hazard regression was used to examine relationships between IHD mortality and employment duration in each trucking industry job category. All eight job-specific exposure variables were included in regression models to adjust for different jobs held throughout a worker's career. Penalised splines[22] were used to test for non-linearity in mortality risk with employment duration, and the change in HR and 95% CIs associated with each year of work was calculated. To closely adjust for age and secular trends, risk sets were generated using attained age in 1-year increments as the time scale. As individuals starting work at one of the participating companies at different ages and different time periods may have different baseline risks of IHD and that these risks will change with calendar time, we created separate baseline hazards based on categories of age in 1985 (<40, 40–49, 50–59, 60–69, 70+), calendar year and decade of hire. Race, census region of residence (based on last home address) and company were considered as potential confounders in the regression models. To control for long-term ambient pollution exposures, we included the average (1985–2000) PM_{10}, NO_2 and SO_2 pollution predicted at the last known address of each employee using national exposure models, we previously developed based on data from EPA monitors.[23] Time-varying variables for years employed and years off work were used to adjust for a healthy worker survivor effect. All analyses were performed in UNIX SAS 9.2 or R 2.4.1.

Indirect adjustment for cigarette smoking

Information on cigarette smoking is not available from the company personnel databases. However, to assess job-related variation in smoking habits, in 2003, a questionnaire was mailed to a sample of 11 986 active and recently retired workers from the same companies as the cohort members.[24] The response rate was 40.5%, and distributions of job titles, gender, region of residence, number of employees at the workplace and urban or rural work location among responders and non-responders were similar. We have previously shown that in logistic regression models adjusted for age, region of the country, educational status, and size and location of the workplace, long haul drivers had higher odds of being ever-smokers compared with other job groups, and pick-up and delivery drivers were less likely to be current smokers. To indirectly adjust for smoking, proportions of current, former and never-smokers among male questionnaire respondents for each job group were used to weight cigarette smoking literature-based fatal IHD RRs for US men (current smoker RR=2.4; former smoker RR=1.1[25]). A job-specific smoking adjustment factor was calculated by dividing the weighted risk for workers employed in each job by the weighted risk for workers not employed in that job,[26 27] and 95% CIs were calculated by considering sampling error in calculating the adjustment factors.[28]

RESULTS

Characteristics of the analysis cohort are presented in table 1. The average age in 1985 was 42 years old, and most workers were hired after long haul trucks changed from gasoline to diesel during the 1950s to 1960s but before or during the transition of pick-up and delivery trucks from gasoline to diesel during the 1970s to 1980s. The workers were predominantly

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Caucasian and lived in the South or Midwest. The largest group of workers worked as long haul drivers in 1985, followed by pick-up and delivery drivers, dockworkers and combination workers. There were smaller numbers of hostlers, shop workers, office workers and people in other jobs (managers, trainees, etc).

There were 1357 deaths from IHD (1094 as the underlying cause of death) during the follow-up period (1985–2000). HRs for IHD mortality associated with at least 1 year of work in each specific job category are presented in table 2. There was little difference between the basic, healthy worker survivor effect-adjusted and multivariate models. HRs were statistically significantly elevated for dockworkers and long haul drivers and were elevated for pick-up and delivery drivers, combination workers, hostlers and shop workers. The multivariate HR for clerks was 0.63.

Per cent change in the HR per additional year of work was calculated for long haul drivers, pick-up and delivery drivers, dockworkers and combination workers, the four job titles with the largest number of cases (table 3). Based on the penalised splines (figure 1), the association of IHD with increasing years of exposure was not statistically significantly different from linear in any of these job categories. In linear models, there was a suggestive positive association between increasing years of work in each of these four jobs and an increased risk of IHD mortality. Results were similar for models restricted to those IHD cases listed only as the underlying cause of death.

The job-specific coefficients from the regression models in table 3 were used to estimate HRs for 20 years of work. The job-specific smoking adjustment factors were used to estimate smoking-adjusted risks by dividing each job-specific regression coefficient by the appropriate adjustment factor. After the indirect smoking adjustment, the HRs did not appreciably change in any of the job groups.

DISCUSSION

Within this population of US trucking industry employees, jobs associated with exposures to vehicle exhaust were associated with increases in IHD mortality. Increasing years of work were associated with increases in IHD mortality, although these increases were not statistically significant. These exposures were robust to adjustment for residential ambient average PM_{10}, NO_2 and SO_2 pollution and indirect adjustments for cigarette smoking. Clerks, who did not work in a job with regular exposure to vehicle exhaust, had a decreased risk of dying of IHD. Our findings of elevated risks in the specific job titles are consistent with our earlier SMR analysis comparing this population with members of the general US population (SMRs: ever driver=1.49 (95% CI 1.40 to 1.59), ever dockworker=1.32 (95% CI 1.15 to 1.52), ever mechanic=1.34 (95% CI 1.05 to 1.72)).

Other studies have reported elevated risks of cardiovascular disease in professional drivers, an occupational group with regular exposure to PM from mobile sources, although not all studies have reported elevated risks.[7–11] In Danish bus, taxi and truck drivers, rates of hospital admissions for IHD were consistently elevated in successive 5-year cohorts of 20–59-year-old men studied between 1981 and 1997. Compared with rates in other employed Danish men, the risk was significantly increased, 20%–80%.[11] Gustavsson *et al*[29] found a significantly elevated risk of myocardial infarction among 691 long-distance truck drivers in five counties in Sweden (RR=1.31). The risk was not elevated among short-distance truck drivers, but relatively few (only 169) were included in the study. In a later case–control study assessing cardiovascular risk factors in survivors of first-time myocardial infarction ages 45–70 in Stockholm County between 1992 and 1994, Gustavsson *et al*[30] used a job-exposure matrix to estimate vehicle exhaust exposure intensity and duration. Adjusting for gender, smoking, diabetes and body mass index, the risk associated with greater exposure levels was 1.2–1.3. In a similar analysis in the same cohort, but based on job title, male bus and taxi drivers who worked for >1 year had a non-statistically significantly elevated risk (RR=1.49 95% CI 0.90 to 2.45 and RR=1.34, 95% CI 0.82 to 2.19, respectively). The risk among truck drivers was 1.10, 95% CI 0.79 to 1.53.[31]

Current research efforts suggest that exposure to PM from mobile sources is responsible for adverse cardiovascular events in the general population as well. A prospective study of 4466 participants followed for 8 years in the Netherlands concluded that long-term exposure to traffic-related particulate air pollution measured by ambient Black Smoke measurements, an indicator of elemental carbon (EC), presumably from gasoline and diesel-powered vehicles, was associated with increased all-cause mortality (RR=1.32, 95% CI 0.98 to 1.78) and specifically cardiopulmonary mortality (RR=1.71, 95% CI 1.10 to 2.67) for each 10 $\mu g/m^3$ increase in Black Smoke.[32] An analysis based on specific elements from particles in six US cities found greater effects on daily mortality rates (particularly for cardiovascular deaths) attributable to particles from mobile sources than to particles from other sources.[33] Death from cardiovascular disease in Western European cities has been associated with daily ambient concentrations of Black Smoke.[34]

Table 2 IHD mortality HRs and 95% CIs associated with any work in each major job title, follow-up 1985–2000

Job title	Person years	IHDs	Basic, HR (95% CI)*	HWSE, adjusted HR (95% CI)†	Multivariate, HR (95% CI)‡
Long haul	216 019	626	1.39 (1.18 to 1.64)	1.41 (1.19 to 1.66)	1.44 (1.22 to 1.70)
Pick-up and delivery	228 961	369	1.11 (0.96 to 1.28)	1.09 (0.95 to 1.26)	1.11 (0.96 to 1.28)
Dockworker	295 369	352	1.31 (1.13 to 1.52)	1.30 (1.12 to 1.51)	1.30 (1.12 to 1.51)
Combination	165 151	201	1.07 (0.90 to 1.28)	1.11 (0.93 to 1.33)	1.11 (0.93 to 1.32)
Mechanic	46 524	76	1.05 (0.80 to 1.38)	1.07 (0.82 to 1.41)	1.10 (0.84 to 1.44)
Hostler	58 833	56	1.01 (0.77 to 1.33)	1.06 (0.80 to 1.39)	1.04 (0.79 to 1.37)
Clerk	78 531	31	0.60 (0.41 to 0.87)	0.61 (0.42 to 0.89)	0.63 (0.43 to 0.91)

Each worker could potentially accumulate exposure in multiple job categories throughout his career.
*Basic HRs using regression coefficients from Cox proportional hazards regression models stratified on age in 1985, decade of hire and calendar time, with risk sets by attained age, and adjusted for race.
†HWSE HRs additionally adjusted for the healthy worker survivor effect (total years on work, years off of work).
‡Multivariate HRs additionally adjusted for Census region and the 1985–2000 average ambient PM_{10}, NO_2 and SO_2 values at the last known residential address.
HWSE, healthy worker survivor effect; IHD, ischaemic heart disease.

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Table 3 IHD HRs and 95% CIs associated with cumulative years of work in each major job title

Job title	Person years	IHDs	% Change in RR per year of work	Smoking adjustment factor*	HR for 20 yrs of work	
					Multivariate†	Smoking adjusted‡
Long haul	216 019	626	4.2 (−0.9 to 9.8)	1.04	2.32 (0.84 to 6.44)	2.23 (0.80 to 6.18)
Pick-up and delivery	228 961	369	3.7 (−1.4 to 9.2)	0.92	2.09 (0.75 to 5.82)	2.27 (0.81 to 6.32)
Dockworker	295 369	352	3.9 (−1.2 to 9.5)	1.04	2.20 (0.79 to 6.13)	2.11 (0.76 to 5.89)
Combination	165 151	201	3.2 (−2.0 to 8.7)	0.98	1.89 (0.67 to 5.30)	1.93 (0.68 to 5.42)

Each worker could potentially accumulate exposure in multiple job categories throughout his career.
*Job-specific smoking adjustment factors were calculated by dividing the smoking weighted risk for each job by the smoking weighted risk for workers not employed in that job.
†Multivariate HRs using regression coefficients from Cox proportional hazards regression models stratified on age in 1985, decade of hire and calendar time, with risk sets by attained age, adjusted for the healthy worker survivor effect (total years on work, years off of work) race, Census region of residence and the 1985–2000 average ambient PM_{10}, NO_2 and SO_2 values at the last known residential address.
‡Smoking-adjusted HRs are calculated by dividing the multivariate HR by the appropriate smoking adjustment factor. The 95% CIs were calculated by considering the sampling error in calculating each job-specific correction factor.
IHD, ischaemic heart disease.

PM from mobile sources has also been associated with non-fatal cardiovascular disease and systemic markers associated with a greater disease risk. The increased risk of cardiovascular hospitalisation associated with a fixed increment in recent exposure to ambient particles has been shown to increase with the per cent of the particles emitted from traffic sources.[35] In a US Medicare cohort examining the constituents of $PM_{2.5}$, one of the strongest associations was observed between EC and cardiovascular admissions.[36] Findings from Peters *et al*[37] also supported a more specific role for traffic-related particles in cardiovascular damage. In a Boston-based cohort of subjects wearing implantable defibrillators EC and nitrogen dioxide (NO_2) (markers of traffic exposure) were stronger predictors of defibrillator discharge than $PM_{2.5}$. Similarly, in a London study, Black Smoke and NO_2 showed stronger associations with plasma fibrinogen—an intermediate marker of cardiovascular disease risk—than particulate matter <10 microns in diameter (PM_{10}).[38] Peters *et al*[39] found that exposure to traffic was associated with the time of onset of myocardial infarction. In a study of state police troopers riding in their patrol cars, in-vehicle PM (presumably from traffic sources) was associated with elevations in C reactive protein and changes in heart rate variability.[40] In a design similar to our current study, but based in the general population, residents living closer to traffic had a greater risk of incident coronary heart disease, adjusting for residential background air pollution.[41] These observations indicate

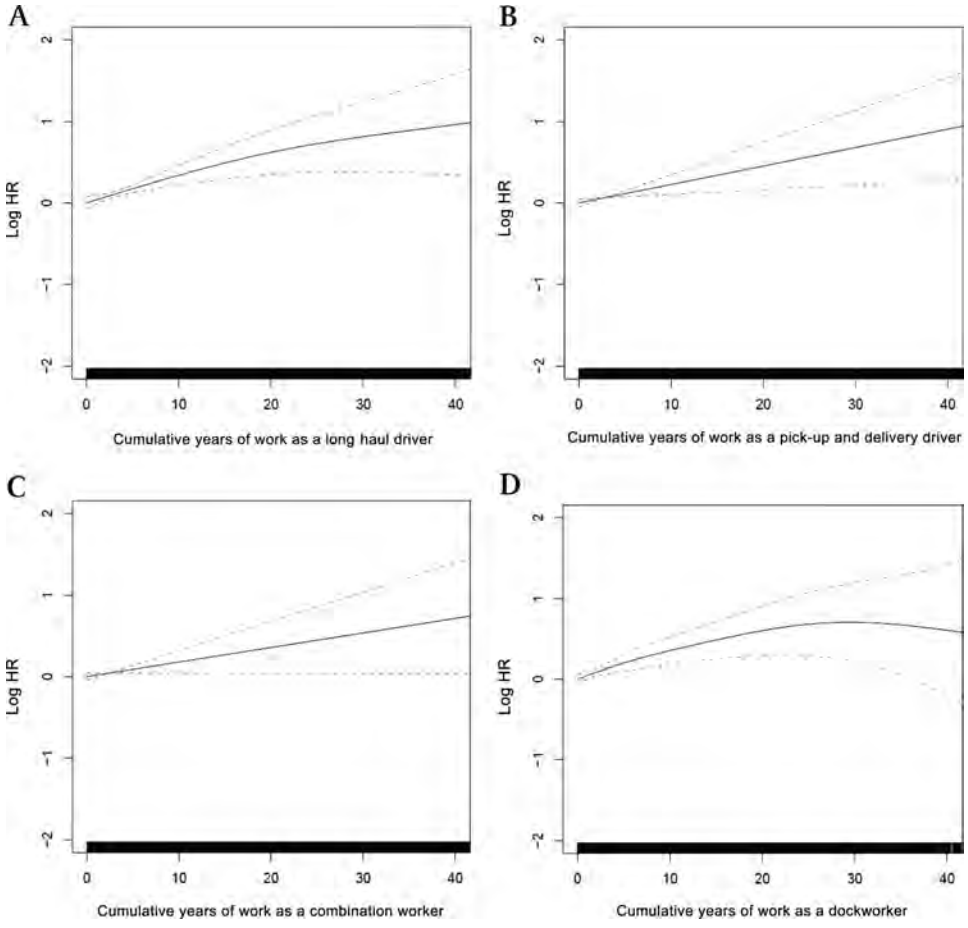


Figure 1 Natural log of the HR and 95% CIs for ischaemic heart disease mortality risk for cumulative years of work as a (A) long haul driver, (B) pick-up and delivery driver, (C) dockworker and (D) combination worker. The solid lines indicate the natural log of the HR, and the dotted lines are the 95% CIs. A histogram of the distribution of years of work is at the bottom of each graph.

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that exposure to fine particles from traffic can influence the occurrence of clinical IHD and in some studies, systemic markers of inflammation.

Recent studies have assessed the mechanism responsible for the association of cardiovascular disease mortality with traffic-related exposures. Traffic exposures may specifically adversely affect future IHD by accelerating systemic atherosclerosis (and presumably coronary atherosclerosis) assessed based on quantity of aortic calcification,[42] increase in pulse-wave velocity[43] and carotid intima-media thickness.[44 45] Findings in experimental animal models also support the potential for fine particulate air pollution and specifically traffic-related particles to contribute to the progression of atherosclerosis.[46–48]

A limitation of this analysis is the lack of personal information on potential risk factors for IHD. Although cigarette smoking is an important risk factor, the degree that it is a confounder in this study depends on differences in smoking behaviour associated with job title within the cohort. To minimise the possible effect of uncontrolled confounding by smoking, we have studied workers of similar socioeconomic class, a known correlate of smoking habits.[49 50] Although we were unable to directly survey workers in this cohort, using a representative sample of active and retired workers in the industry,[24] we found that variation in IHD risk among exposed workers did not reflect differences in smoking rates and adjustment did not significantly influence the observed results. As expected,[51] we found that smoking rates in the survey varied by age and birth cohort.[13] Although a limitation of this indirect adjustment is that smoking patterns between jobs may have been different historically, we found that birth-cohort-specific smoking rates were similar among drivers and non-drivers,[13] suggesting that smoking rates did not vary substantially between jobs. In addition, all analyses are tightly controlled for age and calendar year. However, it is still possible that residual confounding by smoking exists. In addition, we do not have information on other important potential confounders, such as physical activity, diet, alcohol consumption, family history, medication use, etc, which, if also related to job title could partially explain our results. Other job-related factors, such as stress, noise, personal work practices, in addition to or instead of traffic pollution exposures may also explain our results. Without direct information on each of these factors, we are unable to definitely determine the precise factors of these job titles responsible for the elevated risk of IHD.

To conclude, our results suggest that IHD mortality in workers with a previous history of regular exposures to vehicle exhaust is elevated and that this risk may increase with increasing exposure duration.

Acknowledgements The authors thank Marina Jacobson Canner for programming assistance, the Teamster Safety and Health Dept. (LaMont Byrd); the Central States Pension Fund (Bill Schaefer), and the participating companies.

Funding This study was supported by NIH/NCI R01 CA90792; NIEHS ES00002.

Competing interests None.

Ethics approval Ethics approval was provided by Institutional Review Boards of Brigham and Women's Hospital, Harvard School of Public Health and VA Boston Healthcare System.

Contributors JEH, EG, TJS and FL were involved in study design, data collection and manuscript editing. JEH and MED were involved in data analysis and statistical support.

Provenance and peer review Not commissioned; externally peer reviewed.

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Ischaemic heart disease mortality and years of work in trucking industry workers

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Occup Environ Med 2013 70: 523-528 originally published online September 19, 2012
doi: 10.1136/oemed-2011-100017

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DOI: 10.1093/jnci/djs034
Advance Access publication on March 5, 2012.

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ARTICLE

The Diesel Exhaust in Miners Study: A Nested Case–Control Study of Lung Cancer and Diesel Exhaust

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Manuscript received February 16, 2011; revised June 3, 2011; accepted October 21, 2011.

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Background Most studies of the association between diesel exhaust exposure and lung cancer suggest a modest, but consistent, increased risk. However, to our knowledge, no study to date has had quantitative data on historical diesel exposure coupled with adequate sample size to evaluate the exposure–response relationship between diesel exhaust and lung cancer. Our purpose was to evaluate the relationship between quantitative estimates of exposure to diesel exhaust and lung cancer mortality after adjustment for smoking and other potential confounders.

Methods We conducted a nested case–control study in a cohort of 12315 workers in eight non-metal mining facilities, which included 198 lung cancer deaths and 562 incidence density–sampled control subjects. For each case subject, we selected up to four control subjects, individually matched on mining facility, sex, race/ethnicity, and birth year (within 5 years), from all workers who were alive before the day the case subject died. We estimated diesel exhaust exposure, represented by respirable elemental carbon (REC), by job and year, for each subject, based on an extensive retrospective exposure assessment at each mining facility. We conducted both categorical and continuous regression analyses adjusted for cigarette smoking and other potential confounding variables (eg, history of employment in high-risk occupations for lung cancer and a history of respiratory disease) to estimate odds ratios (ORs) and 95% confidence intervals (CIs). Analyses were both unlagged and lagged to exclude recent exposure such as that occurring in the 15 years directly before the date of death (case subjects)/reference date (control subjects). All statistical tests were two-sided.

Results We observed statistically significant increasing trends in lung cancer risk with increasing cumulative REC and average REC intensity. Cumulative REC, lagged 15 years, yielded a statistically significant positive gradient in lung cancer risk overall (P_{trend} = .001); among heavily exposed workers (ie, above the median of the top quartile [REC $\geq$ 1005 μg/m^3-y]), risk was approximately three times greater (OR = 3.20, 95% CI = 1.33 to 7.69) than that among workers in the lowest quartile of exposure. Among never smokers, odd ratios were 1.0, 1.47 (95% CI = 0.29 to 7.50), and 7.30 (95% CI = 1.46 to 36.57) for workers with 15-year lagged cumulative REC tertiles of less than 8, 8 to less than 304, and 304 μg/m^3-y or more, respectively. We also observed an interaction between smoking and 15-year lagged cumulative REC ($P_{interaction}$ = .086) such that the effect of each of these exposures was attenuated in the presence of high levels of the other.

Conclusion Our findings provide further evidence that diesel exhaust exposure may cause lung cancer in humans and may represent a potential public health burden.

J Natl Cancer Inst 2012;104:855–868

The question of whether diesel exhaust causes lung cancer in humans has been investigated in many studies since the 1980s. In 1989, the International Agency for Research on Cancer (IARC) classified diesel exhaust as a "probable" carcinogen (IARC classification: Group 2A) based on "sufficient" experimental evidence and "limited" evidence of carcinogenicity in humans (1). Two meta-analyses (2,3) of epidemiological studies have estimated the summary relative risk for lung cancer for those ever occupationally exposed to diesel exhaust as 1.33 (95% confidence interval [CI] = 1.24 to 1.44) (2) and 1.47 (95% CI = 1.29 to 1.67) (3), based on more than 35 studies. A pooled analysis (4) of 13 304 case subjects and 16 282 control subjects from 11 lung cancer case–control studies in Europe and Canada yielded an odds ratio (OR) of 1.31 (95% CI = 1.19 to 1.43) for subjects in the highest vs lowest quartile of cumulative diesel exposure based on a job exposure matrix (4). Although these meta-analyses (2,3) and the pooled analysis (4) suggest a modest but consistent effect, the excesses are in a range that could be explained by confounding (5), particularly from

CONTEXTS AND CAVEATS

Prior knowledge

Most previous studies have found a modest association between the risk of lung cancer and exposure to diesel exhaust (DE). However, these studies typically have inferred DE exposure from job title in the absence of quantitative data on historical DE exposures.

Study design

A nested case–control study of lung cancer and DE in a cohort of 12 315 workers in eight non-metal mining facilities included 198 lung cancer deaths and 562 control subjects. The case–control study evaluated the exposure–response relationship between DE and lung cancer mortality after adjustment for cigarette smoking and other potential confounding factors that were unavailable in the cohort study.

Contribution

The results showed a strong and consistent relationship between quantitative exposure to DE and increased risk of dying from lung cancer. Among heavily exposed workers, the risk of dying from lung cancer was approximately three times greater than that among workers in the lowest quartile of exposure.

Implication

Exposure to DE may cause lung cancer in mine workers.

Limitations

Data on smoking and other potential confounders were derived mainly from next-of-kin interviews. Retrospective assessment of DE exposure may result in some misclassification, leading to imprecision in exposure estimates.

From the Editors

smoking. Alternatively, these excesses may be underestimates of risk due to inadequate latent period for the development of lung cancer in some studies or misclassification of exposure because most epidemiological studies inferred diesel exhaust exposure from job title in the absence of any additional information on level of diesel exposure. In-depth studies of truck drivers (6,7) and railroad workers (8), two occupational groups with light to moderate exposure to diesel exhaust, have found nearly a doubling of lung cancer risk among long-term workers. Retrospective exposure assessments in these studies, however, were hampered by limited historical industrial hygiene measurements. In fact, few studies have based estimates of lung cancer risk on quantitative estimates of exposure to diesel exhaust (8–11). Only one study of German potash miners reported results based on quantitative estimates of historical exposures that included industrial hygiene measurements but was based on only 61 lung cancer deaths (11). To our knowledge, no study to date has had quantitative data on historical diesel exposure coupled with adequate sample size to evaluate the exposure–response relationship for diesel exhaust and lung cancer with adjustment for potential confounding from cigarette smoking and other risk factors for lung cancer.

We conducted a cohort mortality study among workers employed at eight underground non-metal mining facilities (12) and a companion case–control study of lung cancer nested in this cohort to evaluate the risk of lung cancer from exposure to diesel exhaust (The Diesel Exhaust in Miners Study [DEMS]). The purpose of the case–control study reported in this article was to further evaluate the exposure–response relationship between diesel exhaust and lung cancer mortality after adjustment for cigarette smoking and other potential confounding factors that were unavailable in the cohort study.

Materials and Methods

Cohort Design and Follow Up

Eight non-metal mining facilities (three potash, three trona, one limestone, and one salt [halite]) were selected from all US non-metal mining facilities with at least 50 employees who were considered to have had high air levels of diesel exhaust underground but low levels of potential occupational confounders (ie, radon, silica, asbestos) (12). Eligible subjects included all workers who were ever employed in a blue-collar job for at least 1 year after introduction of diesel equipment into the mining facility (year of introduction: 1947–1967 across the eight facilities) until the end of follow-up on December 31, 1997. The cohort consisted of 12 315 workers with a total of 278 041 person-years of follow-up. More detailed information on the cohort can be found in the accompanying article on the cohort study (12).

Case Subject Definition and Identification

Vital status of each cohort member was ascertained through December 31, 1997, by linkage with the National Death Index Plus (NDI Plus) (http://www.cdc.gov/nchs/ndi.htm) and Social Security Administration mortality files. Cause of death information was obtained from NDI Plus or from death certificates (for deaths occurring before the introduction of NDI Plus). A total of 217 deaths were identified with lung cancer (*International Classification of Diseases-O* code 162) specified as either the underlying or contributing cause on the death certificate. We attempted to retrieve pathology reports and diagnostic slides for all case subjects, which proved to be challenging because 85% of the case subjects had died more than 10 years before we contacted the hospital. After repeated attempts, we successfully obtained pathology reports or slides for 70 of the 170 case subjects for whom we obtained consent to access medical records. When the pathology report or diagnostic slides were available, the diagnosis of lung cancer was confirmed through review by an expert pathologist (W. D. Travis), which resulted in the exclusion of one case subject as "unlikely" to have had lung cancer. Of the 217 eligible case subjects identified, we interviewed 213 (98.1%) of their next of kin.

Control Subject Selection for the Nested Case–Control Study

Based on incidence density sampling, we selected up to four control subjects for each lung cancer case subject by random sampling from all members of the study cohort who were alive before the day the case subject died. With this design, all cohort members were eligible to serve as control subjects for more than one case subject, and case subjects before death were eligible to serve as control subjects for other case subjects who died earlier (23 control subjects went on to become case subjects at a later point in time).

Control subjects were individually matched to each case subject on mining facility, sex, race/ethnicity (ie, white, African American, American Indian, Hispanic), and birth year (within 5 years). In the analysis, estimates of diesel exposure and potential confounders (eg, cigarette smoking, employment in other high-risk occupations for lung cancer, and history of nonmalignant respiratory disease) for each control subject were truncated at the date of death of the matched case subject. We identified 650 eligible control subjects and interviewed 611 (94.0%) of them or their next of kin (if the control subject was deceased or too ill for interview). Of the next of kin who were interviewed, 55% were adult children, 31% were spouses or former spouses, 6% were siblings, and 8% were other relatives (with the exception of two friends/co-workers).

The Interview

Living control subjects (n = 222) and next of kin of lung cancer case subjects (n = 198) and ill or deceased control subjects (n = 340) were interviewed using a computer-assisted telephone interview (as explained below, an additional 15 case subjects and 49 control subjects were excluded from analysis). The interview was designed to collect information about the subject's demographics, smoking history (both active and passive), lifetime occupational history, medical history, family medical history, and usual adult diet. We obtained information on all jobs held for 12 months or longer since the age of 16. For each job held at a study mining facility, we collected information on the use of respiratory protective equipment (eg, respirators and masks) and the mining facility location where each subject spent most of his or her time (surface or underground) to supplement information obtained from the subject's company employment record. We also collected information about all jobs held before and after employment at the study mining facilities, including whether the subjects operated or worked near diesel engines.

We compared data obtained from next of kin of deceased control subjects to those obtained from direct interviews with living control subjects for several key variables (eg, cigarette smoking, history of employment in a high-risk occupation for lung cancer, and history of nonmalignant respiratory disease). In general, data obtained from next of kin were similar to those obtained from directly interviewed control subjects. For cigarette smoking, the percentages of direct vs next-of-kin interviews by smoking category were as follows: never smoker, 27% vs 28%; occasional smoker, 3% vs 2%; former smoker of less than one pack per day, 17% vs 17%; former smoker of one to less than two packs per day, 31% vs 24%; former smoker of two or more packs per day, 11% vs 6%; current smoker of less than one pack per day, 1% vs 3%; current smoker of one to less than two packs per day, 9% vs 14%; and current smoker of two or more packs per day, 1% vs 6%, respectively. Living control subjects and next of kin of dead control subjects reported similar proportions of "ever smokers" (73% and 72%, respectively). As expected, deceased control subjects had a slightly higher proportion of current smokers of one or more packs per day than living control subjects (20% and 10%, respectively). This observation is consistent with the reported cause of death; 80% of control subjects who were current smokers of one or more packs per day died of a smoking-related cause compared with 60% of control subjects who never smoked.

This study was approved by the Institutional Review Boards of the National Cancer Institute, the National Institute for Occupational Safety and Health (NIOSH), and Westat, Inc. All interviewees provided verbal informed consent before the interview, and next of kin of case subjects provided written consent to obtain medical records and pathology materials.

Diesel Exhaust Exposure Assessment

The eight facilities in the study had both underground (ore extraction) and surface (ore processing) operations. Underground workers were exposed to diesel exhaust primarily from ore extraction, haulage, and personnel transport vehicles. Surface workers generally had little to no contact with diesel equipment, although some had low levels of diesel exposure from the operation of heavy equipment or diesel trucks or because they worked near diesel equipment.

Respirable elemental carbon (REC), a component of diesel exhaust, is considered the best index of diesel exhaust in underground mining (13). The methods we used to develop quantitative estimates of historical exposure to REC at each mining facility have been described in detail (14–18). Briefly, the exposure assessors (P. A. Stewart, R. Vermeulen, J. B. Coble) developed location- and job title–specific estimates, by year, back to the year of the introduction of diesel equipment in each facility, blinded to mortality outcomes. The estimates were based on measurements from 1998 to 2001 DEMS industrial hygiene surveys at each working mining facility, past Mine Safety and Health Administration enforcement surveys, other measurement data, and information from company records and interviews with long-term workers. The same REC estimates were used to develop quantitative estimates of average intensity and cumulative REC exposure for subjects in both this and the cohort study (12).

A small percentage of subjects in the nested case–control study worked at more than one study facility (ie, 5.9% worked at two facilities and 0.7% worked at three). For these workers, their exposure metrics were based on diesel exposure at all relevant study facilities. Control subjects working in more than one facility were matched to case subjects on the facility where the control subject worked the longest. In facility-specific analyses, workers at multiple facilities were assigned to the facility where they worked the longest.

Statistical Analysis

The effect of diesel exhaust exposure on risk of dying of lung cancer was quantified by the odds ratio. Odds ratios and 95% confidence intervals were estimated by conditional logistic regression. Quartile and tertile cut points for exposure metrics were chosen to achieve approximately equal numbers of case subjects in each category. In all tables, statistical models included a term for exposure (ie, quartiles of average REC intensity [$\mu g/m^3$], cumulative REC exposure [$\mu g/m^3$-y], or duration of exposure [years]). Final models also included terms for potential confounding factors. These included a variable that combined cigarette smoking status and smoking intensity with location worked because initial analyses indicated that the risk of lung cancer from cigarette smoking was different for surface and underground workers (ie, smoking status [never, former, current], by smoking intensity [unknown or

occasional smoker, <1, 1 to <2, ≥2 packs per day], by location [surface only, ever underground]). Former smoker was defined as a case subject who had stopped smoking more than 2 years before their date of death and a control subject who had stopped smoking more than 2 years before the matched case subject's date of death. We included intensity smoked rather than duration smoked or pack-years in our final models; however, results were similar when either of these metrics was used to control for smoking (data not shown). The addition of a variable representing the interaction of location worked and smoking to models statistically significantly improved analogous models that included smoking without location (range of *P* values for the likelihood ratio test = .011–.064 for average REC intensity and cumulative REC, unlagged and lagged). The final models also included two other potential confounders: employment in a high-risk occupation for lung cancer for at least 10 years (ie, miner outside the study mining facilities, truck driver, welder, machinery mechanic, painter) and history of nonmalignant respiratory disease diagnosed at least 5 years before death/reference date (ie, primarily pneumoconiosis, emphysema, chronic obstructive pulmonary disease, silicosis, tuberculosis but excluding asthma, pneumonia, and bronchitis because the latter three diseases were not associated with lung cancer in our study). Other potential confounders [ie, duration of cigar smoking; frequency of pipe smoking; environmental tobacco smoke; family history of lung cancer in a first-degree relative; education; body mass index based on usual adult weight and height; leisure time physical activity; diet; estimated cumulative exposure to radon, asbestos, silica, polycyclic aromatic hydrocarbons (PAHs) from non-diesel sources, and respirable dust in the study facility based on air measurement and other data (14)] were evaluated but not included in the final models because they had little or no impact on odds ratios (ie, inclusion of these factors in the final models changed point estimates for diesel exposure by ≤10%). Exposure levels to other possible confounding exposures in these facilities, such as arsenic, nickel, and cadmium, were not estimated because of very low levels and generally non-detectable measurement results (14).

To test for trend, a Wald test was performed, treating the median value for each level of the categorical exposure variable among the control subjects as continuous in the model. To test for interaction between two risk factors, we added a cross-product term to the logistic model and conducted a likelihood ratio test between the model with and without the cross-product term. All statistical tests were two-sided.

We explored quantitative patterns in odds ratios for both continuous average REC intensity and continuous cumulative REC exposure, denoted by d, by fitting various standard models for occupational epidemiological data, including a log-linear model, $OR(d) = \exp(\beta d)$; a power model, $OR(d) = d^{\beta}$; a linear model, $OR(d) = 1 + \beta d$; and a linear-exponential model, $OR(d) = 1 + \beta d \exp(\gamma d)$. All models were adjusted for the same set of potential confounding factors as described above. We fitted models over the full range of exposure and, for comparative purposes, over a restricted range of lower exposure levels. We compared deviances (a measure of model fit) with the null model that omitted REC exposure, in which larger changes in deviance denoted greater improvements in fit (Supplementary Table 1, available online).

For average REC intensity and cumulative REC exposure, we evaluated lag intervals by excluding exposure occurring 0, 3, . . . , 25 years (by 2-year intervals) before the death/reference date and compared changes in model deviance to a model that omitted REC exposure. The optimal lag interval (ie, the largest improvement in model fit) occurred for a lag between 13–17 years for average REC intensity and 15 years for cumulative REC exposure (Supplementary Figure 1, available online). For consistency, we used a 15-year lag for both exposure metrics in the final analyses.

Of the 213 lung cancer case subjects and 611 control subjects interviewed for study, subjects were excluded for the following reasons: one case subject was identified as "unlikely" to have had lung cancer based on review of pathology material; 10 case subjects did not have any eligible control subjects (because of race/ethnicity for nine nonwhite or Hispanic case subjects and age for one case subject who was 88 years old); 39 control subjects were incorrectly matched on race/ethnicity based on more accurate information obtained during interview; four case subjects and five control subjects were found ineligible for inclusion in the cohort based on a final review of company work histories by NIOSH (12); and five control subjects were not suitable matches to any case subject because the original matched case subject was found to be ineligible for study. The final analytic dataset included 198 case subjects and 562 control subjects (666 control subjects for analytical purposes because some cohort members served as control subjects for more than one case subject). This analytical dataset was predominantly male, with only two female case subjects and eight female control subjects.

Results

Odds ratios for potential confounders (except cigarette smoking) and lung cancer risk are shown in Table 1. A statistically significant increased risk of lung cancer was observed for workers employed at least 10 years in occupations at high-risk for lung cancer (OR = 1.75, 95% CI = 1.06 to 2.91) (Table 1) and those with a history of nonmalignant respiratory disease for at least 5 years before death/reference date (OR = 2.15, 95% CI = 1.21 to 3.82) (Table 1). The elevated risk among those with nonmalignant respiratory disease less than 5 years before death may have been reflective of the early stages of lung cancer. Statistically nonsignificant increased risks were observed for workers who had a family history of lung cancer, smoked cigars for 10 or more years, lived with two or more smokers, exercised less than once per day, and had a vocational school education. Statistically nonsignificant decreased risks were observed among workers who were overweight or obese and who smoked at least 10 pipefuls of tobacco per week (Table 1).

Several non-diesel exposures present at very low levels (ie, levels not typically associated with risk in epidemiological studies) at the study mining facilities were not statistically significantly related to lung cancer risk in our study (Table 1). Levels of radon underground at the study mines were low (ie, arithmetic mean ≤0.02 Working Levels). The odds ratio for workers in the top quartile of cumulative radon exposure was 1.32 (95% CI = 0.76 to 2.29), and workers in quartiles 2 or 3 had little or no increased risk (Table 1). No consistent trend in risk with increasing cumulative radon exposure was apparent (P_{trend} = .220). Little or no

Table 1. Odds ratios (ORs) and 95% confidence intervals (CIs) by potential risk factors for lung cancer*

Potential risk factor	Case subjects	Control subjects	OR (95% CI)
Employment in other high-risk occupations, †‡			
No	100	365	1.0 (referent)
0 to <5y	24	90	0.90 (0.52 to 1.55)
5 to <10y	6	53	0.49 (0.19 to 1.21)
≥10y	39	68	1.75 (1.06 to 2.91)
Unknown	29	90	1.14 (0.67 to 1.92)
History of respiratory disease†§			
No	86	473	1.0 (referent)
<5 y before death/reference date	26	16	5.97 (2.93 to 12.19)
≥5 y before death/reference date	28	58	2.15 (1.21 to 3.82)
Unknown	58	119	2.94 (1.87 to 4.63)
Family history of lung cancer†			
No	136	532	1.0 (referent)
Yes	35	78	1.58 (0.97 to 2.57)
Unknown	27	56	1.65 (0.96 to 2.83)
Cigar smoking duration, y†			
Nonsmoker of cigars	176	564	1.0 (referent)
<10	8	42	0.81 (0.36 to 1.86)
10 to <20	5	16	1.46 (0.49 to 4.39)
≥20	3	14	1.67 (0.42 to 6.73)
Unknown	6	30	0.64 (0.24 to 1.67)
Pipe smoking, no. of pipefuls per week)‖			
Nonsmoker of pipes	153	487	1.0 (referent)
<10	11	39	0.89 (0.41 to 1.95)
10 to <20	6	24	0.66 (0.25 to 1.77)
≥20	5	35	0.50 (0.18 to 1.38)
Unknown	23	81	0.90 (0.52 to 1.57)
Number of smokers living in participant's childhood/adult home†			
0 smokers	28	164	1.0 (referent)
1 smoker	75	201	1.99 (1.20 to 3.30)
≥2 smokers	70	230	1.43 (0.84 to 2.44)
Unknown	25	71	1.30 (0.67 to 2.52)
Body mass index (kg/m^2)†			
<18.5 (underweight)	0	6	
18.5 to <25.0 (normal weight = referent)	105	285	1.0 (referent)
25.0 to <30.0 (overweight)	71	268	0.75 (0.51 to 1.11)
≥30.0 (obese)	14	59	0.73 (0.36 to 1.45)
Unknown	8	48	0.52 (0.23 to 1.19)
Physical activity†			
Exercise ≥1/d	23	110	1.0 (referent)
Exercise <1/d	162	515	1.46 (0.87 to 2.45)
Unknown	13	41	1.65 (0.70 to 3.89)
Education†			
Any college	22	88	1.0 (referent)
Vocational school	14	35	1.49 (0.63 to 3.52)
High school/GED	48	176	0.94 (0.51 to 1.72)
Less than high school	100	325	1.09 (0.61 to 1.98)
Unknown	14	42	1.40 (0.62 to 3.18)
Radon, quartiles (Working Level Months)¶#**			
No exposure	74	254	1.0 (referent)
>0 to <0.6	31	117	0.73 (0.43 to 1.25)
0.6 to <1.9	31	123	0.86 (0.51 to 1.45)
1.9 to <3.0	31	80	1.08 (0.63 to 1.84)
≥3.0	31	92	1.32 (0.76 to 2.29)
Asbestos, quartiles†¶††			
No exposure	122	402	1.0 (referent)
>0 to <1.1	19	40	1.12 (0.59 to 2.10)
1.1 to <5.9	19	92	0.73 (0.41 to 1.29)
5.9 to <13.7	19	73	0.81 (0.44 to 1.48)
≥13.7	19	59	1.08 (0.59 to 2.01)

(Table continues)

Table 1 (Continued).

Potential risk factor	Case subjects	Control subjects	OR (95% CI)
Silica, quartiles†¶††			
No exposure	48	169	1.0 (referent)
>0 to <4.6	37	111	0.68 (0.25 to 1.90)
4.6 to <12.6	37	155	0.56 (0.19 to 1.61)
12.6 to <20.5	38	86	1.07 (0.37 to 3.14)
≥20.5	38	145	0.78 (0.26 to 2.32)
PAHs from non-diesel sources, quartiles†¶‡‡			
No exposure	120	398	1.0 (referent)
>0 to <1.2	19	49	1.03 (0.55 to 1.91)
1.2 to <5.1	20	74	0.94 (0.53 to 1.68)
5.1 to <12.3	19	81	0.87 (0.48 to 1.57)
≥12.3	20	64	1.06 (0.59 to 1.92)
Cumulative respirable dust, quartiles, mg/m^3-y*¶§§			
0 to <5.66	49	142	1.0 (referent)
5.66 to <14.08	50	184	0.91 (0.52 to 1.57)
14.08 to <29.54	49	194	0.86 (0.49 to 1.52)
≥29.54	50	146	1.31 (0.70 to 2.46)

* *P* values based on two-sided Wald test for linear trend; PAH = polycyclic hydrocarbon; WL = Working Level; WLM = Working Level Months.

† Adjusted for smoking status/mine location combination (surface work only/never smoker, surface work only/unknown/occasional smoker, surface work only/former smoker/<1 pack per day, surface work only/former smoker/1 to <2 packs per day, surface work only/former smoker/≥2 packs per day, surface work only/current smoker/<1 packs per day, surface work only/current smoker/1 to <2 packs per day, surface work only/current smoker/≥2 packs per day, ever underground work/never smoker, ever underground work/unknown/occasional smoker, ever underground work/former smoker/<1 pack per day, ever underground work/former smoker/1 to <2 packs per day, ever underground work/former smoker/≥ 2 packs per day, ever underground work/current smoker/<1 pack per day, ever underground work/current smoker/1 to <2 packs per day, ever underground work/current smoker/≥2 packs per day).

‡ Other high-risk occupations for lung cancer (ie, miner who worked outside the study mines, truck driver, welder, machinery mechanic, painter).

§ History of respiratory disease excluding asthma, pneumonia, and bronchitis.

‖ Adjusted for cigarette smoking and education.

¶ Pertains only to exposures at study mines.

Quartiles of cumulative radon exposure derived from estimated levels in WL multiplied by months at each job, summed across jobs. Thus, exposure to radon is expressed in units of WLM. One WL = 130 000 MeV alpha energy per liter of air, and one WLM is equivalent to 1 WL exposure for 170 hours.

** Adjusted for smoking status: unknown, never smoker, occasional smoker, former smoker/<1 pack per day, former smoker/1 to <2 packs per day, former smoker/≥2 packs per day, current smoker/<1 pack per day, current smoker/1 to <2 packs per day, current smoker/≥2 packs per day.

†† Quartiles of cumulative exposure derived from intensity scores (0–3) multiplied by years at each job, summed across jobs.

‡‡ Quartiles of cumulative exposure derived from the presence or absence of non-diesel PAHs based on job title tasks (0,1) multiplied by years at each job, summed across jobs.

§§ Respirable dust in milligrams per cubic meter multiplied by years of exposure.

increased risk was observed for possible exposure to asbestos, silica, and PAHs from non-diesel sources, which was consistent with the low measured mean air levels of these potential confounding variables (Table 1) (14). Workers in the top quartile of cumulative respirable dust exposure had an elevated risk (OR = 1.31, 95% CI = 0.70 to 2.46), but workers in quartiles 2 or 3 had no increased risk (Table 1). Factors with statistically nonsignificant increased or decreased risks had little or no confounding effect on estimates of risk from diesel exposure (ie, changed point estimates by ≤10%) and were not included in the final models.

Table 2 shows the effect of cigarette smoking overall and cross-classified by location of employment (ie, surface only and ever underground). Overall, for both surface-only and ever underground workers combined, the risk of lung cancer was statistically significantly associated with smoking status (never, former, current smoker) and smoking intensity (former smoker of ≥2 packs per day vs never smoker: OR = 5.40, 95% CI = 2.23 to 13.06; current smoker of ≥2 packs per day vs never smoker: OR = 12.41, 95% CI = 5.57 to 27.66) (Table 2). We also observed an interaction between cigarette smoking and location of employment, after adjustment for cumulative REC, lagged 15 years ($P_{interaction}$ = .082). The lung cancer risks associated with moderate (1 to <2 packs per day) and heavy smoking (≥2 packs per day) were higher among workers who only worked at the surface than among those who ever worked underground for both current and former smokers. For example, the odds ratio for current smokers of one to less than two packs per day who worked only at the surface was 13.34 (95% CI = 4.50 to 39.53) compared with an OR of 4.51 (95% CI = 1.50 to 13.58) for those who ever worked underground (Table 2). Because the effect of smoking appeared to be diminished among underground workers compared with that among surface workers, we included the cross classification of location of employment, smoking status, and smoking intensity in all models used to estimate lung cancer risk by diesel exposure (Tables 1, 3, and 7; Figure 1), unless noted otherwise. It is also noteworthy that among never smokers, underground and surface-only workers had similar risks after adjustment for 15-year lagged cumulative REC (OR = 0.90; 95% CI = 0.26 to 3.09) (Table 2), suggesting that the risk experienced by surface-only workers was mainly due to smoking.

Table 2. Odds ratios (ORs) and 95% confidence intervals (CIs) for smoking status/smoking intensity by location of employment*

Smoking status/smoking intensity (packs per day)	OR (95% CI), No. of case subjects/No. of control subjects		
	Surface only†, average REC intensity (0–8 μg/m³ REC)	Ever underground†, average REC intensity (1–423 μg/m³ REC)	All subjects‡
Never smoker	1.0 (referent), 5/87	0.90 (0.26 to 3.09), 9/91	1.0 (referent), 14/178
Former, <1	1.36 (0.24 to 7.59), 2/31	2.51(0.78 to 8.11), 17/62	2.87 (1.30 to 6.33), 19/93
Former, 1 to <2	6.66 (2.07 to 21.50), 14/40	1.97 (0.61 to 6.37), 16/68	3.56 (1.72 to 7.40), 30/108
Former, ≥2	16.30 (3.55 to 74.82), 6/7	2.70 (0.72 to 10.12), 9/29	5.40 (2.23 to 13.06), 15/36
Current, <1	5.22 (1.16 to 23.39), 4/15	5.71 (1.63 to 20.01), 12/21	5.91 (2.47 to 14.10), 16/36
Current, 1 to <2	13.34 (4.50 to 39.53), 26/41	4.51 (1.50 to 13.58), 32/78	7.36 (3.71 to 14.57), 58/119
Current, ≥2	26.60 (7.14 to 99.08), 12/9	7.13 (2.12 to 23.99), 17/27	12.41 (5.57 to 27.66), 29/36
Unknown§	2.86 (0.71 to 11.64), 5/24	2.65 (0.76 to 9.24), 12/36	3.10 (1.33 to 7.26), 17/60

* REC = respirable elemental carbon.

† ORs relative to never smokers who worked only surface jobs, adjusted for cumulative REC, lagged 15 years (quartiles: 0 to <3 μg/m³-y; 3 to <72 μg/m³-y, 72 to <536 μg/m³-y, ≥536 μg/m³-y), history of respiratory disease 5 or more years before date of death/reference date, and history of a high-risk job for lung cancer for at least 10 years. *P* value for interaction between smoking status and location of employment based on likelihood ratio test = .082.

‡ ORs for intensity smoked relative to never smokers, adjusted for cumulative REC, lagged 15 years (quartiles: 0 to <3 μg/m³-y; 3 to <72 μg/m³-y, 72 to <536 μg/m³-y, ≥536 μg/m³-y), location of employment (surface only, ever underground), history of respiratory disease 5 or more years before date of death/reference date, and history of a high-risk job for lung cancer for at least 10 years.

§ Unknown includes subjects with unknown smoking status, and subjects considered occasional smokers, who smoked at least 100 cigarettes during their lifetimes, but never smoked regularly (≥1 cigarette per day for at least 6 months).

Trends in risk with increasing levels of diesel exposure are either statistically significant or of borderline significance ($P_{trend} \leq .08$) for all metrics (both unlagged and lagged) (Table 3). The strongest gradient in risk was seen for 15-year lagged cumulative REC ($P_{trend} = .001$). The odds ratio for workers in the top quartile of 15-year lagged cumulative REC exposure (ie, ≥536 μg/m³-y) was 2.83 (95% CI = 1.28 to 6.26) compared with workers in the lowest quartile. When the top exposure quartile was split at the median (ie, 1005 μg/m³-y), the risk continued to rise (P_{trend} over all five exposure levels = .002); odds ratios were 2.53 (95% CI = 1.06 to 6.04) and 3.20 (95% CI = 1.33 to 7.69) for workers in the top quartile with cumulative REC exposures below and above the median of the quartile, respectively.

We observed a statistically significant gradient in risk with increasing number of years exposed to diesel exhaust among all workers ($P_{trend} = .043$), although an elevated odds ratio occurred only in the highest duration category. The odds ratio for workers exposed to diesel exhaust for 15 or more years was 2.09 (95% CI = 0.89 to 4.90) compared with surface workers with negligible or bystander exposure (Table 3).

We also examined risk among all subjects who ever worked underground (Table 4) and among those who worked only at the surface (Table 5). Among underground workers, we observed statistically significant trends in risk with increasing average REC intensity, unlagged ($P_{trend} = .01$) and lagged 15 years ($P_{trend} = .001$), and with increasing cumulative REC, lagged 15 years ($P_{trend} = .004$) (Table 4). Among surface workers, in contrast, no consistent positive gradient in risk with increasing diesel exposure was apparent (Table 5), probably due to the small number of subjects (53 case subjects and 100 control subjects) and the low levels of diesel exposure experienced by surface workers. Because of the increased precision gained by estimating odds ratios based on all subjects, our primary estimates of risk are based on surface and underground workers combined (Table 3).

We stratified the combined results (Table 3) on whether the subject had self-reported diesel exhaust exposure from a job outside the study mining facility (eg, ever employed as a long-haul truck driver) (data not shown). No systematic differences in risk were apparent among subjects with or without occupational diesel exposure outside the study facility ($P_{interaction}$ between cumulative REC, lagged 15 years, and outside occupational diesel exhaust exposure = .222).

Use of protective equipment did not appear to modify the observed associations between diesel exhaust exposure and lung cancer. However, most information on protective equipment use was obtained from next-of-kin interviews, resulting in a large number of workers with unknown data (59 case subjects and 129 control subjects). Subjects who reported having used protective equipment appeared to experience risks similar to the estimates for all workers combined (Table 3). For example, among workers who used protective equipment, odds ratios for 15-year lagged cumulative REC exposures of less than 3 μg/m³-y, 3 to less than 72 μg/m³-y, 72 to less than 536 μg/m³-y, and 536 μg/m³-y or more were 1.0 (referent), 0.31 (95% CI = 0.04 to 2.23; 16 case subjects and 42 control subjects), 1.76 (95% CI = 0.11 to 27.91; 10 case subjects and 23 control subjects), and 3.66 (95% CI = 0.26 to 52.09; 20 case subjects and 31 control subjects), respectively.

Figure 1 shows category-specific odd ratios (square symbol), with confidence intervals omitted for clarity, and fitted odds ratios for 15-year lagged average REC intensity and cumulative REC using various continuous models. To provide additional points for graphing the exposure–response curve based on categorical data (Figure 1), we expanded the number of cut points (cut points for average REC intensity, lagged 15 years: <2, 2 to <4, 4 to <8, 8 to <16, 16 to <32, 32 to <64, 64 to <128, 128 to <256, and ≥256 μg/m³; cut points for cumulative REC, lagged 15 years, were similarly defined but multiplied by a factor of 10 to account for duration of exposure: <20, 20 to <40, 40 to <80, 80 to <160, 160 to <320, 320

Table 3. Odds ratios (ORs) and 95% confidence intervals (CIs) for average and cumulative REC and total duration REC exposure*

Exposure metric	Case subjects	Control subjects	OR (95% CI)	P_{trend}
Average REC intensity, quartiles, unlagged, μg/m³				
0 to <1	49†	166	1.0 (referent)	.025
1 to <32	50	207	1.03 (0.50 to 2.09)	
32 to <98	49	145	1.88 (0.76 to 4.66)	
≥98	50	148	2.40 (0.89 to 6.47)	
Quartiles, lagged 15 y, μg/m³				
0 to <1	47†	190	1.0 (referent)	.062
1 to <6	52	187	1.11 (0.59 to 2.07)	
6 to <57	49	141	1.90 (0.90 to 3.99)	
≥57	50	148	2.28 (1.07 to 4.87)	
Cumulative REC, quartiles, unlagged, μg/m³-y				
0 to <19	49	151	1.0 (referent)	.083
19 to <246	50	214	0.87 (0.48 to 1.59)	
246 to <964	49	147	1.50 (0.67 to 3.36)	
≥964	50	154	1.75 (0.77 to 3.97)	
Quartiles, lagged 15 y, μg/m³-y				
0 to <3	49	158	1.0 (referent)	.001
3 to <72	50	228	0.74 (0.40 to 1.38)	
72 to <536	49	157	1.54 (0.74 to 3.20)	
≥536	50	123	2.83 (1.28 to 6.26)	
Duration of REC exposure, y				
Unexposed‡	48	165	1.0 (referent)	.043
0 to <5	51	169	1.16 (0.53 to 2.55)	
5 to <10	20	95	0.88 (0.38 to 2.03)	
10 to <15	31	107	0.93 (0.39 to 2.21)	
≥15	48	130	2.09 (0.89 to 4.90)	

* *P* values based on two-sided Wald test for linear trend; adjusted for smoking status/mine location combination (surface work only/never smoker, surface work only/unknown/occasional smoker, surface work only/former smoker/<1 pack per day, surface work only/former smoker/1 to <2 packs per day, surface work only/former smoker/≥2 packs per day, surface work only /current smoker/<1 pack per day, surface work only/current smoker/1 to <2 packs per day, surface work only/current smoker/≥2 packs per day, ever underground work/never smoker, ever underground work/unknown/occasional smoker, ever underground work/former smoker/<1 pack per day, ever underground work/former smoker/1 to <2 packs per day, ever underground work/former smoker/≥2 packs per day, ever underground work/current smoker/<1 pack per day, ever underground work/current smoker/1 to <2 packs per day, ever underground work/current smoker/≥2 packs per day); history of respiratory disease 5 or more years before date of death/reference date; and history of a high-risk job for lung cancer for at least 10 years. REC = respirable elemental carbon.

† The number of case subjects in the referent group for the 15-year lagged average REC analysis is 2 fewer than that in the unlagged analysis because rounded cut points are presented. The unrounded cut points are <0.86 and <1.37 μg/m³, respectively.

‡ Unexposed includes all subjects who worked surface jobs with either negligible or bystander exposure to REC, regardless of duration.

to <640, 640 to <1280, 1280 to <2560, and ≥2560 μg/m³-y; Supplementary Table 2, available online). Odds ratios increased with 15-year lagged average REC intensity and leveled off above 20–80 μg/m³ (Figure 1, A for the full range and Figure l, B for average REC intensity under 128 μg/m³). For the full range, the odds ratio pattern was best explained by a one-parameter power model (deviance = 5.3, $P = .022$), whereas for the restricted range, the power and linear models were comparable (deviance = 2.8, $P = .092$ and deviance = 3.2, $P = .075$, respectively). A similar increasing pattern of odds ratios was observed for cumulative REC exposure, lagged 15 years (Figure 1, C for the full range and Figure l, D for cumulative REC under 1280 μg/m³-y), with a leveling off of risk for exposures above 1,000 μg/m³-y and perhaps a decline in risk among the most heavily exposed workers. The two-parameter linear-exponential model (dotted line) was the best fitting model for the full range (relative to the null model, deviance = 12.2, $P = .002$) (Figure l, C); for the restricted range, the best models were the one-parameter linear model (dashed-dotted line) (deviance = 15.6, $P < .001$) and the two-parameter linear-exponential model (dotted line) (deviance = 16.0, $P < .001$) (Figure 1, D) (Supplementary Table 1, available online). We carried out similar model comparisons using the unlagged exposure metrics (Supplementary Table 3, available online). However, our evaluation of optimal lag intervals (Supplementary Figure 1, available online) suggested that the unlagged approach led to exposure misclassification because recent exposures may not have had sufficient time to contribute to lung cancer risk and thus resulted in generally poorer fit of the various models.

The combined effect of diesel exposure and intensity of cigarette smoking is shown in Table 6. Among the 14 case subjects and 178 control subjects who never smoked, odds ratios by tertile of cumulative REC, lagged 15 years, were: 1.0 (referent), OR = 1.47 (95% CI = 0.29 to 7.50), and OR = 7.30 (95% CI = 1.46 to 36.57). Risk also increased with increasing level of diesel exposure among smokers of less than one and one to less than two packs per day. In contrast, risk decreased with increasing levels of diesel exposure among smokers of at least two packs per day. Similarly, risk associated with smoking intensity was modified by diesel exposure. Among workers in the lowest tertile of cumulative REC, lagged 15 years, smokers of at least two packs per day had a risk 27 times that of nonsmokers, whereas among those in the highest tertile of cumulative REC, heavy smokers had about 2.5-fold the risk of nonsmokers. The $P_{interaction}$ between level of diesel exposure and cigarette smoking was .086.

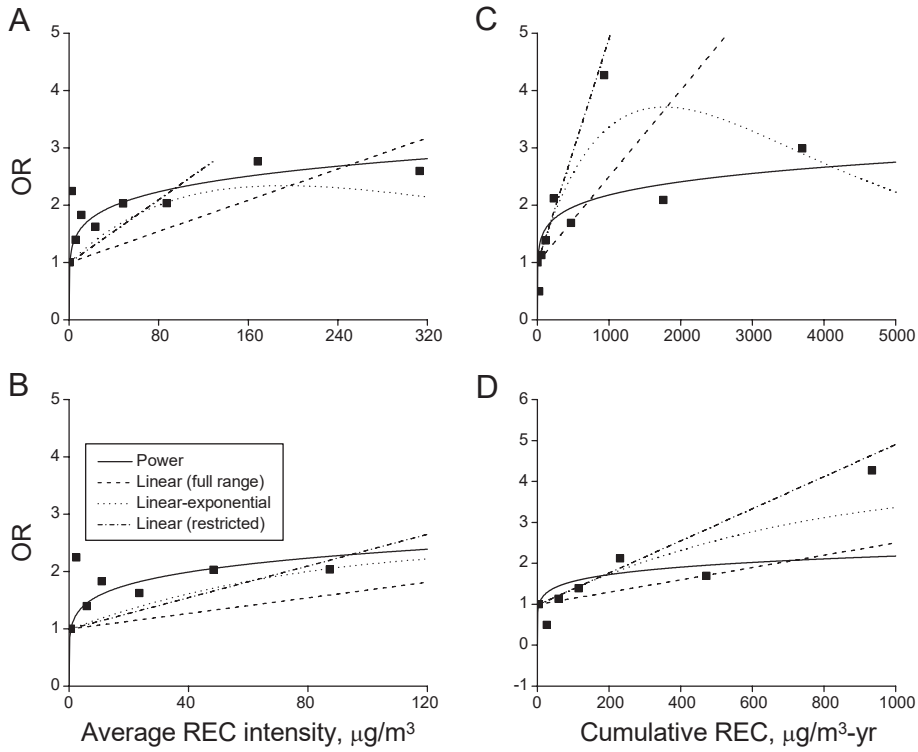


Figure 1. Odds ratios (ORs) (**solid squares**) for lung cancer by expanded categories of average respirable elemental carbon (REC) intensity and cumulative REC (Supplementary Table 2, available online). **A**) Average REC intensity, full range; **B**) Average REC intensity, less than 128 μg/m^3; **C**) Cumulative REC exposure, full range; **D**) Cumulative REC exposure, less than 1280 μg/m^3-y. ORs located at the mean exposure within category. Models for OR by continuous exposure (d) include a power model, $OR(d) = d^{\beta}$ (**solid line**); a linear model, $OR(d) = 1 + \beta\, d$ (**dashed line** for the full range and **dashed-dotted line** for the restricted range); and a linear-exponential model, $OR(d) = 1 + \beta\, d \exp(\gamma\, d)$ (**dotted line**). Exposure variables were based on a 15-year lag. Confidence intervals were omitted for clarity. The log-linear model was excluded because it did not fit the data well.

We evaluated lung cancer risk by quantitative level of diesel exposure for each type of mining facility (Table 7). Too few workers were employed in the one salt and the one limestone mining facility to estimate risk for these types separately. For workers in both potash and trona mining facilities, risk tended to increase with increasing levels of average REC intensity and cumulative REC exposure. Trends were more consistent among potash miners, perhaps reflecting more stability in odds ratios resulting from twice as many case subjects in the potash as in the trona facilities (Table 7).

Discussion

This case–control study nested within a cohort of miners showed a strong and consistent relation between quantitative exposure to diesel exhaust and increased risk of dying of lung cancer. To our knowledge, this is the first report of a statistically significant exposure–response relationship for diesel exposure and lung cancer based on quantitative estimates of historical diesel exposure with adjustment for smoking and other potential confounders. We observed increasing trends in risk with increasing exposure to diesel exhaust for both average REC intensity and cumulative REC exposure, unlagged and lagged 15 years, with the strongest gradient in risk with cumulative REC, lagged 15 years. We further observed a gradient of increasing risk within the top quartile of 15-year lagged cumulative REC exposure for workers below and above the median of the quartile. The associations between diesel exposure and lung cancer were apparent for workers employed in either the potash or trona facilities (too few workers were employed in the one salt and one limestone mine to estimate risk separately). The consistency of findings for both potash and trona facilities is noteworthy because smoking was prohibited in the trona facilities but not in potash or the other facilities in the study. Reports by next of kin or study subjects of workers' use of protective equipment within the study mining facilities and workers' additional occupational exposure to diesel exhaust outside the study facilities had little or no impact on our findings.

These positive findings are consistent with those of the cohort analysis of underground workers in the same study population (12). However, estimates of risk for underground workers in the case–control analysis were somewhat higher than those based on the cohort analysis. For example, the odds ratios by quartile of the 15-year lagged cumulative REC exposure in the case–control analysis were 1.0, 2.11, 3.48, and 5.90 (for cohort cut points, <108, 108 to <445, 445 to <946, and ≥946 μg/m^3-y, respectively), compared with hazard ratios of 1.0, 1.50, 2.17, and 2.21 from the cohort analysis (12). The lower point estimates from the cohort analysis may be partly due to negative confounding from cigarette smoking because current smoking was inversely related to diesel exposure in underground workers (36% and 21% current smokers in lowest vs highest cumulative REC tertile, respectively). Odds ratios for underground workers in the case–control analysis using the same cohort cut points dropped to 1.0, 1.94, 2.42, and 3.75, respectively, when smoking was removed from the model.

The continuous models suggest a steep slope at the low end of the exposure–response curve followed by a leveling, or perhaps even a decline, in risk among the most heavily exposed workers. A plateauing of exposure–response curves has been reported in studies of other occupational exposures and cancer risk (19). Possible biological explanations for a plateauing effect include saturation of metabolic activation and enhanced detoxification or greater DNA repair efficiency at higher exposure levels.

Table 4. Odds ratios (ORs) and 95% confidence intervals (CIs) for average and cumulative REC and total duration REC exposure for subjects who ever worked underground jobs*

Exposure metric	Case subjects†	Control subjects†	OR (95% CI)	P_{trend}
Average REC intensity, quartiles, unlagged, μg/m³				
0 to <39	29	89	1.0 (referent)	.010
39 to <71	29	57	1.91 (0.91 to 4.01)	
71 to <147	29	66	2.38 (1.04 to 5.44)	
≥147	29	52	3.69 (1.40 to 9.70)	
Quartiles, lagged 15 y, μg/m³				
0 to <8	29	81	1.0 (referent)	.001
8 to <49	29	73	1.04 (0.45 to 2.43)	
49 to <104	29	58	2.19 (0.87 to 5.53)	
≥104	29	52	5.43 (1.92 to 15.31)	
Cumulative REC, quartiles, unlagged, μg/m³-y				
0 to <298	29	81	1.0 (referent)	.123
298 to <675	29	63	1.45 (0.68 to 3.11)	
675 to <1465	29	57	1.81 (0.84 to 3.89)	
≥1465	29	63	1.93 (0.90 to 4.15)	
Quartiles, lagged 15 y, μg/m³-y				
0 to <81	29	92	1.0 (referent)	.004
81 to <325	29	52	2.46 (1.01 to 6.01)	
325 to <878	29	69	2.41 (1.00 to 5.82)	
≥878	29	51	5.10 (1.88 to 13.87)	
Duration of REC exposure, y				
<5	37	92	1.0 (referent)	.062
5 to <10	14	39	1.18 (0.52 to 2.68)	
10 to <15	25	60	0.84 (0.39 to 1.82)	
≥15	40	73	2.08 (1.01 to 4.27)	

* *P* values based on two-sided Wald test for linear trend. Adjusted for smoking status (never smoker, unknown/occasional smoker, former smoker/<1 pack per day, former smoker/1 to <2 packs per day, former smoker/≥2 packs per day, current smoker/<1 pack per day, current smoker/1 to <2 packs per day, current smoker/≥2 packs per day); history of respiratory disease 5 or more years before date of death/reference date; and history of a high-risk job for lung cancer for at least 10 years. REC = respirable elemental carbon.

† Eight case subjects and 148 control subjects were excluded because they no longer belonged to a complete matched set after analysis was restricted to underground workers.

Alternatively, nondifferential misclassification of diesel exposure may be greater at higher exposures, obscuring further increases in risk.

We observed an increased lung cancer risk associated with diesel exposure as was seen among German potash miners (11), as well as among other diesel-exposed occupational groups including truck drivers (6,7), railroad workers (8,20), dockworkers (9), and bus garage workers (10). The German potash miners study (11) found elevated risk with increasing estimated cumulative total carbon exposure (another surrogate for diesel exposure), although the trend was not statistically significant. Relative risks were 1.0, 1.13, 2.47, 1.50, and 2.28 for exposure quintiles (ie, <1.29, 2.04, 2.73, 3.90, >3.90 mg/m³-y, respectively) (11). Some differences between the German study (11) and this study are that this study is considerably larger (US miners: 198 lung cancer deaths out of a total of 278 041 person-years; German miners: 61 lung cancer deaths out of 152 557 person-years), and the US miners had a longer latent period for the development of lung cancer than the German miners because diesel technology was introduced earlier in the US study mines (1947–1967) than in the German mines (1969). Finally, in this study, an intensive effort was undertaken to characterize diesel exposure levels over time by incorporating changes in size of the diesel equipment, numbers of equipment, and air flow rates exhausted from the mines based on information collected from the facilities. Our information indicated that these factors varied considerably over time (14). In the German study, the investigators relied on reports from local engineers and industrial hygienists that working conditions were constant over past years. However, in contrast to this study, no past industrial hygiene measurements were available to confirm this assumption.

We observed an attenuation of the effect of cigarette smoking among study subjects who were exposed to high levels of diesel exhaust as estimated by REC (Table 6). This finding mirrors a recent observation from a study in Xuanwei, China (21), where lung cancer rates are high because of unvented indoor burning of coal for heating and cooking in homes (22). The effect of tobacco on lung cancer risk in that study was weak in the presence of heavy indoor exposures from smoky coal but became stronger with installation of venting, which greatly diminished smoky coal air concentrations (21,22). Little is known about the effect of the interaction between cigarette smoking and diesel exhaust exposure on lung cancer risk. If our observation of attenuation of the smoking effect in the presence of high levels of diesel exhaust is confirmed, several possible mechanistic explanations are apparent. First, at high levels of diesel exhaust exposure, PAHs, nitro-PAHs, and related compounds could compete with the metabolic activation of PAHs in tobacco smoke, leading to enzyme saturation. For example, PAHs in complex mixtures have been shown to have less than additive genotoxic effects at higher exposure levels (23). Second, constituents of diesel exhaust may suppress enzymes that

Table 5. Odds ratios (ORs) and 95% confidence intervals (CIs) for average and cumulative REC and total duration REC exposure for subjects who worked only surface jobs*

Exposure metric	Case subjects†	Control subjects†	OR (95% CI)	P_{trend}
Average REC intensity, quartiles, unlagged, μg/m³				
0 to <0.86	13	24	1.0 (referent)	.983
0.86 to <0.95	13	21	1.29 (0.18 to 9.33)	
0.95 to <1.9	13	19	7.24 (0.23 to 228.53)	
≥1.9	14	36	3.28 (0.09 to 123.50)	
Quartiles, lagged 15 y, μg/m³				
0 to <0.6	13	38	1.0 (referent)	.659
0.6 to <0.9	13	17	4.38 (0.56 to 34.24)	
0.9 to <1.4	13	12	5.67 (0.77 to 42.06)	
≥1.4	14	33	1.31 (0.14 to 12.01)	
Cumulative REC, quartiles, unlagged, μg/m³-y				
0 to <6.5	13	17	1.0 (referent)	.294
6.5 to <12.5	13	27	0.78 (0.18 to 3.43)	
12.5 to <22.5	13	23	0.60 (0.14 to 2.53)	
≥22.5	14	33	0.40 (0.07 to 2.40)	
Quartiles, lagged 15 y, μg/m³-y				
0 to <0.7	13	29	1.0 (referent)	.117
0.7 to <4.4	13	9	3.98 (0.69 to 23.02)	
4.4 to <14.3	13	32	0.76 (0.12 to 4.98)	
≥14.3	14	30	0.42 (0.05 to 3.59)	
Duration REC exposure, y				
Unexposed‡	34	61	1.0 (referent)	.152
0 to <5	10	17	1.44 (0.26 to 8.17)	
5 to <10	5	12	0.74 (0.10 to 5.21)	
10 to <15	3	3	0.55 (0.05 to 6.17)	
≥15	1	7	0.22 (0.01 to 3.67)	

* *P* values based on two-sided Wald test for linear trend. Adjusted for smoking status (never smoker, unknown/occasional smoker, former smoker/<1 pack per day, former smoker/1 to <2 packs per day, former smoker/≥2 packs per day, current smoker/<1 pack per day, current smoker/1 to <2 packs per day, current smoker/≥2 packs per day); history of respiratory disease 5 or more years before date of death/reference date; and history of a high-risk job for lung cancer for at least 10 years. REC = respirable elemental carbon.

† Twenty-one case subjects and 154 control subjects were excluded because they no longer belonged to a complete matched set after analysis was restricted to surface workers.

‡ Unexposed includes subjects who worked surface jobs with either negligible or bystander exposure to REC.

activate or induce enzymes that detoxify carcinogens in tobacco smoke. For example, diesel exhaust particles have been shown to reduce activity of CYP2B1, which plays a role in the activation of certain tobacco-specific nitrosamines (24). Also, diesel particulate matter has been shown to reduce the initiation of skin tumors in Sencar mice treated with the potent PAH dibenzo[a,l]pyrene, possibly through inhibition of enzymes that carry out its metabolic activation (25).

We also observed a weakening of the diesel exhaust effect among heavy smokers (ie, smokers of at least two packs per day), which is necessarily implied by the observation of a weakening of the effect of smoking at least two packs per day among workers heavily exposed to diesel exhaust. It has previously been reported that coal dust burden in the lungs of coal miners is reduced among smokers, which may be attributable to increased coal dust clearance (26), and it is possible that diesel exhaust particulate deposition may be reduced in the lungs of smokers by a similar process. Although little experimental evidence is available to date to support and explain effect modification of diesel exposure by smoking, it is theoretically possible by one or more of the mechanisms described above.

Table 6. Odds ratios (ORs) and 95% confidence intervals (CIs) for cumulative REC lagged 15 years crossed with smoking intensity*

Smoking intensity (packs per day)	Cumulative REC lagged 15 years OR (95% CI), No. of case subjects/No. of control subjects		
	Tertile 1, 0 to < 8 μg/m³-y	Tertile 2, 8 to < 304 μg/m³-y	Tertile 3, ≥304 μg/m³-y
Never smoker	1.0 (referent), 3/59	1.47 (0.29 to 7.50), 4/74	7.30 (1.46 to 36.57), 7/45
<1	6.25 (1.42 to 27.60), 10/41	7.42 (1.62 to 34.00), 10/49	16.35 (3.45 to 77.63), 15/39
1 to <2	10.16 (2.55 to 40.53), 29/78	11.58 (2.87 to 46.71), 32/86	20.42 (4.52 to 92.36), 27/63
≥2	26.79 (6.15 to 116.63), 19/22	22.17 (4.84 to 101.65), 15/22	17.38 (3.48 to 86.73), 10/28
Unknown†	4.13 (0.74 to 23.22), 4/25	3.79 (0.64 to 22.41), 4/23	27.85 (5.03 to 154.31), 9/12

* Adjusted for history of respiratory disease 5 or more years before date of death/reference date, history of a high-risk job for lung cancer for at least 10 years, and mine location (surface-only vs any underground work). *P* value for interaction between smoking intensity and cumulative REC lagged 15 years = .086. REC = respirable elemental carbon.

† Unknown includes subjects with unknown smoking status, and subjects considered occasional smokers, who smoked at least 100 cigarettes during their lifetimes, but never smoked regularly (≥1 cigarette per day for at least 6 months).

Table 7. Odds ratios (ORs) and 95% confidence intervals (CIs) for average and cumulative REC lagged 15 years, by mining facility type*

Exposure by mine type	Case subjects	Control subjects	OR (95% CI)	P_{trend}
Potash				
Average REC intensity, lagged 15 years, quartiles, μg/m^3				
0 to <1	25	95	1.0 (referent)	.058
1 to <6	20	51	1.16 (0.49 to 2.76)	
6 to <57	30	105	2.05 (0.70 to 6.01)	
≥57	27	85	3.01 (0.98-9.25)	
Cumulative REC, lagged 15 years, quartiles, μg/m^3-y				
0 to <3	19	60	1.0 (referent)	.006
3 to <72	30	103	1.64 (0.67 to 3.98)	
72 to <536	25	105	2.50 (0.86 to 7.24)	
≥536	28	68	5.53 (1.68 to 18.21)	
Trona				
Average REC intensity, lagged 15 years, quartiles, μg/m^3				
0 to <1	17	70	1.0 (referent)	.105
1 to <6	18	64	2.32 (0.52 to 10.40)	
6 to <57	2	6	1.71 (0.12 to 23.66)	
≥57	14	34	5.95 (0.92 to 38.37)	
Cumulative REC, lagged 15 years, quartiles, μg/m^3-y				
0 to <3	24	72	1.0 (referent)	.062
3 to <72	11	64	0.23 (0.06 to 0.91)	
72 to <536	7	17	0.95 (0.16 to 5.72)	
≥536	9	21	2.38 (0.44 to 13.00)	

* *P* values based on two-sided Wald test for linear trend. Adjusted for smoking status/mine location combination (surface work only/never smoker, surface work only/unknown/occasional smoker, surface work only/former smoker/<1 pack per day, surface work only/former smoker/1 to <2 packs per day, surface work only/former smoker/≥2 packs per day, surface work only/current smoker/<1 pack per day, surface work only/current smoker/1 to <2 packs per day, surface work only/current smoker/≥2 packs per day, ever underground work/never smoker, ever underground work/unknown/occasional smoker, ever underground work/former smoker/<1 pack per day, ever underground work/former smoker/1 to <2 packs per day, ever underground work/former smoker/≥2 packs per day, ever underground work/current smoker/<1 pack per day, ever underground work/current smoker/1 to <2 packs per day, ever underground work/current smoker/≥2 packs per day); history of respiratory disease 5 or more years before date of death/reference date; and history of a high-risk job for lung cancer for at least 10 years. REC = respirable elemental carbon.

If the observed interaction between smoking and diesel exhaust represents a real effect, then the generalizability of our estimates of risk for diesel exposure to other populations depends not only on the level of exposure to diesel exhaust but also on the distribution of smoking status and intensity in the population. For example, estimates of lung cancer risk in a population of never smokers with diesel exposures similar to those of the miners in this study would be 1.0, 1.47, and 7.30 for individuals with cumulative REC, lagged 15 years, of less than 8 μg/m^3-y, 8 to less than 304 μg/m^3-y, and 304 μg/m^3-y or more, respectively. In contrast, the overall study population, which included 29% never smokers, had lower odds ratios of 1.0, 1.12, and 2.40 for the same tertiles of cumulative REC exposure, lagged 15 years, respectively (data not shown). In fact, the proportion of never smokers in this study population is substantially lower than the 51% reported for the US population of men aged 18 years or older (27), suggesting that diesel-related estimates of lung cancer risk in the US population may be higher than the overall risk estimates reported here because the proportion of never smokers in the US population is higher than in this study cohort.

Our study has several major strengths including its relatively large size, which provided adequate statistical power to detect a statistically significant exposure–response relationship, adequate latent period for the development of lung cancer, detailed exposure assessment that enabled us to evaluate risk based on quantitative historical exposure to REC, subjects with a wide range of diesel exposure and with underground workers experiencing exposure levels considerably higher than that of other occupationally exposed groups in previous studies, a high interview participation rate for both case subjects and control subjects, and the ability to control for confounding from smoking and other lung cancer risk factors. Two main limitations are also apparent. First, the data on smoking and other potential confounders were derived mainly from next-of-kin interviews. Although a comparison of confounder data derived directly from living and from next of kin for deceased control subjects revealed comparability of responses, we cannot completely rule out the possibility of residual confounding. Second, as in most epidemiological studies of cancer that rely on retrospective exposure assessment, estimates of diesel exposure in this study undoubtedly had some imprecision despite considerable effort to minimize misclassification. This imprecision is likely to result in nondifferential misclassification of exposure, which would tend to bias the estimates of risk toward the null (28). Thus, the true estimates of lung cancer risk associated with diesel exhaust may, in fact, be higher than those reported here.

In sum, our results provide further evidence supporting a causal effect of diesel exhaust exposure on lung cancer mortality in humans. We observed a statistically significant exposure–response relationship after we adjusted for possible confounding from smoking and other established and hypothesized lung cancer risk factors. The exposure–response curve showed a steep increase in risk with increasing exposure at low-to-moderate levels followed by a plateauing or perhaps a decline in risk among heavily exposed subjects.

Our findings are important not only for miners but also for the 1.4 million American workers and the 3 million European workers exposed to diesel exhaust (29), and for urban populations worldwide. Some of the higher average elemental carbon levels reported in cities include Los Angeles (4.0 μg/m^3) (30), the Bronx (a borough in New York City) (6.6 μg/m^3) (31), nine urban sites in China (8.3 μg/m^3) (32), Mexico City (5.8 μg/m^3) (33), and Estarreja, Portugal (11.8 μg/m^3) (34). Environmental exposure to average elemental carbon levels in the 2-6 μg/m^3 range over a lifetime as would be experienced in highly polluted cities approximates cumulative exposures experienced by underground miners with low exposures in our study. Because such workers had at least a 50% increased lung cancer risk, our results suggest that the high air concentrations of elemental carbon reported in some urban areas may confer increased risk of lung cancer. Thus, if the diesel exhaust/lung cancer relation is causal, the public health burden of the carcinogenicity of inhaled diesel exhaust in workers and in populations of urban areas with high levels of diesel exposure may be substantial.

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Funding

The research was funded by the Intramural Research Program of the National Institutes of Health, National Cancer Institute, Division of Cancer Epidemiology and Genetics and the National Institute for Occupational Safety and Health, Division of Respiratory Disease Studies.

Notes

We thank the management and employees of the facilities and representatives of the labor unions who participated in this study. Without their help and the extra efforts they made to provide us with historical reports, this evaluation would not have been possible. We also thank Robert Hoover and Shelia Zahm of the National Cancer Institute for their insightful comments; Nathan Appel

of IMS, Inc for computer support; Robert Saal and Helen Jewell of Westat, Inc for support in study and data management; and Rebecca Stanevich and Daniel Yereb formerly of the National Institute for Occupational Safety and Health and Mustafa Dosemeci, formerly of the National Cancer Institute, for their work on the DEMS surveys.

The findings and conclusions in this report have not been formally disseminated by the National Institute for Occupational Safety and Health and should not be construed to represent any agency determination or policy. The authors declare no potential conflict of interest.

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Exposure to Diesel Motor Exhaust and Lung Cancer Risk in a Pooled Analysis from Case-Control Studies in Europe and Canada

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***Rationale*: Diesel motor exhaust is classified by the International Agency for Research on Cancer as probably carcinogenic to humans. The epidemiologic evidence is evaluated as limited because most studies lack adequate control for potential confounders and only a few studies have reported on exposure–response relationships.**

***Objectives*: Investigate lung cancer risk associated with occupational exposure to diesel motor exhaust, while controlling for potential confounders.**

***Methods*: The SYNERGY project pooled information on lifetime work histories and tobacco smoking from 13,304 cases and 16,282 controls from 11 case–control studies conducted in Europe and Canada. A general population job exposure matrix based on ISCO-68 occupational codes, assigning no, low, or high exposure to diesel motor exhaust, was applied to determine level of exposure.**

***Measurements and Main Results*: Odds ratios of lung cancer and 95% confidence intervals were estimated by unconditional logistic regression, adjusted for age, sex, study, ever-employment in an occupation with established lung cancer risk, cigarette pack-years, and time-since-quitting smoking. Cumulative diesel exposure was associated with an increased lung cancer risk highest quartile versus unexposed (odds ratio 1.31; 95% confidence interval, 1.19–1.43), and a significant exposure–response relationship (P value < 0.01). Corresponding effect estimates were similar in workers never employed in occupations with established lung cancer risk, and in women and never-smokers, although not statistically significant.**

***Conclusions*: Our results show a consistent association between occupational exposure to diesel motor exhaust and increased risk of lung cancer. This association is unlikely explained by bias or confounding, which we addressed by adjusted models and subgroup analyses.**

AT A GLANCE COMMENTARY

Scientific Knowledge on the Subject

Diesel motor exhaust is currently classified as a probable lung carcinogen.

What This Study Adds to the Field

Our results from a very large pooled study show a small, consistent association between occupational exposure to diesel motor exhaust and lung cancer, after adjusting for potential confounders, such as smoking and other occupational exposures. The effect is similar for non–small cell and small cell lung carcinoma.

Keywords: epidemiologic studies; lung neoplasm; occupational exposure; vehicle emissions

Diesel motor exhaust (DME) consists of a complex mixture of components in gas or particulate form. The particulates are mainly composed of cores of elemental carbon; traces of metallic compounds; and adsorbed organic materials including aromatic hydrocarbons, polycyclic aromatic hydrocarbons, aldehydes, and nitrogen oxides (1, 2). The composition of DME

(*Received in original form June 21, 2010; accepted in final form October 28, 2010*)

The SYNERGY project is funded by the German Social Accident Insurance (DGUV).

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This article has an online supplement, which is accessible from this issue's table of contents at www.atsjournals.org

Am J Respir Crit Care Med Vol 183. pp 941–948, 2011
Originally Published in Press as DOI: 10.1164/rccm.201006-0940OC on October 29, 2010
Internet address: www.atsjournals.org

has changed over time as a result of improvements in engine technology and type of fuels. The highest levels of occupational DME exposure have been reported among workers engaged in underground mining, tunnel construction, and underground mine maintenance (3).

Regulations for diesel engine emissions were established in the United States in the 1960s (4), and have thereafter been introduced in Europe and around the world (5). The legislative limits for particulate matter in the European Union have until today referred to the particulate matter mass and not the number of particles. Because most of the particles are small in size (<100 nm) the corresponding mass is low and a large number of ultrafine particles may remain even when the legislative limit of mass is respected (6). A particle number limit is planned to be introduced in the EURO 6 legislative limits, due to enter into force from the end of 2012 (7).

Diesel particles are, because of their small size, highly respirable and can penetrate deep into the lungs and so cause temporary exposure-related symptoms, chronic respiratory effects, and probably lung cancer (8). A large number of individual cohort and case–control studies have suggested an association between DME exposure and increased lung cancer risk (9–13). Nevertheless, lack of dose–response within and across occupations, and incomplete adjustment for smoking and other confounders, have not allowed a conclusion regarding the presence of a casual relationship (14, 15).

The International Agency for Research on Cancer (IARC) classified DME as probably carcinogenic to humans (group 2A) in 1989, based on limited evidence in humans and sufficient evidence in experimental animals for whole DME and for extracts of DME particles. For the carcinogenicity of gas-phase DME (with particles removed) in experimental animals the evidence was classified as inadequate (16).

Our objective was to study the association between occupational DME exposure and lung cancer risk by duration and level of exposure, and cumulative dose, in a very large dataset including individual data on occupational history and smoking habits.

Some of the results of this study have been previously reported in the form of abstracts (17, 18).

METHODS

The SYNERGY project represents a pooling of data from 11 lung cancer case–control studies from Europe and Canada where the primary objective is to study joint effects of exposure to concurrent occupational lung carcinogens (asbestos, polycyclic aromatic hydrocarbons, nickel, chromium, and silica) and smoking. The studies included in SYNERGY are well-designed population- or hospital-based case–control studies, and in one case a nested case–control study, that have collected lifetime tobacco history and occupational data. The inclusion of studies in SYNERGY was also determined by the availability of exposure data for the selected agents in respective country or region. The SYNERGY project is coordinated by IARC, the Institute for Prevention and Occupational Medicine of the DGUV (IPA), and the Institute for Risk Assessment Sciences at Utrecht University (IRAS). More information about the SYNERGY project is available (http://synergy.iarc.fr). The present analysis on DME is based on the same pooled studies.

The studies that have contributed data to the present analysis are described in Table 1. In most studies, cases and controls were frequency-matched for variables, such as sex and age. Most interviews (84%) were conducted face to face with the subjects. The LUCAS and LUCA studies were restricted to men and the PARIS study included only regular smokers. MORGEN is a case-control study nested in the prospective EPIC cohort in The Netherlands and the subjects filled in a questionnaire at recruitment. Thus, smoking data and occupational information in the MORGEN study are lacking for the time interval between enrolment and diagnosis or end of follow-up (mean interval 5.3 yr; SD 2.7). Besides MORGEN, all studies have provided data on lifetime smoking habits and complete occupational history. The occupational data were originally mostly coded according to national classifications, and therefore had to be recoded into the International Standard Classification of Occupations (ISCO-68) (19). A conversion table from the Nordic occupational classification (NYK-83) codes to ISCO-68 was created and validated at Karolinska Institute and thereafter applied to the Swedish data. The countries participating in the IARC multicenter study on lung cancer in Central and Eastern Europe and the United Kingdom (INCO) are included as individual studies in these analyses.

Ethical approvals were obtained in accordance with legislation in each country, and in addition by the Institutional Review Board at IARC.

Exposure Assessment

DME exposure was estimated by using a general population job-exposure matrix (DOM-JEM) based on five-digit ISCO-68 codes. The DOM-JEM for DME was created by three occupational exposure experts (H.K., R.V., and S.P.) and assigns scores of no exposure = 0, low = 1, or high = 4 exposure levels of DME to each ISCO code. The assignment of DME exposure to each ISCO code was initially performed independently, and for conflicting scores a consensus was achieved. Initial agreement for the three experts was 92% (20). Out of

TABLE 1. DESCRIPTION OF THE STUDIES INCLUDED IN THE POOLED ANALYSES ON OCCUPATIONAL DIESEL MOTOR EXHAUST EXPOSURE AND LUNG CANCER RISK

Study Acronym	Country	Cases (*n = 13,304*)	Participation Rate (%)	Controls (*n = 16,282*)	Participation Rate (%)	Data Collection (*between yrs*)	Diesel Motor Exhaust Exposure (*between yrs*)	Source of Controls
AUT	Germany	3,180	77	3,249	41	1990–1995	1931–1995	Population
EAGLE	Italy	1,921	87	2,089	72	2002–2005	1932–2005	Population
HdA	Germany	1,004	69	1,002	68	1988–1993	1926–1993	Population
INCO_Cz. Rep	Czech Republic	304	94	452	80	1998–2002	1936–2002	Hospital
INCO_Hungary	Hungary	391	90	305	100	1998–2001	1931–1999	Hospital
INCO_Poland	Poland	793	88	835	88	1999–2002	1933–2002	Hospital and population
INCO_Romania	Romania	179	90	225	99	1998–2001	1943–2001	Hospital
INCO_Russia	Russia	599	96	580	90	1998–2000	1937–2000	Hospital
INCO_Slovakia	Slovakia	345	90	285	84	1998–2002	1936–2002	Hospital
INCO_UK	UK	442	78	917	84	1998–2005	1932–2005	Population
LUCA	France	294	98	292	98	1989–1992	1927–1992	Hospital
LUCAS	Sweden	1,014	87	2,307	85	1985–1990	1923–1990	Population
MONTREAL	Canada	1,176	85	1,505	69	1996–2002	1934–2002	Population
MORGEN*	The Netherlands	64	N/A	187	N/A	1993–1997	1945–1994	Population
PARIS	France	169	95	227	95	1988–1992	1931–1992	Hospital
ROME	Italy	329	74	324	63	1993–1996	1926–1996	Hospital
TURIN/VENETO	Italy	1,100	79	1,501	80	1990–1994	1922–1994	Population

* Nested case–control study.

1,840 job codes in ISCO-68, 202 (11%; e.g., drivers, engineers, technicians, and farmers) were assigned low DME levels and 27 (1.5%; e.g., miners, mechanics for agricultural machinery and diesel engines, and railway and road vehicle loaders) were assigned high levels of DME exposure (more information about the DOM-JEM is available on request). Linkage of the job histories with the DOM-JEM assigned a DME exposure level to each job period.

We created two indices of DME exposure: duration across all job periods for the two exposure levels (low and high) separately; and an indicator of cumulative dose based on the intensity score (low = 1, high = 4), multiplied by duration for each job period, summed over all job periods of a subject. The cumulative index was thereafter categorized according to the quartiles of the exposure distribution among controls.

Statistical Analyses

Logistic regression models were fitted to calculate odds ratios (OR) and 95% confidence intervals (CI) of lung cancer associated with indices of DME exposure. To further explore residual confounding we repeated the analyses on cumulative DME exposure in never-smokers and among subjects who had never been employed in a "List A" job. A "List A" job represents a list of occupations and industries known to present an excess risk of lung cancer, which was identified by Ahrens and Merletti in 1998 (21) and updated by Mirabelli and coworkers in 2001 (22). We also investigated the DME effect in women separately. Additional sensitivity analyses consisted of (*1*) excluding the AUT-Munich study because of a low response rate (41%) among controls; (*2*) comparing the results of studies with controls recruited from the population versus the studies using hospital controls because the latter possibly are more prone to selection bias in case of different study bases for cases and controls; and (*3*) excluding "ever-farmers" because farmers may be particularly inclined to this kind of selection bias (23). The subjects unexposed to DME were the reference category in each of the analyses.

P values for linear trend were obtained by applying a logistic regression model including respective continuous variable. The trend was calculated among all subjects.

We made three levels of adjustment: (*1*) adjusting for age group (<45, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, and 75+), sex, and study; (*2*) additionally adjusted for ever-employment in a "List A" job (yes/no); and (3) additionally adjusted for tobacco smoking (log[cigarette pack-years+1]) and time-since-quitting smoking cigarettes (current smokers; stopping smoking 2–7, 8–15, 16–25, 26+ yrs before interview/diagnosis; and never-smokers). Current smokers were persons who had smoked greater than or equal to one cigarette per day for greater than or equal to 1 year, and included those who had stopped smoking in the last 2 years before diagnosis or interview. The cigarette pack-year was calculated as follows: $\sum$duration $\times$ average intensity per day/20.

Meta regression models were used to explore study-specific ORs and extent and sources of heterogeneity, and forest plots were used to visualize the results. We compared the DME effect in small versus large studies (> /< 1,500 subjects); old versus recent studies (end of data collection before or after 1995); hospital-based versus population-based case–control studies; and by study and region according to Globocan for Western Europe, Northern Europe, Central Europe, Eastern Europe, Southern Europe, and Northern America (24). The heterogeneity was assessed using a chi-squared test with inverse variance weights. The extent of heterogeneity between OR estimates was assessed as a percentage (I^2) (25).

All analyses were conducted using Stata v.11.0 for Windows (StataCorp LP, College Station, TX). We used the Stata command "metan" for the meta regression analyses.

RESULTS

The study sample comprised 13,479 cases and 16,510 controls. Subjects providing incomplete information for calculating duration of jobs or cumulative smoking were omitted (175 cases and 228 controls), leaving 13,304 cases and 16,282 controls for these analyses.

The data were collected in 41 centers in 13 countries between 1985 and 2005. The response rates ranged between 68% (HdA) and 98% (LUCA) among cases, and 41% (AUT-Munich) and 100% (INCO-Hungary) among controls. The hospital-based case–control studies generally achieved a higher response rate. The overall response rate weighted by the size of the study population was 82% among cases and 67% among controls. The MORGEN study is derived from a prospective cohort study conducted in The Netherlands. After invitation by letter 45% agreed to participate in the cohort study and completed a baseline questionnaire; the mean follow-up time until diagnosis was 5.3 years (SD 2.7).

Table 2 describes characteristics of the study population. The median age was 64 years in men and 62 years in women. Six percent of cases were never-smokers, versus almost 30% among the controls. The PARIS study was restricted to smokers. The proportion of current smokers was 65.2% among cases and 31.6% among controls. The mean of cumulative tobacco consumption (cigarette pack-years) was 38.9 (SD 27.8) in cases and 19.2 (SD 23.2) in controls. The mean time since quitting smoking was 4.6 (SD 8.7) years among cases and 11.6 (SD 13.5) years among controls. Twelve percent of the cases (14.1% men and 2.7% women) and 7.8% of controls (9.4% men and 1.4% women) have held a job known to entail an excess risk of lung cancer ("List A" job). Based on the DOM-JEM assignment, the lifetime prevalence of occupational DME exposure among control subjects was 13.6% in women and 42.4% in men.

TABLE 2. DESCRIPTION OF THE STUDY POPULATION

Characteristics	Cases (*n = 13,304*)	%	Controls (*n = 16,282*)	%
Sex				
Men	10,812	81.3	13,031	80
Women	2,492	18.7	3,251	20
Age, yr				
<45	499	3.8	662	4.1
45–49	752	5.7	849	5.2
50–54	1,330	10	1,669	10.3
55–59	2,087	15.7	2,385	14.6
60–64	2,610	19.6	3,098	19
65–69	2,892	21.7	3,686	22.6
70–74	2,375	17.9	3,145	19.3
75+	759	5.7	788	4.8
Smoking status				
Never smokers*	801	6	4,773	29.3
Former smokers	3,827	28.8	6,369	39.1
Current smokers	8,676	65.2	5,137	31.6
Unknown/missing	0	0	3	0
"List A" job, occupation with known lung cancer risk				
Never	11,714	88	15,018	92.2
Ever	1,590	12	1,264	7.8
Lifetime prevalence of occupational diesel motor exhaust exposure				
OVERALL	5,628	42.3	5,962	36.6
AUT	1,604	50.4	1,295	39.9
EAGLE	592	30.8	624	29.9
HdA	635	63.3	577	57.6
INCO_Cz. Rep	132	43.4	137	30.3
INCO_Hungary	181	46.3	146	47.9
INCO_Poland	247	31.2	233	27.9
INCO_Romania	36	20.1	46	20.4
INCO_Russia	196	32.7	203	35
INCO_Slovakia	146	42.3	94	33
INCO_UK	199	45	408	44.5
LUCA	137	46.6	132	45.2
LUCAS	335	33	682	29.6
MONTREAL	427	36.3	506	33.6
MORGEN	13	20.3	27	14.4
PARIS	67	39.6	76	33.5
ROME	146	44.4	128	39.5
TURIN	535	48.6	648	43.2

* The PARIS study included only smokers.

TABLE 3. LUNG CANCER RISK ASSOCIATED WITH CUMULATIVE DIESEL MOTOR EXHAUST EXPOSURE

Subjects	Cumulative Diesel Motor Exhaust Exposure (*unit-years*)*	Cases	%	Controls	%	OR1†	95% CI	OR2‡	95% CI
All	Never	7,676	57.7	10,320	63.4	1.00	Reference	1.00	Reference
	<6	1,269	9.5	1,513	9.3	1.04	0.96–1.13	0.98	0.89–1.08
	6–17.33	1,325	10	1,497	9.2	1.13	1.04–1.23	1.04	0.95–1.14
	17.34–34.5	1,440	10.8	1,502	9.2	1.23	1.13–1.33	1.06	0.97–1.16
	>34.5	1,594	12	1,450	8.9	1.42	1.31–1.54	1.31	1.19–1.43
	Test for trend, P value					<0.01§		<0.01§	
Women	Never	2,144	86	2,810	86.4	1.00	Reference	1.00	Reference
	<6	146	5.9	198	6.1	0.85	0.68–1.07	0.83	0.64–1.08
	6–17.33	116	4.7	127	3.9	1.07	0.82–1.39	1.27	0.94–1.71
	17.34–34.5	51	2	71	2.2	0.87	0.60–1.26	0.94	0.62–1.42
	>34.5	35	1.4	45	1.4	1.03	0.66–1.63	1.58	0.96–2.59
	Test for trend, P value					0.83§		0.20§	
Never-smokers	Never	614	76.7	3,486	73	1.00	Reference	N/A	
	<6	44	5.5	334	7	0.74	0.52–1.05		
	6–17.33	63	7.9	328	6.9	1.22	0.90–1.65		
	17.34–34.5	33	4.1	305	6.4	0.85	0.57–1.26		
	>34.5	47	5.9	320	6.7	1.26	0.90–1.78		
	Test for trend, P value					0.28§			
Workers never employed in a "List A" job	Never	6,954	59.4	9,764	65	1.00	Reference	1.00	Reference
	<6	1,034	8.8	1,320	8.8	1.05	0.96–1.15	0.98	0.89–1.09
	6–17.33	1,091	9.3	1,309	8.7	0.15	1.06–1.26	1.07	0.97–1.18
	17.34–34.5	1,223	10.4	1,324	8.8	1.28	1.17–1.39	1.10	1.00–1.21
	>34.5	1,412	12.1	1,301	8.7	1.49	1.37–1.62	1.35	1.23–1.49
	Test for trend, P value					<0.01§		<0.01§	

Definition of abbreviations: CI = confidence interval; OR = odds ratio.

* The categories represent the quartile distribution of cumulative diesel motor exhaust exposure among exposed controls.

† OR1 is adjusted for age, sex, study, and ever-employment in a "List A" job (*see* text for details).

‡ OR2 is additionally adjusted for pack-years and time-since-quitting smoking.

§ Test for trend, *P* value obtained using the continuous variable for cumulative exposure.

Among women, the highest proportion of DME-exposed controls was found in Germany (24.2%) and the lowest in France (0%), whereas in men the highest proportion was found in the United Kingdom (66.1%) and the lowest in Romania (23.9%). Among control subjects, very few women (<1%) had experienced high levels of occupational DME exposure, versus 8.3% among men. The proportion of highly exposed men among control subjects was particularly high in the United Kingdom (20.6%); Germany (11.5%); Hungary (10.6%); and Canada (9.7%).

Risk estimates as shown in Tables 3–5 were based on models adjusting for age, sex, study, and ever-employed in a job known to entail an increased lung cancer risk (OR1); and OR2 additionally adjusted for cigarette pack-years, and time-since-quitting smoking cigarettes. In the subsequent text we refer to the results adjusted for smoking (i.e., OR2) or else we indicate what adjustments were made.

Table 3 shows the OR for lung cancer associated with cumulative DME exposure. We observed a significant dose–response trend (P value < 0.01). In the analysis by exposure category the CI of the OR for the highest exposure category excluded unity (OR, 1.31; 95% CI, 1.19–1.43). A random effects meta regression rendered essentially similar results (OR, 1.26; 95% CI, 1.14–1.40) (Figure 1). The OR for the highest quartile of DME exposure, when only adjusted for age, sex, and study, was 1.42 (95% CI, 1.31–1.54).

Figure 1 illustrates the study-specific OR for the highest quartile of cumulative DME exposure versus the never DME exposed. INCO-Romania, INCO-UK, LUCA, EAGLE, and MORGEN showed OR less than 1, whereas the OR in the other studies ranged between 1.16 (INCO-Czech Republic) and 1.77 (INCO-Poland). The OR decreased 10–20% in most countries, and the heterogeneity between the studies expressed as I^2 decreased from 32.5% to 13.8%, when adjusting for smoking (pack-years and time-since-quitting smoking).

In subgroups analyses, the OR for lung cancer among never-smokers was 1.26 (95% CI, 0.90–1.78) in the highest exposure category of cumulative DME exposure; no trend was observed

TABLE 4. LUNG CANCER RISK BY YEARS AMONG WORKERS ONLY EXPOSED TO LOW LEVELS OF DIESEL MOTOR EXHAUST EXPOSURE

Duration of Diesel Motor Exhaust Exposure (*yrs*)	Case/Control	OR1*	95% CI	OR2†	95% CI
0	7,676/ 10,320	1.00	Reference	1.00	Reference
1–10	1,576/1,897	1.05	0.97–1.13	1.00	0.92–1.09
11–20	785/937	1.08	0.98–1.20	0.98	0.88–1.10
21–30	660/723	1.18	1.06–1.33	1.03	0.91–1.17
>30	1,246/1,292	1.28	1.18–1.40	1.17	1.07–1.29
Test for trend, P value		<0.01‡		<0.01‡	

Definition of abbreviations: CI = confidence interval; OR = odds ratio.

* OR1 is adjusted for age, sex, study, and ever-employment in a "List A" job (*see* text for details).

† OR2 is additionally adjusted for smoking pack-years, time-since-quitting smoking.

‡ Test for trend, *P* value obtained by using respective continuous variable.

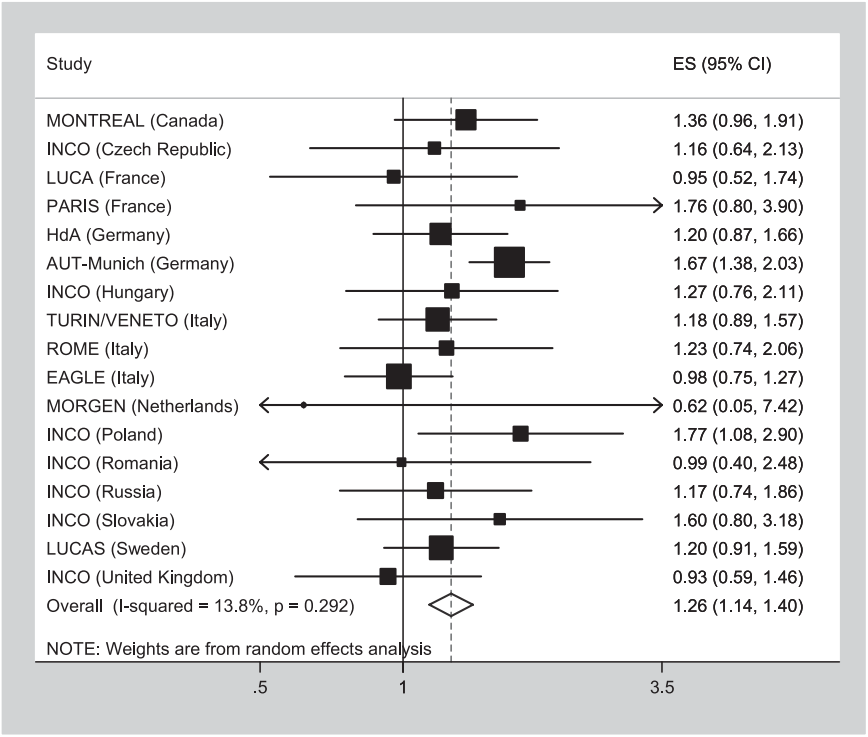


Figure 1. Study-specific odds ratios for the highest quartile of cumulative diesel motor exhaust exposure compared with never-exposed, adjusted for age, sex, cigarette pack-years, time-since-quitting smoking, and ever-employment in a "List A" job. CI = confidence interval; ES = odds ratio.

($P = 0.28$). The results in workers never employed in "List A" jobs were comparable with the overall results (i.e., an increased OR for lung cancer in the highest exposure category; OR, 1.35; 95% CI, 1.23–1.49, with a significant exposure–response trend [P value < 0.01]). Among women, the OR for lung cancer in the highest DME exposure category was 1.58 (95% CI, 0.96–2.59). In men, an OR 1.28 (95% CI, 1.17–1.41) for the fourth quartile was observed, with a significant exposure–response trend ($P < 0.01$).

The risk estimates were very similar for population-based and hospital-based case–control studies: for the highest quartile of cumulative DME exposure OR 1.30 (95% CI, 1.17–1.44) versus 1.31 (95% CI, 1.09–1.59). Excluding the AUT-Munich study lowered the OR for lung cancer to 1.22 (95% CI, 1.10–1.35), whereas excluding ever-farmers resulted in an OR 1.28 (95% CI, 1.15–1.42). The significant exposure–response trends remained (excluding AUT-Munich P value < 0.01; excluding farmers P value < 0.01).

The effect of cumulative DME exposure was similar for different types of lung cancer (*see* Table E1 in the online supplement). The OR for non–small cell lung carcinoma among men was 1.27 (95% CI, 1.14–1.40) in the highest exposure category of cumulative DME exposure, whereas it was 1.44 (95% CI, 0.83–2.50) among women. For small cell lung carcinoma, the OR in the highest exposure category was 1.31 (95% CI, 1.10–1.55) in men and 3.82 (95% CI, 1.51–9.67) in women.

In Tables 4 and 5, we estimated lung cancer risk in relation to duration of exposure. The OR for lung cancer associated with only low levels of DME exposure (Table 4) was close to 1, until 30 years of duration. The OR associated with greater than 30 years of exposure to low levels of DME exposure versus never-exposed was 1.17 (95% CI, 1.07–1.29). Workers exposed to high levels of DME exposure (Table 5) experienced an increased risk of lung cancer within a short period of high exposure (<10 yr; OR 1.28; 95% CI, 1.14–1.45). The highest risk was observed after 21–30 years of high level exposure (OR 1.52; 95% CI, 1.15–2.02).

We observed no significant heterogeneity for the effect of DME in the highest quartile of cumulative exposure versus the never-exposed across studies (I^2 13.8%; P value = 0.29). However, when exploring other potential sources of heterogeneity we found a difference in the effect of DME in the studies completed before 1995 (OR 1.49; 95% CI, 1.32–1.68) compared with the more recent studies (OR 1.19; 95% CI, 1.04–1.36); with a pooled OR 1.34 (95% CI, 1.07–1.67), $I^2 = 83.9\%$, and P value 0.01. Geographic region was also associated with significant heterogeneity, with the highest risk estimate in Western Europe (OR 1.51; 95% CI, 1.30–1.76) and the lowest in Southern Europe (OR 1.07; 95% CI, 0.90–1.28). The pooled OR for the highest quartile of cumulative DME exposure across regions was 1.29 (95% CI, 1.11–1.50), $I^2 = 59.8\%$, and P value 0.04. The effect of DME in large and small studies was not significantly different (P value = 0.13) with the pooled OR 1.33 (95% CI, 1.14–1.54). Likewise, the effect of DME was not influenced by the type of controls (P value = 0.82) with the pooled OR 1.36 (95% CI, 1.24–1.48).

DISCUSSION

We used the recently established database from the SYNERGY project to explore the possible association between occupational DME exposure and lung cancer. The SYNERGY database is unique in the sense that it comprises lifetime occupational data and detailed smoking information for more than 13,000 cases and 16,000 controls from 11 case–control studies in Europe and Canada. We found an exposure–response relationship between occupational DME exposure, measured by a semiquantitative score of cumulative exposure, and lung cancer. In the analysis by categories of the cumulative dose score, the conventional limit for statistical significance of the OR was reached in the fourth quartile of cumulative dose. The results were similar in women, in never-smokers, and in workers never employed in jobs known to entail increased lung cancer risk, although the ORs in the highest quartile did not attain statistical significance in all subgroup analyses. Whereas subgroup analyses are helpful in limiting residual confounding, they lead to considerable loss of power. This is especially true for women and never-smokers

TABLE 5. LUNG CANCER RISK BY YEARS OF EXPOSURE TO HIGH LEVELS OF DIESEL MOTOR EXHAUST

Duration of Diesel Motor Exhaust Exposure (*yrs*)	Case/Control	OR1*	95% CI	OR2†	95% CI
0	7,676/10,320	1.00	Reference	1.00	Reference
1–10	858/696	1.48	1.33–1.65	1.28	1.14–1.45
11–20	228/208	1.34	1.10–1.62	1.21	0.98–1.51
21–30	149/108	1.75	1.36–2.26	1.52	1.15–2.02
>30	126/101	1.59	1.22–2.08	1.45	1.07–1.96
Test for trend, P value		<0.01‡		<0.01‡	

Definition of abbreviations: CI = confidence interval; OR = odds ratio.

* OR1 is adjusted for age, sex, study, and ever-employment in a "List A" job (*see* text for details).

† OR2 is additionally adjusted for smoking pack-years, time-since-quitting smoking.

‡ Test for trend, *P* value obtained by using respective continuous variable.

and makes the OR estimates unstable and the interpretation of the confidence intervals in the individual categories of exposure difficult. When we distinguished workers with low-intensity exposure from those with high exposure, the latter showed excess risks with as low as 10 years duration, although those with low-intensity exposure showed elevated risks only after 30 years and more of exposure. Our results are to a large extent in line with previous research (8, 16), although most previous studies could not control for major potential confounders, such as cigarette smoking and occupational exposures, and have not had as large sample sizes as ours to assess risks in different subgroups.

Three papers on lung cancer risk after diesel exposure have been published from the studies included in this pooled analysis (9, 26, 27). Exposure to DME in these studies was assessed on a case-by-case basis by local experts. An increased risk of lung cancer and a dose–response trend was observed in Germany (AUT-Munich and HdA combined; OR 1.43; 95% CI, 1.23–1.67) and Sweden (LUCAS; OR 1.40; 95% CI, 0.90–2.19), but not in Italy (Turin/Veneto; OR 1.04; 95% CI, 0.79–1.37) (9, 26, 27). Our country-specific results for ever high exposure obtained by using the DOM-JEM were similar to those reported in these previous studies: Germany (OR 1.54; 95% CI, 1.31–1.81); Sweden (OR 1.10; 95% CI, 0.65–1.85); and Italy (OR 1.00; 95% CI, 0.80–1.24).

The prevalence of DME exposure was higher in the current analysis compared with the original studies that had estimated diesel exposure using expert case-by-case assessment, or specific project JEMs. This is a consequence of the ratings in the DOM-JEM (e.g., farmers are assigned low DME exposure and represent a relatively large proportion of the exposed population in some of the studies). In the INCO-Hungary study the prevalence of DME exposure decreased by 19% when farmers were excluded, whereas the decrease was only 1% in INCO-UK. The high prevalence of exposure is also a consequence of the nature of a JEM, namely to assign everybody in a given job code the same exposure, whereas individual assessments give the opportunity for attributing exposure to some people in a job but not others, and to take into account an increasing trend of diesel engines over time. This may contribute to multiple dimensions of exposure misclassification, but is not related to disease status and thus would most often lead to an attenuation of the OR estimates.

We excluded farmers in sensitivity analyses assuming that farmers living in rural areas may belong to specialized cancer hospitals with a larger catchments area than the region from which hospital controls were enrolled, and which could cause selection bias as has been shown in a previous small case–control study (23). The OR for low DME exposure greater than 30 years decreased from OR 1.17 (95% CI, 1.07–1.29) to 1.07 (95% CI, 0.95–1.20) when excluding farmers. The OR for the fourth quartile of cumulative DME exposure changed from OR 1.31 (95% CI, 1.19–1.43) to OR 1.28 (95% CI, 1.15–1.42). The corresponding risk estimates when comparing studies with population controls versus hospital controls were virtually the same, *P* value for heterogeneity 0.82. Thus, these data do not show an important selection bias as a result of potentially different study bases for cases and controls.

A large group of workers with DME exposure are drivers; more than 20% of the study population has worked as driver during their working life. Drivers are exposed to high exposure levels of hazardous substances when they smoke in their vehicles, and are exposed to second-hand smoke from coworkers or other passengers (28). This residual confounding by tobacco smoke among drivers could contribute, even if minimally, to the increased risk seen among low-exposed workers.

In most scenarios nondifferential exposure misclassification leads to attenuation of OR estimates; however, our large study size and the high prevalence of DME exposure may have given SYNERGY enough power to detect a statistically significant OR, even in the presence of underestimation (29, 30). The DOM-JEM is based on job titles only and is therefore a highly standardized tool (31, 32), which diminishes the likelihood of both potential recall and reporting bias. Selection bias has been discussed previously in relation to farmers, but can also occur if participation differed by other subgroups of cases and controls with different probability of DME exposure. We assessed this by excluding the AUT-Munich study (the largest individual study with low response rate among controls); the ORs decreased slightly but did not change the overall results. Thus, a strong selection bias as a result of differences in nonparticipation among cases and controls is unlikely.

Heterogeneity of relative risk estimates may result from variation in many factors, including the background risks of lung cancer. The most influential risk factor for lung cancer is the smoking pattern in respective country (33). Indeed, lung cancer mortality varies largely in the countries included in the analyses and has changed dramatically over the last 50 years; lung cancer mortality peaked around 1970 in the United Kingdom, whereas it peaked as late as around 2000 in Poland and Hungary (34). Exposure to other lung carcinogens may also have differed as a result of the level of industrialization in each local setting. The frequency of employment in jobs known to entail increased lung cancer risk among the controls in the current study, ranging from 3% in MORGEN (The Netherlands) to 16% in HdA (Germany), was approximately controlled for in the analyses.

Among the strengths of this analysis are the large sample size, the good quality of data on occupational history and smoking, and the fact that the exposure assignment for DME was based on a JEM created by experts. Among the limitations are that some of the centers used hospital-based control selection, the JEM did not take into account the changes in

the use of diesel engines over time, and it was not possible to estimate absolute concentration levels for DME.

Our results reflect the effects of the DME exposure present before and up to the time when the studies were conducted. Modern engine emissions have become cleaner in the last 20 years (e.g., by the use of low-sulfur fuel and particle traps on vehicles) (35). However, the number of emitted particles may still be high and the consequences on the potential carcinogenicity are not clear. In addition, old types of engines and other sources of DME (e.g., ships, generators, diesel powered tools, paving equipment, and so forth) continue to lead to DME exposure; our results suggest that DME exposure may contribute to the current lung cancer burden.

Conclusions

Our results show a small consistent association between occupational exposure to DME and lung cancer risk, and significant exposure–response trends. When the exposure score was categorized in quartiles, the OR associated with the highest quartile was statistically significant. This association is unlikely to be entirely explained by bias or confounding, which we addressed by adjusted models and analyses in subgroups not exposed to potential confounders. Cohort studies among heavily exposed occupations with quantitative exposure measurements may shed further light on the risk assessment.

Author Disclosure: A.C.O. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. P.G. received more than $100,001 from the Swedish council as a research grant. H.K. received $40,000 annually from the Industrial Mineral Association in collaborative grants for research on crystalline silica. S.P. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. R.V. received more than $100,001 from the NIH, NCI in sponsored grants. I.B. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. B.P. received $10,001–$50,000 from EUROBITUME, $10,001–$50,000 from Deutscher Asphaltverband, $10,001–$50,000 from Concawe, $5,001–$10,000 from Zentralverband des deutschen Dachdeckerhandwerks and Aksys, and $10,001–$50,000 from Industrieverband Bitumen,- Dach- und Dichtungsbahnen in industry-sponsored grants for the Human Bitumen Study. J.S. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. J.P. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. T.B. received $10,001–$50,000 from EUROBITUME, $10,001–$50,000 from Deutscher Asphaltverband, $10,001–$50,000 from Concawe, $5,001–$10,000 from Zentralverband des deutschen Dachdeckerhandwerks and Aksys, and $10,001–$50,000 from Industrieverband Bitumen,- Dach- und Dichtungsbahnen in industry-sponsored grants for the Human Bitumen Study. A.C. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. H-E.W. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. D.C. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. M.T.L. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. N.C. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. N.P. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. F.M. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. D.M. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. L.R. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. K-H.J. received $50,001–$100,000 for serving as a member of the C-TOR study data oversight committee and $10,001–$50,000 from the Weinberg Group for serving as a board member, ending within this year (2004–2010). W.A. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. H.P. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. J.L. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. N.S-D. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. D.Z. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. I.S. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. S.B. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. V.B. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. L.F. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. V.J. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. P.R. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. E.F. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. R.S.D. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. I.M.G does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. B.K. received $10,001–$50,000 from EUROBITUME, $10,001–$50,000 from Deutscher Asphaltverband, $10,001–$50,000 from Concawe, $5,001–$10,000 from Zentralverband des deutschen Dachdeckerhandwerks and Aksys, and $10,001–$50,000 from Industrieverband Bitumen,- Dach- und Dichtungsbahnen in industry-sponsored grants for the Human Bitumen Study. F.F. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. B.B. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. P.B. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. P.B. received, as the PI of the study, more than $100,001 from EAPA, Concawe, Eurobitume, NAPA, and two American roofing associations as a grant to International Agency for Research on Cancer for a study of lung cancer nested in a cohort of European asphalt workers; more than $100,001 from the NIH in research grants on lung cancer; and more than $100,001 from the NHLBI in research grants on COPD. K.S. does not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript.

Acknowledgment: The authors acknowledge Mrs. Veronique Benhaim-Luzon at IARC for the data management and Dr. Eduard Emil Iojoiu, Volvo powertrain France, for help in finding information about particle trap use and current legislation.

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APPENDIX B: HEALTH IMPACTS OF EXPOSURE TO NEAR- ROADWAY POLLUTION

1. Infographic by USC
2. References
3. Selected key scientific articles

Recent research on risks from...

LIVING NEAR BUSY ROADS OR TRAFFIC POLLUTION



Who is at risk, and what might the risks be?

BABIES
- weigh less at birth
- born early (premature)
- have problems with behavior, learning or autism

PREGNANT WOMEN
- pregnancy problems
- high blood pressure

CHILDREN
- asthma
- hospital for asthma
- ear, nose, throat infections
- smaller lungs
- obesity

TEENAGERS
- smaller lungs for life if exposed since early childhood

ADULTS
- heart disease
- stroke

SENIORS
- heart attacks
- lung problems
- memory problems
- shorter life

PDF with clickable links

USC Environmental Health Centers

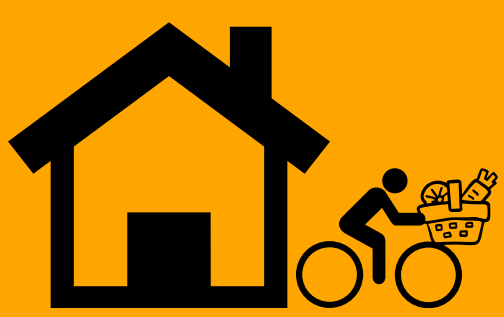
@USC_EH_Outreach & @USCEHC ehc.usc.edu scehsc@usc.edu

Supported by:National Institute of Environmental Health Sciences (Grants #5P30ES007048 and #P01ES022845), Environmental Protection Agency (Grant # 83544101), The Kresge Foundation, and The California Wellness Foundation

WHAT YOU CAN DO:



Join a group that is working to reduce air pollution.



Consider biking instead of driving for trips close to home.

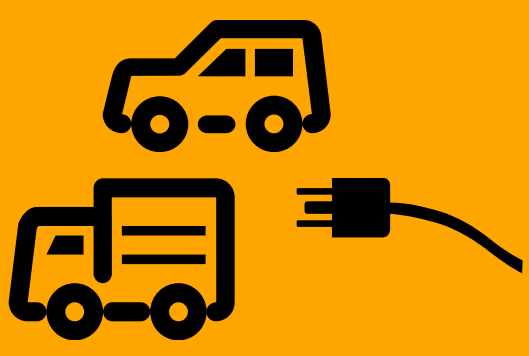
Carpool to school or work or use public transit.

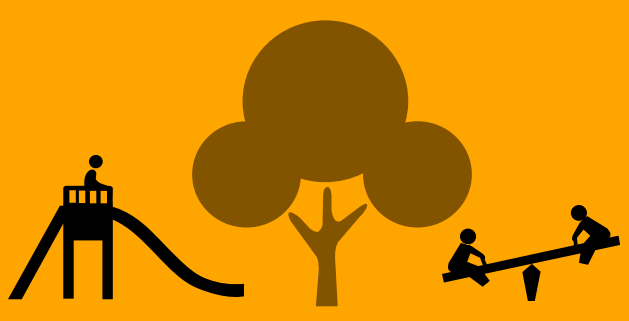




Support building more public transit (such as buses and rail lines) so that fewer people have to use cars.

Support producing cars and trucks that are electric or use cleaner fuels to reduce tailpipe emissions.





Learn more about pollution in your own community.

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Supported by:National Institute of Environmental Health Sciences (Grants #5P30ES007048 and #P01ES022845), Environmental Protection Agency (Grant # 83544101), The Kresge Foundation, and The California Wellness Foundation

Pregnant Women



Pregnant women are particularly vulnerable to air pollution, including pollution near busy roads and freeways. Studies show that women may develop high blood pressure or diabetes during pregnancy if they are close to high levels of air pollution. This type of diabetes is called "gestational" and often goes away after the baby is born. Some pregnant women develop an illness called "pre-eclampsia" that can result in high blood pressure and possible kidney damage. Below are selected health studies on these topics.

Gestational diabetes

Malmqvist E, Jakobsson K, Tinnerberg H, Rignell-Hydbom A, Rylander L. (2013). Gestational diabetes and preeclampsia in association with air pollution at levels below current air quality guidelines. *Environmental Health Perspectives*, 121(4): 488-93.

High Blood Pressure or Preeclampsia

Wu M, Ries JJ, Proietti E, Vogt D, Hahn S, Hoesli I. (2016). Development of Late-Onset Preeclampsia in Association with Road Densities as a Proxy for Traffic-Related Air Pollution. *Fetal Diagnosis and Therapy*, 39(1): 21-27.

Mobasher Z, **Salam MT**, Goodwin TM, Lurmann F, **Ingles SA**, Wilson ML. (2013). Associations between ambient air pollution and Hypertensive Disorders of Pregnancy. *Environmental Research*, 123: 9-16.

Pereira G, Haggar F, Shand AW, Bower C, Cook A, Nassar N. (2013). Association between pre-eclampsia and locally derived traffic-related air pollution: a retrospective cohort study. *Journal of Epidemiology and Community Health*, 67(2): 147-152.

Wu J, Ren C, Delfino RJ, Chung J, Wilhelm M, **Ritz B.** (2009). Association between local traffic-generated air pollution and preeclampsia and preterm delivery in the south coast air basin of California. *Environmental Health Perspectives*, 117(11): 1773-1779.

Developing Fetus and Babies



Many harmful health problems can happen to a developing fetus when a pregnant mother lives near high levels of air pollution, including pollution from traffic. There have been studies for a number of years on low-birth weight and babies being born early, and recently studies have found changes to the developing brain. This might lead to behavior or learning or other "cognitive" problems, including autism, ADHD, and schizophrenia. Below are selected health studies on these topics.

Low birth weight (weigh less when born) or growth retardation (fetus is slower growing)

Wilhelm M and **Ritz B.** (2003). Residential proximity to traffic and adverse birth outcomes in Los Angeles County, California, 1994-1996. *Environmental Health Perspectives*, 111(2): 207–216.

Ritz B, Qiu J, Lee PC, Lurmann F, Penfold B, Erin Weiss R, **McConnell R**, Arora C, Hobel C, Wilhelm M. (2014). Prenatal air pollution exposure and ultrasound measures of fetal growth in Los Angeles, California. *Environmental Research*, 130: 7-13.

Born Early (also called preterm or premature birth)

Laurent O, Hu J, Li L, **Cockburn M**, Escobedo L, Kleeman MJ, Wu J. (2014). Sources and contents of air pollution affecting term low birth weight in Los Angeles County, California, 2001-2008. *Environmental Research*, 134: 488-495.

Wilhelm M, Ghosh JK, Su J, **Cockburn M**, Jerrett M, **Ritz B.** (2011). Traffic-related air toxics and preterm birth: a population-based case-control study in Los Angeles County, California. *Environmental Health*, 10: 89.

Problems with behavior, learning, autism or other disorders of the developing brain

Behavior

Perera FP, et al. (2014). Early-life exposure to polycyclic aromatic hydrocarbons and ADHD behavior problems. *PLoS One*, 9(11): e111670.

Learning

Guxens M, et al. (2014). Air pollution during pregnancy and childhood cognitive and psychomotor development: six European birth cohorts. *Epidemiology*, 25(5): 636-47.

Autism

Woodward N, **Finch CE**, Morgan TE. (2015). Traffic-related air pollution and brain development. *AIMS Environmental Science*, 2(2): 353-373.

Allen JL, Oberdorster G, Morris-Schaffer K, Wong C, Klocke C, Sobolewski M, Conrad K, Mayer-Proschel M, Cory-Slechta DA. (2015). Developmental neurotoxicity of inhaled ambient ultrafine particle air pollution: Parallels with neuropathological and behavioral features of autism and other neurodevelopmental disorders. *Neurotoxicology*.

Raz R, Roberts AL, Lyall K, Hart JE, Just AC, Laden and Weisskopf MG. (2015). Autism spectrum disorder and particulate matter air pollution before, during, and after pregnancy: a nested case–control analysis within the Nurses' Health Study II cohort. *Environmental Health Perspectives*, 123: 264–270.

Volk HE, Kerin T, Lurmann F, Hertz-Picciotto I, **McConnell R**, Campbell DB. (2014). Autism spectrum disorder: interaction of air pollution with the MET receptor tyrosine kinase gene. *Epidemiology*, 25(1): 44-7.

Volk HE, Lurmann F, Penfold B, Hertz-Picciotto I, **McConnell R**. (2013). Traffic-related air pollution, particulate matter, and autism. *JAMA Psychiatry*, 70(1): 71-77.

Volk HE, Lurmann F, Penfold B, Hertz-Picciotto I, **McConnell R.** (2013). Traffic-related air pollution, particulate matter, and autism. *JAMA Psychiatry, 70*(1): 71-77.

Pedersen CB, Raaschou-Nielsen O, Hertel O, Mortensen PB. (2004). Air pollution from traffic and schizophrenia risk. *Schizophrenia Research, 66*(1): 83-85.

Children



For children who live or go to school near high levels of air pollution when they are young (or even before they were born), this can lead to health problems. These include lungs not working and growing as fast as they should, if exposed to pollution when they were young. Children can also develop asthma from air pollution near busy roads, are also likely to go to the hospital for asthma attacks. Studies show more ear, nose, and throat infections for children who are near this kind of air pollution from traffic. New studies may link a higher chance of obesity in children who live near busy traffic or if their mothers were regularly near traffic pollution when pregnant. Below are selected health studies on these topics.

Asthma

Sbihi H, Tamburic L, Koehoorn M, Brauer M. (2016). Perinatal air pollution exposure and development of asthma from birth to age 10 years. *European Respiratory Journal*, *47*(4): 1062-1071.

McConnell R, **Islam T**, **Shankardass K**, **Jerrett M**, Lurmann F, **Gilliland F**, **Gauderman J**, **Avol** E, **Kunzli N**, Yao L, **Peters J**, **Berhane K**. (2010). Childhood incident asthma and traffic-related air pollution at home and school. *Environmental Health Perspectives*, *118*(7): 1021-1026.

McConnell R, **Berhane K**, Yao L, Jerrett M, Lurmann F, **Gilliland F**, **Kunzli N**, **Gauderman J**, **Avol E**, **Thomas D**, **Peters J**. (2006). Traffic, susceptibility, and childhood asthma. *Environmental Health Perspectives*, *114*: 766-72.

Hospitalization for asthma

Lin S, Munsie JP, Hwang SA, Fitzgerald E, Cayo MR. (2002). Childhood asthma hospitalization and residential exposure to state route traffic. *Environmental Research*, *88*(2): 73-81.

Ear, nose, throat infections

Brauer M, et al. (2007). Air pollution and development of asthma, allergy and infections in a birth cohort. *European Respiratory Journal*, *29*(5): 879-888.

Brauer M, et al. (2002). Air pollution from traffic and the development of respiratory infections and asthmatic and allergic symptoms in children. *American Journal of Respiratory and Critical Care Medicine*, *166*(8): 1092-8.

Smaller lungs for life

Gauderman WJ, **Urman R**, **Avol** E, **Berhane K**, **McConnell R**, **Rappaport** E, Chang R, Lurmann F, **Gilliland F**. (2015). Association of Improved Air Quality with Lung Development in Children. *The New England Journal of Medicine*, *372*(10): 905–913.

Gauderman WJ, **Vora H**, **McConnell R**, **Berhane K**, **Gilliland F**, **Thomas D**, Lurmann F, **Avol** E, **Kunzli N**, **Jerrett M**, **Peters J**. (2007). Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study. *The Lancet*, *369*(9561): 571-7.

Gauderman WJ, **Avol** E, **Gilliland F**, **Vora H**, **Thomas D**, **Berhane K**, **McConnell R**, **Kunzli N**, Lurmann F, **Rappaport** E, Margolis H, Bates D, **Peters J.** (2004). The effect of air pollution on lung development from 10 to 18 years of age. *The New England Journal of Medicine*, 351: 1057-67.

Obesity

McConnell R, **Gilliland FD**, **Goran M**, **Allayee H**, **Hricko A**, **Mittelman S.** (2016). Does near-roadway air pollution contribute to childhood obesity? *Pediatric Obesity*, 11(1): 1-3.

McConnell R, Shen E, **Gilliland FD**, Jerrett M, Wolch J, Chang CC, Lurmann F, **Berhane K.** (2015). A longitudinal cohort study of body mass index and childhood exposure to secondhand tobacco smoke and air pollution: the Southern California Children's Health Study. *Environmental Health Perspectives*, 123(4): 360-366.

Teenagers



Many of the health problems from air pollution (described above) for children can go into the teenage years. For teenagers, by the time they have graduated from high school or soon after, most teens' lungs will have reached "maturity," meaning they will not likely grow any further. So if a teen's lungs are smaller or don't work as well at age 18, the lungs may not grow and get healthier as they grow into and adult. Below are selected health studies on these topics.

Smaller lungs for life if exposed since early childhood

Gauderman WJ, **Vora H**, **McConnell R**, **Berhane K**, **Gilliland F**, **Thomas D**, Lurmann F, **Avol** E, **Kunzli N**, **Jerrett M**, **Peters J.** (2007). Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study. *The Lancet*, 369(9561): 571-577.

Adults



Several recent studies show that being near air pollution for a long time over your life can give people a higher chance of having heart problems. This is for ambient pollution (regional pollution that everyone in a community breathes) and traffic pollution (near-roadway pollution). This pollution can lead to more cardiovascular (heart) disease, and being near air pollution for a long time over your life can lead to more deaths from heart disease. There are now more studies showing links between traffic pollution and stroke. One study showed that sudden cardiac deaths (including from stroke) is linked to traffic exposure in middle-aged women. Below are selected health studies on these topics.

Heart Disease

Gold DR and Mittleman MA. (2013). New insights into pollution and the cardiovascular system: 2010 to 2012. *Circulation*, 127(18): 1903-1913.

Raaschou-Nielsen O, et al. (2012). Traffic air pollution and mortality from cardiovascular disease and all causes: a Danish cohort study. *Environmental Health*, 11: 60.

Brook RD, et al. (2010). Particulate matter air pollution and cardiovascular disease: An update to the scientific statement from the American Heart Association. *Circulation*, 121(21): 2331-2378.

Newby DE, et al. (2014). Expert position paper on air pollution and cardiovascular disease. *European Heart Journal*, 36(2): 83-93b.

Kunzli N, Jerrett M, Garcia-Esteban R, Basagana X, Beckermann B, **Gilliland F**, Medina M, **Peters J**, Hodis HN, Mack WJ. (2010). Ambient air pollution and the progression of atherosclerosis in adults. *PLoS One*, 5: e9096.

Stroke

Brook RD, et al. (2010). Particulate Matter Air Pollution and Cardiovascular Disease. An Update to the Scientific Statement From the American Heart Association. *Circulation*, 121(21): 2331-78.

Seniors (middle aged adults and older)



One study of women with an average age greater than 60 were more likely to die from sudden cardiac deaths (including heart disease and stroke) if they lived near traffic pollution. Some studies have linked road traffic noise to stroke, but another study found that traffic air pollution was linked to stroke even when noise was taken into account. Several studies show that traffic pollution is linked to premature death (dying younger than one might have otherwise). Below are selected health studies on these topics.

Heart Attacks and Stroke

Hart JE, et al. (2014). Roadway proximity and risk of sudden cardiac death in women. *Circulation*, *130*(17): 1474-82.

Hoffmann B, et al. (2015). Air quality, stroke, and coronary events: results of the Heinz Nixdorf Recall Study from the Ruhr Region. *Deutsches Ärzteblatt International*, *112*(12): 195-201.

Lung Problems

Lepeule J, et al. (2014). Long-term effects of traffic particles on lung function decline in the elderly. *American Journal of Respiratory and Critical Care Medicine, 190*(5): 542-8.

Memory Problems

Gatto NM, Henderson VW, Hodis HN, St John JA, Lurmann F, **Chen JC**, Mack WJ. (2014). Components of air pollution and cognitive function in middle-aged and older adults in Los Angeles. *Neurotoxicology, 40*: 1-7.

Chen, H, et al. (2017). Living near major roads and the incidence of dementia, Parkinson's disease, and multiple sclerosis: a population-based cohort study. The Lancet. Online 04 January 2017.

Shorter Life

Jerrett M, et al. (2013). Spatial analysis of air pollution and mortality in California. *American Journal of Respiratory and Critical Care Medicine, 188*(5): 593-599.

Hoek G, et al. (2002). Association between mortality and indicators of traffic-related air pollution in the Netherlands: a cohort study. *The Lancet, 360*(9341): 1203-9.

Original Paper

Fetal Diagnosis and Therapy

Fetal Diagn Ther 2016;39:21–27
DOI: 10.1159/000381802

Received: September 15, 2014
Accept after revision: March 12, 2015
Published online: June 17, 2015

Development of Late-Onset Preeclampsia in Association with Road Densities as a Proxy for Traffic-Related Air Pollution

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Key Words

Preeclampsia · Perinatal outcome · Placenta · Pregnancy complications · Air pollution · Traffic · Road density · Late-onset preeclampsia

Abstract

Introduction: Previous epidemiological studies indicate an association between maternal exposure to air pollution and an increased risk of hypertensive disorders in pregnancy. We analyzed the association between the occurrence of mild/severe and early-/late-onset preeclampsia (PE) and traffic-related air pollution (TRAP). ***Materials and Methods:*** Based on retrospective data, 50 pregnant women with PE were selected and matched with a control group of healthy pregnant women according to their age, parity, and number of fetuses. The total length of major roads around the women's home within a radius of 100, 200, 300, and 500 m and the distances from the domicile to the nearest 'first class' main road and freeway were used as a proxy indicator of TRAP. We compared a PE subgroup and control group in terms of their exposure to TRAP. ***Results:*** Late-onset PE cases showed a significantly higher occurrence with density of major roads within a radius of 100–300 m compared to early onset cases ($p = 0.006$; 0.02; 0.04). In addition, a significantly shorter distance to the nearest 'first class' main road was observed in late-onset PE cases ($p = 0.0078$). ***Conclusions:*** Exposure to TRAP during pregnancy was associated with an increased risk for the development of late-onset PE.

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Introduction

Preeclampsia (PE) is a serious complication of the second half of pregnancy in up to 8% of all pregnancies. It is one of the 3 leading causes of maternal morbidity and mortality worldwide [1]. PE is clinically defined as the new onset of hypertension (blood pressure ≥140/90 mm Hg at least on 2 measurements 6 h apart from each other) and significant proteinuria (>0.3 g/24 h) after 20 weeks of gestation. The severe type of PE is specified as hypertension over 160/110 mm Hg and proteinuria above 0.5 g/24 h [2]. Furthermore, signs of a significant organ involvement like neurological symptoms, renal failure or HELLP syndrome (hemolysis, elevated liver enzymes, and low platelet) belong to the category of severe PE [3]. Depending on the time of appearance of the first clinical symptoms, PE can also be classified into 2 distinct subtypes. Early onset is defined as less than 34 weeks of gestation, while late-onset is

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1015–3837/15/0391–0021$39.50/0

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defined as after 34 + 0 weeks of gestation [1, 4–7]. Early-onset PE is a rare disease with a high maternal and neonatal morbidity and mortality [5]. Late-onset PE, however, has a lower maternal and fetal morbidity and occurs more frequently. Besides the different clinical aspects and maternal and fetal outcomes, there is a discussion about different etiologies of these 2 subtypes. Several studies propose that generalized endothelial dysfunctions in the placenta and the impaired trophoblastic invasion of the maternal placental bed in early pregnancy might be the origins of the early-onset disease [3]. These 2 factors may lead to systemic endothelial cell dysfunction and systemic inflammation with neutrophil activation in the maternal body [8, 9]. PE presenting at term is associated with a lower frequency and severity of fetal growth restriction compared to early-onset PE. Late-onset PE could be hypothesized to present a process leading to maternal endothelial damage, which is unrelated to impaired early trophoblast invasion [10]. Predisposing cardiovascular factors or metabolic risks for endothelial dysfunction as part of an exaggerated systemic inflammatory response might dominate the origin of late-onset PE [11–13]. Currently, the only causal treatment for PE is delivery and the removal of the placenta. The prediction of PE is a major challenge in contemporary obstetrics, and some authors could recently show added value of angiogenic factors for the prediction of early- and late-onset PE in the first trimester of pregnancy [14].

Major risk factors for the development of PE [12, 15] are previous chronic hypertension, kidney disease, diabetes mellitus, nulliparity, obesity, multiple pregnancies, maternal age >40 years, African-American race [16], and family history of PE. It is known that local air pollution exposure, especially pollution due to motor vehicle traffic [17], is associated with adverse cardiovascular and respiratory effects like systemic inflammation, elevated blood pressure and asthma [18, 19]. Previous studies also indicate a potential harmful effect of local air pollution on pregnancy outcome, including an increased risk of preterm delivery and PE [20–22]. Recently, a meta-analysis including 17 studies evaluated the exposure to ambient air pollution and pregnancy-induced hypertensive disorders. Most studies measured air pollutant levels like nitrogen oxides (NO_2, NO_x), particulate matter (PM_{10}, $PM_{2.5}$), carbon monoxide (CO), ozone (O_3), but few took traffic density and the proximity to major roads into account, which can be used as estimates of air pollution. The meta-analysis showed an increased risk of hypertensive disorders in pregnancy including all pollutants as well as the proximity to major roads and traffic density [23]. In this context, several studies have reported that traffic-related air pollution (TRAP) is associated with endothelial dysfunction, a potential predictor of PE [24, 25]. Air pollutants may also contribute to an anti-angiogenic state which can also lead to PE [26]. The aim of the present study was to analyze the association between the occurrence of PE and TRAP in the North Western area of Switzerland in a case-control study. The PE cases were stratified into mild/severe and early-/late-onset subgroups according to the common definitions [6] and analyzed for their association with air pollution.

Materials and Methods

Study Design and Study Population

This case-control study was performed at the University Hospital of Basel, Switzerland. The catchment area of the study was the Canton of Basel-City and its surroundings (Canton of Basel-Country). A few study participants were enrolled from the Cantons of Aargau, Solothurn, Zurich and Berne. Based on retrospective data from the electronic medical records of the Department of Obstetrics and Fetomaternal Medicine and the home addresses, indicated at booking, 50 pregnant women were selected for the study group. These women were treated for PE and sent to our institution between January 1, 2011, and December 31, 2011. The criteria included were all singleton or multiple pregnancies after 20 + 0 weeks of gestation. The excluded criteria were pregnancies before the 20 + 0 weeks of gestation, the women's domicile outside of Switzerland, women with an abortion due to PE or eclampsia before the 24th week of gestation as well as fetuses with severe malformation. The study group was matched with a healthy control group of 50 pregnant women with uncomplicated pregnancies. Age at delivery (± 1year, if necessary), parity and number of fetuses (singleton or twin pregnancy) were used as matching criteria. According to our statistics, there were 79 women in total treated for PE at the University Hospital of Basel in 2011. Overall, 2,286 births' were registered at our institution. This study was approved by the Ethics Committee of Basel (Ethikkommission beider Basel).

TRAP Exposure

In the present study, the exposure to TRAP, especially nitrogen dioxide (NO_2), particulate matter ($PM_{2.5}$, PM_{10}), sulfur dioxide (SO_2) and carbon monoxide (CO) [27], was estimated by a surrogate measure of road density in the surroundings, in particular the densities of major roads, which is defined as a combination of all freeways and 'first class' main roads (at least 6 m wide) [28, 29]. The geographic information system (GIS) data with the road network of Switzerland was provided by the Swiss Federal Office of Topography (swisstopo) [30]. Two parameters for estimating the road density were defined; first, the total length of all major roads within a radius of 100, 200, 300, and 500 m around the geocoded location of each woman's home during their pregnancy, and second, the distance in meters from each woman's domicile to the nearest 'first class' main road and freeway.

Statistical Analysis

The statistical data set included a total of 100 pregnant women, whereof 50 women developed PE during pregnancy (study group) and 50 women showed no health problems (control group). PE cas-

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es differed in severity, 'mild' or 'severe', and in time of onset, 'early' or 'late'. Mean, standard deviation, median, minimum and maximum for each road density parameter were calculated for each group. Both case and control groups as well as each PE subgroup (mild vs. severe; early vs. late onset) were compared by a Mann-Whitney test. Statistically significant results were defined as $p \leq 0.05$.

Maternal and fetal characteristics were measured and differences between the case and control groups were tested using Fisher's exact test for continuous variables and the Kruskal-Wallis rank-sum test for categorical variables. p values were not adjusted for multiple testing. We did not perform a power calculation. Our main objective was the comparison between the case and control group.

Results

Subject Characteristics

We included 100 pregnant women and 106 newborns in the study. Maternal and fetal characteristics are represented in tables 1 and 2. The control group was matched for maternal age and parity, but, due to the retrospective design and logistical restrictions, not for other risk factors like hypertension, previous PE or twin pregnancy, which could increase the risk for PE. All relevant diseases were absent in the control group, with the exception of 1 case of asthma (table 1: 'other disease'). There were 2 women with gestational diabetes and 2 with preconceptional diabetes. Newborns from mothers suffering from PE had a preterm birth more often, were born by cesarean section and transferred to the neonatal intensive care unit.

Cases versus Control

Figures 1 and 2 show the descriptive analyses of road density parameters for the study versus the control group. The control group showed a significantly higher total length of major roads within a radius of 500 m compared to the study group (fig. 1). For all other road density parameters, no statistically significant difference between study and control group was found.

Table 1. Description of Maternal characteristics

Maternal characteristics	Case	Control	p value
Patient, n	50	50	1.00
Age at delivery, years	32.02±5.75	32±5.61	0.99
Insurance status			0.80
Private	9 (18)	11 (22)	
Nonprivate	41 (82)	39 (78)	
Origin			0.26
Europe	40 (80)	45 (90)	
Others	10 (20)	5 (10)	
Domicile in			0.26
City	40 (80)	45 (90)	
Countryside	10 (20)	5 (10)	
BMI	30.08±5.68	26.76±3.93	0.007
Parity			1.00
1	38 (76)	38 (76)	
2	8 (16)	8 (16)	
>2	4 (8)	4 (8)	
Pregnancy modus			0.06
Spontaneous	43 (86)	49 (98)	
Infertility treatment	7 (14)	1 (2)	
Number of fetuses			
Singleton	47 (94)	47 (94)	1.00
Twins	3 (6)	3 (6)	
Relevant diseases			
Earlier PE	5 (10)	0 (0)	
Diabetes mellitus and gestational diabetes	4 (8)	0 (0)	
Hypertension	5 (10)	0 (0)	
Others[1]	7 (14)	1 (2)	
PE severity			
Mild	10 (20)		
Severe	40 (80)		
HELLP	12 (24)		
PE onset			
Early onset	24 (48)		
Late onset	26 (52)		

Values represent mean ± SD or n (%).
[1] Chronic kidney disease, asthma bronchiale or cigarette consumption.

Early- versus Late-Onset PE Cases

Descriptive analyses of road density parameters for early- versus late-onset PE cases are shown in figures 3 and 4.

Late-onset PE cases showed a significantly higher occurrence with a total length of major roads within a radius of 100, 200, and 300 m (fig. 3) and a significantly shorter distance to the nearest 'first class' main road compared to early-onset PE cases (fig. 4). In addition, in late-onset PE cases, both a higher total length of major roads within a radius of 500 m and a shorter distance to the nearest freeway were found, although these differences were not statistically significant.

Mild versus Severe PE Cases

No significant difference was found in any road density parameter between severe and mild PE cases. However, some tendency in the results could be observed: severe PE cases showed a higher total length of major roads within all radiuses (fig. 5) and a shorter distance to the nearest freeway and to the nearest 'first class' main road compared to mild PE cases (fig. 6).

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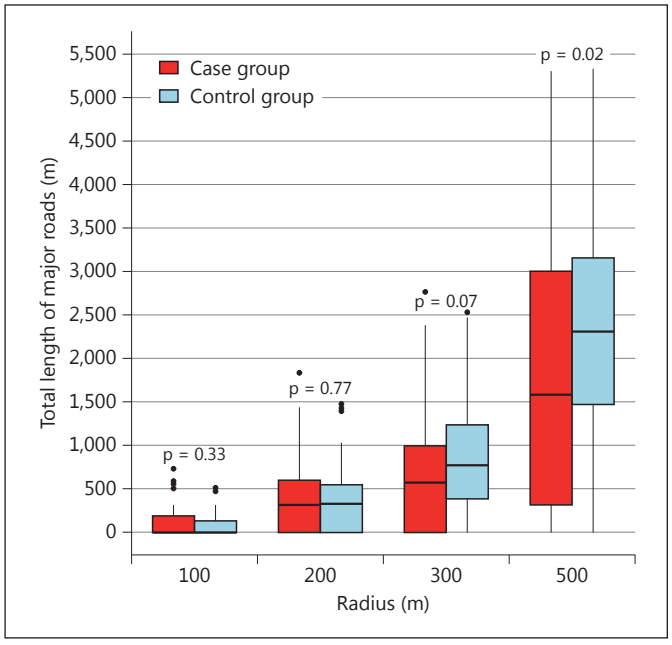


Fig. 1. Total length of major roads around the women's domicile for cases (n = 50) and controls (n = 50).

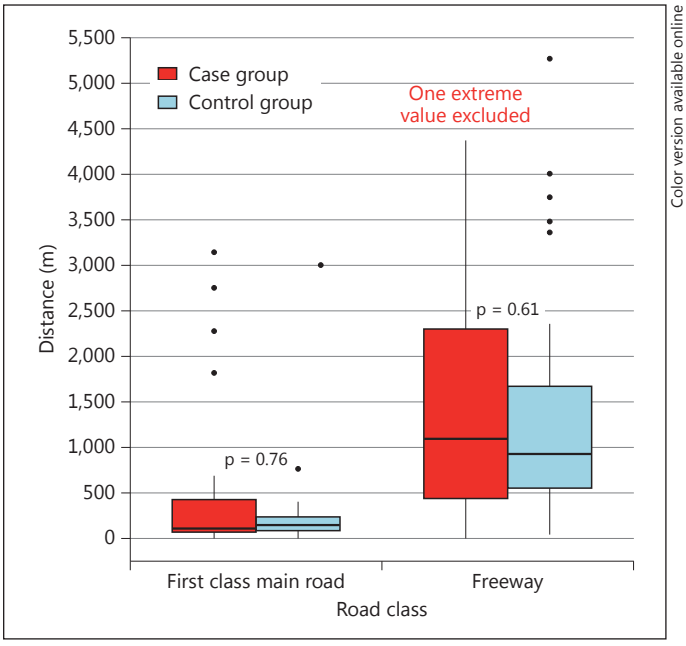


Fig. 2. Distance of the women's domiciles to the nearest freeway and the nearest 'first class' main road for cases (n = 49; one extreme value was excluded for better presentation of the figure) and controls (n = 50).

Discussion

There is growing interest in analyzing environmental factors and influences on pregnancy and neonatal outcome [22, 31–33]. According to our findings, women who developed late-onset PE were exposed to significantly higher TRAP in general than women who had early-onset PE. Various studies suggest that a late onset of PE impaired trophoblastic invasion of myometrial arteries and is phenotypically balanced unless predisposing factors will set off a cascade of placental and systemic inflammation [12]. In general, it is thought that early-onset PE involves a placental defect, which is not as evident in late-onset PE. It appears that late-onset PE involved a different inflammatory component [34]. The impaired trophoblastic invasion of the placental bed and the following cascade in the early onset of PE might already determine the severity of the disease, and external factors like TRAP become less obvious. Local air pollution may be an important risk factor for the development of late-onset PE. Epidemiological studies highlighted an association between a steeper increase in arterial blood pressure in pregnancy, an increased risk for pregnancy-induced hypertension, PE and a higher PM_{10} exposure [22]. Potential pathways for a pro-hypertensive effect of air pollution have been suggested to include an increase in sympathetic tone and/or the modulation of basal systemic vascular tone as a result of increased endothelin-1 concentrations as well as

Table 2. Description of fetal characteristics

Fetal characteristics	Case	Control	p value
Number of children, n	53	53	1.00
Sex			0.56
Male	29 (54.7)	25 (47.2)	
Female	24 (45.3)	28 (52.8)	
Gestational age, days	250.47±23.13	279.17±8.64	<0.001
Delivery			<0.001
Preterm	32 (60.3)	0 (0)	
Term	21 (39.7)	50 (100)	
Birth modus			<0.001
Vaginal	12 (22.6)	47 (88.7)	
Cesarean section	41 (77.4)	6 (11.3)	
Birth weight, g	2,362.9±820.1	3,335.9±419.5	<0.001
Length, cm	45.4±3.6	49.7±2.0	<0.001
Transfer to neonatal intensive care unit	26 (49)	0 (0)	

Values represent mean ± SD or n (%).

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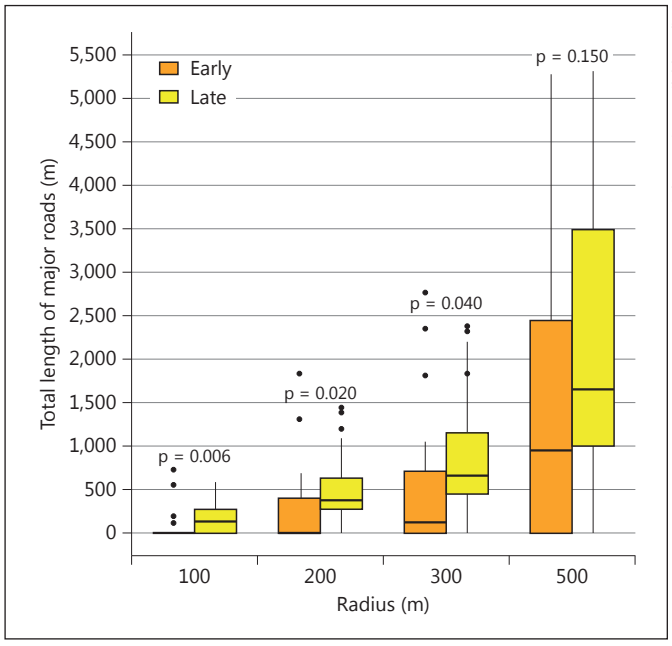


Fig. 3. Total length of major roads around the women's domicile for early- (n = 24) and late-onset (n = 26) preeclampsia cases.

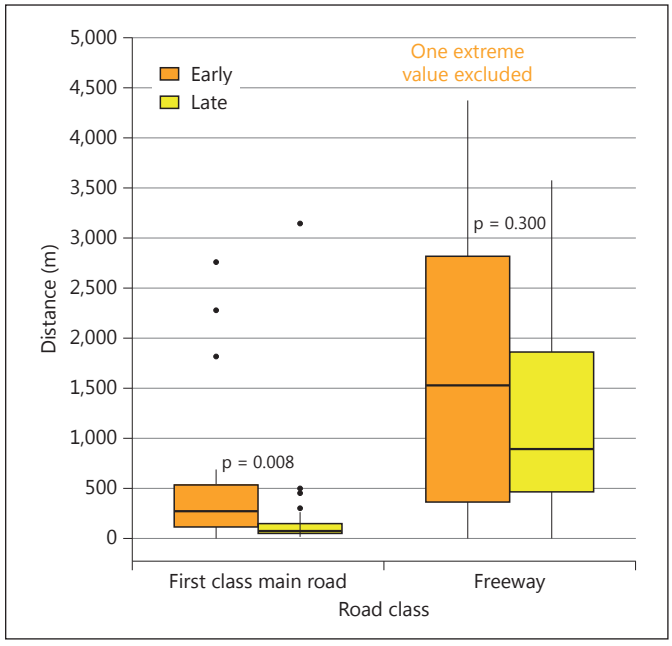


Fig. 4. Distance of the women's domiciles to the nearest freeway and the nearest 'first class' main road for early- (n = 23, one extreme value was excluded for the better presentation of the figure) and late-onset (n = 26) preeclampsia cases.

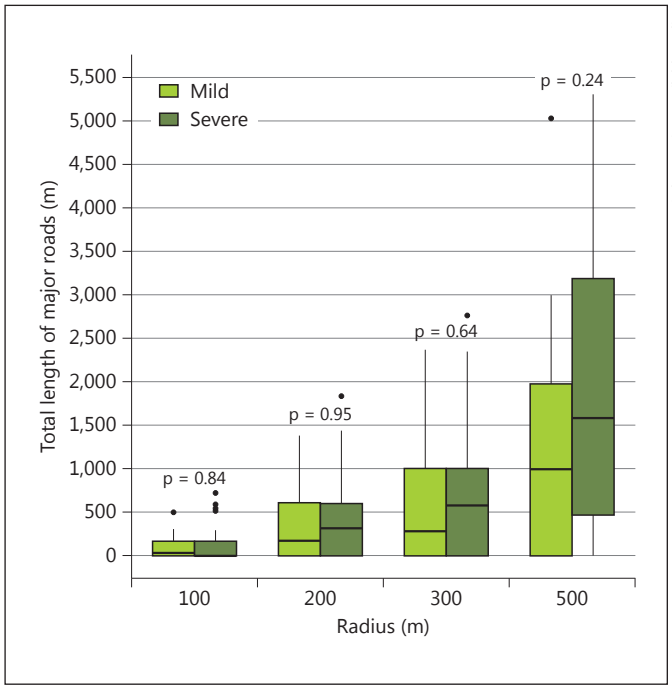


Fig. 5. Total length of major roads around the women's domicile for mild (n = 10) and severe (n = 40) preeclampsia cases.

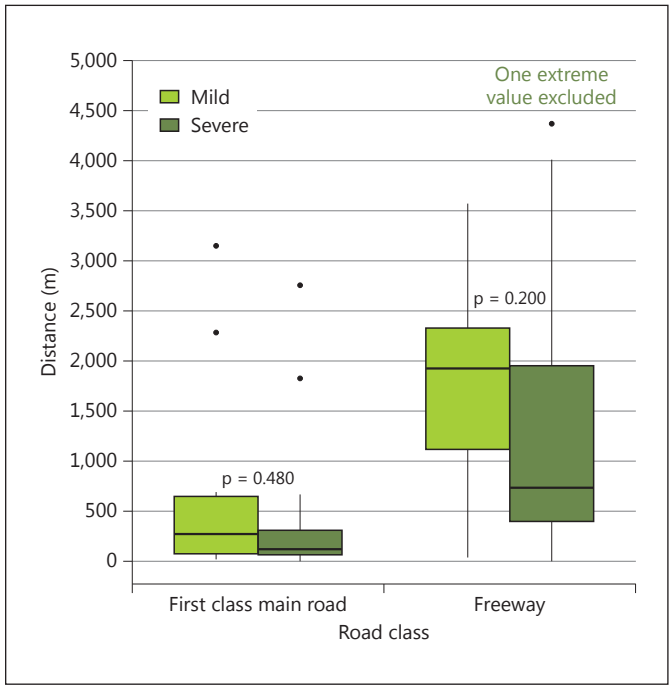


Fig. 6. Distance of the women's domiciles to the nearest freeway and the nearest 'first class' main road for mild (n = 10) and severe (n = 39; one extreme value was excluded for better presentation of the figure) preeclampsia cases.

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impairment of nitric oxide–induced vasodilation. Furthermore, exposure to air pollution might result in systemic inflammation, which could predispose to the development of gestational hypertensive disorders [22, 35]. Few studies have investigated PE and gestational hypertension. A California birth cohort study of air pollution investigated PE based on birth certificates and reported positive associations with higher carbon monoxide (CO) and sulfur dioxide (SO_2) exposures during pregnancy [27]. Two further studies conducted in the USA reported an increased risk with ambient CO, $PM_{2.5}$ or NO_x exposures [22, 31]. More recently, Lee et al. [7] reported that exposure to particles, mostly $PM_{2.5}$ and ozone in the first trimester, may increase the risk of developing PE and gestational hypertension. In contrast to these studies, we found no significant association of road density at the women's domicile with an incidence of PE. This may be due to the characteristics of the control group: healthy pregnant women going to the University Hospital have a nearby domicile, i.e. in an urban setting. The larger radiuses (300 and 500 m) may reflect an urban versus rural environment rather than a TRAP coming from a closer source (radiuses 100 – 200 m). Nevertheless, considering previous studies [7, 22, 27, 31], data suggest a detrimental effect of near road density on any onset of PE: the study group showed a higher total length of major roads within the shorter radiuses of 100 and 200 m. The lack of statistical significance might be determined by the relatively small number of study participants or the origin of the participants, which belonged mostly to Caucasians. To our knowledge, one research group from Sweden has also investigated possible associations between PE and air pollution by using road density as a proxy indicator of TRAP [20]. Traffic density within a radius of 200 m has been observed. According to their results, PE was associated with high traffic density, but the odds ratio was not significant. Our results were in agreement with the previous research if we only considered radiuses of 100 and 200 m.

No significant evidence was found for an association of local air pollution with the severity of PE in this study. Nevertheless, a potential association between the occurrence of severe PE cases and higher traffic air pollution could be shown.

The current study provides, for the first time, data and references for the local situation in Switzerland. Instead of birth certificates, we used detailed clinical data with accurate gestational age based on a first ultrasound and maternal parameters, which allowed us to classify the 2 subtypes of PE.

To date, there has only been 1 study reporting on the impact of air pollution on early- and late-onset PE separately [36]. They found the strongest associations observed for late-onset PE in relation to third-trimester exposure to fine particulate pollutants and for early-onset PE.

The present study could replicate a significant difference in exposure to TRAP between early- and late-onset PE. This observation may provide some further indices for the pathogenesis of PE. If the association between air pollution and pregnancy complications represents a causal relation, it would have profound implications for public health, particularly in countries with limited maternal health care.

The retrospective study design bears 2 caveats. First, we did not match for risk factors like hypertension, previous PE or twin pregnancy, which could increase the risk of PE. This could cause bias and has to be considered in the interpretation. Second, since changes of address during pregnancy were not considered in our study, the real duration at the residence of each woman during her pregnancy is actually uncertain. This could be a potential bias for calculating the local air pollution exposure.

The road density is just a proxy for TRAP. However, the roads are the source of TRAP and are the most relevant predictors in the currently most used air pollution models (Land Use Regressions and Dispersion models). The consequence of using a less precise exposure assessment (road density versus NO_2 modelling or measuring) could lead to less power and nonsignificant results. We could show that even by using a far more simple approach to estimate 'traffic-related air pollution' exposure, we found evidence of the effect.

Conclusions

Our study shows that the exposure to TRAP during pregnancy was associated with a significantly increased risk for the development of late-onset PE compared to the early-onset cases. No statistical significance, but a potential association between local air pollution exposure and severity of PE, as well as an association between the occurrence of PE in general and traffic exposure within radiuses of 100 and 200 m, were observed in this study. More prospective studies with more participants are needed to understand local air pollution as a possible risk factor for late-onset PE and its pathogenesis.

If the association between air pollution and late pregnancy complications represents a causal relation, it would have profound implications for public health, particularly in countries with limited maternal health care [20].

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Acknowledgements

We gratefully acknowledge the contribution of the Department of Obstetrics and Fetomaternal Medicine, University Hospital of Basel, for making this study possible. We especially thank Parveen Jenni and Ingrid Wieland for their support and for organizing all the appointments. Thanks to Dr. Stefanie von Felten from the Clinical Trial Unit of the University Hospital of Basel for her nice support in the statistical analysis. Our thanks also go out to Prof. Urs Frey from Basel University Children's Hospital for his dedicated support.

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Association between Local Traffic-Generated Air Pollution and Preeclampsia and Preterm Delivery in the South Coast Air Basin of California

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Background: Preeclampsia is a major complication of pregnancy that can lead to substantial maternal and perinatal morbidity, mortality, and preterm birth. Increasing evidence suggests that air pollution adversely affects pregnancy outcomes. Yet few studies have examined how local traffic-generated emissions affect preeclampsia in addition to preterm birth.

Objectives: We examined effects of residential exposure to local traffic-generated air pollution on preeclampsia and preterm delivery (PTD).

Methods: We identified 81,186 singleton birth records from four hospitals (1997–2006) in Los Angeles and Orange Counties, California (USA). We used a line-source dispersion model (CALINE4) to estimate individual exposure to local traffic-generated nitrogen oxides (NO_x) and particulate matter < 2.5 μm in aerodynamic diameter ($PM_{2.5}$) across the entire pregnancy. We used logistic regression to estimate effects of air pollution exposures on preeclampsia, PTD (gestational age < 37 weeks), moderate PTD (MPTD; gestational age < 35 weeks), and very PTD (VPTD; gestational age < 30 weeks).

Results: We observed elevated risks for preeclampsia and preterm birth from maternal exposure to local traffic-generated NO_x and $PM_{2.5}$. The risk of preeclampsia increased 33% [odds ratio (OR) = 1.33; 95% confidence interval (CI), 1.18–1.49] and 42% (OR = 1.42; 95% CI, 1.26–1.59) for the highest NO_x and $PM_{2.5}$ exposure quartiles, respectively. The risk of VPTD increased 128% (OR = 2.28; 95% CI, 2.15–2.42) and 81% (OR = 1.81; 95% CI, 1.71–1.92) for women in the highest NO_x and $PM_{2.5}$ exposure quartiles, respectively.

Conclusion: Exposure to local traffic-generated air pollution during pregnancy increases the risk of preeclampsia and preterm birth in Southern California women. These results provide further evidence that air pollution is associated with adverse reproductive outcomes.

Key words: air pollution, nitrogen oxides, particulate matter, preeclampsia, pregnancy outcome, preterm birth, vehicle emission. *Environ Health Perspect* 117:1773–1779 (2009). doi:10.1289/ehp.0800334 available via *http://dx.doi.org/* [Online 23 June 2009]

Preeclampsia is a multisystem disorder in pregnant women, which is characterized by elevated blood pressure, edema, and protein in the urine. Preeclampsia complicates an estimated 2–8% of pregnancies and is a major cause of maternal mortality and morbidities, perinatal deaths, preterm birth, and intrauterine growth restriction (Duley 1992; Sibai et al. 2005). Because the only cure is delivery of the baby and placenta, preeclampsia is the most frequent primary reason for elective nonspontaneous preterm birth, accounting for 30–35% of total preterm deliveries (PTD) (Goldenberg et al. 2008; Meis et al. 1998). Preeclampsia does not necessarily lead to spontaneous PTD, and the association between preeclampsia and spontaneous PTD depends on PTD subtypes defined by gestational age (e.g., very or moderately preterm) and pathway (e.g., membrane rupture or spontaneous onset of labor before membrane rupture) (Ananth et al. 1997).

More than half a million infants are born prematurely each year in theUnited States (Hamilton et al. 2006). Preterm birth is associated with 70% of neonatal deaths and up to 75% of neonatal morbidity (Challis et al. 2001). Extremely preterm infants who survive the neonatal period face an elevated risk of serious life-long health problems, including learning disabilities and other chronic conditions (Doyle 1995, 2008). A growing body of research has linked elevated air pollutant exposures to PTD at pollution levels typical of many U.S. cities (Maroziene and Grazuleviciene 2002; Perera et al. 2003; Ritz et al. 2000, 2007; Šrám et al. 2005; Wilhelm and Ritz 2005). So far, preeclampsia has been associated with air pollution in only two recent U.S. studies (Rudra and Williams 2006; Woodruff et al. 2008).

There is also a growing body of evidence linking pollutants found in traffic exhaust specifically to respiratory and cardiovascular diseases (Adar and Kaufman 2007; Delfino 2002; Heinrich and Wichmann 2004; Sarnat and Holguin 2007). Although data are limited to date (de Kok et al. 2006), evidence is emerging that fresh vehicle emissions contain more toxic compounds per unit of particle mass than do aged aerosols, in part because of the contribution of ultrafine particles (UFPs; < 0.1 μm in aerodynamic diameter), which are found in higher concentration closer to emission sources (Zhu et al. 2002). Fresh traffic emissions' toxicity may originate from a high concentration of organic components because particle number concentrations are orders of magnitude higher, increasing the surface area to which volatile and semivolatile pollutants such as polycyclic aromatic hydrocarbons (PAHs) and carbonyl compounds can adhere.

There is indirect evidence for adverse impacts of traffic-generated PAHs on birth outcomes from studies in the United States (Choi et al. 2006, 2008; Perera et al. 2003, 2004), Poland (Choi et al. 2006), and the Czech Republic (Dejmek et al. 2000). However, most previous birth outcome studies relied solely on data from air monitors operated by government agencies, which are usually sited to assess regional ambient pollution and are thus unlikely to adequately capture the high spatial heterogeneity of air pollutants directly emitted from traffic (Hitchins et al. 2000; Zhu et al. 2002). Two studies examined the impact of local traffic emissions specifically on PTD (Wilhelm and Ritz 2003; Yang et al. 2003), but both assigned exposures based on the distance to and/or level of traffic on major roadways near residences, a relatively crude measure of traffic exhaust that does not consider vehicle emission rates or meteorology (Jerrett et al. 2005). Two recent birth outcome studies (Brauer et al. 2008; Slama et al. 2007), however, employed more sophisticated techniques to model traffic-related air pollution based on land use regression (LUR) that yielded quantitative estimates for specific pollutants.

Because of population and economic growth and the lack of effective public transportation in the Los Angeles area, the amount of passenger traffic and of goods being moved

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Supplemental Material is available online (doi:10.1289/ehp.0800334.S1 via http://dx.doi.org/).

We thank staff at the Memorial Care Medical Centers for assistance with the project.

The study was supported by the National Institute of Environmental Health Sciences (1R21ES016379-01A1 to J.W. and R01ES010960-01 to B.R.) and a Faculty Research Award from the College of Health Sciences, University of California, Irvine (J.W.).

The authors declare they have no competing financial interests.

Received 28 October 2008; accepted 23 June 2009.

through this region is projected to increase substantially in the next decade (California Environmental Protection Agency 2006). Such rapid growth in traffic-related fossil fuel use is expected to occur worldwide (Energy Information Administration 2008), adding urgency to research evaluating the impact of increased vehicle emissions on reproductive health outcomes. To address this issue, in the present study we investigated the effects of local traffic-generated air pollution on preterm birth and preeclampsia based on the CALINE4 line-source dispersion model (Benson 1989), which is specifically designed for the assessment of traffic emissions from roads. We obtained health outcomes data from a perinatal database with detailed clinical data from a four-hospital network in southern Los Angeles County and Orange County, California, from 1997 to 2006.

Materials and Methods

Study population. Our racially and socioeconomically diverse study population resided in two areas of the South Coast Air Basin of California [see Supplemental Material, Figure 1 (doi:10.1289/ehp.0800334.S1 via http://dx.doi.org)] that exhibit a wide range of air pollution concentrations from mobile sources. One is located in southern Los Angeles County, north of the Ports of Los Angeles and Long Beach. The communities adjacent to the port are affected by major commuter freeways and main trucking routes for goods leading out of the port (Interstate 710); 15% of all containers arriving in the United States travel on this freeway (Beverly 2005). The other area is located in Orange County, southeast of the ports. Four major commuter and truck transport freeways traverse these neighborhoods. The study region also covers some suburban, low-traffic neighborhoods.

Birth data. We acquired all birth-related variables and antenatal information for pregnant women delivering during 1997–2006 within the Memorial Health Care System (MHCS), a four-hospital network (Chung et al. 2006). Poverty (percentage of population living below the poverty level) information by census block groups was obtained from U.S. Census 2000 data (U.S. Census Bureau 2004). No birth certificate data were used. The MHCS database included residential address at delivery, birth hospital, prenatal care insurance, maternal age and race/ethnicity, maternal medical history (heart disease, chronic hypertension, previous PTD), preeclampsia and other maternal complications during pregnancy (diabetes, pyelonephritis), parity (first birth vs. second or subsequent birth), gestational age, and the neonate's sex and birth weight. Gestational age was calculated according to delivery date and estimated date of conception (based on last menstrual period and ultrasound dating). We did not have diagnosis dates for preeclampsia; therefore, we could not determine when the disease first occurred.

A total of 105,092 neonatal records were extracted from the birth database. We successfully geocoded 92.8% of nonmissing residential addresses with exact matches to house number using the TeleAtlas Geocoding Service (http://www.geocode.com). A total of 81,186 singleton birth records remained in the data set for final analyses (77%) after excluding multiple gestations (n = 5,261; 5%), incomplete records including those without full residential address and those missing any covariate information (n = 12,666; 12%), and unsuccessfully geocoded residential addresses and addresses outside the study region (n = 5,979; 6%). Excluded births were similar to included births by study region (Los Angeles County and Orange County), demographics (age and race/ethnicity), and the prevalence of preeclampsia.

Air pollution exposure assessment. Background air pollutant concentrations may be high in the study region due to port activities and relatively heavy traffic regionwide. However, in this study we focused solely on local traffic-generated pollution to assess the potentially high toxicity of hypothesized causative agents (e.g., UFPs and PAHs) in traffic emissions. Our estimated pollutant exposures should be regarded as indicators of primary emissions from local vehicular traffic on top of background ambient levels [see Supplemental Material (doi:10.1289/ehp.0800334.S1)]. We modeled local traffic pollution using a modified CALINE4 dispersion model for two surrogate pollutants [nitrogen oxides (NO_x) and particulate matter ≤ 2.5 μm in aerodynamic diameter ($PM_{2.5}$)] originating from traffic emissions within 3 km of each residence (Benson 1989; Wu et al. 2005, 2009), assuming that at this distance we would capture most local traffic emissions but little regional pollution transported from upwind areas. CALINE4 is a Gaussian dispersion model that employs a mixing zone concept to characterize pollutant dispersion over the roadway. Major inputs to CALINE4 include meteorology (atmospheric stability, mixing height, wind, and temperature), roadway geometry and traffic activities, and vehicle emission factors. The performance of CALINE4 has been evaluated in a number of studies (Benson 1989, 1992; Broderick et al. 2005; Gramotnev et al. 2003; Levitin et al. 2005; Marmur and Mamane 2003). Previous studies have found moderate to high correlations (R = 0.55–0.95) of CALINE4-modeled estimates with measured variability of traffic-related air pollutants [e.g., NO_x and nitrogen dioxide] in urban communities (Gauderman et al. 2005; Jerrett 2006). Our recent study showed a high correlation (R = 0.87) of CALINE4-modeled monthly NO_x concentrations with measurements at nine monitoring sites in the Long Beach study area in December 2007 and April 2008 (Wu J, Lurmann F, Avol E, unpublished data).

A comprehensive traffic database with annual average daily traffic counts and gasoline and diesel vehicle fractions was constructed for the entire study region. Vehicle emission factors were obtained from the California Air Resources Board's EMFAC2007 vehicle emissions model (California Air Resources Board 2008). Paved road-dust emissions for $PM_{2.5}$ were based on in-roadway measurements (Fitz and Bufalino 2002). Hourly wind speed, direction, and temperature were obtained from the National Weather Service (National Climatic Data Center 2008). Summarized mixing heights by season and hour were obtained from the 1997 Southern California Ozone Study (Croes and Fujita 2003) and assigned to each modeled day based on season and hour.

Statistical analyses. PTD was defined as a birth at < 37 completed gestational weeks, moderate preterm deliveries (MPTD) as births at < 35 gestational weeks, and very preterm deliveries (VPTD) as births at < 30 gestational weeks. We defined preeclampsia as the occurrence of mild preeclampsia (blood pressure > 140/90 mmHg and proteinuria), severe preeclampsia (e.g., blood pressure > 160/110 mmHg and proteinuria with or without signs of end-organ involvement, including oliguria, liver function abnormalities, thrombocytopenia, headache), or hemolysis, elevated liver enzyme levels, and low platelet count (HELLP) syndrome at any time during pregnancy. Because hemolysis/HELLP is on the continuum of mild/severe preeclampsia and is relatively uncommon, we chose to combine this diagnosis with severe preeclampsia. Pregnancy trimesters were defined as gestational weeks 1–13, 14–26, and 27 weeks to birth.

We performed multiple logistic regression using the statistical package R (version 2.6.1; R Foundation for Statistical Computing, Vienna, Austria). Confounders were selected based on *a priori* knowledge and included maternal age, maternal race/ethnicity, parity, prenatal care insurance type [private, public (government-sponsored or self-pay), and unknown], poverty, season of conception, pyelonephritis (preterm analyses only), and diabetes (preeclampsia analyses only). We adjusted for maternal age as a continuous variable using a quadratic polynomial function. For the preeclampsia analyses, we excluded women who had preexisting chronic conditions such as hypertension and heart disease before pregnancy. We separately calculated odds ratios (ORs) and 95% confidence intervals (CIs) for increases in the interquartile range (IQR) for each pollutant exposure metric. ORs and 95% CIs were scaled to IQR increases in air pollutant variables to standardize and compare associations regardless

of pollutant concentration range or units of measurement (Lipfert and Wyzga 1999). In addition to using continuous exposure variables, we performed categorical analyses in which we compared subjects in each exposure quartile with those in the lowest quartile and tested for dose response. We also examined the outcomes both collectively and separately by subcategories, including study region, race, poverty, insurance type, infant sex, maternal age, parity, delivery type and method, and health conditions (diabetes for preeclampsia and preeclampsia for preterm birth).

Results

Descriptive statistics. Most mothers were non-Hispanic white or Hispanic (Table 1). The prevalence of preeclampsia was higher among PTD women compared with non-PTD women (12% vs. 2%) and among African-American women compared with other races (4% vs. 3%). Mild, severe, and HELLP syndrome accounted for 75%, 18%, and 7% of the preeclampsia cases, respectively. The prevalence of PTD was higher among male infants than among female infants (9% vs. 8%) and in African-American women than in other races (13% vs. 7–9%). Spontaneous delivery accounted for 79% of all births and occurred in 87% of preterm births and 78% of term births. The poverty rate in our study region was higher than the national average (14% vs. 11% based on 2000 Census data) (U.S. Census Bureau 2004).

Average air pollution exposures derived from the CALINE4 model for each pregnancy period and during the entire pregnancy were similar and moderately to strongly correlated (Table 2). CALINE4-estimated average monthly (over all subjects in each calendar month) NO_x exposures showed a clear seasonal trend, with higher exposures in the cool season (average of 10.8 ppb in December) and lower exposures in the warm season (average of 5.8 ppb in June), and we observed a very similar monthly trend for $PM_{2.5}$. The estimated concentrations were much lower than those measured at three ambient monitoring stations in the area (e.g., annual mean of 57.0 ppb NO_x), likely because our model estimates were for local traffic-generated emissions only. As expected, the modeled NO_x and $PM_{2.5}$ exposures were highly correlated (correlation coefficient $r = 0.91$) in every pregnancy trimester, because the two pollutants are emitted by the same source: local traffic.

Regression analyses. Because of only slight variations in exposures and effect estimates in different pregnancy periods [see Supplemental Material, Tables 1 and 2 (doi:10.1289/ehp.0800334.S1)], we present all regression results based on exposure during the entire pregnancy period. We found positive associations of preeclampsia and preterm birth with entire-pregnancy exposure to traffic-related air pollution (Table 3). An 11% increase was observed in adjusted risk of preeclampsia per IQR increase of entire-pregnancy NO_x. Preeclampsia results were the same for modeled $PM_{2.5}$ exposures. Overall, we observed somewhat stronger increases in risk of preterm birth with increases in modeled NO_x than with modeled $PM_{2.5}$. The effect of exposure tended to be stronger for VPTD (25% increase in risk per IQR increase in NO_x) than for PTD considered as a whole (6% increase in risk per IQR increase in NO_x).

Stratified analyses for preeclampsia and preterm birth were conducted [see Supplemental Material, Tables 3–6 (doi:10.1289/ehp.0800334.S1)]. We found greater impacts of traffic-related air pollution on preeclampsia and VPTD for women ≥ 40 years of age and in women < 20 years of age when giving birth, although 95% CIs overlapped to a large degree. We observed a higher risk of preeclampsia from local traffic-generated air pollution exposure among privately insured women than among women on public or government-sponsored insurance [for entire-pregnancy NO_x: interquartile OR (IOR) = 1.12; 95% CI, 1.06–1.18, vs. IOR = 1.04; 95% CI, 0.96–1.13]. Closer inspection, however, showed that this was mostly driven by the high percentage (83%) of older women (> 40 years of age) using private insurance (for > 40 age group: IOR = 1.44; 95% CI, 1.22–1.69; ≤ 40 age group:

Table 1. Descriptive statistics of infants and mothers in our study in south Los Angeles County and Orange County, California, from 1997 to 2006 ($n = 81,186$).

Variable	Measure
Mother's age (mean ± SD)	30.0 ± 6.2
Mother's race (%)	
African American	8.8
Asian	9.9
Hispanic	32.1
White	40.3
Other	8.9
Male infant (%)	51.6
Gestational age [weeks (mean ± SD)]	38.7 ± 2.1
Preeclampsia (%)	3.0
Mild preeclampsia	74.9
Severe preeclampsia	18.2
HELLP syndrome	6.9
Term birth [≥ 37 weeks (%)]	91.7
Spontaneous	78.3
PTD [< 37 weeks (%)]	8.3
Spontaneous	87.2
MPTD [< 35 weeks (%)]	3.4
VPTD [< 30 weeks (%)]	1.0
Pyelonephritis (%)	0.2
Diabetes (%)	5.4
First child (%)	81.5
Delivery mode (%)	
Vaginal	73.1
Cesarean	26.9
Previous preterm infant (%)	1.1
Prenatal care insurance (%)	
Private	67.6
Government-sponsored or self-pay	28.4
Unknown	4.0
Poverty (%)[a]	14.2

[a]The percentage of the population living below the poverty level based on U.S. Census block group data for the year 2000.

Table 2. Pollutant averages and Pearson's correlation coefficients for pollutants by pregnancy period.

					Pearson correlation coefficient							
					Entire pregnancy		First trimester		Second trimester		Third trimester	
Trimester	Pollutant	Mean[a]	IQR	SD	NO_x	$PM_{2.5}$	NO_x	$PM_{2.5}$	NO_x	$PM_{2.5}$	NO_x	$PM_{2.5}$
Entire pregnancy	NO_x	7.23	5.65	5.22	1.00							
	$PM_{2.5}$	1.82	1.35	1.33	0.90	1.00						
First trimester	NO_x	7.45	6.17	5.68	0.91	0.83	1.00					
	$PM_{2.5}$	1.83	1.44	1.37	0.84	0.94	0.91	1.00				
Second trimester	NO_x	7.29	6.02	5.57	0.97	0.87	0.85	0.79	1.00			
	$PM_{2.5}$	1.83	1.42	1.36	0.89	0.98	0.80	0.91	0.91	1.00		
Third trimester	NO_x	7.14	5.88	5.54	0.91	0.83	0.71	0.68	0.85	0.79	1.00	
	$PM_{2.5}$	1.84	1.43	1.39	0.85	0.95	0.70	0.82	0.79	0.90	0.91	1.00

[a]Units are parts per billion for NO_x and micrograms per cubic meter for $PM_{2.5}$.

Table 3. Crude and adjusted ORs per IQR increase[a] in traffic-related air pollutions for preeclampsia and preterm, moderate preterm, and very preterm birth.

Condition	No. of cases	Pollutant	Crude IOR (95% CI)	Adjusted[b] IOR (95% CI)
Preeclampsia	2,442	NO_x	1.15 (1.10–1.19)	1.11 (1.06–1.16)
		$PM_{2.5}$	1.13 (1.09–1.17)	1.11 (1.06–1.15)
PTD (< 37 weeks)	6,712	NO_x	1.12 (1.09–1.15)	1.06 (1.03–1.09)
		$PM_{2.5}$	1.09 (1.06–1.11)	1.03 (1.01–1.06)
MPTD (< 35 weeks)	2,749	NO_x	1.22 (1.18–1.26)	1.13 (1.09–1.18)
		$PM_{2.5}$	1.15 (1.11–1.19)	1.07 (1.03–1.12)
VPTD (< 30 weeks)	775	NO_x	1.32 (1.25–1.41)	1.25 (1.17–1.33)
		$PM_{2.5}$	1.23 (1.16–1.31)	1.18 (1.10–1.26)

[a]Based on entire-pregnancy exposure. IQR was 5.65 ppb for NO_x and 1.35 μg/m^3 for $PM_{2.5}$. [b]Adjusted for maternal age, maternal race/ethnicity, parity, prenatal care insurance type, poverty, and season of conception in all models. Additionally adjusted for pyelonephritis in PTD, MPTD, and VPTD models, and for diabetes in preeclampsia models.

IOR = 1.09; 95% CI, 1.03–1.16; based on entire-pregnancy NO_x) versus public or government-sponsored insurance (for > 40 age group: IOR = 0.93; 95% CI, 0.56–1.54; for ≤ 40 age group: IOR = 1.05; 95% CI, 0.97–1.14; based on entire-pregnancy NO_x). We observed no significant differences in effect estimates by study region, race/ethnicity, poverty, infant sex, parity, delivery type (spontaneous vs. nonspontaneous), delivery method (vaginal vs. cesarean section), diabetes status (for preeclampsia), and preeclampsia (for preterm birth).

Preeclampsia risk increased with quartiles of modeled NO_x and $PM_{2.5}$ exposures, and the increase was consistent with a linear dose response for NO_x (Figure 1). We observed a 33% (OR = 1.33; 95% CI, 1.18–1.49) and 42% (OR = 1.42; 95% CI, 1.26–1.59) increase in risk of preeclampsia for women in the highest NO_x and $PM_{2.5}$ entire-pregnancy exposure quartiles, respectively. We observed increasing risks with increasing quartiles of exposure to modeled NO_x and $PM_{2.5}$ and all preterm birth outcomes, yet the pattern was not always linear with dose (Figure 2). We observed a 128% (OR = 2.28; 95% CI, 2.15–2.42) and 81% (OR = 1.81; 95% CI, 1.71–1.92) increase in risk of VPTD for women in the highest NO_x and $PM_{2.5}$ entire-pregnancy exposure quartiles, respectively. The dose–response relationships from the quartile categorical analyses were consistent with what we observed from smoothing curves of dose response [see Supplemental Material, Figure 2 (doi:10.1289/ehp.0800334.S1)].

Discussion

There is growing interest in exploring the possible effects of ambient air pollution on fetal and perinatal development because the growing fetus may be particularly susceptible to the toxic effects of air pollutants (Maisonet et al. 2004; Mone et al. 2004; Pinkerton and Joad 2006). Our study contributes new results based on exposure data from a dispersion model for local traffic-generated air pollutants and preeclampsia. To our knowledge, this is the first study to show a positive association between exposure to local traffic-generated pollutants at the birth residence and the development of preeclampsia during pregnancy. We also found that the risk of premature birth increases with exposure to local traffic-generated pollutants, and this risk was strongest for VPTD followed by MPTD and PTD. This is important because postnatal health impairments are greatest for the children born most premature (Doyle 1995, 2008).

The present study had two major advantages over previous studies examining traffic air pollution and birth outcomes. First, we modeled air pollution exposures from local traffic sources (within 3 km) using a comprehensive traffic database and a well-established dispersion model that better characterizes spatiotemporal variability in exposure than that used in most previous studies. Two exceptions are recent studies from Munich, Germany (Slama et al. 2007), and Vancouver, Canada (Brauer et al. 2008), that employed temporally adjusted LUR models. However, because the LUR models were based on ambient air measurement data, they estimated total ambient air pollutant concentrations with contributions from many sources other than local traffic emissions. Thus, these exposure estimates only partially represent local traffic-generated air pollutants. The amount of total estimated ambient pollution that is contributed from traffic may vary according to location in LUR models. In addition, LUR models may not perform well in predicting temporal variations of exposures because they are mostly built relying on one to four purpose-designed monitoring windows of 7 to 14 days, with or without further temporal adjustment using ambient monitoring station data (Hoek et al. 2008).

The second major advantage is that the present study used detailed individual-level clinical data (e.g., chronic hypertension, pyelonephritis, diabetes, heart disease), allowing us to evaluate the impact of these clinical parameters on air pollution effect estimates. But more important, we were able to employ more accurate gestational age information to classify preterm birth than most previous air pollution studies that relied on birth certificates. Gestational ages on birth certificates are usually based on first day of last menstrual period, which leads to misclassification of gestational age due to poor recall, postconception bleeding, or menstrual irregularities (Dietz et al. 2007; Kline 1989; Lynch and Zhang 2007). One the other hand, gestational age estimated by ultrasound measurements alone may induce systematic errors and inflate the risk of PTD (Olsen and Basso 2005). More than 99% of our subjects obtained prenatal care early in pregnancy, which ensured that their estimated conception date was based on a combination of last menstrual period and early ultrasound dating. Moreover, our preeclampsia data were based on hospital records of clinical diagnoses, probably more accurate than the preeclampsia data reported on birth certificates that may only record extreme or severe preeclampsia cases.

We estimated only local traffic-generated air pollution exposure in this study, whereas

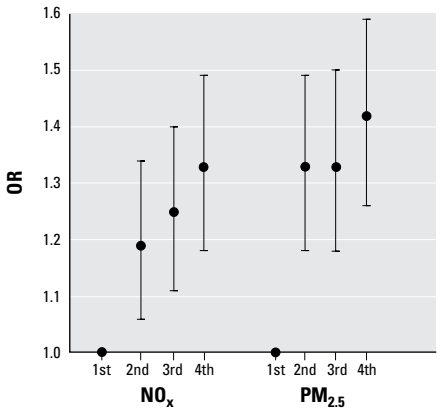


Figure 1. Adjusted ORs (95% CIs) for preeclampsia by entire-pregnancy exposure quartile (adjusted for maternal age, maternal race/ethnicity, parity, prenatal care insurance type, poverty, diabetes, and season of conception).

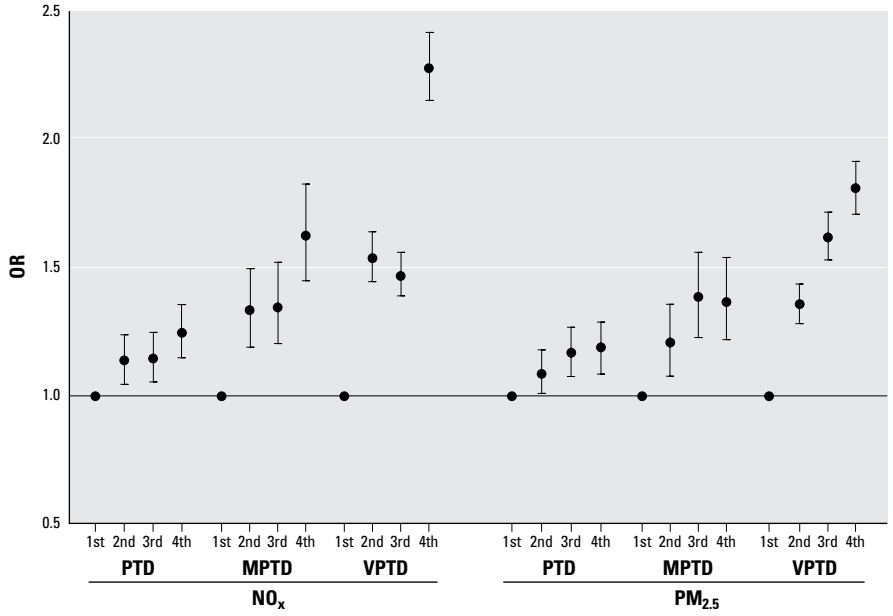


Figure 2. Adjusted ORs (95% CIs) for PTD, MPTD, and VPTD by entire-pregnancy exposure quartile (adjusted for maternal age, maternal race/ethnicity, parity, prenatal care insurance type, poverty, pyelonephritis, and season of conception).

most previous studies based on ambient or modeled total concentration data (e.g., carbon monoxide and NO_x) examined contributions from not only local traffic but also pollutants transported from upwind regions and from other sources. Local traffic emissions may differ from aged pollutants from long-range transport in terms of chemical composition and particle size distribution. Therefore, our estimated effect sizes for different outcomes may not be directly comparable to those from other air pollution studies.

The only results ever reported for air pollution and preeclampsia relied on CO concentrations measured at the nearest ambient air monitor to residence (Woodruff et al. 2008) or CO and $PM_{2.5}$ concentrations estimated using linear regression models at each residence (Rudra and Williams 2006). Rudra and Williams (2006) observed a 49% increase in preeclampsia risk (95% CI, 0.76–2.90) for third- versus first-tertile average CO exposures during the month of conception and the following 3 months among women in Seattle, Washington, and Woodruff et al. (2008) reported an 8% increase in preeclampsia risk (95% CI, 1.02–1.14) for the highest versus the lowest entire-pregnancy CO exposure quartile in Californian women. In our study, women exposed at the highest quartile of modeled entire-pregnancy $PM_{2.5}$ experienced approximately 40% higher risk of developing preeclampsia compared with women in the lowest quartile of exposure. We also noted a slightly higher risk of preeclampsia from local traffic-generated air pollution exposure among privately insured women. This might have been attributable to the high percentage (83%) of older women (> 40 years of age) using private insurance, as mentioned above, or may result from more accurate diagnosis of preeclampsia in privately compared with publicly insured women. Also, older pregnant women might be especially vulnerable to the effects of toxins such as air pollutants.

Our preterm birth results are consistent with results from previous birth outcome studies in the literature. In addition, the preterm birth results were similar using separate models for the three nonexclusive preterm outcomes compared with multilogit models that captured the relatedness of the three outcomes [see Supplemental Material, Table 7 (doi:10.1289/ehp.0800334.S1)]. We estimated a 6% increase in risk of PTD per IQR in modeled entire-pregnancy NO_x exposure and a 25% increased risk of PTD for mothers in the highest NO_x exposure quartile. Wilhelm and Ritz (2003) previously reported a 10–20% increase in the risk of PTD in mothers exposed to high levels of local traffic-generated air pollution in Southern California, based solely on residential distance-weighted traffic density. Following up on this first study, they conducted a nested case–control study within another birth cohort in Los Angeles County, California, and found PTD to be approximately 20% higher in mothers with first trimester CO exposure > 1.25 ppm (Ritz et al. 2007). A study from Taiwan estimated a 30% increased risk of PTD for mothers living within 500 m of a major freeway (Yang et al. 2003). A more recent study from Vancouver, Canada, reported no consistent association of PTD (< 37 weeks) with any of the pregnancy air pollution exposure metrics (including LUR measures) except inverse distance–weighted $PM_{2.5}$ concentration during the entire pregnancy (OR = 1.06; 95% CI, 1.01–1.11; per 1-$\mu g/m^3$ increase in $PM_{2.5}$) (Brauer et al. 2008). Similar to our findings, risk increased when they further restricted PTD to < 30 weeks of gestation (for $PM_{2.5}$ exposure: OR = 1.13; 95% CI, 0.92–1.39; for NO_x exposure: OR = 1.26; 95% CI, 1.08–1.47).

We found the risk of preeclampsia and VPTD due to modeled NO_x and $PM_{2.5}$ exposure from traffic to be greater in the youngest (< 20 years of age) and the oldest (≥ 40 years of age) age groups, consistent with the preterm birth results of a study in Los Angeles County, California (Ponce et al. 2005). Two U.S. studies, one conducted in Arizona and North Dakota (Ahluwalia et al. 1997) and the other in California (Windham et al. 2000), have also reported a stronger impact of environmental tobacco smoke (ETS) on preterm births among older (≥ 30 years of age) compared with younger (< 30 years of age) mothers, further suggesting possible differences in vulnerability by maternal age.

There were several limitations in the present study. We likely reduced exposure measurement error for primary traffic pollutants by using a dispersion model and a sophisticated traffic database versus relying on ambient measurements. However, the exposure estimates were based solely on the maternal address at time of birth. Mobility rates among pregnant women reported in the literature range from 12% (Fell et al. 2004) to 35% (Brauer et al. 2008). Ritz et al. (2007) found that associations between air pollution exposures (estimated via nearest air monitor) during pregnancy and preterm birth did not change or slightly strengthened when restricting analyses to women who did not move during pregnancy. The estimates of exposures in the present study, however, may have been affected more strongly by residential mobility because they are more spatially resolved than in previous studies. Second, our exposure estimates were based only on residential addresses, ignoring other microenvironments (e.g., workplace, commuting) that might be important for personal exposures. Ritz et al. (2007) reported associations between monitor-based estimates of air pollution exposure during pregnancy and PTD to be greater for women who did not work (and for whom a residence-based measure of exposure presumably is more accurate) than for women who worked outside their homes.

Another potential source of bias is residual confounding due to risk factors we were unable to account for in our analyses (e.g., maternal smoking, ETS, stress, and nutrition). Ritz et al. (2007) collected detailed survey data postnatally on risk factors not reported on birth certificates and assessed the influence of these potential confounding factors on air pollution effect estimates for preterm birth. Adjustment for covariates on birth certificates exhibited the strongest influence on the pollutant effect estimates, whereas additional adjustment for a large number of survey covariates (e.g., occupation, income, maternal smoking and ETS, alcohol drinking) changed the effect estimates by < 5%. This confirmed that for pollutants that change with season and are averaged over short time intervals (pregnancy months or trimesters), behavioral factors that do not change seasonally are unlikely to be confounders. Compared with ambient measurements of total pollutant concentrations, however, the major contrast in the CALINE4-modeled exposure was spatial rather than temporal. Therefore, residual confounding cannot be ruled out in these primarily spatially based exposure measures.

It is also uncertain to what degree the dispersion model we used represents pollutant species released only by traffic. Comparing modeled and measured concentrations, we observed reasonable agreement between CALINE4-modeled and measured 2-week average NO_2 concentrations at 260 residences in six communities participating in the Southern California Children's Health Study, with an R^2 ranging from 0.3 to 0.9 (Gauderman et al. 2005; Jerrett 2006). Relatively high correlations ($n = 14$; $R^2 = 0.76$) were found between CALINE4-modeled and measured monthly average concentrations of NO_x at nine monitoring stations in the Long Beach area in November 2007 and/or April 2008 (Wu J, Lurmann F, Avol E, unpublished data). The R^2 for daily estimates ranged from 0.19 to 0.81 (mean = 0.36) among the nine stations (Wu J, Lurmann F, Avol E, unpublished data). Thus, we expect that longer-term exposure estimates (monthly, trimester, and entire-pregnancy averages) derived from CALINE models closely reflect residential exposure to local traffic-generated pollutants because traffic counts and mixing heights are based on long-term, annual, or seasonal average observations.

Both modeled $PM_{2.5}$ and NO_x were associated with PTD and preeclampsia, but this should not be interpreted to mean that these pollutants are necessarily causative for these

adverse outcomes; rather, they could be acting as surrogates of traffic exhaust, which is a complex mixture of hundreds of toxic components (Kim et al. 2008; Singer et al. 2004). There is evidence that UFP number concentrations may be a more appropriate metric than gas or particle mass concentrations when evaluating health risk from traffic-related air pollution (Oberdörster et al. 2005). UFPs may be causal agents for the observed health effects due to their high pulmonary deposition efficiency, and their orders of magnitude higher number concentration and surface area that allows them to carry larger concentrations of adsorbed or condensed toxic air pollutants (e.g., oxidant gases, PAHs, and transition metals) to the fetus and the placenta (Oberdörster et al. 2005). UFPs contain a significant amount of PAHs, which have been linked to various measures of intrauterine growth retardation in studies in New York State (Choi et al. 2006, 2008; Perera et al. 2003, 2004), Krakow, Poland (Choi et al. 2006), and industrial areas of the Czech Republic (Dejmek et al. 2000). Yet, little is known to date about the etiologic role that UFPs and PAHs may play for preterm birth and preeclampsia.

Several hypotheses have been postulated to explain how air pollution may trigger PTD. Toxic compounds in traffic-generated air pollutants may interfere with placental development and subsequent nutrient and oxygen delivery to the fetus (Dejmek et al. 2000). Another potential mechanism of developmental toxicity is through the activation of the oxidative stress pathway. PTD may be triggered by an abnormal production or an early activation of cytokines favoring inflammation, even though increasing concentrations of inflammatory cytokines may be part of the body's preparation for normal parturition (Engel et al. 2005; Keelan et al. 2003).

The mechanisms that initiate preeclampsia in pregnant women have been elusive (Mutter and Karumanchi 2008; Shah 2007). Pathology studies show that an abnormal development of an ischemic placenta with a high-resistance vasculature contributes to the development of preeclampsia. Endothelial dysfunction plays a central role in the pathogenesis of the syndrome. Multiple interconnected pathways linked to endothelial dysfunction involve oxidative stress, cytokine release, and a generalized intravascular inflammatory response (Baumwell and Karumanchi 2007). Exposure to traffic-related pollutants, such as UFPs and PAHs, can cause oxidative stress (Li et al. 2003; Nel et al. 2001; Oberdörster et al. 2005) and endothelial dysfunction (Tornqvist et al. 2007). Such exposure could thus contribute to the cardiovascular complications of preeclampsia as well as PTD (Gitto et al. 2002).

Conclusions

Exposures to local traffic-generated air pollution modeled with CALINE4 for the entire pregnancy elevated the risk of preterm birth and preeclampsia in Southern California women. A 42% increased risk of preeclampsia was observed for the highest quartile of modeled traffic-related $PM_{2.5}$ exposure during the entire pregnancy. For preterm birth, the exposure–response relation was strongest for VPTD with potentially serious consequences for the newborn. These results provide further evidence that traffic-related air pollution is associated with adverse reproductive outcomes.

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Environmental Research 134 (2014) 488–495

Contents lists available at ScienceDirect

Environmental Research

journal homepage: www.elsevier.com/locate/envres

Sources and contents of air pollution affecting term low birth weight in Los Angeles County, California, 2001–2008

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ARTICLE INFO

Article history:
Received 1 November 2013
Received in revised form
9 April 2014
Accepted 4 May 2014
Available online 29 July 2014

Keywords:
Air pollution
Birth weight
Source
Speciation
Ultrafine particle

ABSTRACT

Background: Low birth weight (LBW, <2500 g) has been associated with exposure to air pollution, but it is still unclear which sources or components of air pollution might be in play. The association between ultrafine particles and LBW has never been studied.
Objectives: To study the relationships between LBW in term born infants and exposure to particles by size fraction, source and chemical composition, and complementary components of air pollution in Los Angeles County (California, USA) over the period 2001–2008.
Methods: Birth certificates ($n=960{,}945$) were geocoded to maternal residence. Primary particulate matter (PM) concentrations by source and composition were modeled. Measured fine PM, nitrogen dioxide and ozone concentrations were interpolated using empirical Bayesian kriging. Traffic indices were estimated. Associations between LBW and air pollution metrics were examined using generalized additive models, adjusting for maternal age, parity, race/ethnicity, education, neighborhood income, gestational age and infant sex.
Results: Increased LBW risks were associated with the mass of primary fine and ultrafine PM, with several major sources (especially gasoline, wood burning and commercial meat cooking) of primary PM, and chemical species in primary PM (elemental and organic carbon, potassium, iron, chromium, nickel, and titanium but not lead or arsenic). Increased LBW risks were also associated with total fine PM mass, nitrogen dioxide and local traffic indices (especially within 50 m from home), but not with ozone. Stronger associations were observed in infants born to women with low socioeconomic status, chronic hypertension, diabetes and a high body mass index.
Conclusions: This study supports previously reported associations between traffic-related pollutants and LBW and suggests other pollution sources and components, including ultrafine particles, as possible risk factors.

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1. Introduction

Intrauterine growth restriction and resulting low birth weight (LBW, defined as birth weight less than 2500 g) have been associated with increased risks of chronic diseases in later life such as the metabolic syndrome, type 2 diabetes mellitus and cardiovascular diseases, (Chernausek, 2012), but also wheezing and asthma in childhood (Caudri et al., 2007). Air pollution induces oxidative stress, inflammation (Schlesinger et al., 2006) and hemodynamic changes, which are suspected to impair oxygen and nutrient transport to the fetus, and in turn, intrauterine growth (Kannan et al., 2006). Results from a growing number of epidemiological studies do suggest that exposure of pregnant women to air pollution may result in higher risks of LBW (Dadvand et al., 2013; Pedersen et al., 2013; Stieb et al., 2012).

Abbreviations: LBW, low birth weight; IQR, inter-quartile range; OR, odds ratios; CI, confidence intervals; $PM_{2.5}$, particulate matter of less than 2.5 μm in aerodynamic diameter; $PM_{0.1}$, particulate matter of less than 0.1 μm in aerodynamic diameter; EBK, empirical Bayesian kriging; UCD_P, University of California Davis/CIT_Primary chemical transport model; CTM, chemical transport models; NO_2, nitrogen dioxide; O_3, ozone; FRC, Functional Road Classes; BMI, body mass index; EC, elemental carbon; OC, organic carbon; LUR, land use regression; PAH, polycyclic aromatic hydrocarbons

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http://dx.doi.org/10.1016/j.envres.2014.05.003
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However, associations between air pollution exposure and LBW differ widely depending on study settings and designs (Brauer et al., 2008; Laurent et al., 2013).

It is suspected that the different definitions of air pollution metrics partly contribute to discrepancies in the literature (Dadvand et al., 2013). Characterizing exposure to air pollution is challenging and the different exposure assessment methods present advantages and limitations (e.g., in terms of temporal and spatial resolutions). Consequently, assessing the consistency of epidemiological results obtained using complementary exposure metrics can be useful to draw more informed conclusions. For instance, in Los Angeles positive associations were observed between the risk of preeclampsia and ambient nitrogen oxides concentrations, whether these concentrations were estimated by monitoring station measurements, land use regression or deterministic modeling, which strengthened confidence in this finding (Wu et al., 2011b).

Particulate matter (PM) has various core compositions and absorbs transition metals, polycyclic aromatic hydrocarbons (PAHs) and other organic compounds, that are able to generate oxidative stress and inflammation to various extents (Schlesinger et al., 2006; Delfino et al., 2010). Differences in PM composition have therefore been hypothesized to modify the relationship between total PM mass and LBW (Ebisu and Bell, 2012). Notable spatial contrasts in PM composition have been documented across the U.S. (Bell et al., 2007). However, few studies investigated the relation between PM composition and birth weight (Bell et al., 2010, 2012; Darrow et al., 2011; Ebisu and Bell, 2012), probably because of the scarcity of particle speciation data.

There are also open questions, of direct relevance to policy, on the sources of air pollution most likely to generate detrimental effects on pregnancy outcomes. Recent publications have suggested a possible influence of primary emissions from traffic on LBW (e.g.: Laurent et al., 2013; Wilhelm et al., 2012). Such an influence is biologically plausible since some components of primary traffic emission (e.g.: organic compounds such as PAHs, elemental carbon, trace metals) promote systemic inflammation and decrease antioxidant enzyme activity (Delfino et al., 2010). The possible influence of other sources of air pollution (e.g.: wood burning and meat cooking, that notably generate PAHs and other organic compounds) has also been suggested (Boy et al., 2002; Wilhelm et al., 2012). However, only one study attempted to assess simultaneously the relative contributions from different sources to the risk of LBW (Wilhelm et al., 2012), probably since results from source apportionment methods (e.g.: Chemical Mass Balance or Positive Matrix Factorization) are relatively rare and remain site-specific.

Chemical transport models (CTMs) have been used to address issues of the lack of source information and measurement scarcity for certain air pollutants (Hu et al., 2014a). For instance CTMs can predict the detailed size and chemical composition of primary PM with reasonable temporal and spatial resolution, while keeping track of source information. This approach can also apply to particles of certain size fractions for which direct measurement data are usually too rare to be directly usable in epidemiological studies, such as particles less than 0.1 μm in aerodynamic diameter ($PM_{0.1}$) (Abernethy et al., 2013). Concerns exist about the toxicity of $PM_{0.1}$ due to their specific properties (potential for translocation into the blood or other organs than lung, large number concentration and surface-to-volume ratio) (Knol et al., 2009). To the best of our knowledge, the relationship between birth weight and $PM_{0.1}$ has never been studied.

This work aimed at studying the relationships between air pollution and LBW in term born infants in Los Angeles County, California. It extends previous research on this topic, by using spatiotemporal chemical transport modeling of primary particles by source and composition and by studying $PM_{0.1}$ exposure. It also makes use of more commonly used air pollution metrics such as interpolated measurement data, traffic indices and proximity to roads. This allows for comparison of results according to complementary exposure metrics for traffic-related air pollution.

2. Methods

2.1. Study population

Birth certificate records for all births occurring from January 1, 2001 to December 31, 2008 to women residing in Los Angeles County ($n=1{,}203{,}782$) were obtained from the Health Information and Research Section at the California Department of Public Health. Multiple births ($n=35{,}213$) were excluded along with infants with recorded birth defects or unknown birth defects status ($n=3353$ and $n=398$, respectively). Births with missing information for gestational age ($n=62{,}724$), or implausible combinations of birth weight and gestational age (Alexander et al., 1996) were also excluded ($n=4995$). Further, infants born before 260 or after 308 estimated days of gestation ($n=141{,}485$ and $n=22{,}839$ respectively) were excluded (Bell et al., 2010). Several exclusion criteria overlapped for certain births, leaving 960,945 births for analyses.

Maternal addresses of residence recorded on birth certificates were geocoded using the University of Southern California GIS Research Laboratory geocoding engine (Goldberg et al., 2008), which geocoded births at the centroid of tax parcels whenever feasible. In total, we had 53% of addresses geocoded to a specific parcel, 42.5% using address range interpolation,[1] 4.5% at the Zip code centroid level, and 0.05% at the city centroid.

2.2. Air pollution metrics

2.2.1. Chemical transport modeling

The University of California Davis/CIT_Primary (UCD_P) chemical transport model (Hu et al., 2014a) estimated primary ground-level PM element concentrations across densely populated areas of California including Los Angeles County at a 4 km 4 km grid resolution for particles ranging from 0.01 to 20 μm from approximately 900 sources. In the present study, the simulated PM concentrations were calculated for two particle size fractions ($PM_{2.5}$ and $PM_{0.1}$) for the period of 2000–2006. The UCD_P model was developed to track primary PM (emitted directly from sources) through a simulation of emission, advection, diffusion and deposition. The detailed descriptions of the model and its validation are the purpose of other publications (Hu et al., 2014a, 2014b), but its main components are summarized below.

Size and composition resolved particle emissions were derived from a library of primary particle source profiles measured during actual source tests. Gridded emissions were prepared using the raw emissions inventory provided by the California Air Resources Board (Hu et al., 2014a). Meteorological inputs were prepared using the Weather Research and Forecast (WRF) model version 3.1 (Skamarock et al., 2008). Published papers describe the bulk advection and turbulent diffusion algorithm (Kleeman and Cass, 2001), the dry deposition approach (Kleeman et al., 1997), the vertical advection scheme (Hu et al., 2010), and the wet deposition scheme (Mahmud et al., 2010) used in the model. Every source with a unique emissions inventory code (EIC) in the emissions database was tracked separately through model simulations. In the present study, we defined seven broad source categories, namely gasoline, diesel, shipping, high sulfur combustion sources (including aircraft, electricity generation, petroleum refining and other industries), commercial meat cooking, wood burning, and other sources. The mass and density of size-resolved PM were tracked during model calculations, with composition profiles applied during post-processing of results. UCD_P only tracked primary PM and did not account for the formation of secondary PM produced by chemical reactions in the atmosphere, which might have different health effects (Delfino et al., 2010) and will be studied in future works.

Women living in each of the 448 model grid cells covering Los Angeles County (see Appendix Fig. A.1) at the time of delivery were assigned daily concentrations estimated for the corresponding cell, which were then averaged for specific pregnancy periods (entire pregnancy, 1st, 2nd or 3rd trimester).

2.2.2. Monitoring station measurements

Measurements from government monitoring stations for the period 2000–2008 were obtained from the California Air Resources Board for total $PM_{2.5}$, nitrogen

[1] If no parcel match could be found for an address, an approximate location for this address was determined by using the address range for the matched street segment – the location was determined by computing where the address would fall as a proportion of the total address range associated with the appropriate side of the street segment. This proportion was then applied to the total length of the street segment (Goldberg et al., 2007).

dioxide (NO_2) and ozone (O_3). Only results from filter-based measurements, generally conducted every 3 or 6 day, were included for $PM_{2.5}$. Hourly NO_2 and O_3 measurements were converted to daily means using a criterion of 75% daily data completeness at 24-h basis. Only data for the 10 AM–6 PM time windows were used to calculate daily means for O_3. Monthly averages for pollutants were then calculated for stations with more than 75% days of valid data in a month. These monthly averaged concentrations were spatially interpolated between stations using an empirical Bayesian kriging (EBK) model (Pilz and Spock, 2007) implemented in ArcGIS 10.1 (ESRI, Redlands, CA). EBK accounts for the uncertainty of semivariogram estimation by a process of subsetting and simulations. Due to a high computational cost, we conducted 100 variogram simulations for monthly averaged concentrations only. Pollutant surface predictions and their associated variance (reflecting the uncertainty in variogram estimation and subsequent predictions) were generated for 200 m 200 m grids. The EBK was applied for the entire California, where the number of available monitors with valid measurements for each pollutant varied during the study period. The ranges of available monitors per month were 75–98 for $PM_{2.5}$, 151–182 for O_3 and 94–109 for NO_2. Our study region (Los Angeles County) had 5–11 monitors for $PM_{2.5}$, 12–16 for O_3, and 11–16 for NO_2 (see Appendix Fig. A.1). Final pollutant concentration estimates were calculated for each mother by weighing monthly average concentrations by the number of days of each month during pregnancy or specific pregnancy trimesters (Wu et al., 2011b).

2.2.3. Traffic and roadways

Traffic indicators are crude proxies for emission sources of traffic-related pollutants (Wilhelm and Ritz, 2003) but might capture - though imperfectly - small-scale variations in primary traffic emissions (e.g.: $PM_{0.1}$ EC, trace metals) which were modeled only at coarser resolutions in this study. Traffic densities within circular buffers of different sizes (radii from 50 m to 350 m with a 100 m increment) centered on maternal homes were calculated based on 2002 annual average daily traffic counts (AADT) data from the California Department of Transportation (CALTRANS, 2012). To estimate traffic density, AADT on each road segment was weighted by the length of this same road segment within the buffer. These traffic densities based on 2002 AADT were then scaled to other years based on temporal trends in total vehicle miles traveled in Los Angeles County (CALTRANS, 2013).

TeleAtlas street data (ESRI, 2010) were used to calculate the distance from each maternal home to the nearest freeway or highway (defined by categories of Functional Road Classes(FRC) A0–A3), and the nearest major road (FRC A0–A5). The same road data were used to calculate the total length of major road segments within 50–350 m around homes.

2.3. Statistical analyses

Generalized additive models as implemented in the "mgcv" package (version 1.7-18) of the R environment (version 2.15.1) were used to study the relationships between air pollution metrics and term LBW. A logistic link function with a quasi-binomial distribution was used, given observed under-dispersion (scale parameter ≤ 0.2). In the main models, maternal race/ethnicity, educational level, parity, the trimester of pregnancy during which primary care began and infant's gender were adjusted for using categorical variables. Maternal age, length of gestation and median household income by Census Block Group (U.S. Census Bureau, 2004) were adjusted for using smoothing splines, given their J-shape relationships with LBW. For pollutant concentrations interpolated by EBK, regressions were weighted by the inverse variance of pollutant predictions. For temporally-varied exposure, we conducted analyses for entire pregnancy exposures, then for each pregnancy trimester. We explored the shapes of the relationships between air pollution metrics and LBW using smoothing splines, and generally observed no major departure from linearity (see Appendix Fig. A.2). We therefore introduced most air pollution metrics as linear terms in the models and then report related odds ratios (OR) for LBW per an inter-quartile range (IQR) in air pollution metrics, with 95% confidence intervals (CI). Distance to roadway was analyzed using dichotomous indicators for living or not living within certain distances (i.e. 50, 100, 150 m) from roads.

In sensitivity analyses, we examined the effects of further adjustment for population density, diabetes (pre-pregnancy and gestational combined), chronic hypertension and preeclampsia. We explored the influence of controlling for both seasonal and long-term temporal trends by adjusting for a smoothed function of the day of conception, with four degrees of freedom per year (Barnett et al., 2011). In the subset of infants born in 2007 and 2008, we examined the effects of adjustment for maternal height, body mass index (BMI) at the beginning of pregnancy and weight gain during pregnancy, which were only recorded on birth certificate during these two years. Further, we explored the influence of geocoding accuracy, by analyzing the subgroup of births geocoded at the exact parcel centroid.

We investigated potential effect modifications by maternal race/ethnicity, education, median block group income, hypertension, diabetes (pre-pregnancy and gestational combined) and preeclampsia. In the 2007–2008 births subsets, effect modification by maternal BMI at the beginning of pregnancy was explored, using categories defined by Abrams and Parker (1988) (see Table 1), with and without adjusting for maternal height and weight gain during pregnancy. As the inter-quartile range in exposure differs between subgroups defined by categories of potential effect modifiers, we present all results of subgroup analyses standardized to the IQR in exposure observed for the entire population.

This study has been approved by the Institutional Review Board of the University of California, Irvine.

3. Results

The mean birth weight among term born infants was 3390.1 g (standard deviation: 459.8 g) and 22,420 (2.33%) of them had a

Table 1
Study population of term born infants and their mothers.

Characteristics	Subjects	% Low birth weight (< 2500 g)
Infant's gender		
Female	472,743	2.68
Male	488,200	2.00
Unknown	2	–
Maternal education		
Lower than 8th grade	116,894	2.42
9th Grade to high school	454,558	2.55
College (< 4 years)	173,184	2.19
College (≥ 4 years)	202,944	1.89
Unknown	13,365	2.93
Maternal race/ethnicity		
African American	65,308	4.41
Asian	103,045	2.76
Hispanic	606,609	2.24
Caucasian	168,086	1.63
Multiple/other	14,478	2.21
Unknown	3419	1.96
Parity		
Primparous	378,639	2.89
Multiparous	581,845	1.97
Unknown	461	6.29
Trimester primary care began		
First	74,138	2.25
Second	78,425	2.91
Third	13,944	3.15
None	2,072	8.01
Unknown	7081	3.29
Maternal age		
< 20	92,125	3.19
20–44	867,093	2.24
≥ 45	1727	3.42
Median income by census block group		
$2499–27,000	238,336	2.70
$27,007–36,875	239,896	2.44
$36,888–50,650	240,475	2.26
$50,652–200,001	240,376	1.94
Unknown	1862	1.77
Diabetes		
Yes	22,086	2.38
No	938,849	2.33
Chronic hypertension		
Yes	2054	6.28
No	958,881	2.32
Preeclampsia		
Yes	12,605	9.00
No	948,339	2.24
Pre-pregnancy body mass index (2007–2008 data only)		
≤ 19.9	25,240	3.47
20–24.9	86,812	2.31
25–29.9	53,731	2.01
30–34.9	24,361	1.78
> 35	14,385	1.93
Unknown	38,402	2.37

LBW. Maternal educational level was missing for 1.4% of the subjects (Table 1). The proportion of missing data was even lower for other variables, except for maternal height, weight at the beginning of pregnancy, and gestational weight gain (9.2%, 13.8%, and 15.3% respectively) in 2007–2008 data. The proportion of missing data for diabetes, chronic hypertension and preeclampsia is unknown – only the presence, but not the absence, of these diseases was explicitly recorded on birth certificates. The proportion of LBW by maternal characteristics, diseases and median income level follows the expected directions (Table 1).

Appendix, Table A.1 presents the mean and correlation of each exposure metric used in the study. Total $PM_{2.5}$ and NO_2 interpolated by EBK were strongly positively correlated, and both were negatively correlated with O_3. Total $PM_{2.5}$ was moderately correlated with primary $PM_{2.5}$ modeled by UCD_P ($R=0.49$) and was weakly correlated with traffic density, road length and distance to roads ($R \leq 0.20$). UCD_P predictions of primary PM from several sources were highly correlated with each other – gasoline and diesel ($R=0.96$), meat cooking and gasoline or diesel ($R=0.86$), mass from all sources and from sources classified as "other" ($R=0.96$ and 0.89 for $PM_{2.5}$ and $PM_{0.1}$ respectively). Gasoline and diesel contributed respectively to 8% and 21% of the total $PM_{2.5}$ primary mass, and to 12.5% and 24% of the total $PM_{0.1}$ primary mass. Contributions from meat cooking, wood burning, high sulfur sources and shipping were respectively around 15%, 8%, 6% and 3% for each PM fraction.

The correlations between primary $PM_{2.5}$ and $PM_{0.1}$ for the same source were above 0.87. The correlations between $PM_{2.5}$ and $PM_{0.1}$ for a same chemical species (contributions from all sources being summed) ranged from 0.67 to 1. Traffic density and road length were only slightly correlated with pollutant concentrations interpolated by EBK or with predicted primary $PM_{2.5}$ and $PM_{0.1}$ from all sources ($|R| \leq 0.23$). Correlations between road length and traffic density within a same buffer size ranged from 0.53 (50 m buffer) to 0.62 (350 m buffer). Distance to roadways was negatively but moderately correlated with all other exposure metrics ($|R| \leq 0.32$), except O_3 ($R=0.20$).

For the entire pregnancy exposure, a 2.5% increase in risk of term LBW was associated with an inter-quartile range increase in primary $PM_{2.5}$ or $PM_{0.1}$, for all sources summed. Significant associations of similar magnitudes were also observed for primary PM from each specific source, except shipping (Table 2). Gasoline was the PM source most strongly associated with LBW, followed by wood burning and meat cooking. Among the chemical species studied, increased LBW risk was associated with elemental and organic carbon (EC, OC), potassium, iron, manganese and nickel in both particle fractions. Increased LBW risk was also associated with titanium and copper in $PM_{2.5}$ and chromium in $PM_{0.1}$. Associations with UCD_P predictions were overall stronger for third trimester exposures (Appendix, Table A.2).

For EBK-interpolated measurements, we observed a significant increase in LBW risk for total $PM_{2.5}$, but not O_3 or NO_2 (Table 2). The OR for total $PM_{2.5}$ was of similar magnitude to that observed for primary $PM_{2.5}$ or $PM_{0.1}$ estimated by the UCD_P model. Trimester-specific results revealed patterns similar to those for the entire pregnancy period (Appendix, Table A.2). However, for the third trimester exposure only, a significantly increased LBW risk was associated with NO_2, whereas a significantly decreased risk was associated with O_3.

Small yet statistically significant increases in LBW risk were associated with increases in traffic density and total road length within 50 m buffers. For road length, an increased LBW risk was also significant for a 150 m buffer. Living within 50 m and 100 m of any major road was associated with a 6% (95% CI: 4–7%) and 3% (95% CI: 2–4%) increase in LBW risk respectively. The increase was 7% (95% CI: 1–13%) for living within 50 m of a freeway or highway (Table 2).

Adjustment for population density, diabetes, chronic hypertension, preeclampsia, maternal height, pre-pregnancy BMI or weight gain during pregnancy changed ORs by 1% or less (data not shown). The influence of adjustment for time of conception was also weak, except that for wood burning it yielded increased odds ratios, from about 2% to 5–6% increase in risk per IQR in exposure (Appendix Table A.3). Restricting analyses to births geocoded to the exact parcel centroid reduced the study population by half, but did not substantially change the distribution of maternal age, education or race/ethnicity. In this subgroup with the best geocoding accuracy, ORs remained positive and significant for primary PM from gasoline, diesel, meat cooking and all sources grouped, road length within 50 and 150 m buffers and living with 50 m of major roadway or freeways. Contrarily to the main analysis, traffic density within 150–350 m buffers but not 50 m was associated with increased LBW risk (data not shown).

For analyses stratified by maternal race/ethnicity, most significant associations between LBW and primary PM were observed in infants of Hispanic mothers (Appendix Table A.4). Increased risks associated with NO_2 were observed in infants of Hispanic and African Americans mothers, whereas increased risks associated with O_3 were observed in infants of White non-Hispanic mothers. A few unexpected significant decreases in risk were observed notably in infants of Asian mothers for PM, O_3 and NO_2, and of White non-Hispanic mothers for traffic density and road length in 250 and 350 m buffers.

For analyses stratified by maternal education, significant and generally stronger associations with EBK-interpolated $PM_{2.5}$ and NO_2 and with primary particles were observed for the lowest educational levels subgroups (Appendix Table A.5). For traffic and road indices, overall more significant increases in risk were observed in subgroups with higher education. However, statistical power was lower in the group with the lowest educational level. Analyses stratified by quartile of block group median income did not reveal any marked pattern (data not shown).

Stronger associations between LBW and air pollution were observed in women with than without chronic hypertension, for most exposure metrics considered (see Appendix Table A.6). Stronger associations were also observed in women with than without diabetes for ozone, traffic and road indexes, but patterns were less clear for other exposure metrics (Appendix Table A.7). No consistent pattern was observed by preeclampsia status (Appendix Table A.8). In 2007–2008 data, the risk of LBW associated with EBK-interpolated $PM_{2.5}$ consistently increased from the lowest to the highest pre-pregnancy BMI category. This pattern persisted after further adjustment for maternal diseases, height and weight gain (data not shown). No such pattern was observed for O_3 or NO_2 (Appendix Table A.9).

4. Discussion

This is one of the first studies relating term LBW with concentrations of primary particle by source and composition and to the best of our knowledge, the first study of $PM_{0.1}$ and LBW. The results show modest increases in the risk of LBW associated with primary $PM_{2.5}$ and $PM_{0.1}$ from all sources except shipping and with several chemical species (EC, OC, potassium, iron, manganese, chromium, nickel, copper and titanium) in primary PM. Increased LBW risks are also associated with total $PM_{2.5}$ interpolated by EBK, with NO_2 in the last pregnancy trimester, and with local traffic indicators. Several population subgroups with potentially higher susceptibility were identified – infants of mothers with a lower education, Hispanic ethnicity, diabetes, chronic hypertension, and a high BMI.

Table 2
Odds ratios for LBW associated with air pollution metrics (pregnancy-long exposure).

	Subjects	IQR[a] in exposure	OR[b] per IQR[a] (95% CI[c])	IQR[a]in exposure	OR[b] per IQR[a] (95% CI[c])
UCD_P primary particles predictions		**$PM_{2.5}$**		**$PM_{0.1}$**	
Sources					
High sulfur sources	704,148	0,4431	1.010 (1.005, 1.015)	0,0515	1.014 (1.008, 1.020)
Meat cooking	704,148	0,5219	1.019 (1.013, 1.025)	0,0588	1.019 (1.013, 1.025)
Gasoline	704,148	0,2908	1.028 (1.019, 1.037)	0,0560	1.028 (1.019, 1.037)
Wood burning	704,148	0,4606	1.020 (1.010, 1.031)	0,0875	1.026 (1.014, 1.037)
Diesel	704,148	0,6903	1.016 (1.009, 1.024)	0,1006	1.016 (1.009, 1.024)
Shipping	704,148	0,0976	1.001 (0.999, 1.003)	0,0129	1.001 (0.999, 1.003)
All	704,148	2,8762	1.025 (1.017, 1.033)	0,4271	1.027 (1.019, 1.034)
Species					
Elemental Carbon	704,148	0,4380	1.016 (1.008, 1.023)	0,0612	1.016 (1.008, 1.023)
Organic Carbon	704,148	1,2744	1.031 (1.023, 1.040)	0,2495	1.032 (1.023, 1.040)
Potassium	704,148	0,0215	1.016 (1.008, 1.025)	0,0018	1.026 (1.017, 1.035)
Chromium	704,148	0,0025	1.002 (0.997, 1.006)	0,0003	1.007 (1.001, 1.012)
Iron	704,148	0,0836	1.020 (1.011, 1.028)	0,0017	1.005 (1.000, 1.010)
Titanium	704,148	0,0030	1.003 (1.000, 1.006)	0,0001	1.002 (0.999, 1.004)
Arsenic	704,148	0,0012	1.002 (0.999, 1.006)	0,0001	1.002 (0.999, 1.006)
Manganese	704,148	0,0017	1.008 (1.003, 1.014)	0,0001	1.007 (1.002, 1.012)
Copper	704,148	0,0023	1.010 (1.004, 1.017)	0,0001	1.002 (0.997, 1.007)
Nickel	704,148	0,0021	1.009 (1.003, 1.015)	0,0003	1.009 (1.004, 1.014)
Lead	704,148	0,0048	1.001 (0.995, 1.008)	0,0004	1.001 (0.995, 1.008)
	Subjects	**IQR[a] in exposure**	**OR[b] per IQR[a] (95% CI[c])**		**OR[b] (95% CI[c])**
Pollutants concentrations interpolated by empirical Bayesian Kriging					
$PM_{2.5}$	938,629	5.82	1.020 (1.010, 1.031)		
O_3	938,629	8.62	0.992 (0.984, 1.001)		
NO_2	938,629	7.36	1.008 (0.999, 1.017)		
Traffic density				**Distance to roads (dichotomized exposure)**	
Buffer size				Major roads	
50 m	938,629	5,657	1.005 (1.003, 1.008)	< 50m	1.056 (1.041, 1.071)
150m	938,629	20,073	1.001 (0.997, 1.006)	< 100m	1.033 (1.020, 1.046)
250m	938,629	16,642	0.997 (0.993, 1.001)	< 150m	1.007 (0.993, 1.020)
350m	938,629	14,303	0.999 (0.996, 1.003)		
Road length					
Buffer size				Highway/freeway	
50 m	938,629	28	1.016 (1.013, 1.020)	< 50m	1.074 (1.015;1.135)
150m	938,629	383	1.016 (1.007, 1.024)	< 100m	0.979 (0.949; 1.010)
250m	938,629	595	1.001 (0.995, 1.007)	< 150m	0.969 (0.946; 0.992)
350m	938,629	1,107	1.004 (0.998, 1.010)		

[a] IQR: inter-quartile range. Units are microgram per cubic meter for particles.
[b] OR: odds ratio estimated by generalized additive models adjusting for maternal race/ethnicity, education, parity, trimester primary care beginning, infant's gender, maternal age, length of gestation and median income by census Block Group
[c] CI: confidence interval

Long-term measurements for PM speciation or for $PM_{0.1}$ mass are very limited (Abernethy et al., 2013; Bell et al., 2007). Chemical transport modeling is an alternative approach to address the lack of measurement data and to link pollutant concentrations with specific sources. The resolution of 4 km 4 km grid cells is coarse as compared with, for instance, spatial variations of ultrafine particle number emitted by traffic sources (Karner et al., 2010). Still, this approach allowed reflecting spatial contrasts at broader scales, that would not be captured by central site monitors (Hu et al., 2014a), and allowed including all births in Los Angeles County, whether mothers were living close to a monitor or not.

Detailed discussions on uncertainties in UCD_P predictions associated with model inputs and treatment on various processes have been presented in Hu et al. 2014a; Hu et al. 2014b. The UCD_P model includes all the important processes for primary PM, but does not include secondary aerosol formation, coagulation, and nucleation. Sensitivity analyses indicate that these omitted processes have important contribution to total PM (primary+secondary), but generally have a less than 10% impact on annual average primary PM concentrations (Hu et al., 2014b). The WRF predicted wind field, one of the key meteorological parameters for determining the primary PM concentrations, is generally biased high on stagnant days, leading to underprediction of high primary pollution events. Uncertainties in emissions, such as lack of high temporal resolution of residential sources and incomplete chemical source profiles for 157 sources, also lower the model ability to reproduce some of the observed strong day-to-day variations. As a result, model predictions are in better agreement with measurements over longer averaging time (e.g., $\geq$ 1 month) than when day-to-day variations are considered. For instance, longer averaging time increased the overall correlation for $PM_{2.5}$ EC from 0.89 (1 day) to 0.94 (1 month), and overall increased the number of species with strong correlations (Hu et al., 2014b). The present study focused on exposure averaged on the entire pregnancy period and on specific pregnancy trimesters, which should minimize the impact of errors in the prediction of daily variations.

A complete validation study for the UCD_P predictions, including comparisons between predictions by source and the results of source apportionment studies conducted at five locations throughout California and during different episodes, has been conducted (Hu et al., 2014a). Excellent agreements were observed between source contributions modeled by UCD_P and estimated by chemical mass balance models, for mobile sources and wood burning.

The degree of agreement was also good for meat cooking, except in a specific rural setting (Angiola). This however might be due to high uncertainties in the measurement of cholesterol, that was used as an organic marker for meat cooking (Hu et al., 2014a). The agreement between modeled concentrations and the results of source apportionment studies across several locations and in different episodes builds our confidence in the model results at other locations and time.

In the analyses, we decided a priori to include only PM components for which correlations between monthly averaged predictions and measured values (both in $PM_{2.5}$, since measurement results for most components were available only for that fraction) were >0.6 in Los Angeles. Correlations were >0.8 for EC, potassium, chromium, iron, arsenic, manganese, copper, nickel and lead in $PM_{2.5}$ (Hu et al., 2014b). No validation results were available for primary OC because secondary formation accounts for a significant fraction of total OC mass. $PM_{0.1}$ mass prediction agreed well with available measurements across all Californian sites (that were available from the literature and had varying temporal resolution, from 3 days to 5 months, $R=0.92$). EC was the only $PM_{0.1}$ component for which the correlation between UCD_P prediction and measurements could be evaluated, and this was also found to be high ($R=0.94$, $N=8$ sites) (Hu et al., 2014a). There is greater uncertainty in the metal composition results for $PM_{0.1}$ than for $PM_{2.5}$, since insufficient $PM_{0.1}$ metal measurements were available for validation with robust statistical analysis. This is likely due to the difficulty in measuring minute quantities of elemental species in the $PM_{0.1}$ size fraction (Hu et al., 2014a). Predictions for metals in $PM_{0.1}$ might be correct but could not be rigorously evaluated so far and were thus left unconstrained.

Presently, our findings based on primary particles by source and composition can only be compared to a few other studies that were all based on measured $PM_{2.5}$ data. Bell et al. (2010, 2012) studied the associations between term LBW and $PM_{2.5}$ by source and composition averaged at the county resolution from monitoring station measurements in four Connecticut and Massachusetts counties. This research was later extended to the Northeastern and Mid-Atlantic regions of the US for $PM_{2.5}$ composition (Ebisu and Bell, 2012). In Los Angeles County, Wilhelm et al. (2012) conducted a similar study but assigned exposure based on 22-months of monitoring station data for women living within 8 km of the stations. In Atlanta, Darrow et al. (2011) assigned $PM_{2.5}$ element concentrations measured at one central site to subjects living within five surrounding counties. The European ESCAPE and LISA studies examined PM absorbance, a marker for elemental carbon (Pedersen et al., 2013; Slama et al., 2007). Despite exposure metrics of different natures in these studies, their results are qualitatively consistent with ours for $PM_{2.5}$ EC (Bell et al., 2010; Darrow et al., 2011; Ebisu and Bell, 2012; Pedersen et al., 2013; Slama et al., 2007; Wilhelm et al., 2012), potassium (Bell et al., 2012), iron (Bell et al., 2010), titanium (Bell et al., 2012; Ebisu and Bell, 2012) and nickel (Bell et al., 2010; Ebisu and Bell, 2012). No studies that examined $PM_{2.5}$ OC reported significant associations (Darrow et al., 2011; Ebisu and Bell, 2012; Wilhelm et al., 2012). However, these studies relied on measured data with a large portion of secondary OC, whereas UCD_P modeled only primary OC. In Atlanta, the summed mass of several water soluble metals in $PM_{2.5}$ (chromium, copper, iron, manganese, nickel and vanadium) was associated with a decrease in mean birth weight (Darrow et al., 2011). The same exposure metric (excluding vanadium, which contributes very little to mass) was associated with an increase in LBW risk in our study (data not shown). Some studies suggest possible influences of chromium (Junaid et al., 1996) on birth weight reduction in animals. In summary, our analyses identified a number of chemical species as potentially harmful. However, observed associations might be misleading if these species are strongly correlated with other pollutants that increase LBW risk, for instance if they share common sources, similar dispersion patterns and chemical properties. Therefore, these results call for confirmation in other study settings.

Analyses of PM by source revealed positive associations between LBW and PM from most evaluated sources. These findings are supported by other studies for meat cooking and gasoline (Wilhelm et al., 2012), diesel (Slama et al., 2007; Wilhelm et al., 2012), traffic related $PM_{2.5}$ overall (Bell et al., 2010) and wood burning (Boy et al., 2002). Fast food restaurants and road traffic are both important contributors to $PM_{0.1}$ emissions (Abernethy et al., 2013) and $PM_{0.1}$ might be the pollutant causing the association between these sources and LBW. However, primary $PM_{2.5}$ and $PM_{0.1}$ from meat cooking and from traffic are very strongly correlated (across sources and fractions), making it difficult to disentangle the influence of each source and each fraction. Most of particle emissions from meat cooking are due to commercial meat cooking in our study setting. Commercial meat cooking and traffic sources likely correlate in space, since commercial restaurants and fast-food stores may be more densely located in areas with a dense transportation network due to marketing reasons. Positive associations were also observed between LBW and $PM_{2.5}$ or $PM_{0.1}$ from high sulfur sources, which include a wide variety of sources (e.g., electricity generation, petroleum refining, aircraft). Conducting more thorough investigations by source subtype would be needed to get more insight into these observed associations.

The EBK approach we used to interpolate measured pollutants concentrations allowed retaining both their temporal and spatial variability. However, because of its high computational cost, temporal variability in air pollution measurement was not considered at a finer than monthly resolution. In order to estimate the impact of the resulting approximation in exposure calculation on odds ratio estimates, we compared results obtained using UCD_P daily estimates and monthly estimates. As expected, estimating exposure for the entire pregnancy period by using daily data (Table 2) yielded very similar results to those obtained when exposure data were previously averaged by calendar month (Appendix Table A.10). Differences in odds ratios were generally not visible after 3-digit rounding. Such differences were also slight when pregnancy trimesters were considered (Appendix Table A.11)

For the spatial resolution, EBK does not incorporate spatial covariates for prediction as would do land use regression or cokriging models. It therefore models the general trends in spatial variations. For this reason, we only applied EBK to pollutants that exhibit strong regional trends ($PM_{2.5}$, O_3 and NO_2). EBK-produced variance maps reflect the uncertainty in prediction estimates. However, weighting regressions by the inverse of this variance had no noticeable influence on ORs and only slightly reduced confidence intervals (data not shown). A previous study in Los Angeles County identified an association between LBW and total $PM_{2.5}$ during the third trimester only (Ghosh et al., 2012), whereas we observed significant associations for exposure during the entire pregnancy and each pregnancy trimester. This previous study however was restricted to subjects living within 8 km from monitoring stations (Ghosh et al., 2012). The EBK approach allowed including all Los Angeles County births, yielding greater statistical power.

The finer the spatial resolution of the exposure metrics considered (e.g., traffic density indices, road length and distance to roads), the more important the precision of subject geocoding. After restricting analyses to subjects with the best geocoding precision (exact parcel), associations remained significant for road length within a 50 m buffer and for living within 50 m of a major road (the OR even increased to 13% (95% CI: 4–22%) for "living within 50 m of a freeway or highway"). Traffic density was not

associated with LBW risk anymore for a 50 m buffer. Loss of statistical power due to reduced sample size might have contributed to this change. Our findings of increased LBW risk for living within 50 m of highways or freeways are supported by similar findings from Vancouver, Canada (Brauer et al., 2008). Other studies failed to detect such associations (Barnett et al., 2011). However, the rarity of this exposure situation makes it less likely for smaller cohorts to detect a slight association with LBW. The observed associations in close proximity to traffic sources are of particular interest since a recent study identified truck route length within 50 m of measurement sites as a major determinant of $PM_{0.1}$ number concentrations (Abernethy et al., 2013).

Our study has some limitations. The personal exposure of mothers during pregnancy could not be estimated in this large cohort since we had no time-activity information and pollution levels can vary substantial among micro-environments (e.g. workplace, public transportation) (Wu et al., 2011a). In addition, our air pollution metrics relied on maternal home address at the time of delivery because of a lack of data on residential history. All these sources of exposure measurement error contribute random error to the epidemiologic results, and might also potentially generate bias.

While socio-demographic data in birth certificates are thought to be accurate, more uncertainty surrounds the completeness of maternal diseases reporting, and of gestational age estimates that were mostly based on reported last menstrual period. Adjusting for maternal height, pre-pregnancy BMI and weight gain did not markedly modify ORs. Data on maternal smoking during pregnancy were also available for years 2007 and 2008, but these data were not used because of potentially serious under-reporting by comparison with other sources (California Department of Health Services, 2006). The lack of adequate data to adjust for maternal smoking is probably the major limitation of this study. In California, the prevalence of smoking during pregnancy was lowest in Hispanic women ($<6\%$) (California Department of Health Services, 2006), the subgroup in which we observed the highest ORs and that represents more than 60% of the study population. We adjusted for major determinants of maternal smoking associated with air pollution exposure – age, race/ethnicity and socioeconomic status (Murin et al., 2011). We can however not exclude a possible influence of smoking on our results.

Higher ORs were observed in infants of mothers with chronic hypertension and with diabetes (for ozone and traffic indexes only for the latter). These original findings are potentially of high public health interest. However because of potential under-reporting, it is uncertain to which extent women with reported diseases on birth certificates are representative of all women suffering from these diseases. Higher ORs for total $PM_{2.5}$ in women with higher BMI also constitute an original finding. Both obesity and exposure to air pollution are associated with systemic inflammation (Kannan et al., 2006; Rodriguez-Hernandez et al., 2013), that is a hypothesized pathway to LBW (Kannan et al., 2006). Inflammation is also a common feature of hypertension and diabetes (Rodriguez-Hernandez et al., 2013). Further research would be necessary to confirm effect modification of the relationships between air pollution and LBW by hypertension, diabetes and BMI, and if confirmed, to investigate inflammation as a possible mechanism for such interactions.

5. Conclusions

This study is the first to report a positive association between exposure to $PM_{0.1}$ and term LBW. Several chemical species in PM were also identified as potentially harmful, in broad agreement with recent research. Consistent results obtained using complementary exposure matrices support previous evidence that primary traffic-related pollutants might increase LBW risk. The suggested influence of other sources such as commercial meat cooking and wood burning constitutes emerging evidence that deserves further investigation. Several population subgroups with potentially higher susceptibility were identified – infants of mothers with a lower education, Hispanic ethnicity, diabetes, chronic hypertension and high BMI.

Competing interests

The authors have no conflict of interest to disclose.

Approval by committee for human subjects research

This study has been approved by the Institutional Review Board of the University of California, Irvine.

Acknowledgments

The authors thank Beate Ritz (UCLA) and Ralf Delfino (UCI) for helping to start the study and Scott Bartell (UCI) for providing statistical advice. They also want to thank the Health Information and Research Section/California Department of Public Health for providing birth certificates data.

The study was supported by the Health Effects Institute (HEI 4787-RFA09-4110-3 WU).

The authors are responsible for the analyses, interpretations, and conclusions, which do not necessarily reflect the views of the Health Effects Institute or of the Health Information and Research Section/California Department of Public Health.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.envres.2014.05.003.

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Traffic-Related Air Toxics and Term Low Birth Weight in Los Angeles County, California

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Background: Numerous studies have linked criteria air pollutants with adverse birth outcomes, but there is less information on the importance of specific emission sources, such as traffic, and air toxics.

Objectives: We used three exposure data sources to examine odds of term low birth weight (LBW) in Los Angeles, California, women when exposed to high levels of traffic-related air pollutants during pregnancy.

Methods: We identified term births during 1 June 2004 to 30 March 2006 to women residing within 5 miles of a South Coast Air Quality Management District (SCAQMD) Multiple Air Toxics Exposure Study (MATES III) monitoring station. Pregnancy period average exposures were estimated for air toxics, including polycyclic aromatic hydrocarbons (PAHs), source-specific particulate matter < 2.5 μm in aerodynamic diameter ($PM_{2.5}$) based on a chemical mass balance model, criteria air pollutants from government monitoring data, and land use regression (LUR) model estimates of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrogen oxides (NO_x). Associations between these metrics and odds of term LBW (< 2,500 g) were examined using logistic regression.

Results: Odds of term LBW increased approximately 5% per interquartile range increase in entire pregnancy exposures to several correlated traffic pollutants: LUR measures of NO, NO_2, and NO_x, elemental carbon, and $PM_{2.5}$ from diesel and gasoline combustion and paved road dust (geological $PM_{2.5}$).

Conclusions: These analyses provide additional evidence of the potential impact of traffic-related air pollution on fetal growth. Particles from traffic sources should be a focus of future studies.

Key words: air pollution, air toxics, intrauterine growth retardation, low birth weight, traffic. *Environ Health Perspect* 120:132–138 (2012). http://dx.doi.org/10.1289/ehp.1103408 [Online 11 August 2011]

Air pollution has been linked to low birth weight (LBW) and preterm birth, yet there is no consensus on pollutants or sources responsible for these adverse outcomes. In our previous research in the Los Angeles (LA) Air Basin of Southern California, we observed most consistent associations for high levels of carbon monoxide (CO) and particulate matter with aerodynamic diameter < 10 μm (PM_{10}) during the third trimester and term LBW (Ritz and Yu 1999; Wilhelm and Ritz 2005). Our combined results for CO and PM_{10}, as well as our research associating residential proximity to traffic during pregnancy with odds of term LBW (Wilhelm and Ritz 2003), suggest that traffic exhaust pollutants may be causative agents of interest for fetal development.

Research in urban areas worldwide has also indicated associations between fetal growth restriction and atmospheric levels of CO, nitrogen dioxide (NO_2, another criteria pollutant indicative of traffic), and particulate matter (Shah and Balkhair 2011). However, two of four studies relying on residential traffic levels to estimate exhaust exposure (Brauer et al. 2008; Genereux et al. 2008; van den Hooven et al. 2009; Zeka et al. 2008) reported null associations. Several studies associated ambient and personal measures of polycyclic aromatic hydrocarbons (PAHs) with reduced fetal growth (Choi et al. 2008; Dejmek et al. 2000; Perera et al. 2003; Vassilev et al. 2001). PAHs are of interest because they are fuel combustion by-products and can be carried into the body by ultrafine particles < 0.1 μm in aerodynamic diameter (UFP), the main size component of particulate matter directly released by on-road vehicles (Sioutas et al. 2005). PAHs may disturb fetal development, possibly through adverse changes in placental transport or through oxidative stress pathways (Jedrychowski et al. 2010; Perera et al. 2004; Šrám et al. 1999).

Ambient air monitoring data are unlikely to capture the greater spatial heterogeneity of pollutants directly emitted from traffic (Zhou and Levy 2007; Zhu et al. 2002). Because personal measurements of UFP, PAHs, and other traffic constituents are too costly and logistically difficult in large, population-based studies, investigators have used modeling techniques to estimate traffic exposures more accurately than simpler roadway proximity measures. Land use regression (LUR) models based on neighborhood-scale pollutant measurements and geographic information systems (GIS) information on pollution sources and meteorology are examples (Jerrett et al. 2007). LUR models are usually based on pollutants more easily measured, for example, nitric oxide (NO), NO_2, and nitrogen oxides (NO_x), as proxies for the mix of toxics in traffic exhaust. To date, six epidemiologic studies, all outside of the United States, used LUR modeling techniques to examine traffic impacts on birth outcomes (Aguilera et al. 2009; Ballester et al. 2010; Brauer et al. 2008; Gehring et al. 2011a, 2011b; Slama et al. 2007); four reported positive associations for various measures of reduced fetal growth.

Here we used three different exposure data sources to examine odds of term LBW in Los Angeles, California, women when exposed to high levels of traffic-related air pollutants prenatally. We created pregnancy exposure estimates based on *a*) government monitoring data for criteria pollutants; *b*) LUR prediction surfaces for NO, NO_2, and NO_x we developed for the LA Basin (Su et al. 2009); and *c*) a unique resource of air toxics monitoring data collected during 2004–2006 by the South Coast Air Quality Management District (SCAQMD) as part of the Multiple Air Toxics Exposure Study (MATES III). These latter data include information on atmospheric levels of various traffic-related air toxics, as well as estimates of source contributions to particulate matter < 2.5 μm in aerodynamic diameter ($PM_{2.5}$) levels based on a chemical mass balance (CMB) analysis.

Materials and Methods

Study population. Electronic birth certificate records for all births occurring 1 June 2004 to 30 March 2006 to women residing in LA County, California, were assembled from the California Department of Public

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Supplemental Material is available online (http://dx.doi.org/10.1289/ehp.1103408).

We thank T-L. Pham and J. Ospital of the South Coast Air Quality Management District for providing the MATES III monitoring data.

This work was supported by National Institute of Environmental Health Sciences grant R03 ES017119) and the California Air Resources Board (contract 04-323).

The authors declare they have no competing financial interests.

Received 5 January 2011; accepted 11 August 2011.

Health (n = 276,891). We excluded infants with recorded defects (n = 14,777), missing gestational ages (n = 12,159), implausible gestational ages (< 140 days or > 320 days, n = 2,540), implausible birth weights (< 500 g or > 5,000 g, n = 371), and nonsingleton pregnancies (n = 5,629), leaving 241,415 total births and 220,528 (91.3%) term births (born at ≥ 37 completed weeks of gestation). Although MATES air toxics measurements began on 1 April 2004, we selected births starting 1 June 2004 to ensure available monitoring data covered at least part of pregnancy (i.e., last trimester).

For these 220,528 births, residential addresses at delivery reported on birth certificates were mapped using a custom geocoder (Goldberg et al. 2008) [see Supplemental Material, Table 1, for details (http://dx.doi.org/10.1289/ehp.1103408)]. The geocoded residential locations (n = 219,811; 99.7%) were then intersected with locations of seven MATES III monitoring stations in LA County (Supplemental Material, Figure 1), and women living within 5 miles were selected (n = 100,938; 45.9%). A 5-mile radius was used to balance the need for a large sample size with an effort to reduce exposure misclassification, assuming air pollution measurements best represent exposures for women living closer to stations. Among the 100,938 term births, 4.0% were geocoded at the ZIP code level and 0.03% (30 subjects) at the city/county subdivision level.

This research was approved by the University of California Los Angeles Office of the Human Research Protection Program and the California Committee for the Protection of Human Subjects.

Exposure assessment. **Monitoring station exposure measures.** For 10 of 33 air toxics measured by SCAQMD [see Supplemental Material, Table 2 (http://dx.doi.org/10.1289/ehp.1103408)], we extracted 24-hr averages collected every 3 days at MATES III monitoring stations located within 5 miles of each woman's residence. As part of MATES III, monthly composite $PM_{2.5}$ filter samples were speciated, and the U.S. Environmental Protection Agency CMB receptor model 8.2 was used to estimate diesel and other source contributions to $PM_{2.5}$ levels during the 2-year study period. In the CMB model, the ambient concentration of chemical species i is expressed as a linear equation:

$$C_i = \sum_{j=1}^{p} a_{ij} S_j, i = 1, n, \qquad [1]$$

where a_{ij} is the fractional concentration of chemical species i in source j, S_j is the total mass concentration contributed by source j, p is the number of sources, and n is the number of species, and a least-squares fitting approach is used to estimate C_i (SCAQMD 2008). Monthly average $PM_{2.5}$ concentrations (micrograms per cubic meter) from the following sources were quantified based on the CMB model: diesel exhaust, gasoline exhaust, ammonium nitrate, ammonium sulfate, biomass burning, cooking operations, sea salt, geological (paved road dust), and residual oil burning.

We averaged these data over the following pregnancy periods, relying on the date of birth and gestational age reported on the birth certificate: first trimester (estimated first day of last menstrual period through day 92), second trimester (days 93–185), third trimester (day 186 through birth), and the entire pregnancy. We implemented a 50% completeness criterion to ensure sufficient numbers of daily or monthly readings in each pregnancy averaging period [see Supplemental Material, Table 3, for details (http://dx.doi.org/10.1289/ehp.1103408)].

Data from all stations within 5 miles of a woman's residence that met the completeness criteria were used to generate exposure averages, with inverse-distance weighting of values when more than one station was available. If no stations met the completeness criteria, the value for the exposure period was set to missing.

We also generated criteria pollutant exposure averages, assigning women living near a MATES III station that measured only air toxics to other stations within 5 miles that measured criteria pollutants. Hourly measurements for CO, NO_2, NO, NO_x, and ozone (O_3) (1000–1800 hours) were first averaged over each day if sufficient data were available. These daily averages as well as 24-hr measurements for PM_{10} and $PM_{2.5}$ (collected every 6 and 3 days, respectively) were then averaged over pregnancy periods, again implementing the completeness criteria in Supplemental Material, Table 3 (http://dx.doi.org/10.1289/ehp.1103408). For subjects within 5 miles of more than one station, daily values were inverse distance weighted.

LUR exposure measures. We also extracted NO, NO_2, and NO_x concentration estimates at residential locations from LUR model surfaces we previously developed for the LA Basin (see Su et al. 2009). The LUR surfaces were based on 2-week average Ogawa NO_2 and NO_x measures we collected in September 2006 and February 2007 at 181 locations simultaneously throughout LA County. Final regression models explained 81%, 86%, and 85%, respectively, of the variance in measured NO, NO_2, and NO_x concentrations. Cross-validation analyses suggested high prediction accuracy in the range of 87–91%.

The LUR models most closely approximate annual average concentrations (Su et al. 2009). Thus, in addition to using these unseasonalized estimates, we also created seasonalized LUR measures using government monitoring station measurements nearest to home locations to incorporate yearly and monthly air pollution variations. For example, the LUR estimates for NO were adjusted (multiplied) by the ratio of average ambient NO during each pregnancy month to annual average ambient NO (2006–2007) to generate pregnancy month–specific values. These seasonalized monthly LUR values were then averaged over each pregnancy period. We applied the exclusion criteria described above when generating the pregnancy month scaling factors for NO, NO_2, and NO_x, and scaling factors for women within 5 miles of more than one station were based on inverse distance–weighted averages.

Statistical analyses. We calculated correlation coefficients and performed a factor analysis (using principal components analysis for initial factor extraction and varimax rotation) to examine clustering among the various air pollution exposure metrics. Associations between air pollution exposure and odds of term LBW (< 2,500 g) were examined using single- and multiple-variable logistic regression models. We calculated odds ratios (ORs) and 95% confidence intervals (CIs) for interquartile range (IQR) and specific unit increases in each exposure metric. We adjusted for maternal age, race/ethnicity, education, and parity (see Table 1 for categories), and gestational age (in weeks) and gestational age squared, as these variables were found to be important confounders in our previous analyses (Ritz and Yu 1999; Wilhelm and Ritz 2003, 2005). We also evaluated changes in OR estimates when additionally controlling for sex of the infant, prenatal care, payment source for prenatal care, whether the mother was born in the United States, maternal birthplace, and a previously developed socioeconomic status (SES) metric (Cheng et al. 2009; Yost et al. 2001). For the SES measure (standardized score for each census block group), principal component analysis was used to develop an index from seven U.S. Census 2000 variables. Because these additional factors did not change air pollution effect estimates by ≥ 5%, they were not included in final models.

Results

Characteristics of study populations. Women residing within 5 miles of MATES III monitoring stations were younger, more likely to be Hispanic, more likely to be born in Mexico, less educated, and much more likely to use Medi-Cal or other government programs versus private insurance for prenatal care compared with the entire population of mothers residing in LA County and

delivering infants during the same time period [see Supplemental Material, Table 4 (http://dx.doi.org/10.1289/ehp.1103408)].

The prevalence of term LBW in the study population was 2.1%. In univariate models, odds of term LBW were greater for female infants, firstborn infants, and infants born to younger mothers (< 25 years of age), mothers receiving no prenatal care or receiving care after the first trimester, and to mothers using Medi-Cal or other governmental programs for prenatal care payment (Table 1). Odds of term LBW were lower for infants born to non-Hispanic white mothers and to mothers with more than a high school education (> 12 years). Infants of mothers born in the United States had increased odds of term LBW compared with infants of foreign-born mothers, mostly because of lower odds of term LBW for infants of mothers born in Mexico.

Table 1. Demographic characteristics by outcome group and crude ORs (95% CI) for term LBW.[a]

Parameter	Term LBW cases (*N* = 2,321) *n* (%) or mean ± SD	Noncases (*N* = 98,617) *n* (%) or mean ± SD	Crude term LBW OR (95% CI)
Gestational age (days)	273 ± 10.5	278 ± 10.0	—
Birth weight (g)	2,297 ± 225	3,405 ± 425	—
Sex of infant			
Female	1,297 (55.9)	48,578 (49.3)	1.31 (1.20, 1.42)
Male	1,024 (44.1)	50,039 (50.7)	1.00
Maternal age (years)			
< 20	381 (16.4)	11,468 (11.6)	1.56 (1.37, 1.78)
20–24	654 (28.2)	25,200 (25.6)	1.22 (1.09, 1.36)
25–29	563 (24.3)	26,389 (26.8)	1.00
30–34	417 (17.9)	21,809 (22.1)	0.90 (0.79, 1.02)
≥ 35	306 (13.2)	13,748 (13.9)	1.04 (0.91, 1.20)
Missing		3	
Maternal race/ethnicity[b]			
White, Hispanic	1,650 (71.3)	74,548 (75.8)	1.42 (1.20, 1.68)
White, non-Hispanic	113 (4.9)	7,995 (8.1)	1.00
African American	328 (14.2)	7,130 (7.3)	2.93 (2.42, 3.55)
Asian	130 (5.6)	5,334 (5.4)	1.56 (1.23, 1.98)
Other	93 (4.0)	3,348 (3.4)	1.73 (1.34, 2.22)
Missing	7	262	
Maternal education (years)			
≤ 8	371 (16.2)	15,944 (16.3)	0.93 (0.82, 1.04)
9–12	1,374 (59.9)	54,635 (55.8)	1.00
13–15	316 (13.8)	14,867 (15.2)	0.85 (0.75, 0.96)
≥ 16	231 (10.1)	12,469 (12.7)	0.74 (0.64, 0.85)
Missing	29	702	
Parity			
0	1,094 (47.2)	36,747 (37.3)	1.50 (1.39, 1.63)
≥ 1	1,224 (52.8)	61,839 (62.7)	1.00
Missing	3	31	
Prenatal care			
No prenatal care or started after first trimester	285 (12.3)	8,488 (8.6)	1.49 (1.32, 1.69)
Started in first trimester	2,022 (87.7)	89,827 (91.4)	1.00
Missing	14	302	
Maternal birthplace			
United States	983 (42.4)	37,854 (38.4)	1.18 (1.09, 1.28)
Outside United States	1,335 (57.6)	60,694 (61.6)	1.00
Missing	3	69	
Maternal birthplace			
United States	983 (42.4)	37,854 (38.4)	1.00
Mexico	820 (35.4)	40,222 (40.8)	0.79 (0.72, 0.86)
Other outside United States (includes Puerto Rico)	515 (22.2)	20,472 (20.8)	0.97 (0.87, 1.08)
Missing	3	69	
Primary payment for prenatal care			
Private insurance/HMO/prepaid/Blue Cross-Blue Shield	512 (22.6)	28,758 (29.5)	1.00
Medi-Cal, other government programs, self-pay, no care	1,756 (77.4)	68,857 (70.5)	1.43 (1.30, 1.58)
Missing	53	1,002	
Census-based SES index (quintiles)			
Q1	1,643 (70.8)	65,707 (66.6)	1.65 (1.07, 2.55)
Q2	370 (15.9)	17,239 (17.5)	1.42 (0.91, 2.21)
Q3	200 (8.6)	9,674 (9.8)	1.36 (0.87, 2.15)
Q4	87 (3.8)	4,611 (4.7)	1.25 (0.77, 2.01)
Q5	21 (0.9)	1,386 (1.4)	1.00

[a]Includes 100,938 term births during 1 June 2004 to 30 March 2006 to women residing within 5 miles of a MATES air toxics monitoring station. [b]"Other" race category includes Native American/American Indian, Indian, Filipino, Hawaiian, Guamanian, Samoan, Eskimo, Aleut, Pacific Islander, Other (specified). In regression models, nonwhite Hispanics were included in both the Hispanic category and their specified race category (99.3% of Hispanics stated their race as white).

Exposure metric distributions and correlations. **Entire pregnancy averages.** We provide information on distributions of entire pregnancy averages in Table 2 and correlations in Supplemental Material, Table 5 (http://dx.doi.org/10.1289/ehp.1103408). In the factor analysis (Supplemental Material, Table 6), monitoring data–based entire pregnancy averages for the following pollutants clustered most strongly (factor 1): NO, NO_2, and NO_x, $PM_{2.5}$, elemental carbon (EC), organic carbon (OC), diesel $PM_{2.5}$, total PAHs (the largest constituent by mass being naphthalene), benzene, biomass burning $PM_{2.5}$, meat cooking $PM_{2.5}$, and ammonium nitrate. A second factor (factor II) represented several pollutants with higher concentrations in the coastal areas (SCAQMD 2008): vanadium, residual oil $PM_{2.5}$, and sea salt $PM_{2.5}$. Vanadium and residual oil $PM_{2.5}$ were strongly positively correlated, as vanadium (along with nickel) was used to identify the residual oil combustion source in the CMB analysis. Other pollutants that clustered positively within this coastal pollutant group were benzo[*a*]pyrene (BaP) and gasoline $PM_{2.5}$, whereas ozone loaded negatively on this factor. Ammonium sulfate loaded positively on factor II, but also on a third factor (factor III), suggesting coastal versus noncoastal spatial patterns were not as strong as for sea salt $PM_{2.5}$, residual oil $PM_{2.5}$, and vanadium. PM_{10} loaded positively on factors I and III, suggesting it does not reflect traffic toxics as strongly as the other pollutants in factor I. Benzo[*g,h,i*]perylene and CO averages loaded similarly on factors I and II, indicating less coastal versus noncoastal differences for these pollutants. All LUR metrics loaded separately on a fourth factor, reflecting their low overall correlation with the monitoring-based exposure metrics (Supplemental Material, Table 5). Finally, geological $PM_{2.5}$ (modeled based on paved road dust samples using iron, calcium, and silica as fitting species) was best represented as a separate fifth factor. Interestingly, gasoline and diesel $PM_{2.5}$ were not strongly correlated spatially in this data set and loaded on separate factors.

Trimester averages. Ambient measures of NO, NO_x, and total PAHs exhibited strong seasonal variability with peaks in winter, whereas O_3 and ammonium sulfate followed the opposite pattern with summer peaks. As a result, first- and third-trimester exposures for these pollutants were strongly negatively correlated (r = –0.8 to –0.9) (results not shown). Other pollutants with winter peaks but more moderate negative correlations between first- and third-trimester averages (r = –0.5 to –0.7) included seasonalized LUR estimates of NO and NO_x, benzene, EC and OC, and $PM_{2.5}$

from biomass burning, cooking, diesel, and gasoline sources. All other pollutants were less seasonally variable, especially vanadium and residual oil $PM_{2.5}$ (all trimester averages were positively correlated, with r = 0.4 to 0.9 and r = 0.6 to 0.9, respectively). Second-trimester and entire pregnancy averages for all pollutants were moderately to strongly correlated (r = 0.6 to 0.9).

Associations between exposure metrics and term LBW. We estimated an approximately 5% increase in adjusted odds of term LBW per IQR increase in entire pregnancy exposures to the following traffic exhaust markers: LUR estimates of NO, NO_2, and NO_x (unseasonalized and seasonalized), EC, and $PM_{2.5}$ from diesel and gasoline combustion (Table 3) [see Supplemental Material, Table 7, for effect estimates based on unit increases (http://dx.doi.org/10.1289/ehp.1103408)]. IQR increases in entire pregnancy exposure to geological $PM_{2.5}$ (representing paved road dust) were also associated with a 5% increase in odds of term LBW. Excluding births that were not geocoded at the parcel, lot, or street level (4.0%) from analyses changed OR estimates by ≤ 0.01. We did not observe associations with IQR increases in entire pregnancy exposures to any of the other pollutants we evaluated (Supplemental Material, Table 7).

For seasonalized LUR estimates of NO, NO_2, and NO_x and ambient measures of CO and $PM_{2.5}$, effect estimates for the first trimester were 1–6% greater than those for the third trimester in models including exposure measures for each trimester (results not shown). For EC and diesel, gasoline and geological $PM_{2.5}$, point estimates were similar, in general, across pregnancy trimesters. However, 95% CIs overlapped widely for all these measures. Overall, the moderate-to-strong negative correlations between first- and third-trimester exposure averages for many pollutants and strong positive correlations between second trimester and entire pregnancy exposure estimates for almost all pollutants limited our ability to identify pregnancy periods exhibiting greater susceptibility.

Discussion

We estimated an approximately 5% increase in the odds of term LBW per IQR increase in entire pregnancy averages of NO, NO_2, and NO_x as estimated by LUR, EC, and $PM_{2.5}$ from diesel and gasoline exhaust and paved road dust (geological $PM_{2.5}$). The LUR model was built on neighborhood-level measures of NO_x and captures small-scale variability in pollutant levels due to proximity to roadway emission sources. The diesel and gasoline exhaust $PM_{2.5}$ averages are direct markers of traffic sources. Although the geological source profile used in the CMB model was based on paved road dust, the association with this $PM_{2.5}$ source further underscores the importance of traffic (i.e., roadways indicator). Finally, EC is often considered a marker of diesel exhaust particles, although there are additional sources of this pollutant in the LA Basin. Altogether, our results for various traffic markers lend strong support to the hypothesis that traffic negatively affects birth weight.

Although diesel $PM_{2.5}$ and EC averages were correlated with total PAH averages (r ~ 0.7 to 0.8), we did not observe positive associations between entire pregnancy averages of PAHs and term LBW [Supplemental Material, Table 7 (http://dx.doi.org/10.1289/ehp.1103408)]. These findings might be attributable to the small number of subjects with entire pregnancy PAH averages available and/or the lack of information on spatial variation for these pollutants in our data set, because PAHs were only measured at two stations (West Long Beach and Downtown LA). A larger data set for LA with more

Table 2. Pollutant distributions for entire pregnancy averages.

Exposure metrics	Pollutant[a]	*n*	Mean ± SD	IQR
LUR_U[b]	NO	100,938	32.2 ± 9.7	10.5
	NO_2	100,938	26.8 ± 4.1	4.9
	NO_x	100,938	59.1 ± 12.9	15.1
LUR_S[c]	NO	76,953	34.8 ± 12.6	14.8
	NO_2	76,953	28.3 ± 4.9	6.4
	NO_x	76,953	63.5 ± 16.7	20.5
Air toxics	Naphthalene	13,252	188.4 ± 26.8	39.2
	Benzo[*a*]pyrene	13,252	0.13 ± 0.04	0.04
	Benzo[*g,h,i*]perylene	13,252	0.33 ± 0.07	0.11
	Total PAHs	13,252	229.1 ± 30.3	43.3
	Benzene	52,810	0.66 ± 0.13	0.18
	TSP V	55,475	10.5 ± 5.5	4.9
	$PM_{2.5}$ V	55,337	7.5 ± 4.1	3.4
	PM_{10} OC	55,408	5.5 ± 0.58	0.75
	PM_{10} EC	55,408	2.2 ± 0.29	0.41
	PM_{25} OC	55,302	7.4 ± 0.82	1.2
	PM_{25} EC	55,302	1.9 ± 0.29	0.42
	Ammonium nitrate $PM_{2.5}$	64,086	6.2 ± 1.0	1.8
	Ammonium sulfate $PM_{2.5}$	64,086	5.3 ± 1.1	1.4
	Biomass burning $PM_{2.5}$	63,851	0.28 ± 0.10	0.15
	Diesel $PM_{2.5}$	63,941	3.1 ± 0.63	0.83
	Gasoline $PM_{2.5}$	44,481	1.2 ± 0.39	0.61
	Geological $PM_{2.5}$	62,230	1.2 ± 0.41	0.62
	Meat cooking $PM_{2.5}$	51,200	1.6 ± 0.43	0.57
	Residual oil $PM_{2.5}$	64,086	0.54 ± 0.27	0.23
	Sea salt $PM_{2.5}$	64,086	1.5 ± 0.31	0.47
Criteria pollutants	CO	78,161	0.84 ± 0.25	0.37
	NO	77,786	41.2 ± 10.5	14.3
	NO_2	77,786	29.3 ± 2.9	3.9
	NO_x	77,786	70.3 ± 12.2	17.0
	O_3	78,161	34.3 ± 4.7	6.0
	PM_{10}	50,020	31.4 ± 3.4	5.4
	$PM_{2.5}$	82,395	17.9 ± 1.8	2.4

[a]Pollutant values are expressed in the following units: NO, NO_2, NO_x, O_3, benzene, ppb; BaP, PAHs, TSP V, vanadium in total suspended particulates; $PM_{2.5}$ V, nanograms per cubic meter; PM_{10}, $PM_{2.5}$, PM_{10} OC, PM_{10} EC, $PM_{2.5}$ OC, $PM_{2.5}$ EC, micrograms per cubic meter; CMB estimates for source contributions to $PM_{2.5}$, micrograms per cubic meter; CO, ppm. [b]Unseasonalized LUR model estimates. [c]Seasonalized LUR model estimates.

Table 3. Associations between IQR increases in entire pregnancy average air pollution exposures and term LBW.

		Crude		Adjusted[a]	
Exposure metric	IQR	*n* (cases/noncases)	OR (95% CI)	*n* (cases/noncases)	OR (95% CI)
NO LUR_U[b]	10.5 ppb	2,321/98,617	1.05 (1.01, 1.10)	2,286/97,764	1.05 (1.00, 1.09)
NO LUR_S[c]	14.8 ppb	1,736/75,217	1.09 (1.03, 1.15)	1,709/74,568	1.08 (1.02, 1.13)
NO_2 LUR_U	4.9 ppb	2,321/98,617	1.02 (0.97, 1.07)	2,286/97,764	1.03 (0.98, 1.08)
NO_2 LUR_S	6.4 ppb	1,736/75,217	1.02 (0.96, 1.09)	1,709/74,568	1.04 (0.98, 1.11)
NO_x LUR_U	15.1 ppb	2,321/98,617	1.05 (1.00, 1.10)	2,286/97,764	1.04 (1.00, 1.10)
NO_x LUR_S	20.5 ppb	1,736/75,217	1.08 (1.02, 1.14)	1,709/74,568	1.07 (1.01, 1.13)
PM_{10} EC	0.41 μg/m^3	1,248/54,160	1.01 (0.93, 1.09)	1,229/53,675	1.04 (0.96, 1.12)
PM_{25} EC	0.42 μg/m^3	1,250/54,052	1.05 (0.97, 1.14)	1,231/53,572	1.05 (0.97, 1.14)
Diesel $PM_{2.5}$	0.83 μg/m^3	1,412/62,529	1.05 (0.98, 1.12)	1,389/61,978	1.06 (0.99, 1.14)
Gasoline $PM_{2.5}$	0.61 μg/m^3	997/43,484	1.10 (1.00, 1.21)	983/43,153	1.07 (0.97, 1.18)
Geological $PM_{2.5}$	0.62 μg/m^3	1,365/60,865	1.01 (0.93, 1.10)	1,343/60,327	1.05 (0.97, 1.14)

[a]Adjusted for gestational age (weeks), gestational age (weeks) squared, maternal age, race/ethnicity, education, and parity. [b]Unseasonalized LUR model estimates. [c]Seasonalized LUR model estimates.

information on PAH spatial distributions is required to examine associations further.

Bell et al. (2010) examined associations between birth weight and $PM_{2.5}$ constituents for women residing in Connecticut and Massachusetts and delivering during August 2000 through February 2004. Despite differences in study populations, study design, and constituents used in source apportionment, similarities with our results are notable. In the Northeast, entire pregnancy exposures to constituents most closely associated with motor vehicles, EC and zinc, were associated with lower birth weights and higher risk of term LBW, as were oil combustion–associated elements, vanadium and nickel, and road dust and related constituents such as silicon and aluminum (Bell et al. 2010). In LA County, we also observed positive associations between odds of term LBW and entire pregnancy exposures to EC, as well as diesel, gasoline, and geological $PM_{2.5}$ (paved road dust).

Despite low correlations between LUR and monitoring-based entire pregnancy exposure estimates, we observed positive associations between both metrics and term LBW. This finding suggests spatially heterogeneous local traffic pollution—presumably better represented by our LUR model—as well as regional traffic pollution—represented by the monitoring data—both contribute to increased odds of term LBW. However, both types of metrics may be imperfect markers of the causal pollutants of interest. The LUR models were built on neighborhood-level NO_2 and NO_x concentrations because of the relative ease of measurement. LUR-estimated NO, NO_2, and NO_x have been associated with other health outcomes (Brauer 2010) and are typically considered markers of the suite of pollutants in vehicle exhaust. However, there is limited information on how well spatial and temporal patterns of these pollutants reflect similar patterns for specific toxics of health interest such as PAHs and UFP. Beckerman et al. (2008) reported strong correlations between 1-week average concentrations of NO, NO_2, and NO_x collected by passive monitors at varying distances from a major expressway in Toronto, Canada, and short-term (10-min) measures of UFP (r = 0.8 to 0.9). Neighborhood-level monitoring of PAHs, UFP, and other air toxics in conjunction with passive NO, NO_2, and NO_x monitoring in LA is needed to determine whether correlations are similar to those reported for Toronto. In addition, temporal adjustment of LUR pollution surfaces using ambient monitoring station data may not be appropriate because of the unvalidated assumption that ambient monitoring site measures and LUR modeled concentrations co-vary over space. Fewer cases (n = 577) had seasonalized versus unseasonalized LUR exposure metrics available, because we relied on ambient monitoring data for temporal adjustment [see Supplemental Material, Table 3, for a description of exclusion criteria for monitoring data (http://dx.doi.org/10.1289/ehp.1103408)]. The unseasonalized LUR measures also best represent spatial, long-term (annual average) exposure contrasts versus pregnancy period–specific exposures. Nonetheless, we observed associations between both unseasonalized and seasonalized LUR measures, suggesting that either local, high-traffic exposures throughout the entire pregnancy are important for term LBW or that our crude seasonalization may not have captured temporal variations in local exposures adequately enough to detect differences across pregnancy periods if they are important.

There is limited animal evidence regarding air pollutants of interest for adverse fetal development. Higher exposure to PAHs during pregnancy measured via personal monitoring, PAH–DNA adducts in umbilical cord blood, and government monitoring stations has been linked to decreased birth weight, length, and head circumference and to small size for gestational age in epidemiologic studies (Choi et al. 2008; Dejmek et al. 2000; Perera et al. 2003, 2004; Vassilev et al. 2001). PAHs may directly affect early trophoblast proliferation, causing suboptimal placentation, reduction in oxygen and nutrient exchange with the fetus, and impairment of fetal growth (Dejmek et al. 2000; Veras et al. 2008).

Oxidative stress may be another biological pathway of interest. UFP in LA have been shown to induce oxidant stress responses and inflammation in experimental studies; these effects may be attributable to the action of PAHs, metals, and related compounds that lead to the production of cytotoxic reactive oxygen species (Cho et al. 2005; Li et al. 2003; Nel et al. 2001; Zhang et al. 1995). Animal and human evidence suggests oxidative stress leads to poor fetal growth (Jedrychowski et al. 2010).

One limitation of this study was the relatively short period (22 months) for which air toxics and speciated $PM_{2.5}$ monitoring data were available, leading to moderate-to-strong negative correlations between first and third trimester measures for many pollutants and strong positive correlations between second trimester and entire pregnancy averages for almost all pollutants. These correlations limited our ability to identify pregnancy periods with greater susceptibility. However, for EC and diesel, gasoline and geological $PM_{2.5}$, we did not detect differences in effect estimates across pregnancy in multitrimester models (results not shown).

We did not observe associations between entire pregnancy averages of CO and $PM_{2.5}$ and odds of term LBW, possibly because of inadequate spatial information for these pollutants (only four of seven MATES III monitors measured criteria pollutants, and for the other monitors we relied on more distant criteria pollutant stations located within 5 miles). In previous studies, we included 4–6 years of births and 12–18 air monitoring stations and thus were able to restrict analyses to women residing within 2 miles of a station (Ritz and Yu 1999; Wilhelm and Ritz 2005). Here we included women residing within 5 miles of a monitoring station to achieve a sufficient sample size, and extrapolating over longer distances likely increased exposure misclassification.

We used the SCAQMD's MATES III study results to estimate pregnancy exposures to source-specific $PM_{2.5}$ concentrations. SCAQMD (2008) provides a discussion of their data collection and source apportionment modeling methods. Because $PM_{2.5}$ samples were composited for speciation analyses, only monthly average source-specific $PM_{2.5}$ values were available to derive pregnancy averages; thus, temporal variation may not be well represented. The following CMB optimal performance criteria were used by SCAQMD to assess model fit: R^2 values of 0.8–1.0; chi-square values of < 4.0; and differences between calculated and measured $PM_{2.5}$ mass of < 20%. SCAQMD conducted sensitivity tests using various source profiles for diesel and gasoline exhaust, biomass burning, and meat cooking. Final source profiles were selected based on the above performance criteria and comparison of results with previous measurement studies in the LA Basin. For example, the SCAQMD used two separate gasoline source profiles in the CMB model: one developed for the LA Basin as part of the Department of Energy's Gasoline/Diesel Split Study (Fujita et al. 2006) and a second developed as part of the Northern Front Range Air Quality Study (NFRAQS) (Zielinska et al. 1998). Although there were only minor impacts on other source category estimates, the proportion of $PM_{2.5}$ attributed to gasoline combustion differed substantially depending on which profile was used. Here we used results based on the NFRAQS profile, as recommended in SCAQMD (2008), but acknowledge this as a source of uncertainty in our results for $PM_{2.5}$ attributed to gasoline motor vehicles.

Another source of exposure measurement error is the reliance on address information reported on birth certificates, which does not account for residential mobility during pregnancy. Previous studies indicate that 12–28% of women change residence during pregnancy (Chen et al. 2010; Lupo et al. 2010; Madsen et al. 2010). In our previous population-based survey of women residing in 111 ZIP codes

in LA County and delivering in 2003, 22% of women reported moving during pregnancy (Ritz et al. 2007). Air pollution effect estimates based on ambient monitoring data remained unchanged or were slightly strengthened when we restricted analyses to women who did not move. However, smaller spatial-scale exposure estimates (e.g., LUR) may be subject to more error due to residential mobility than regional, background exposure estimates based on monitoring station data.

For this study we relied on information recorded on California birth certificates, limiting our ability to control for certain confounders, such as maternal active or passive smoking. In a previous study incorporating survey data (Ritz et al. 2007), air pollution effect estimates for preterm birth did not change appreciably when we added smoking variables to models already including maternal age, education, race/ethnicity, and parity. Additionally, our population was predominately Hispanic and foreign-born, and prenatal smoking rates among these groups are generally low (< 3%) (California Department of Public Health 2006). Confounding by other SES-related factors potentially correlated with air pollution is also of concern. Our air pollution effect estimates did not change appreciably when we adjusted for prenatal care initiation or payment source or for a census-based SES measure. Also, in our survey-based study, adjustment for family income did not change air pollution effect estimates for preterm birth after adjustment for birth certificate variables (Ritz et al. 2007).

A major strength of our study was the use of novel air toxics and LUR exposure information in addition to routine government monitoring station data for criteria pollutants to help identify specific emission sources of concern for fetal health. Odds of term LBW were positively associated with LUR exposure metrics and $PM_{2.5}$ from diesel and gasoline combustion and paved road dust, suggesting potential importance of mobile source emissions specifically for this outcome. Entire pregnancy averages for CO and $PM_{2.5}$ were correlated with PAH averages, suggesting that these pollutants could have acted as markers for PAHs in previous studies, at least in the LA basin. Ideally, future birth outcome studies would use larger data sets, with neighborhood-level monitoring of PAHs and possibly speciated $PM_{2.5}$ measured in each season.

Conclusions

These analyses provide additional evidence that local as well as regional traffic-related air pollution adversely impacts fetal growth in Southern California. The positive associations we observed for traffic source particles support previous studies and call for additional research focused on these pollutants. Future birth outcome studies would benefit from measurement and GIS-based models of particle and PAH exposures.

Correction

A coding error necessitated changes in some of the values in the tables originally published online. These have been corrected here, and do not change the major results or conclusions of the study.

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Early-Life Exposure to Polycyclic Aromatic Hydrocarbons and ADHD Behavior Problems

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Abstract

Importance: Polycyclic aromatic hydrocarbons are widespread urban air pollutants from combustion of fossil fuel and other organic material shown previously to be neurotoxic.

Objective: In a prospective cohort study, we evaluated the relationship between Attention Deficit Hyperactivity Disorder behavior problems and prenatal polycyclic aromatic hydrocarbon exposure, adjusting for postnatal exposure.

Materials and Methods: Children of nonsmoking African-American and Dominican women in New York City were followed from *in utero* to 9 years. Prenatal polycyclic aromatic hydrocarbon exposure was estimated by levels of polycyclic aromatic hydrocarbon- DNA adducts in maternal and cord blood collected at delivery. Postnatal exposure was estimated by the concentration of urinary polycyclic aromatic hydrocarbon metabolites at ages 3 or 5. Attention Deficit Hyperactivity Disorder behavior problems were assessed using the Child Behavior Checklist and the Conners Parent Rating Scale- Revised.

Results: High prenatal adduct exposure, measured by elevated maternal adducts was significantly associated with all Conners Parent Rating Scale-Revised subscales when the raw scores were analyzed continuously (N = 233). After dichotomizing at the threshold for moderately to markedly atypical symptoms, high maternal adducts were significantly associated with the Conners Parent Rating Scale-Revised DSM-IV Inattentive (OR = 5.06, 95% CI [1.43, 17.93]) and DSM-IV Total (OR = 3.37, 95% CI [1.10, 10.34]) subscales. High maternal adducts were positivity associated with the DSM-oriented Attention Deficit/Hyperactivity Problems scale on the Child Behavior Checklist, albeit not significant. In the smaller sample with cord adducts, the associations between outcomes and high cord adduct exposure were not statistically significant (N = 162).

Conclusion: The results suggest that exposure to polycyclic aromatic hydrocarbons encountered in New York City air may play a role in childhood Attention Deficit Hyperactivity Disorder behavior problems.

Citation: Perera FP, Chang H-w, Tang D, Roen EL, Herbstman J, et al. (2014) Early-Life Exposure to Polycyclic Aromatic Hydrocarbons and ADHD Behavior Problems. PLoS ONE 9(11): e111670. doi:10.1371/journal.pone.0111670

Editor: Robert L. Tanguay, Oregon State University, United States of America

Received June 5, 2014; **Accepted** October 6, 2014; **Published** November 5, 2014

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Data Availability: The authors confirm that, for approved reasons, some access restrictions apply to the data underlying the findings. The data on which the manuscript is based are not freely available in the manuscript, supplemental files, or in a public repository, although a de-identified dataset is available upon request. Requests for data should be submitted to the corresponding author, Dr. Frederica Perera, fpp1@columbia.edu. The data are not freely available because they contain a significant number of data elements that are considered Protected Health Information (PHI) under HIPAA regulations. We will make the data available upon request as a Limited Data Set, under a standard HIPAA Data Use Agreement that will be reviewed and approved by our Columbia University Privacy Officer.

Funding: Funding was provided by the National Institute for Environmental Health Sciences (NIEHS) and the U.S. Environmental Protection Agency (US EPA): NIEHS/EPA P01ES09600/R82702701, NIEHS/EPA P01ES09600/RD832141, NIEHS/EPA P01ES09600/RD834509, NIEHS R01ES08977. This publication was also made possible in part by US EPA grants RD832096, the John & Wendy Neu Family Foundation, the New York Community Trust, Trustees of the Blanchette Hooker Rockefeller Fund, and an anonymous foundation. Funding from all the institutions listed was used towards the design and conduct of the study; collection, management, analysis, and interpretation of the data; and the preparation, review, and approval of the manuscript. Its contents are solely the responsibility of the grantee and do not necessarily represent the official views of the US EPA. Further, US EPA does not endorse the purchase of any commercial products or services mentioned in the publication. Findings expressed in this paper are the opinions of the authors and do not necessarily reflect the official opinion of the Centers for Disease Control and Prevention.

Competing Interests: The authors have declared that no competing interests exist.

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Introduction

Polycyclic aromatic hydrocarbons (PAH), such as benzo[a]pyrene (B[a]P), are toxic air pollutants released during incomplete combustion of fossil fuel, tobacco, and other organic material [1]. They are also found in the diet. In New York City (NYC) and other urban areas, traffic and residential heating are major local sources. There is also some contribution from coal-burning sources in states upwind. Urban, minority populations in the U.S. often have disproportionate exposure to air pollution and are at greater risk for adverse health and developmental outcomes from this exposure [2–5]. All of the mothers in the Columbia Center for Children's Environmental Health (CCCEH) NYC cohort had detectable levels of PAH in prenatal personal air samples; 42% had detectable levels of B[a]P-DNA adducts in maternal blood; and 46% had detectable levels of B[a]P-DNA adducts in cord blood. B[a]P is considered a representative PAH and is highly correlated with other PAH class members [6]. PAH-DNA adducts reflect individual exposure to PAH, integrating exposure over a 2–3 month period [7]and via different routes (primarily inhalation and ingestion). Adducts provide a biologic dosimeter as they not only reflect inter-individual differences in exposure and uptake of PAH but also in detoxification and DNA repair [8,9].

Because of the heightened susceptibility of the fetus and young child, exposures to PAH and other environmental pollutants during the prenatal and early postnatal stages are of particular concern [10–13]. During the fetal period and early childhood years, the brain is rapidly developing and vulnerable to neurotoxic insults that may manifest as adverse outcomes in childhood and adulthood [14,15]. Laboratory studies of PAH exposure during the prenatal, neonatal, or adult periods have reported a range of neurodevelopmental and behavioral effects, [16,17] including hyperactivity [18,19]. In the present CCCEH cohort, prenatal exposure to PAH measured by prenatal air monitoring or B[a]P-DNA adducts in maternal or umbilical cord blood at delivery was associated with developmental delay at age 3 [20], reduced IQ at age 5 [21], and symptoms of anxiety/depression and attention problems at ages 6–7 [6].

Attention-deficit/hyperactivity disorder (ADHD) is the most common behavioral disorder diagnosed in children [22] and is often accompanied by anxiety and depression [23–26]. In our cohort, ADHD behavior problems and anxiety/depression at age 9 were significantly correlated ($r = 0.43$, $p<0.0001$). Children with ADHD are at increased risk of substance abuse, conduct, and mood disorders [27–30]. Family history, certain environmental contaminants, alcohol use, maternal smoking during pregnancy, pregnancy and delivery complications, and psychosocial adversity have been implicated or identified as risk factors for ADHD [31,32].

Prior data on air pollution and ADHD are suggestive. For example, a cross-sectional study found an association between ambient particulate matter (PM_{10}) and childhood ADHD [33]. In a longitudinal study, estimated exposure during infancy to elemental black carbon, based on air sampling data and land use regression modeling, was significantly associated with ADHD-related symptoms [34]. Another cohort study reported an association between attention and children's lifetime exposure to black carbon based on children's residence and a spatiotemporal model [35]. Ours is the first report of associations between individual measures of early-life exposure to PAH pollutants and ADHD behavior problems in children.

Methods

Sample selection

A complete description of the NYC cohort appears elsewhere [20,36]. Briefly, African-American and Dominican women who resided in Washington Heights, Harlem, or the South Bronx in NYC, U.S., were recruited between 1998 and 2006 through local prenatal care clinics. Enrollment was restricted to women who were non-active cigarette smokers; ages 18–35; non-users of other tobacco products or illicit drugs; free of diabetes, hypertension, or known HIV; and who had initiated prenatal care by the 20th week of pregnancy. The Institutional Review Board of the Columbia University Medical Center approved the study. Mothers signed a consent form, approved by the IRB, for themselves and their children at the time of enrollment and at every subsequent visit. The children sign an IRB-approved assent form beginning at age 7. The consent and assent forms are available in English and Spanish and clearly explain the study goals and procedures.

The sample included in the present analysis is composed of the children who had available data on at least one adduct measure (maternal or newborn), the CPRS and the CBCL assessments, and all covariates of interest ($N = 250$).

Maternal/child characteristics and home caretaking environment

Demographic, health and environmental conditions. A 45-minute structured questionnaire was administered by a trained bilingual interviewer during the last trimester of pregnancy to obtain demographic information, residential history, and health and environmental data such as active smoking (to confirm non-active smoking status) and passive smoking [36]. The questionnaire also elicited information on dietary PAH (consumption of broiled, fried, grilled or smoked meat), and socioeconomic information related to income and education. Postnatal interviews were administered in person at 6 months and annually thereafter to determine changes in residence, exposure to environmental tobacco smoke (ETS), and health and environmental conditions.

Maternal demoralization. Maternal demoralization, a measure of maternal nonspecific psychological distress that has been linked to neurodevelopment [37–39], was measured at each visit by the Psychiatric Epidemiologic Research Instrument Demoralization Scale (PERI-D) [40].

Non-verbal intelligence. The Test of Non-Verbal Intelligence-Second Edition (C-TONI-2) [41] was administered to the mothers when the child was about 3 years old.

Home assessment. Caldwell and Bradley's Home Observation for Measurement of the Environment (HOME) [42] was administered in the home by research workers, also when the child was about 3 years old, to assess physical and interactive characteristics of the child rearing environment.

Maternal ADHD. At the child's 7 year visit, mothers completed the Conners Adult ADHD Rating Scales (CAARS) [43]. Given the high heritability rate of ADHD [44], maternal ADHD symptoms on the CAARS were included as a covariate in our analyses.

Child anxiety/depression. Childhood ADHD and anxiety/depression are frequently comorbid conditions [24]. The continuous score for symptoms of anxiety/depression on the CBCL at age 9 [45] was included as a covariate.

Independent variables

Prenatal exposure: PAH-DNA adducts. Following delivery, maternal blood and umbilical cord blood samples were collected. Within several hours following collection, samples were

transported to the CCCEH Molecular Epidemiology Laboratory, processed, and stored at −70°C. B[a]P–DNA adducts in extracted white blood cell DNA were analyzed using the high performance liquid chromatography (HPLC)/fluorescence method which detects B[a]P tetraols [12,46]. Not all participants had adequate DNA quantity for adduct analysis.

Postnatal exposure: urinary PAH metabolites. At the CDC, a suite of PAH metabolites was measured in spot urine (collected from the child at ages 3 and 5) using automated liquid-liquid extraction and gas chromatography/isotope dilution high-resolution mass spectrometry [47–49]. Although PAH urinary metabolite have a short lifetime (half-life of 6–35 hours) [50], in conditions of chronic exposure they provide a useful measure of exposure to PAH [47,48]. Specific gravity (SG) measurements were used to control for urinary dilution of the samples using the following formula: freshweight metabolites for the subject*(mean SG-1)/(SG for that subject-1) [51,52].

Behavioral outcomes

ADHD behavior problems were assessed using two complementary parent-report instruments: the CBCL for ages 6–18 (CBCL) [53] and the CPRS- Revised: Long Version [54]. The CBCL is a screening instrument assessing childhood competencies, adaptive functioning, and problems [45]. The CPRS is a focused assessment of childhood ADHD and its common comorbid disorders [54,55]. Both are widely used instruments that measure ADHD problems and attention function and have been used to study their associations with diverse environmental contaminants [56–59]. Both instruments yield scales derived from the DSM-IV [60] that are intended to screen for ADHD-behavior problems and indicate those children requiring follow-up. Mothers self-administered the 80-item CPRS [54] and the 118-item CBCL [53] when their children were 9 years old, under the guidance of trained research workers. Outcomes analyzed included the CBCL DSM-oriented Attention Deficit/Hyperactivity Problems scale, and the CPRS ADHD Index and DSM-IV subscales (denoted as "Total", "Inattentive", and "Hyperactive-Impulsive"). The "Total" DSM-IV measure comprises the "Inattentive" and "Hyperactive-Impulsive" subscales. For both instruments, the child's responses were scored and summed to a raw score. T-scores were derived from raw scores based on the normative comparison sample as described in the administration manual and used to determine the child's classification [53,54]. On the CBCL DSM-oriented Attention Deficit/Hyperactivity Problems score, children above the 93rd percentile were classified as "borderline clinical", and those below the 93rd percentile were classified in the normal range [53]. The CPRS DSM-IV subscales and ADHD Index scores were dichotomized based on the classification of a T score >65 as "moderately to markedly atypical" and a T score ≤65 as "in the normal range" [54].

Statistical Analysis

As in prior analyses [6], adduct levels were dichotomized as detectable/non-detectable ("high/low"), with detectable levels observed in 42% of maternal and 46% of cord blood samples in the whole cohort. Dichotomization of exposure variables is less vulnerable to measurement error and permits comparison of the most highly exposed children to children with lower exposure. In our analyses, (1-hydroxynaphthalene, 2-hydroxynaphthalene, 2-hydroxyfluorene, 3-hydroxyfluorene, 9-hydroxyfluorene, 1-hydroxyphenanthrene, 2-hydroxyphenanthrene, 3-hydroxyphenanthrene, 4-hydroxyphenanthrene) were summed to provide a composite measure denoted "PAH metabolites". PAH metabolites in child urine at ages 3 or 5 were dichotomized at the respective medians for the entire cohort and treated as "high/low". In terms of data analysis, the age 5 metabolite level was preferentially selected, but if that measure was missing, the age 3 metabolite level was used. In secondary analyses, adducts and PAH metabolites were also treated as a continuous variable after log transformation.

Covariates were selected based on whether they were significant contributors to the model (at $p \leq 0.1$) for at least one of the outcomes and included: prenatal ETS exposure, child's sex, child's ethnicity, child's gestational age, mother's intelligence, mother's completed years of education prior to birth of the child, maternal prenatal demoralization, maternal ADHD symptoms, child's exact age at assessment (in months), the quality of the early home caretaking environment, and season at time of monitoring (heating vs. non-heating) (Table 1). We further adjusted for child anxiety/depression at age 9 since it is a well-documented comorbid condition with ADHD and symptoms overlap [24]. Moreover, we have previously found associations of PAH with child anxiety/depressive symptoms [6]. Dietary PAH, measured prenatally during the third trimester, was not a predictor of outcomes at $p \leq 0.1$. The associations between the dichotomized PAH exposure variables and continuous raw scores and dichotomized T scores for ADHD-related behavior were analyzed by Poisson and logistic regression, respectively.

Results

Maternal and cord adducts were not significantly correlated with prenatally air monitored PAH, ETS, or dietary PAH.

Table 1 presents the socio-demographic, outcome, and exposure characteristics of the children who had available data on maternal or cord adducts, stratifying on whether or not they had data on neurobehavioral outcomes and covariates of interest and were thus included (N = 250) or not included (N = 364) in the analysis. The two groups were similar except that the group included had a higher proportion of females and were younger at the CPRS assessment, though all assessments were given at approximately age 9. The level of adducts and percentage characterized as high vs. low did not differ between those included and not included. Comparing the group included (N = 250) with those children who did not have maternal or cord adduct data (N = 111), there were differences in terms of exact age at assessment for the CBCL and CPRS, home inventory scores, and percentage of mothers that had completed high school (data not shown).

Table 2 summarizes the distribution of CBCL and CPRS scores in the entire sample. Table 3 shows the number of children in the borderline or clinical range on the CBCL, and the number in the moderately to markedly atypical range on the CPRS. Consistent with other studies, there was substantial overlap between the number of children categorized in the moderately to markedly atypical range on the Hyperactive-Impulsive and Inattentive problems, as shown in Figure 1.

Table 4 summarizes the associations between maternal (N = 233) and cord adduct (N = 162) exposure and CBCL DSM-oriented Attention Deficit/Hyperactivity problems and all CPRS outcomes, adjusting for postnatal PAH exposure and selected covariates. When considering outcomes analyzed as continuous raw scores, all CPRS subscales were positively and significantly associated with high maternal adduct exposure. After dichotomizing the outcome measures, those with high maternal adducts had odds of being categorized as moderately to markedly atypical on the DSM-IV Inattentive and DSM-IV Total scales 5.06 (95% CI [1.43, 17.93]) and 3.37 (95% CI [1.10, 10.34]) times greater than those with low maternal adducts. High maternal adduct exposure

Table 1. Characteristics of the children included in the analysis and those not included due to missing data.

	Subjects included in the analysis (N = 250)[a]	Subjects not included in the analysis (N = 364)[b]	
Variables	Mean ±SD or %	Mean ±SD or %	p-value
High maternal adducts[c]	37.34%	44.25%	0.10
High cord adducts[c]	39.51%	49. 37%	0.07
High urinary PAH metabolites at ages 3 or 5[d]	49.20%	55.07%	0.22
Log-transformed urinary PAH metabolites at ages 3 or 5[e]	9.02±0.89	9.03±0.80	0.86
Log-transformed maternal adduct (per 10^8 nucleotides)	−1.73±0.47	−1.68±0.48	0.20
Log-transformed cord adduct (per 10^8 nucleotides)	−1.67±0.53	−1.59±0.53	0.13
CBCL DSM-oriented Attention Deficit/Hyperactivity Problems (% with borderline or clinical diagnosis)[f]	7.20%	10.66%	0.32
CPRS subscales (% categorized as moderately to markedly atypical)[g]			
ADHD Index	8.40%	7.87%	1.00
DSM-IV Inattentive	8.40%	5.51%	0.41
DSM- IV Hyperactive- Impulsive	10.80%	14.17%	0.40
DSM-IV Total	10.40%	7.87%	0.47
Prenatal ETS exposure (% yes)	33.20%	37.36%	0.30
Child sex (% female)	**57.60%**	**48.35%**	**0.03***
Child ethnicity (AA%)[h]	40.00%	33.24%	0.09
Gestational age (in weeks)[i]	39.35±1.37	39.34±1.44	0.94
Maternal intelligence[j]	20.82±8.78	20.25±8.62	0.47
Maternal education (%≥ high school education)	64.80%	59.83%	0.24
Maternal demoralization score	1.15±0.61	1.18±0.67	0.67
Maternal ADHD (CAARS ADHD index raw score)[k]	38.79±8.87	37.67±7.16	0.15
CBCL age (in months)[l]	108.01±1.83	108.78±4.60	0.14
CPRS age (in months)[l]	**107.96±2.02**	**109.15±4.97**	**0.03***
Home environment[m]	40.09±5.94	39.33±6.09	0.18
Heating season (% yes)[n]	54.0%	56.52%	0.64
Child anxiety/depression (CBCL anxiety/depression raw score)[o]	2.74±3.02	2.53±2.80	0.53

[a]Subjects were included if they had data for maternal adducts and/or cord adducts, as well as data on CBCL, CPRS outcome and all covariates of interest.
[b]Subjects not included are those that had available data on cord and/or maternal adducts but were missing data on the CBCL, CPRS outcomes and/or any covariates included in the final model.
[c]Adduct levels were dichotomized as detectable/non-detectable (''high/low'').
[d]PAH metabolites in child urine at ages 3 or 5 were dichotomized at the respective medians (''high/low'').
[e]Children with urinary PAH metabolite measurement at ages 3 or 5.
[f]Based on T score. Borderline or clinical defined as percentile ≥93[rd].
[g]Based on T score. Moderately to markedly atypical defined as T-score >65.
[h]Percent African American; the remainder are Dominican.
[i]Based on medical record data.
[j]Nonverbal intelligence measured by the TONI-2.
[k]Measure of maternal ADHD.
[l]Age at administration.
[m]HOME Inventory as a measure of the home caretaking environment.
[n]Third trimester in heating season.
[o]Based on CBCL Anxious/Depressed Syndrome Scale measured at age 9.
*p-value <0.05.
doi:10.1371/journal.pone.0111670.t001

was also significantly and positively associated with the CDCL DSM-oriented Attention Deficit/Hyperactivity Problems scale, though results did not reach statistical significance.

In separate models with log transformed adduct and metabolite values as the exposure variables, the direction and significance of the associations between adducts and outcomes were the same as the models with the dichotomized exposure with the exception of the CBCL DSM-oriented attention deficit hyperactivity scale raw score and CPRS DSM-IV Total scale raw score, which became borderline significant ($p = 0.06$, and $p = 0.08$, respectively) (data not shown).

Parallel analyses in the smaller number of subjects with available cord adduct data (N = 162) exposure found non-significant or borderline significant associations with all outcomes (Table 4).

Discussion

The present results suggest that high prenatal exposure, taking into account the potential effects of postnatal PAH exposure, may

Table 2. Distribution of CBCL and CPRS Scores in children at age 9 (N = 250[a]).

	Score Range		Mean of Scores		Percent in Borderline or clinical or Moderately to markedly atypical range[b]
Outcomes	**T Score**	**Raw Score**	**T score**	**Raw score**	
CBCL DSM-oriented Attention Deficit/ Hyperactivity Problems	50–80	0–14	53.9	3.1	7.2
CPRS subscales					
ADHD Index	40–89	0–34	49.8	6.4	8.4
DSM-IV Total	40–90	0–48	50.8	9.2	10.4
DSM-IV Hyperactive- Impulsive	41–90	0–25	52.8	4.7	10.8
DSM-IV Inattentive	40–88	0–25	48.9	4.5	8.4

[a]Children included in analysis with all covariates.
[b]CBCL "borderline or clinical" defined as percentile ≥93rd; CPRS "moderately to markedly atypical" defined as T-score >65.
doi:10.1371/journal.pone.0111670.t002

increase the risk of ADHD behavior problems. ADHD is a disorder that is known to impact school performance, social relationships, and occupational performance [61–66]. In the U.S. the annual societal cost of illness for ADHD is estimated to be between $36 and $52 billion, and the annual cost per individual is estimated to be $12,005 to $17,458 (2005) [67,68].

To our knowledge, there have been no prior epidemiological studies on the role of pre- and post-natal PAH exposure, here measured by chemical-specific biomarkers, on ADHD in school-age children. Prior experimental research and limited epidemiological studies have suggested links between PM and air pollution (elemental carbon and black carbon) and ADHD symptoms [33–35]. In the present longitudinal study high maternal adduct levels were not significantly associated with Attention Deficit/Hyperactivity problems on the CBCL screening test, but on the more detailed CPRS, consistently significant associations with a number of ADHD-related outcomes were seen. In particular, significant associations between high maternal adducts and the DSM-IV Total and DSM-IV Inattentive scales were observed in models treating CPRS scores as continuous and dichotomous outcomes. Consistency in the results across both of these outcome measures strengthens the conclusion that inattention is associated with prenatal PAH exposure.

The maternal and cord adducts were significantly but only modestly correlated ($r = 0.28$, $p < 0.0001$), probably because of the immaturity of the metabolic/detoxification and DNA repair systems in the fetus compared to the adult [69] and the differing genetic profiles of the mother and the child. The stronger relationship between the maternal adducts and ADHD-related outcomes than between the cord adducts and the same outcomes could be attributable to the effects of exposure on placental function and/or the fact that high levels of maternal adducts indicate that the mother has been highly exposed and is an efficient activator of PAH, resulting in higher transplacental exposure to reactive PAH intermediates. We used urinary PAH metabolites to assess postnatal exposure. This biomarker has been employed in many studies as an indicator of PAH exposure in the general population [70]. Although they represent recent exposure [71], the metabolites can provide a chronic measure of ambient PAH in populations with constant exposure [72].

The mechanisms by which PAH exposure might affect the developing brain are not fully understood. Several pathways have been suggested including endocrine disruption [73–75], binding to receptors for placental growth factors resulting in decreased exchange of oxygen and nutrients [76], binding to the human Ah receptor to induce P450 enzymes [77], DNA damage resulting in activation of apoptotic pathways [78–80], oxidative stress due to inhibition of the brain antioxidant scavenging system [81], and epigenetic alterations [82]. The prenatal period is critical because of the extensive structural and cellular-level changes that occur during this stage of development. However, because brain development and growth occurs throughout childhood, postnatal exposures to environmental pollutants may also affect children's neurodevelopment and behavior [83].

The strengths of the study include our ability to account for a number of potential confounding variables and to draw upon

Table 3. Number of children scoring in the borderline or clinical range on the CBCL and in the moderately to markedly atypical range on the CPRS in the analyses with maternal adducts or cord adducts[a].

	Maternal Adducts (N = 233)	Cord Adducts (N = 162)
CBCL DSM-oriented Attention Deficit/Hyperactivity Problems (Borderline or clinical[b])	18	15
CPRS subscales (Moderately to markedly atypical[b])		
ADHD Index	20	14
DSM-IV Total	25	19
DSM-IV Hyperactive Impulsive	26	19
DSM-IV Inattentive	20	15

[a]Children included in analysis with all covariates.
[b]CBCL- Borderline or clinical defined as percentile ≥93rd; CPRS- Moderately to markedly atypical defined as T-score >65.
doi:10.1371/journal.pone.0111670.t003

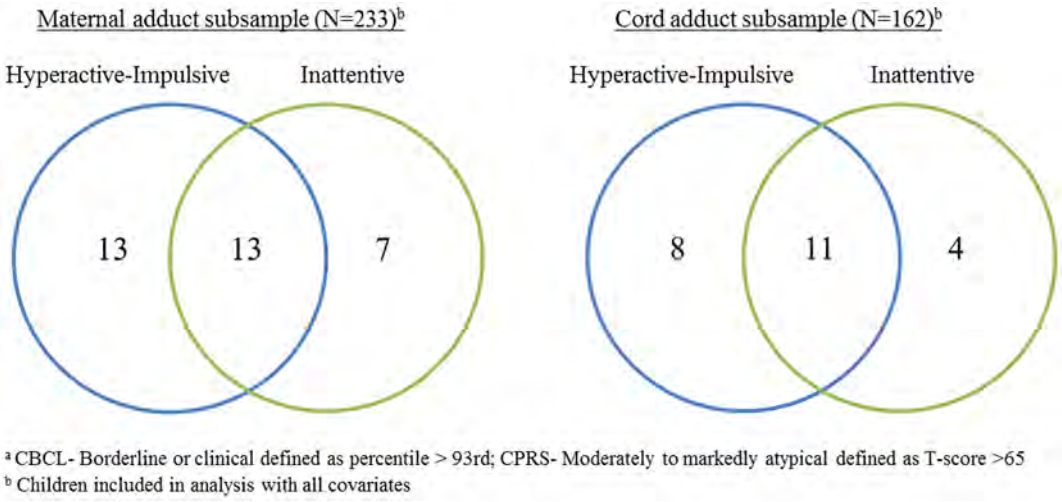


Figure 1. Number of children categorized as moderately to markedly atypical on the CPRS DSM-IV Hyperactive Impulsive and CPRS DSM-IV Inattentive Subscales[a].
doi:10.1371/journal.pone.0111670.g001

individual pre- and post-natal exposure data from biomarker and questionnaire data. We were able to use two complementary age-appropriate instruments to measure ADHD–related behaviors. The CBCL screens for various childhood behavior problems, including ADHD [53]. The CPRS tests specifically for ADHD and related problem behaviors and is intended to be more diagnostic than the CBCL [54]. Due to the prospective nature of our cohort study we were able to assess the association between environmental exposures sustained prenatally and future development of ADHD-related behaviors in childhood.

A limitation of the study is that unmeasured factors such as other pollutants, stress, and noise may have contributed to residual confounding. In addition, the number of children with moderately to markedly atypical outcomes on the CPRS (cases) was small, resulting in fairly wide confidence intervals around the odds ratios. However, the confidence intervals around the effect estimates for the continuous outcomes are much tighter. Although of interest, we

Table 4. Associations between PAH Exposure and CBCL DSM-oriented Attention Deficit/Hyperactivity problems and ADHD Behavior Problems on the CPRS Subscales adjusting for postnatal exposure[a].

	Maternal Adduct (N = 233)	Cord Adduct (N = 162)
Outcomes analyzed continuously		
	$\beta_{adducts}$(95% CI[b])	$\beta_{adducts}$ (95% CI[b])
CBCL DSM-oriented Attention Deficit/Hyperactivity Problems	0.13 (−0.03, 0.29)	−0.04 (−0.23, 0.15)
CPRS subscales		
ADHD Index	**0.14 (0.03, 0.25)***	−0.06 (−0.19, 0.07)
DSM-IV Total	**0.16 (0.07, 0.26)***	0.009 (−0.10, 0.12)
DSM-IV Hyperactive-Impulsive	**0.16 (0.03, 0.29)***	0.10 (−0.05, 0.26)
DSM-IV Inattentive	**0.17 (0.04, 0.31)***	−0.09 (−0.25, 0.06)
Outcomes analyzed dichotomously[c]		
	OR[b] (95% CI[b])	OR[b] (95% CI[b])
CBCL DSM-oriented Attention Deficit/Hyperactivity Problems	1.48 (0.38, 5.79)	1.17 (0.24, 5.66)
CPRS subscales		
ADHD Index	1.83 (0.61, 5.54)	0.93 (0.22, 4.01)
DSM-IV Total	**3.37 (1.10, 10.34)***	1.70 (0.47, 6.17)
DSM-IV Hyperactive-Impulsive	1.58 (0.55, 4.52)	1.04 (0.30, 3.61)
DSM-IV Inattentive	**5.06 (1.43, 17.93)***	1.32 (0.31, 5.56)

[a]Adjusting for postnatal PAH exposure (measured by metabolites at ages 3 or 5, adjusted for specific gravity), prenatal ETS, child sex, maternal education, child ethnicity, gestational age, maternal demoralization, heating season, HOME caretaking environment, maternal intelligence, child age at assessment, maternal ADHD, child anxiety/depression at age 9.
[b]OR stands for odds Ratio; CI stands for Confidence Interval.
[c]CBCL- Borderline or clinical defined as percentile ≥93[rd]; CPRS- Moderately to markedly atypical defined as T-score >65.
*p-value <0.05.
doi:10.1371/journal.pone.0111670.t004

did not have complete data on exposure to lead or mercury and were unable to account for this in our models. We were also unable to evaluate the effects of individual postnatal PAH metabolites that may have differing toxicities; however benzo[a]pyrene is an important, toxic member of the class of PAH. Finally, generalizability was reduced by the ethnicity restriction of our cohort (African-American and Dominican) and our exclusion of active smokers, illicit drug users, and women with pre-existing disease.

Conclusions

In conclusion, this study provides evidence that early exposure to environmental PAH may contribute to ADHD behavior problems in children. The results require confirmation but are of concern since children with ADHD are at greater risk of risk-taking behaviors [84], poor academic performance [85], and lower earnings in adulthood [86,87]. ADHD imposes large costs on society, estimated to range between $36 billion and $52 billion annually [67,68].

PAH are widespread in urban environments worldwide largely as a result of fossil fuel combustion. Fortunately, it is possible to reduce airborne PAH concentrations using currently available pollution controls, greater energy efficiency, the use of alternative energy sources, and regulatory intervention to control polluting sources.

Acknowledgments

Funding was provided by the National Institute for Environmental Health Sciences (NIEHS) and the U.S. Environmental Protection Agency (US EPA): NIEHS/EPA P01ES09600/R82702701, NIEHS/EPA P01ES09600/RD832141, NIEHS/EPA P01ES09600/RD834509, NIEHS R01ES08977. This publication was also made possible in part by US EPA grants RD832096, the John & Wendy Neu Family Foundation, the New York Community Trust, Trustees of the Blanchette Hooker Rockefeller Fund, and an anonymous foundation. Funding from all the institutions listed was used towards the design and conduct of the study; collection, management, analysis, and interpretation of the data; and the preparation, review, and approval of the manuscript. Its contents are solely the responsibility of the grantee and do not necessarily represent the official views of the US EPA. Further, US EPA does not endorse the purchase of any commercial products or services mentioned in the publication. Findings expressed in this paper are the opinions of the authors and do not necessarily reflect the official opinion of the Centers for Disease Control and Prevention.

Analysis of PAH metabolites was conducted at the Centers for Disease Control and Prevention, National Center for Environmental Health, Division of Laboratory Sciences, 4770 Buford Highway, Atlanta, Georgia 30341, United States, in the laboratory of Andreas Sjodin, PhD. We also thank Joanne Chin, MFA, at the Columbia Center for Children's Environmental Health, 722 W. 168th Street, New York, NY 10032, United States, for assistance in manuscript preparation.

Author Contributions

Acquired the data: FPP HC AM TH SW VR. Interpreted the data: FPP HC AM TH SW VR. Drafted the article or revised it critically for important intellectual content: FPP ELR AM SW VR. Final approval of the version to be published: FPP HC DT ELR JH RLM AM TH SW VR.

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AIMS Environ Sci. Author manuscript; available in PMC 2016 April 18.

Published in final edited form as:

AIMS Environ Sci. 2015 ; 2(2): 353–373. doi:10.3934/environsci.2015.2.353.

Traffic-related air pollution and brain development

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Abstract

Automotive traffic-related air pollution (TRP) imposes an increasing health burden with global urbanization. Gestational and early child exposure to urban TRP is associated with higher risk of autism spectrum disorders and schizophrenia, as well as low birth weight. While cardio-respiratory effects from exposure are well documented, cognitive effects are only recently becoming widely recognized. This review discusses effects of TRP on brain and cognition in human and animal studies. The mechanisms underlying these epidemiological associations are studied with rodent models of pre- and neonatal exposure to TRP, which show persisting inflammatory changes and altered adult behaviors and cognition. Some behavioral and inflammatory changes show male bias. Rodent models may identify dietary and other interventions for neuroprotection to TRP.

Keywords

brain; body weight; prenatal; traffic-related air pollution; inflammation; PM2.5; ultrafine PM

1. Introduction

Air pollution from fossil fuel combustion is increasingly recognized for its globally adverse effects on health throughout life. We focus here on traffic-related air pollution (TRP) from roadways in urban settings, for which there is strong epidemiological association with cardiovascular and pulmonary morbidity and mortality [1-4]. Moreover, TRP shows increasing evidence for impact on the brain. Thus, pre- and neonatal developmental exposure to TRP increases risk for low birth weight, and numerous cognitive detriments, including autism spectrum disorders (ASD), schizophrenia, delayed development and cognitive impairment [5-8]. The risks for these disorders are especially high during development, and pollution exposure during gestation can alter development and create lifelong deficits.

First, we discuss epidemiological data on the effects of TRP exposure during gestational development, including impaired fetal growth, as this is often associated with cognitive defects, and the effects of TRP exposure on later life cognition are reviewed. Rodent models are evaluated, as well as the relevant data produced from those models in this nascent field.

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Conflict of interest: All authors declare no conflicts of interest in this paper.

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2. Overview of TRP

We review two broad groups of TRP: the airborne particulate matter (PM) and the vapor (gaseous) phase, with emphasis on the particulate matter component of TRP. Urban TRP PM is a complex and heterogeneous mixture that includes residues from fossil fuel combustion, organic chemicals, trace metals, nitrate, and sulfate. There are also airborne components from brake linings and the vehicular chassis, as well as roadway components and dust. The recognized size classes of airborne PM range from coarse PM (> 10 μm diameter) to microscopic classes with aerodynamic diameters less than 2.5 μm ($PM_{2.5}$) and 0.1 μm, ($PM_{0.1}$). For each class, primary emissions are transformed from exposure to sunlight and atmospheric ozone and nitric oxides during diurnal and seasonal cycles. While coarse PM are largely trapped by the upper airways, smaller PM can impact the brain directly from olfactory neurons in the nasal mucosa, as well as by systemic effects from the lower airways [9]. The smaller PM sizes are associated with many pathological effects of air pollution [10,11]. Although some studies lump the two smaller size classes under $PM_{10,}$ all three categories have notable adverse effects, as well as different distributions in space and dispersion characteristics.

Of the three categories of particulate matter, $PM_{2.5}$ (fine PM) has received the most attention, with current US EPA standards [12] of 12 $\mu g/m^3$. The EPA has not yet addressed $PM_{0.1}$ (UFP, or ultrafine particulates). This class of TRP warrants attention in public health because of experimental evidence for its greater cytotoxicity [13,14], potentially due to the greater penetration through cell membranes [15]. One reason UFP has not been fully appreciated is due to monitoring technology of PM based on weight and not particle number, where it is a large percentage of the total PM. We note alternate terminology of nanoscale PM, $PM_{0.2}$, which encompasses a larger portion of the ultrafine particles, and is considered alongside UFP in this review. UFP is associated with numerous adverse health effects, and comprises the majority of all PM in combustion-derived exhaust [15]. Their small size facilitates the crossing of physiological barriers, including the blood-brain barrier and the placenta as discussed below [6,9,16].

For discussion of developmental exposure, we briefly note that adverse health effects of air pollution exposure increase with closeness to major road [10,17]. UFP was reduced by approximately 80% at a distance of 150 meters from the roadway [11]. Neither $PM_{2.5}$ nor PM_{10} decreased substantially within 150 meters [18], and are decreased by less than 20% at a distance of 400 m vs. 50 m from a roadway [19]. The rate of dilution of UFP was correlated with increased cardiopulmonary mortality, inversely with distance from roadways [10].

3. Epidemiology

3.1. Low birth weight

Because developmental cognitive defects are often associated with fetal growth retardation, it is important that TRP can impact fetal growth. Associations between air pollution exposure in gestation and impaired fetal growth continue to emerge. In particular, $PM_{2.5}$ is associated with low birth weight (LBW) (< 2,500 g), preterm birth, and small gestational

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size [20]. However, the critical period for exposure during pregnancy and threshold for these effects remain undefined. We discuss select large-scale studies of PM exposure during gestation. Also see the comprehensive review of Shah and Balkhair [20].

A large Los Angeles based study (n = 220,528) showed 5% greater risk of LBW from $PM_{2.5}$ exposure, with a range of 2.4 μg/m^3 [7]. Other studies used ultrasound to determine the gestational timing of LBW association with air pollution. The largest of these studies (17,660 pregnancies) showed the most consistent association PM_{10} exposure during days 91–120 of pregnanc y, where high PM_{10} correlated with smaller abdominal circumference, heard circumference, and femur length [21]. Though this study did not find association with nitric oxide (NO_2) exposure, other studies associated exposures of NO_2 > 38 μg/m^3 with reduced fetal size, femur length, and biparietal distance, even when high NO_2 was recorded only for weeks 12–20 [12 ,23]. Other studies associated elevated PM_{10} exposure with preterm birth [23,24,25]. A potential mechanism underlying LBW is oxidative stress from maternal exposure during pregnancy to TRP, e.g. increased placental DNA adducts [26].

Obesity is also showing association with air pollution components, which may contribute to diabetes and the metabolic syndrome [27]. Adults (n = 5,228) exposed to NO_2 showed 17% higher risk of diabetes mellitus in the top vs. lowest quintile, differing by 4 ppb [28]. There are also correlations between PM_{10} exposure and the white blood cell count, a marker for systemic inflammation [29].

3.2. Cognitive changes

Epidemiological studies of TRP show negative associations with adult cognition [5,30,31] and brain development [5,30,31,32]. In particular, pre- and postnatal exposure to urban TRP is correlated with autism spectrum disorders (ASD), schizophrenia, and impaired cognitive development. We briefly summarize these findings.

ASD was associated with local gradients in components of TRP, mainly $PM_{2.5}$. Two studies utilizing the California based CHARGE (Childhood Autism Risks from Genetics and the Environment) database found about 2-fold higher odds ratio (OR), for development of ASD, when living near a freeway during the 3rd trimester, and at delivery (< 309 m defined as near, with > 1,419 m as reference group) [31,33]. Exposure during the first postnatal year was associated with 3-fold higher OR for ASD [31]. $PM_{2.5}$ had an OR of 2.08 for gestational exposure, and 2.12 for exposure in the first year of life [31,33]. Similarly, the Nurses' Health Study, a national sample, sho wed an OR of 2.0 for prenatal diesel particulate exposure, top vs. bottom quintile ($PM_{2.5}$ 4.40 vs. 0.60 μg/m^3) [34]. Contrarily, a study of Swedish twins did not find association of TRP with ASD (PM_{10} 3.3–4.2 μg/m^3); however, this study measured a broader size range of particles [2]. An analysis of 35 pollution components showed higher OR for ASD after exposure to methylene chloride, quinolone, and styrene, but not after diesel PM, or polycyclic aromatic hydrocarbons (PAHs) [35]. The authors noted that the control group had impairments of speech and language, which may have biased the results towards null findings.

Schizophrenia risk is also sensitive to TRP in top vs. bottom quintiles of urbanicity (population density) during gestation, but not during childhood [30]. A study of traffic

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volume and urbanicity (household crowding, social stressors) concluded that only traffic volume exposure at birth predicted schizophrenia (OR of 4.40 for the top vs. lowest quintile of traffic exposure) [5]. Both studies agree that only exposure during the gestational period correlated with increased risk.

TRP exposure during development is also associated with subclinical cognitive effects, including lower mental development, increased anxiety and depressive behavior, and attentional problems [32,36,37]. A Spanish national study showed decreased mental development for infants of mothers exposed during pregnancy to elevated NO_2 and benzene [36]. Importantly for potential interventions, this association was attenuated in mothers who self-reported a high intake of antioxidant rich foods. We also note the benchmark study of Perera et al. 2003 [38] on PAH levels for Hispanics and African Americans in New York City, which was the first to utilize personal monitors for PAH levels, with greater precision than citywide measurements. Developmental measurements at birth associated high PAH (> average 3.7 ng/m^3 in maternal blood) with a 9% decrease in birth weight, and a 2% decrease in head circumference. The OR for cognitive developmental delay, at 36 months from PAH exposure during gestation was 2.89, for the top vs. bottom quintile [37]. By age 6–7 years, individuals in the top exposure quintile were more anxious and depressed (OR 1.45), with more attentional problems (OR 1.28, top vs. bottom quintile) [32]. For DSM-IV oriented anxiety problems, the OR was a striking 4.59 [32].

4. Rodent models

4.1. Experimental approaches

Several labs have developed rodent models studying the developmental effects of TRP exposure, but no single paradigm has become widely accepted. The main findings (Tables 1–6) include effects on brain morphology, behavior, inflammatory markers, and neurotransmitters. Four experimental paradigms are currently used (Table 1): direct diesel exhaust inhalation, diesel exhaust particle (DEP) oropharyngeal aspiration, the Concentrated Air Particles delivery System (CAPS), and filter-trapped nano-sized ambient reaerosolized particles. Most studies used inhalation, while one lab used direct oropharyngeal aspiration of DEP.

Diesel exhaust: Pregnant mice were exposed to the whole exhaust stream from a diesel engine, diluted to concentrations ranging from 0.171–3.0 mg/m^3. Auten et al. 2012 [47] and Bolton et al. 2012 [48] utilized a 6.4 hp direct injection single cylinder 320-cc Yanmar L70V diesel generator, operating at a constant 3600 rpm. Yokota et al. 2009 [39] used a 2369-cc diesel engine, operating at 1050 rpm. The exhaust includes volatile gaseous components, notably CO, SO_2, and NO_2. Unlike other exposure paradigms, these particles are not filtered by size, and retain native charges. The direct diesel exhaust paradigm is missing other real world pollutants from vehicular traffic, e.g. rubber from tire erosion, brake lining debris, and reaerosolized dust from roadways. Moreover diesel engine exhaust can represent only one type of vehicle, and the particles are being directly emitted and thus did not undergo the secondary reactions from heat and sun exposure, which develop as a function of time after emission.

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Diesel exhaust particles (DEP)

Oropharyngeal Aspiration: (Auten et al. 2012 [47]) This is the only non-inhalation paradigm used in the prenatal studies. Diesel exhaust particles are collected from a single cylinder diesel engine, and then 50 μg of diesel exhaust particles (DEP) are suspended in 50 μL of PBS with 0.05% Tween-20 and delivered by oropharyngeal aspiration. Importantly, this delivery method bypasses nasal inhalation.

Reaersolized Inhalation: (Hougaard et al. 2008 [40]) Obtained from the National Institute of Standards and Technology, Standard Reference Material 2975, these particles are obtained from a diesel powered forklift, and are re-aerosolized for inhalation delivery [40,41]. Importantly, the re-aerosolized DEP, like the resuspended DEP for oropharyngeal aspiration, lack gaseous and volatile components. Also, because the particles are suspended in water, they are depleted of insoluble PM. Elimination of insoluble particulate matter is of special relevance, as this includes black carbon and polycyclic aromatic hydrocarbons (PAHs).

CAPS (Concentrated Ambient Particle System): Ultrafine fractioned particulate matter is concentrated next to a roadway for direct real time delivery at 10–20 times ambient concentration [42]. CAPS maintain ambient components, including gases and volatiles, and the native charges of the particles. Importantly, condensing the particles does not alter their natural size distributions, and does not amplify aggregation [13,42]. Limitations of this system are its dependence on the current traffic patterns, which fluctuate diurnally and seasonally.

Filter-trapped nano-sized PM from urban TRP: This paradigm, developed by Constantinos Sioutas at the University of Southern California [43], collects ambient air particulate matter, $PM_{0.2}$, on the roadside next to a high traffic source with a high-volume ultrafine particle sampler on 0.2 μm pore Teflon filters. Collections are made for 4–6 weeks in the fall to encompass the range of temperatures and moisture in Southern California [44,45]. The collection is continuous and includes secondary transformations during the diurnal cycle. Besides combustion products, the sample includes reaerosolized roadway dust, and traces from brake lining and tire erosion that are < 0.2 μm. The filters are sonicated in distilled water to yield a suspension, which is stored frozen until use. The reaerosolized PM has average particle size of 60 nm at a density of 350 $\mu g/m^3$, which is about 25× greater than ambient concentrations of that size range of particle [44,45]. The resuspension lacks ambient gases and is depleted in water insoluble organic species including PAHs and black carbon [43]. We designated these materials as nPM (nanoparticulate matter) in distinction from the size class of ambient UFP in the literature. After re-aerosolization, rodents are exposed to nPM together with ambient pollutants in the exposure room, which are 35–50% below outdoor ambient levels, while control animals have this air filtered by HEPA filters.

In summary, each experimental paradigm represents trade-offs. While DE is the most readily obtained, they are model emissions of one engine type and lack secondary atmospheric transformations of ambient pollution. The CAPS fully capture TRP for PM, gases, and volatiles, but vary diurnally and seasonally. The nPM capture diurnal variations, but the

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resuspension is deficient in black carbon (BC) and PAH among other water insoluble organic compounds.

4.2. Body weight

Epidemiological findings of air pollution on birth weight are corroborated in some rodent models (Table 2). Mice exposed to 3.0 mg/m^3 DEP had decreased fetal weight as early as gestational day (GD) 18 (equivalent to the human third trimester) [46]. Several studies observed a weight decrease four weeks after birth in mice exposed to DEP (Table 3) [40,47]. Finally, two studies observed a reversal later in life, with increased weight at four months of age in mice [48], and at eight weeks in rats [49]. Decreased weight at weaning [40,47], combined with increased weight later in life [48,49], corresponds with previously documented rebounding in weight after a prenatal stressor [50]. Air pollution also has an additive effect on weight when exposure occurs in utero, followed by a high fat diet (HFD = 45% calories from fat) after birth (Table 4) [48,51]. The prenatal DEP + HFD treated mice showed significant weight gain over high fat diet alone, a compounding effect similar to what was observed for inflammatory responses (increased cytokines, microglial activation) [48,51]. Males in both replicates showed greater weight gain from treatment [48,51]. However, females showed 4.4× greater weight gain for the first experiment [48], and no change in the second [51]. Notably, the first experiment used diesel exhaust inhalation, while the second employed oropharyngeal aspiration of DEP, which excludes gas components. Thus, it is possible that either a species lost in the conversion to suspended diesel particles, or the inhalation delivery route caused the weight gain. The high fat postnatal group showed insulin resistance with elevated serum insulin in the males [48,51]. Females showed only a change in serum leptin, while males did not show any differences from pollution exposure.

Exposure to highly polluted ambient Beijing air (75.3 μg/m^3) caused, worsened lipid profiles and weight gain in both rat mothers and offspring [49]. Pregnant dams had higher low-density lipoprotein (LDL), total cholesterol, triglyceride, and overall weight. Pups had increased weight at eight weeks, and worsened lipid profiles, with increased LDL, total cholesterol, and triglyceride, and decreased in HDL. Rodent models also corroborated mid-life and gestational weight effects [27,48,51,52].

4.3. Behavioral changes

Behavioral changes from developmental pollution exposure include cognitive and locomotor deficits (Table 2). Cognitive deficits include depressive symptoms, impaired short-term memory, and decreased response rates for fixed interval sixty-second (FI60) reward tests [53,54]. Mice exposed in utero to nPM showed increased immobility on a tail suspension test, which is a marker for depression [54]. Only males were vulnerable, with a decreased delay until first period of immobility, and 2.6× longer immobility versus control, which implicates activation of the amygdala [55,56]. Correspondingly, prenatal exposure to DEP (maternal oropharyngeal DEP aspiration) increased adult amygdala levels of monoamine neurotransmitters (dopamine, dopamine metabolites, and serotonin) [57]. However, the oropharyngeal DEP model did not alter adult forced swim performance, another marker for depression considered equivalent to tail suspension [48]. This discrepancy could be due to the different age at assessment (8 mo vs. 4 mo), or the different pollutant models.

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Impaired short-term memory was observed in neonatal mice exposed to CAPS, from postnatal day (PND) 4–7 and 10–13 and assessed at 2 months of age by the nov el object recognition test. In the one-hour posttest, CAPS exposed mice spent more time with the familiar versus novel object, indicative of impaired short-term memory [53]. The FI60 test, a model of impulsivity, showed decreased response and run rates, but only for males [53]. Despite smaller overall response rates, there was no significant difference in learning. In a separate experiment, conducted with the same exposure protocols, a secondary dose of pollution from PND 56–60 caused deficits in a fixed interval waiting for reward test, a classic model of impulsivity control [58]. These experiments included CAPS exposure on postnatal days 4–7 and 10–13. The sensitivity to neonatal e xposure is important because neonatal rodent nervous systems are relatively less mature compared to humans [59].

Deficits in short-term memory of neonatal CAPS exposure may be mediated by glutamatergic changes. Glutamate levels in the hippocampus, which is critical for spatial learning and memory, were increased 1.26-fold in the male CAPS exposed mice [58]. Though the effect returned to baseline by eight weeks of age, the transient glutamatergic increase during development could cause persisting effects, including excitotoxicity. Detailed studies of hippocampal circuit functions, e.g. LTP, and synaptic density are needed. Increased inflammatory cytokine levels (Il-6, IL-1b, TNF-a) are also relevant to behavioral deficits through their impact on synaptic plasticity. These cytokines showed complex changes in different brain regions in mice exposed to neonatal CAPS [58,60]. For example, TNF-a modulates glutamate, and potentiates the cell to glutamatergic excitotoxicity [61], which could alter short-term memory later in life.

Locomotor deficits from prenatal exposure to pollutants include decreased spontaneous motor activity and impaired balance (Table 4) [39,48,57,62]. Intriguingly, only males have shown decreased spontaneous motor activity in studies from several labs that include ages from 5 weeks to 5 months [39,60,62]. Decreased spontaneous motor activity at age 2 months in CAPS studies was only observed when paired with a second treatment from PND 56–60 (Table 4) [53]. Balance was impaired on the rotating rod test in prenatally exposed male mice at 5 weeks [57]. These mice also had decreased latency in the cliff avoidance test [57]. The impaired performance on these two balance tests is not attributable to differences in body weight [57]; only Bolton et al. 2012 reported weight differences [51]. We note that a shift from direct exposure to diesel exhaust to the oropharyngeal DEP in the same lab did not to replicate these effects [51].

4.4. Gross brain morphology

Gross brain weight has not shown sensitivity to prenatal exposure to nPM [54]. However, one study of neonatal exposure to concentrated ambient TRP reported gross enlargement of the lateral ventricles, particularly in males [63]. The nPM prenatally exposed mice revealed no gross brain abnormalities, but quantitation is needed. Cerebral vasculature has just begun to receive attention in air pollution models. After maternal intranasal exposure to black carbon, young adult mice had focal induction of GFAP in astrocyte endfeet on capillary endothelia and altered arterial macrophage granules [64]. These reports point to structural changes that could underlie cognitive dysfunctions from prenatal exposure.

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4.5. Neuronal changes

We note a major gap between the body of epidemiological evidence for TRP associations with brain development and the scant information on neuronal changes in animal models of prenatal TRP exposure. Reports on neuronal changes are scattered among different neurotransmitters, often in different brain regions, giving little cohesion of results (Table 5). Dopamine levels in the cerebral cortex illustrate the diversity. Mice exposed to prenatal diesel exhaust had lower cortical dopamine for males at 3 weeks, but no change at six weeks [57]. However, the same exposure paradigm in a different lab showed increased cortical dopamine at 5 weeks [62]. These studies used > 5-fold different levels of DEP density. The turnover of dopamine, estimated by the ratio of the catabolite DOPAC to dopamine, (DOPAC: DA) was higher in neonatally CAPS exposed male mice at two and eight weeks [58].

Neurotransmitter changes reported for adult rodent TRP exposures have not been borne out by prenatal exposures, potentially indicating different mechanisms. We observed decreased glutamate receptor 1 (GLUR1) in the hippocampus in mice exposed to nPM at age three months [43]. However, prenatal exposure did not alter hippocampus GLUR1 at eight months [54]. Neonatal exposure to DEP transiently increased hippocampal glutamate at two weeks, with return to baseline by eight weeks [58].

Cortical neurons harvested from one day old pups prenatally exposed to nPM showed impaired differentiation and neurite initiation, with fewer stage 3 neurons, compared to controls [54]. These pilot studies give a model for linking developmental exposure to alterations in neurons and glia.

4.6. Inflammatory changes

Inflammation may be a major mediator of maternal systemic and placental responses to air pollution exposure [60]. Systemic inflammation in the mother increases circulating inflammatory cytokines, influencing the development of the fetus, through methods such as the activation of microglia (Table 6) [48,65]. As noted above for neuronal changes, there is a need for similar protocols across labs in the investigation of inflammatory effects.

Prenatal exposure of mice to diesel exhaust rapidly increased cytokines (IL-1b, IL-6, IL-10, and TNF-a) on GD18 [47,48]. Microglial activation is suggested by increased chemokines CCL2/MCP-1 and CX3CL1/Fractalkine [48]. After CAPS neonatal exposure, proinflammatory cytokines (IL-6, IL-1b, TNF-a) were decreased at 2 weeks in males [58]. However, by eight weeks, a full month after the cessation of exposure, IL-1b and TNF-a rebounded to levels 1.4-fold above control's in midbrain[58]. Females showed a different time course, with little upregulation immediately following exposure, yet still showing delayed increases a month later. This effect was brain region specific: unlike the midbrain, the striatum had lower cytokines at the same times [58]. These sex differences in cytokine responses between different brain regions clearly show that inflammatory effects of pollution exposure must be studied in terms of brain pathways and cannot be generalized to the entire brain.

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Glial inflammatory responses are detected by the astrocyte specific GFAP (intermediate filament glial fibrillary acidic protein) and the microglial marker of IBA1 (ionized calcium-binding adapter molecule 1). These responses were observed in neonatal exposures, and prenatal exposures compounded with a secondary stimulus. Neonatal mouse exposures from PND 4–7 and 10–13 increased GFAP in the hippocampus, corpus callosum, and anterior commissure in females, while males responded with decreased GFAP [58]. These measurements were made immediately following exposure, at two weeks. IBA1 was upregulated in the hippocampus and corpus callosum for males, at eight weeks and 9 months, respectively [53,58]. Females showed no change for IBA1. Adult mice of several genotypes showed brain inflammatory responses, with induction of IL-1a and TNFa, and activation of microglia and astrocytes [13].

Inhalation of prenatal diesel exhaust, as well as oropharyngeal aspiration of DEP, did not elicit any changes in GFAP or IBA1 in mice, examined at six months of age [48,51]. However a high fat diet (HFD) starting at 4 months and lasting for six weeks, along with the prenatal DE exposure, increased IBA1, but not GFAP [48]. IBA1 was increased in hypothalamus, dentate gyrus, amygdala, and the CA1 of the hippocampus for males [48]. Females showed changes only in the hypothalamus and dentate gyrus [48]. This upregulation of IBA1 supports the hypothesis of air pollution exposure during gestation as an enhancer for later life environmental insults: the DE+HFD group responded more than either treatment alone, with changes in brain regions that did not change with only one of the treatments (Table 3). The two-hit hypothesis postulates that the first insult primes the system [48,60]. While inflammation may not be activated by a single insult, the second inflammatory challenge may cause a disproportionately larger response.

4.7. Sex differences

Sex differences are apparent in rodent responses to prenatal exposure, with greater male vulnerability observed. For open field activity, only male mice showed deficits [48]. For the tail suspension test, a measure of depressive behavior, only males were responsive, with no effect for females [54]. Further sex differences were shown in secondary treatments (Table 3). Release of inflammatory cytokines is profoundly affected by sex, a trend even more pronounced with the addition of a secondary insult. When prenatal diesel exposure is combined with either six weeks HFD, or nest restriction from gestational day (GD) 14–19, male mice show significant effects in numerous cytokines and chemokines, while females show no changes [51,66]. The combination of prenatal diesel exposure and adult high fat diet increased serum insulin, insulin resistance, and IL-1b, again only in male mice [51]. Brain inflammatory proteins CD11b, TLR4, and CXC3CR1 were increased only in males [51]. Likewise, only males had increased peripheral macrophage infiltration in the hypothalamus [51]. Furthermore, for nest restriction paired with diesel exposure, only males showed decreased contextual fear recall, and changes in brain TLR4, caspase-1, IL-1b, and IL-10 [28]. Finally, in the combination of PND 4–7, 10–13, and 55–60 CAPS exposure, only males showed increased IBA1 staining in the corpus callosum [53]. These experimental findings demonstrate greater male vulnerability to pollution exposure, especially when combined with a second insult.

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4.8. Nanoparticles in utero

One hypothesis for the mechanism underlying air pollution's physiological effects is unique to the nanoscale particulate matter component. It is possible that the particles might be able to cross the placental barrier to directly interact with the fetus, which develops a blood-brain barrier by gestational day 16 [67]. There is experimental evidence for transplacental transfer of nano-size PM. Titanium dioxide nanoparticles (25–70 nm dia) subcutaneously deli vered to pregnant mice on GD 3, 7, 10 and 14, were detected in male brains and testes six weeks postnatally [68]. Thus, model nanoparticles can cross both the maternal placenta and the blood-brain barrier of the developing fetus. *Ex vivo* models with human placenta and polystyrene beads show strong size dependency, with 50 and 80 nm beads rapidly crossing the placenta, possibly by simple diffusion; larger beads > 240 nm do not cross [69]. However, this *ex vivo* model does not represent potential modification of PM by proteins and lipids, which create a bio-corona, altering the movement of the nanoparticles [70]. Engineered nanoparticles of this size show 1000-fold range of translocation to the brain (0.00006% to 0.03%) [63,71]. Although particles may cross secondary barriers (placenta, blood-brain), their inhalation or ingestion does not necessarily allow transport to these secondary barriers. This is of relevance because most experiments inject the particles into the animal, bypassing the lungs. The small size of nanoparticles is important, as particles < 34 nm rapidly translocate from lung to mediastinal lymph node [72]. Notable, negatively charged particles accumulated in secondary organs more than positively charged particles [73].

The placenta may be more vulnerable to nanoparticle entry later in gestation, when the placental wall has thinned and is more vascularized, but also early in gestation before the placenta is fully formed [50]. The period after the placenta is formed, but before maternal-fetal circulatory systems are fully developed, could be less vulnerable to pollution exposure, due to minimal blood flow to the fetus. Nanoparticles may even cause fetal damage without penetrating the placenta, e.g. *in vitro,* nanoparticles can cause DNA damage even when they do not cross a cell barrier [74]. We note that these are not exclusionary hypotheses, and both may potentially be occurring.

4.9. Protective measures

In the urban realities of 21st Century populations, it is not possible to prevent prenatal exposure to TRP by restricting household or school proximity to roadways. Thus, we must consider other means to limit detrimental effects of prenatal TRP exposure. Diet optimization may be a pragmatic approach. As a precedent, higher maternal consumption of fruits and vegetables was associated with better mental development in exposure to benzene and NO_2 [36]. Supplementation with anti-oxidants, e.g. the omega-3 fatty acid, docosahexaenoic acid, may blunt TRP induced oxidative stress [75]. While such interventions could attenuate effects, real solutions must come from technical advancements to lower the use of fossil fuels. Combustion engines can be made more efficient, while petroleum itself can be replaced by methanol, which produces fewer particles during combustion [76].

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5. Conclusions

Traffic related air pollution is correlated with numerous detrimental health outcomes: increased cardiovascular mortality from adulthood exposures, and low birth weight and cognitive disorders from gestational exposure. These epidemiological observations are largely verified in animal models. The field is emergent with only a handful of labs worldwide studying animal models. There are huge gaps in the understanding of how TRP affects the brain. Specifically, neuronal changes, both in protein and morphology, and potential epigenetic modifications, are lacking. Another challenge comes from the different experimental paradigms between labs, particularly the source of PM and delivery regimen. Relatively few observations have been corroborated across labs. Even so, there is a clear trend for numerous adverse cognitive effects from pollution exposure during development, and future studies hold many promises.

Acknowledgments

R21 AG-040683, R21 AG-040753, T32AG0037.

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Table 1

Air pollution exposure sources

Exposure study	Methods	Particulate matter size and composition	Volatiles	Non-tailpipe pollution	Secondary aerosols
Diesel exhaust					
Direct from diesel engine Bolton et al. 2012 [48]	Auten et al. 2012 [47]	18-200 μm; extractable organic matter, 39.8%	Yes	No	No
Sugamata et al. 2006 [77], Fujimoto et al. 2005 [46], Yokota et al. 2009 [39], Yokota et al. 2013 [57], Suzuki et al. 2010 [62]	Umezawa et al. 2011 [78]	All size particles	CO, 2.67 ppm; NO_2, 0.23 ppm, SO_2, < 0.01 ppm	No	No
Diesel exhaust particles Bolton et al. 2013 [67], 2014 * [51]	Auten et al. 2012 [47] Hougaard et al. 2008 ** [40]	18-200 μm	No	No	No
Traffic-related air pollution					
Ambient Air Wei et al., in prep. [49]		All size particles	Yes	Yes	Yes
Concentrated Ambient Particle System (CAPS)	Allen et al. 2013 [79], 2014a [53], 2014b [58]	< 100 nm dia.	Yes	Yes	Yes
Filter-trapped nano-sized PM (nPM) Davis et al. 2013 [54]	Morgan et al. 2011 [43]	< 200 nm dia. Filter-bound, re-aerosolized.	No	Yes	Yes

Non-tailpipe pollution includes brake dust, tire erosion, and roadway dust. Secondary aerosols arise from alterations of particulate matter by temperature, sunlight, humidity, ozone etc.

*Particles delivered by oropharyngeal introduction.

**Diesel exhaust particles reaerosolized for inhalation.

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Table 2
Prenatal exposure: body weight, behavior, and cell-molecular responses

Study	Exposure protocol	Weight, gross changes	Behavior	Cell-molecular changes
Diesel exhaust direct				
Bolton et al 2012 [48], 2013 [66]; GD 18 (♂ + ♀)	0.5 or 2.0 mg/m^3 4 h/d; GD 7–17	Weight at 4 m: ♂—1.1 ♀—NC	Bolton 2012 [48]: Open field activity at 4 m: ♂—0.7 ♀—NC Bolton 2013 [66]: NC in forced swim	CCL2/MCP-1—3.5 CX3CL1/fractaline—1.5
Auten et al 2012 [47] GD 18 (♂ + ♀)	0.5 or 2.0 mg/m^3 4 h/d; GD 9–17	Weight at 4 w: 0.5 mg/m^3 (♂ + ♀) 0.9 2.0 mg/m^3 (♂ + ♀) NC		eotaxin: 4 KC: 6 RANTES: 10 +
Fujimoto et al 2005 [46]; GD 14	0.3, 1.0, or 3.0 mg/m^3 12 h/d; GD 2–13	↑ placental weight (♂, ♀—1.0 mg/m^3) ↓ fetal weight (♂, ♀—3.0 mg/m^3)		
Yokota et al 2013 [57] ♂ only- behavior at 5 w	1.0 mg/m^3 8 h/d; GD 2–17		↓ Retention time on rotating rod Cliff avoidance latency to jump 0.68	
Yokota et al 2009 [39] 5 w-behavior	1.0 mg/m^3 8 h/d; GD 2–17		Spontaneous motor activity: ♂—0.83	
Suzuki et al 2010 [62] 5 w	0.171 mg/m^3, 8 h/d, 5 d/w GD 2–16		↓ Spontaneous locomotor activity	
DEP				
Hougaard et al 2008 [40] —19 w (♂ + ♀)	19 mg/m^3 DEP 1 h/d; GD 9–19	Weight at 4 w: 0.9	No effect in the Morris water maze	No indication of any DNA damage, nor inflammation
CAPS				
Allen et al 2013 [79], Allen et al 2014a [53]	15–240 μg/m^3 4 h/d ; PND 4–7		♂ ↓ Response rates for FI60 (6 mo)	
PND 60	& 10–13 4 h/d; PND 56–60		Novel object performance (6 mo): ♂—0.5, ♀—0.8	
Allen et al 2014b [58] 2 w or 8 w	200,000 particles/cm^3 96 μg/m^3 4 h/d PND 4–7 & 10–13	Lateral ventricle size: PND14: ♂ 3.2 PND55: ♂ 1.8		GFAP PND 14: Hipp: ♂—0.5, ♀—1.9 CC: ♂—NC, ♀—1.5 IBA1 PND 55: Hipp: ♂—NC, ♀—NC AC: ♂—1.3, ♀—NC
Filter-trapped nPM				
Davis et al 2013 [54] —8 m	350 μg/m^3 5 h/d 3 d/w, 10 w		Tail suspension immobility 8 m: ♂—2.6, ♀—NC	PD3—JNK1 (♂, ♀) 0.7 Hipp GLU—NC

Abbreviations: AC, Anterior commissure; CAPS, Concentrated Ambient Particle System; CC, Corpus callosum; CCL2, Chemokine (C-C motif) ligand 2; CX3CL1, Chemokine (C-X3-C motif) ligand 1; DEP, diesel exhaust particles; FI60, Fixed interval reward 60 sec; GFAP, Glial fibrillary acidic protein; GD, Gestation day; GLU, Glutamate; Hipp, Hippocampus; IBA1, ionized calcium binding adaptor molecule 1; JNK-1, c-Jun N-terminal kinase 1; KC, keratinocyte chemoattractant; m, months; MCP-1, monocyte chemotactic protein 1; NC, no change; RANTES, regulated on activation, normal T cell expressed and secreted; w, weeks.

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Table 3
Shared responses to traffic related air pollution across multiple experiments

Shared responses		No Change
Body weight	Auten 2012 [47] ↓ 4 w (DE), Bolton 2012 [48] ↑ 5 m (DE), Fujimoto 2005 [46] ↓ GD 14 (DE), Hougaard 2008 [40] ↓ 4 w (DEP), Sugamata 2006 [77] ↓ 4 w (DE), Umezawa 2011 [78] ↓ 8 w (DE), Wei unpub↓ [49] 2 w & 3 w (Beijing Air)	Allen 2014a [53], Bolton 2014 [51], Davis 2013 [54], Hougaard 2009 [41], Suzuki 2010 [62], Yokata 2013 [57]
Spontaneous locomotor activity	Bolton 2012 [48] ↓ 5 m (DE), Hougaard 2009 [41] ↓ 8 w (DE), Suzuki 2010 [62] ↓ 5 w (DE), Yokata 2009 [57] ↓ 5 w (DE)	Allen 2013 [79], Allen 2014a [53], Bolton 2014 [51], Davis 2013 [54]
Cortex-dopaminergic	Allen 2014a [53] ↓ 9 m (PND 55 CAPS), Allen 2014b [58] ↑ 2 w & 8 w (PND 14 CAPS), Suzuki 2010 [62] ↑ 5 w (DE), Yokata 2013 [57] ↓ 3 w (DE)	
Microglial activation	Allen 2014a [53] ↑ 9 m (PND14 + 55 CAPS), Allen 2014b [58] ↑ 8 w (CAPS), Bolton 2012 [48] ↑ GD 18 (DE), Bolton 2014 [51] ↑ 6 w (DEP + HFD)	Bolton 2013 [66]

Abbreviations: CAPS, Concentrated Ambient Particle System; DE, diesel exhaust; DEP, diesel exhaust particles; HFD, high fat diet; PND, Postnatal day

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Table 4

Postnatal exposure, secondary manipulations.

Study (secondary treatment)	Behavior	Weight	Serum	Brain cellular	Brain subcellular
Diesel exhaust-direct					
Bolton et al 2012 [48]— 6 m DE + HFD HFD—45% fat, beginning 4 m, for 6 w		Weight ♂—NC ♀—4.4	Leptin: ♂—NC ♀—1.7 Insulin: ♂—6.4 ♀—NC	IBA1: Hypothalamus: ♂—1.7, ♀—1.3 Dentate gyrus: ♂—1.4, ♀—1.5 Amygdala: ♂—1.3, ♀—NC Hipp CA1: ♂—1.3, ♀—NC	
Bolton et al 2013 [66] DEP + Nest Restriction DEP: 50 μg DEP every 3 d, from GD 2-17 NR: E 14-19	Contextual fear recall: ♂—0.4 ♀—NC Anxiety behavior: ♂—1.6 ♀—1.2	No change			GD18 TLR4: ♂—1.3, ♀—NC Casp-1: ♂—1.4, ♀—NC IL-1b: ♂—NC ♀—NC Il-10: ♂—0.8, ♀—1.4
Bolton et al 2014 [51] DEP + High Fat Diet DEP: 50 μg DEP every 3 days, from GD 2-17 HFD: 45% Fat, beginning 4 m, for 9 w	Anxiety: (elevated zero maze) ♂—1.1 ♀—NC	Weight: ♂—1.3 ♀—NC	Insulin: ♂—1.8 ♀—NC	↓ peripheral macrophage infiltration in hypothalamus (♂1.2) GFAP Hipp NC	Hipp: CD11b: ♂—1.6, ♀—NC TLR4: ♂—1.2, ♀—NC CXC3CR1: ♂—1.2, ♀—NC
CAPS					
Allen et al 2013 [79]— Allen et al 2014a [53]— 9 m CAPS: PND 14 and/or PND 55	Waiting for reward behavior: ♂—↓			Corpus Callosum: IBA1: ♂—3.4, ♀—NC, C/A ♂—3.3, ♀—NC, A/C	Hipp: GLU: ♂—1.6, ♀—0.6, C/C DOPAC: ♂—NC, ♀—1.2, C/C

Abbreviations: A/C, Air/CAPS; C/A, CAPS/Air; CAPS, Concentrated air particle system; Casp-1, Caspase-1; CD11b, Cluster of differentiation 11 beta; CXC3CR1, Chemokine (C-X3-C motif) receptor 1; DOPAC, 3,4-Dihydroxyphenylacetic acid; GFAP, Glial fibrillary acidic protein; GLU, Glutamate; IBA1, Ionized calcium binding adaptor molecule 1; IL-1b, Interleukin-1 beta; IL-10, Interleukin 10; IR, Insulin resistance; HFD, High fat diet; Hipp CA1, Hippocampus, cornu Ammonis area 1; NC, No change; NR, Nest restriction; TLR4, Toll-like receptor 4.

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Table 5

Neurotransmitter responses

Experiment	Yokota 2013 [57]		Suzuki 2010 [62]	Allen 2014a [53]		Allen 2014b [58]			
Exposure Condition	**Prenatal exposure**		**Prenatal exposure**	**Neonatal Exposure**		**Neonatal Exposure**			
Age	♂ 3 w	♂ 6 w	♂ 5 w	♂ 8 w	♀ 8 w	♂ 2 w	♀ 2 w	♂ 8 w	♀ 8 w
Cortex									
DA	0.6	NC	1.6	NC	NC				
DOPAC	NC	NC	2.0	NC	NC				
DOPAC:DA				NC	NC	NC		NC	
HVA	NC	NC	NC						
3-MT	NC	NC	1.5						
GABA				NC	NC				
GLU				NC	NC				
NE			2.0	NC	NC	NC	NC	1.2	0.9
MHPG			1.4						
NM			1.5						
5-HT	NC	1.3							
5-HIAA	NC	NC							
Hippocampus									
DA			NC						
DOPAC					NC	NC		NC	
DOPAC:DA							1.4		NC
HVA			0.2	NC	NC				
3-MT			NC						
GABA				NC	NC		NC		NC
NE			NC	NC	NC				
MHPG			0.7						
NM			NC						
5-HT	NC	NC					NC		1.3

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Experiment	Yokota 2013 [57]		Suzuki 2010 [62]	Allen 2014a [53]	Allen 2014b [58]		
Exposure Condition	**Prenatal exposure**		**Prenatal exposure**	**Neonatal Exposure**	**Neonatal Exposure**		
5-HIAA	NC	NC					
Midbrain							
DA						NC	NC
DOPAC:DA					NC	0.7	NC
HVA			0.7	NC	NC	NC	NC
3-MT			0.7				
NE			NC	NC	NC		
MHPG			0.6				
NM			NC				
5-HIAA				NC	NC		
Striatum							
DA			NC	0.8	NC		
DOPAC			NC	NC	NC		
DOPAC:DA				NC	NC		
HVA			NC	0.9	NC		
3-MT			NC				
NE			NC	NC	NC		
MHPG			0.8				
5-HT	NC	NC		NC	NC		
5-HIAA	NC	NC		0.7	NC		
Cerebellum							
DA			NC				
HVA			NC				
NE			NC				
MHPG	0.8	0.8	0.6				
NM	NC	0.6	NC				
5-HT	NC	NC					

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Experiment	Yokota 2013 [57]		Suzuki 2010 [62]	Allen 2014a [53]		Allen 2014b [58]
Exposure Condition	**Prenatal exposure**		**Prenatal exposure**	**Neonatal Exposure**		**Neonatal Exposure**
5-HIAA	NC	NC				
Hypothalamus						
DA				NC	NC	
DOPAC				NC	NC	
DOPAC:DA				NC	NC	
NE	NC	1.2		0.7	NC	
HVA				NC	NC	
5-HT	NC	NC				
5-HIAA	NC	1.4				
Amygdala						
DA	1.5	NC				
DOPAC	1.4	1.3				
HVA	1.4	NC				
3-MT	1.4	NC				
5-HT	1.4	NC				
5-HIAA	1.3	NC				

Fold changes (approximated from figures when not given). Abbreviations: DA, dopamine; D OPAC, 3,4-dihydroxyphenylacetic acid (DA catabolite); GABA, gamma-aminobutyric acid; GLU, glutamate; HVA, homovanillic acid (DA catabolite); MHPG, 4-hydroxy-3-methoxyphenylglycol (NE catabolite); NC, No change; NE, norepinephrine; NM, normetanephrine (NE catabolite); 3-MT, 3-methoxytyramine (NE catabolite); 5-HIAA, 5-hydroxyindoleacetic acid (serotonin catabolite); 5-HT, serotonin.

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Table 6

Cytokine changes

	Allen 2014b [58]				Bolton 2012 [48]
	♂ 2 w	♀ 2 w	♂ 8 w	♀ 8 w	♂ + ♀ GD 18
Cortex					
IL-6				0.5	
IL-1b	NC		NC		
Hippocampus					
IL-6	NC		NC		
IL-1b	NC		NC		
Midbrain					
IL-6		NC		2.1	
IL-1b	0.5	NC	1.4	NC	
TNF-a	0.5	NC	1.5	NC	
Striatum					
IL-6		0.4		NC	
IL-1b	NC		NC		
TNF-a	NC	0.7	NC	NC	
Whole Brain IL-6					3.7
IL-1b					5.5
TNF-a					
IL-10					3.5

Abbreviations: GD, Gestational day: NC: No change; PND: Postnatal day.

NeuroToxicology 59 (2017) 140–154

Contents lists available at ScienceDirect

NeuroToxicology

Full length article

Developmental neurotoxicity of inhaled ambient ultrafine particle air pollution: Parallels with neuropathological and behavioral features of autism and other neurodevelopmental disorders

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ARTICLE INFO

Article history:
Received 12 November 2015
Received in revised form 18 December 2015
Accepted 18 December 2015
Available online 22 December 2015

Keywords:
Ultrafine particles
Air pollution
White matter
Corpus callosum
Lateral ventricle
Myelination
Autism
Schizophrenia
Periventricular leukomalacia
Excitatory–inhibitory imbalance

ABSTRACT

Accumulating evidence from both human and animal studies show that brain is a target of air pollution. Multiple epidemiological studies have now linked components of air pollution to diagnosis of autism spectrum disorder (ASD), a linkage with plausibility based on the shared mechanisms of inflammation. Additional plausibility appears to be provided by findings from our studies in mice of exposures from postnatal day (PND) 4–7 and 10–13 (human 3rd trimester equivalent), to concentrated ambient ultrafine (UFP) particles, considered the most reactive component of air pollution, at levels consistent with high traffic areas of major U.S. cities and thus highly relevant to human exposures. These exposures, occurring during a period of marked neuro- and gliogenesis, unexpectedly produced a pattern of developmental neurotoxicity notably similar to multiple hypothesized mechanistic underpinnings of ASD, including its greater impact in males. UFP exposures induced inflammation/microglial activation, reductions in size of the corpus callosum (CC) and associated hypomyelination, aberrant white matter development and/or structural integrity with ventriculomegaly (VM), elevated glutamate and excitatory/inhibitory imbalance, increased amygdala astrocytic activation, and repetitive and impulsive behaviors. Collectively, these findings suggest the human 3rd trimester equivalent as a period of potential vulnerability to neurodevelopmental toxicity to UFP, particularly in males, and point to the possibility that UFP air pollution exposure during periods of rapid neuro- and gliogenesis may be a risk factor not only for ASD, but also for other neurodevelopmental disorders that share features with ASD, such as schizophrenia, attention deficit disorder, and periventricular leukomalacia.

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1. Introduction

1.1. Air pollution exposure

Air pollution is a complex mixture of particles, gases, trace metals and adsorbed organic contaminants. Particle sizes range from coarse (2.5–10 μm) to fine (<2.5 μm) to ultrafine (UFP, <100 nm or 0.1 μm). Although not a significant component by mass, UFPs achieve orders of magnitude higher particle number concentrations and thus have more extensive surface areas that can adsorb toxic air pollutants (oxidant gases such as ozone, NO_X, organic compounds, transition metals) per unit mass. Ambient UFPs arise primarily from combustion of fossil fuels (i.e., motor vehicle traffic) (Lippmann et al., 2013). Levels of up to 50% of inhaled UFP are deposited in pulmonary alveolar regions of lung from where they can traverse the alveolocapillary barrier to access pulmonary interstitium and cross endothelial cells into blood circulation and subsequently impact other organs, including heart and brain, and thereby lead to more serious health consequences, which is why UFPs are considered among the most reactive elements of air pollution (Oberdorster et al., 1994; Brown et al., 2001). Deposition can also occur in the nasal cavity allowing translocation to brain (Elder et al., 2006; Hunter and Dey, 1998; Lewis et al., 2005).

Air pollution is a worldwide environmental health problem, to which exposures begin at gestation, and are cumulative over the lifespan. While air quality standards have clearly improved in many countries, even as of 2012, the U.S. Census Bureau estimated that approximately 142 million U.S. residents live in counties where regulated levels of various air pollutants exceeded

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http://dx.doi.org/10.1016/j.neuro.2015.12.014
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standards set by the U.S. Environmental Protection Agency (EPA). Further, ongoing urbanization trends and expanding road traffic in many areas of the world are predicted to further increase population exposures to UFP air pollution (Kumar et al., 2014). Currently, the U.S. EPA sets regulatory standards for levels of PM_{10} and $PM_{2.5}$. In addition to the fact that it represents a significant technological challenge, regulation of UFPs is said to await additional evidence of their toxicity. Considered in a global context, new studies ascribe 3.3 million premature deaths per year to outdoor air pollution (Lelieveld et al., 2015), and as of 2013, air pollution was listed as the 12th leading global risk factor for disability adjusted life year reductions (Forouzanfar et al., 2013).

1.2. Air pollution and brain

While the focus of air pollution research has long centered on cardiovascular and pulmonary systems, evidence now shows that air pollution also adversely impacts brain, and does so by mechanisms similar to those operative in lung, i.e., via inflammation and oxidative stress (Block and Calderon-Garciduenas., 2009). In children, various components of air pollution have been associated with impaired cognitive abilities (Harris et al., 2015; Suglia et al., 2008), deficits in attention-related behaviors (Chiu et al., 2013; Newman et al., 2013; Siddique et al., 2011), reduced mental development index and IQ scores (Perera et al., 2009), symptoms of anxiety/depression (Perera et al., 2006, 2012), decreased nonverbal reasoning ability (Edwards et al., 2010) and delayed psychomotor development (Guxens et al., 2015). Animal models confirm behavioral and CNS toxicity in response to gestational, postnatal and adult exposures to air pollution and/or its components (Block and Calderon-Garciduenas., 2009), including findings of depressive-like behaviors, impaired spatial learning and memory, reduced apical dendritic spine density and dendritic branching in hippocampus (Fonken et al., 2011), reduced numbers of hippocampal neuronal GluA1glutamate receptor subunits and altered neuronal differentiation of cortical neurons (Davis et al., 2013) and altered locomotor activity and levels of brain catecholamines (Suzuki et al., 2010).

Interestingly, the combined presentation of many of these specific impairments is consistent with the multifaceted nature of Autism Spectrum disorders (ASD) that has now reached a worldwide prevalence as high as 1–2% (Lai et al., 2014; Elsabbagh et al., 2012), with a clear bias towards males being more affected (Elsabbagh et al., 2012; Frazier et al., 2014; Van Wijngaarden-Cremers et al., 2014; Werling and Geschwind, 2013). Diagnosis of ASD relies on the identification of impairments of core behavioral features like social deficits, impaired communication, and repetitive/perseverative behaviors early in life. In fact, while the etiology of this highly intractable and extremely heterogeneous neurodevelopmental disorder remains unknown, numerous epidemiological studies of populations from different states within the U.S. and different countries now report associations of ASD diagnosis with components of air pollution, including residential distance from the freeway (Volk et al., 2011), ambient levels of metals (Roberts et al., 2013; Windham et al., 2006), aromatic solvents (Roberts et al., 2013; Windham et al., 2006; Kalkbrenner et al., 2010), styrene and chromium (Talbott et al., 2015), gases (Becerra et al., 2013; Jung et al., 2013; Volk et al., 2013), diesel exhaust (Roberts et al., 2013; Windham et al., 2006) and particulate matter ($PM_{2.5}$ and/or PM_{10}) (Becerra et al., 2013; Jung et al., 2013; Volk et al., 2013; Kalkbrenner et al., 2015; Raz et al., 2014). Some report increased odds ratios for ASD diagnoses in relation to levels of $PM_{2.5}$ (Jung et al., 2013; Volk et al., 2013; Raz et al., 2014), which includes UFPs, and/or NO_2, a surrogate for UFP (Beckerman et al., 2008). The one exception to such findings was a recent study that combined data across 4 cohorts, but, unfortunately, each cohort used different measures of autistic traits, effectively limiting power and comparability (Guxens et al., 2015).

Underlying reasons for an association of air pollution with ASD are not known, but several lines of evidence suggest that air pollution-induced inflammatory mechanisms during development could play a key role (Melillo and Leisman, 2009; Noriega and Savelkoul, 2014; Meldrum et al., 2013; Depino, 2013; Onore et al., 2012). For example, markers of inflammation are elevated in amniotic fluid (Abdallah et al., 2013), and through life (Gesundheit et al., 2013; Emanuele et al., 2010; Vargas et al., 2005) in ASD, consistent with a chronic inflammatory state in both periphery (Depino , 2013; Emanuele et al., 2010; El-Ansary and Al-Ayadhi., 2012; Naik et al., 2011) and brain (Vargas et al., 2005; Rose et al., 2012; Wei et al., 2011; Li et al., 2009). Increased cytokine levels, a consequence of inflammation, associate with severity of ASD diagnostic features (Ashwood et al., 2011). Correspondingly, multiple components of air pollution including diesel exhaust, fine as well as UFP, and toxicants adsorbed to particles, such as endotoxin (LPS), also produce inflammatory changes in brain (Bolton et al., 2012; Campbell et al., 2009; Hartz et al., 2008; Levesque et al., 2011a,b; Morgan et al., 2011; van Berlo et al., 2010).

Mechanistically, it has been proposed that air pollution-associated CNS pathology reflects interactive pathways that include systemic inflammation, as mediated e.g., by vagal nerve afferents (Oberdorster et al., 2004, 2009), in conjunction with direct effects of particulate matter on brain tissue (Block and Calderon-Garciduenas., 2009). Perhaps not surprisingly, levels of asthma, a disease associated with air pollution-induced inflammation (Wendt et al., 2014; Evans et al., 2014; MacIntyre et al., 2013; Gonzalez-Barcala et al., 2013), are substantially higher in children with ASD, consistent with common inflammatory mechanisms in lung and brain. In a nationally representative sample of 77,951 children, asthma was 35% more common in those with ASD after controlling for age, gender, body mass index, race, brain injury, secondhand smoke and socioeconomic status (Kotey et al., 2014); further the prevalence of both ASD and asthma has been increasing (Becker, 2007; Becker and Schultz, 2010).

Potential mechanistic links may also result from alterations in glutamate. Hyperglutamate function has been hypothesized to underlie ASD (Jacob et al., 2011), and air pollution impacts brain glutamate function (Davis et al., 2013). Both developing and adult microglia have functional glutamate receptors and microglial activation can engender glutamate release (Murugan et al., 2013; Takeuchi et al., 2005). Furthermore, glutamate release can also activate microglia, leading to a vicious cycle (Biber et al., 2007), and a potential mechanism of chronic inflammation.

This paper summarizes the results of a series of studies, including previously published findings and new data describing the impact of exposures of mice to concentrated ambient particles (CAPS) in the *ultrafine* particle (UFP) range that collectively appear to provide biological plausibility for an association between air pollution and ASD. As presented below, exposures of mice to real time, road inlet ambient concentrated (10–20*x*) UFP from postnatal days (PND) 4–7 and 10–13 (equivalent to human 3rd trimester (Clancy et al., 2007a,b; Rice and Barone, 2000), and a period of marked neuro- and gliogenesis (Bandeira et al., 2009), unexpectedly produced a pattern of developmental neurotoxicity notably similar to multiple hypothesized mechanistic underpinnings of ASD and other neurodevelopmental disabilities. Our exposure paradigm is highly relevant to human exposures as UFPs, considered the most reactive component of air pollution, occurred at levels consistent with high traffic areas of major U.S. cities.

2. Methods

Methods presented herein are for results not previously published; methods for findings presented in prior publications are in the corresponding cited references for those findings.

2.1. Animals, reagents, & exposures

Male and female C57BL6/J mice 8 weeks of age were purchased from Jackson Laboratories (Bar Harbor, ME) and allowed to acclimate in the housing room for 1 week prior to breeding. Mice were co-housed for 3 days and bred monogamously, after which males were removed and pregnant dams were singly housed with litters until weaning on PND21. Pups were exposed to filtered air (air) or concentrated ambient ultrafine particles (CAPS) using the Harvard University Concentrated Ambient Particle System (HUCAPS) fitted with a size-selective inlet and a high-volume ultrafine particle (UFPs, ≤100 nm) concentrator (10–20*x*) that takes in outdoor air at 5000 L per minute and concentrates ambient UFP, as previously described (Allen et al., 2013, 2014a,b,c). Exposures lasted for 4 h per day from 0700 to 1200 for 4 days per week from PND4-7 and PND10-13, with exposure timing corresponding to peak vehicular traffic outside the intake valve of the HUCAPS instrumentation. A condensation particle counter (TSI 3022A) provided particle counts. Mass concentration was calculated using idealized particle density (1.5 g/cm^3). A Scanning Mobility Particle Sizer (SMPS) was used to determine particle size distribution and median particle diameter + GSD. Due to the presence of the particle impactor in the HUCAPS system, mice in the CAPS exposure chamber may be held at a slightly higher negative pressure compared to the Air exposed mice in an adjacent chamber. Flow of CAPS-enriched and filtered air were both maintained at 35–40% relative humidity and 77–79 °F.

To preclude any effect of anesthetics on measured endpoints, brains were extracted following decapitation without sedation to assess the immediate and persistent effects of CAPS on white matter in the corpus callosum (CC), striatum (STR), and frontal cortex (FC). Brains were extracted and placed into 4% paraformaldehyde for 24 h and then cryoprotected in 30% sucrose until they sank. Brains were stored at 4 °C until they were sectioned on a freezing microtome at 40 μm thickness. Sectioned tissue was stored in sucrose- and ethylene glycol containing cryoprotectant and kept at −20 °C until immunostaining. To preclude litter-specific effects, only single pups/sex/litter were used in all of these studies. All mice used in this study were treated humanely and with regard for alleviation of suffering and approved by the University of Rochester Institutional Animal Care and Use Committee.

2.2. Particle size distribution and number and mass concentration

Exposures in this study were to concentrated ambient UFPs (≤100 nm). As previously reported (Allen et al., 2014a), mean particle diameter for these exposures was consistently below 100 nm; mean CAPS counts across the 8 days of exposures was approximately 200,000 particles/cm^3, and the mean particle mass concentration was 96 μg/m^3. These values are similar to values reported for expressway traffic in L. A. (Fruin et al., 2008; Westerdahl et al., 2005), and Minneapolis (Kittelson et al., 2004), and did not affect offspring body weights nor produce any overt toxicity.

2.3. Corpus callosum (CC) area determination

The size of the CC (approximate adult-equivalent Bregma range 0.74–0.2 mm) was determined by tracing the area of interest in at least 3 adjacent sections of slide-mounted brain using Neuroucida (MBF, Williston, VT). Software enumerated the area of interest in μm^2. Bregma for PND14 brains are approximate given that, to our knowledge, no atlas at that specific point of early postnatal brain development exists. Given difficulties in demarcation, all analyses of CC would also have included the cingulum, a primarily ipsilateral white matter tract lying above the CC that encircles the brain and provides communicative structure for components of the limbic system, critical to executive functions, decision-making and emotion. Dysregulation of cingulate bundle white matter development has also been linked to developmental disorders including ASD (Billeci et al., 2012; Ikuta et al., 2014), schizophrenia (Samartzis et al., 2014) and ADHD (Chiang et al., 2015).

2.4. Myelin basic protein immunostaining & image analysis

To determine the extent of myelination, every 4th section (PND14) or every 6th section (PND270) was stained for myelin

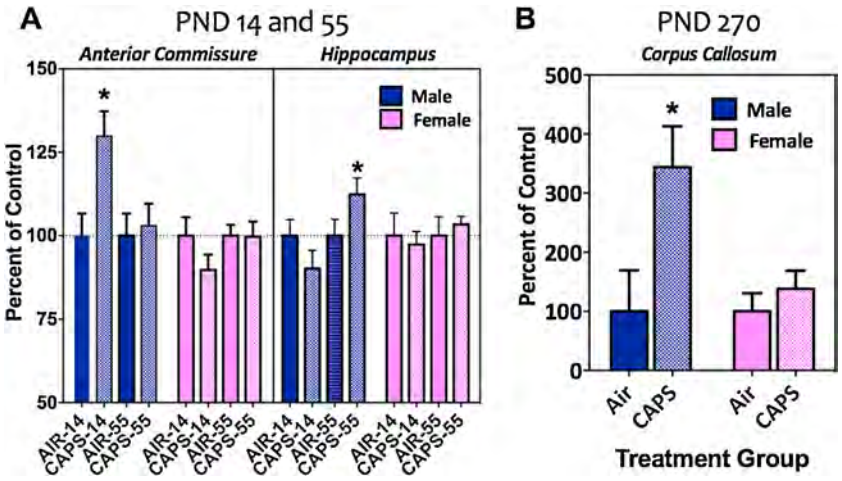


Fig. 1. CAPS exposure leads to male specific and time dependent increases in IBA-1. IBA-1 levels (group mean ± S.E.) as percent of time point control plotted separately for males and females for air and CAPS-treated groups at PND14 and PND55 in anterior commissure and hippocampus (Panel A) and at PND 270 in corpus callosum (Panel B). CAPS = concentrated ambient ultrafine particles; PND = postnatal day; air-14 = brains from air exposed offspring at postnatal day 14; air-55 = brains from air exposed offspring at postnatal day 55; CAPS-14 = brains collected at postnatal day 55 from offspring exposed to concentrated ambient ultrafine particles; CAPS-55 = brains collected at postnatal day 14 from offspring exposed to concentrated ambient ultrafine particles; brains collected at postnatal day 55 from offspring exposed to concentrated ambient ultrafine particles; * = significantlydifferent from corresponding time point control. *n* = 4–5/group.

basic protein (MBP) to assess global development and developmental trajectory of myelination in the CC (separately examining truncus (immediately posterior to the genu), medial external capsule and lateral external capsule), striatum, and frontal cortex. Briefly, brain sections were washed of cryoprotectant and placed into primary antibody for MBP (EMD Millipore; MAB386). Tissue was then placed into biotinylated secondary antibody (Vector labs; BA-9401; 1:200 dilution) for 1 hour and the stain was visualized using 3-3′-diaminobenzidine (DAB). Immunolabeled tissue was mounted onto Superfrost Plus micro slides (VWR; Radnor, PA; 48311-703) and cover-slipped using Cytoseal 60 (Fisher Scientific; Pittsburgh, PA; 23-244257).

Briefly, at least 3 images per region of interest were captured using an Olympus BX-41 brightfield microscope prior to image analysis. Expression of MBP was analyzed using Image Pro Plus 7.0 (Mediacybernetics) using segmentation and thresholding to estimate a percent area of the region of interest that was positive for MBP expression. For CC, percent of area myelinated was determined, whereas total relative units of myelination were measured in frontal cortex and striatum.

2.5. Statistical analyses

Statistical analysis was carried out using JMP11 (Cary, NC) with initial between groups ANOVAs that included all experimental factors (sex, group, PN) in full factorial designs. Main effects and interactions were then pursued in post-hoc *t*-testing as appropriate. p values ≤ 0.05 were considered statistically significant.

3. Results

3.1. Postnatal CAPS produces male-specific microglial (IBA-1) activation, reminiscent of inflammation and persistent microglial activation seen in ASD (Zeidan-Chulia et al., 2014)

We previously reported persistent and male-specific IBA-1-labeling (a marker for microglia) in male but not female CAPS-treated mice, as found in anterior commissure at PND14 and hippocampus at PND55 (Fig. 1A) and in CC at PND 270 (Fig. 1B), at which point microglial numbers were approximately 350% of air controls, even though exposures had ended at PND13 (Allen et al., 2014a,b). Microglial activation has been frequently observed in the context of ASD. For example, adult males with ASD showed increased binding of a microglial radiotracer in cerebellum, midbrain, pons, fusiform gyri and anterior cingulate and orbitofrontal cortices relative to age and IQ-matched healthy controls (Suzuki et al., 2013). Post-mortem brains from individuals with ASD showed increased astrocyte- and microglial specific markers in frontal cortex (Edmonson et al., 2014; Young et al., 2011; Morgan et al., 2010; Laurence and Fatemi, 2005). Inflammatory markers have also been detected in blood and urine in ASD (Vargas et al., 2005; Rossignol and Frye, 2014). Early microglial activation in developing CNS (Bilimoria and Stevens, 2014) could be the source of altered cytokine profiles where inflammatory signals have been shown to predominate (Masi et al., 2014). Collectively, these findings are consistent with a persisting inflammatory state.

3.2. Postnatal CAPS and male-biased ventriculomegaly (VM) and white matter tract disruption mimic aberrant white matter tract development and VM noted in ASD (Aoki et al., 2013; Keller et al., 2007)

We found a number of white matter tract changes in CAPS-exposed mice that are consistent with changes seen in ASD:

3.2.1. Lateral ventricle size

Unexpectedly, a *male-specific* VM of variable severity was seen (Fig. 2) in CAPS males, but not in Air males or in any CAPS females (Allen et al., 2014a). Quantitation of VM size was determined at 3 time points, and showed VM in males to be persistent, being statistically significantly lower than Air control values out to at least PND 270 (Fig. 3) (Allen et al., 2014a).

3.2.2. CC size and developmental trajectory

Because of the suggestion of a disrupted CC (Fig. 2E), CC area was quantified. Prior studies have indicated rapid postnatal growth in CC with adult-like patterns of connections by PND15 (Wahlsten , 1984). In our studies, female CC size was slightly smaller than males at PND14 (Fig. 4A and C), but larger at PND 270 (Fig. 4B and D) as shown in the trajectory across time (Fig. 4E; sex by time point, $F(1,41) = 57.9$, $p < 0.0001$), findings consistent with previous reports of greater increases in CC size in female rats between adulthood and middle age (Yates and Juraska, 2007) that is considered to reflect the initially larger number and greater size of myelinated axons in males (Yates and Juraska, 2007) and more

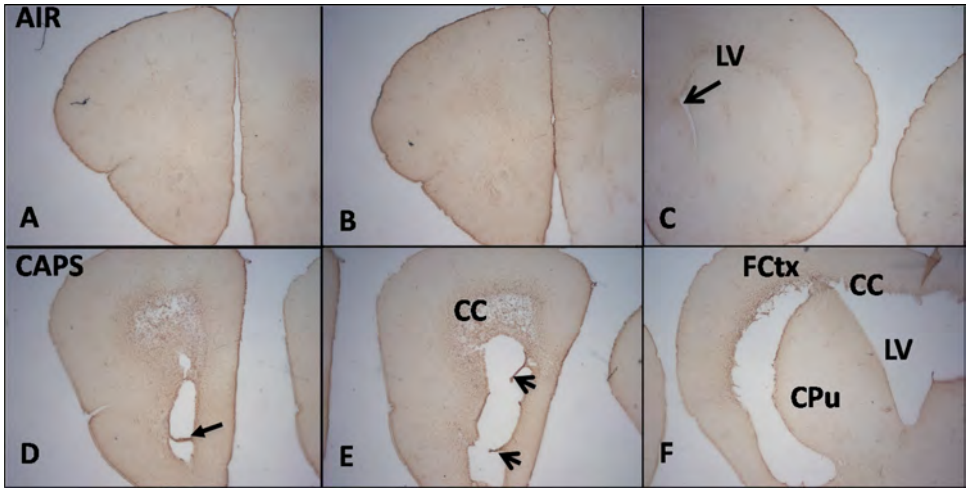


Fig. 2. CAPS exposure leads to increase in lateral ventricle size; effects were graded with the example demonstrating the most severe effects shown here. Panels A–C: Rostral to caudal section of air exposed males at PND 14 with lateral ventricle (LV) becoming visible indicted by arrowhead in Panel C. Panels D–E matched rostral to caudal sections of CAPS-treated males at PND14. Note: LV and CC damage apparent rostrally; Arrowheads in Panel D shows bridge across ventricle (fusion) and coarctation in LV in Panel E. Magnification 2×; CAPS = concentrated ambient ultrafine particles; PND = postnatal day; FCtx = frontal cortex; Cpu = caudate putamen. $n = 4$–5/group.

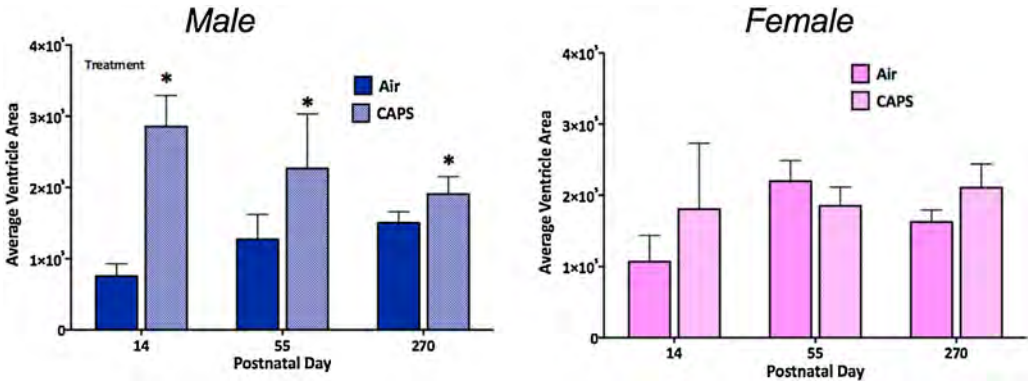


Fig. 3. CAPS exposure leads to male specific increased ventricular size. Lateral ventricle area (group mean ± S.E) of males (left panel) and females (right panel) treated with air or postnatal CAPS were measured at three time points: PND 14 (defined 24 h post exposure), PND 55 and PND 270; n = 4–6/group, average of at least 3 sections/brain. CAPS = concentrated ambient ultrafine particles; PND = postnatal day. Male data modified from (Allen et al., 2014a) and female data unpublished.

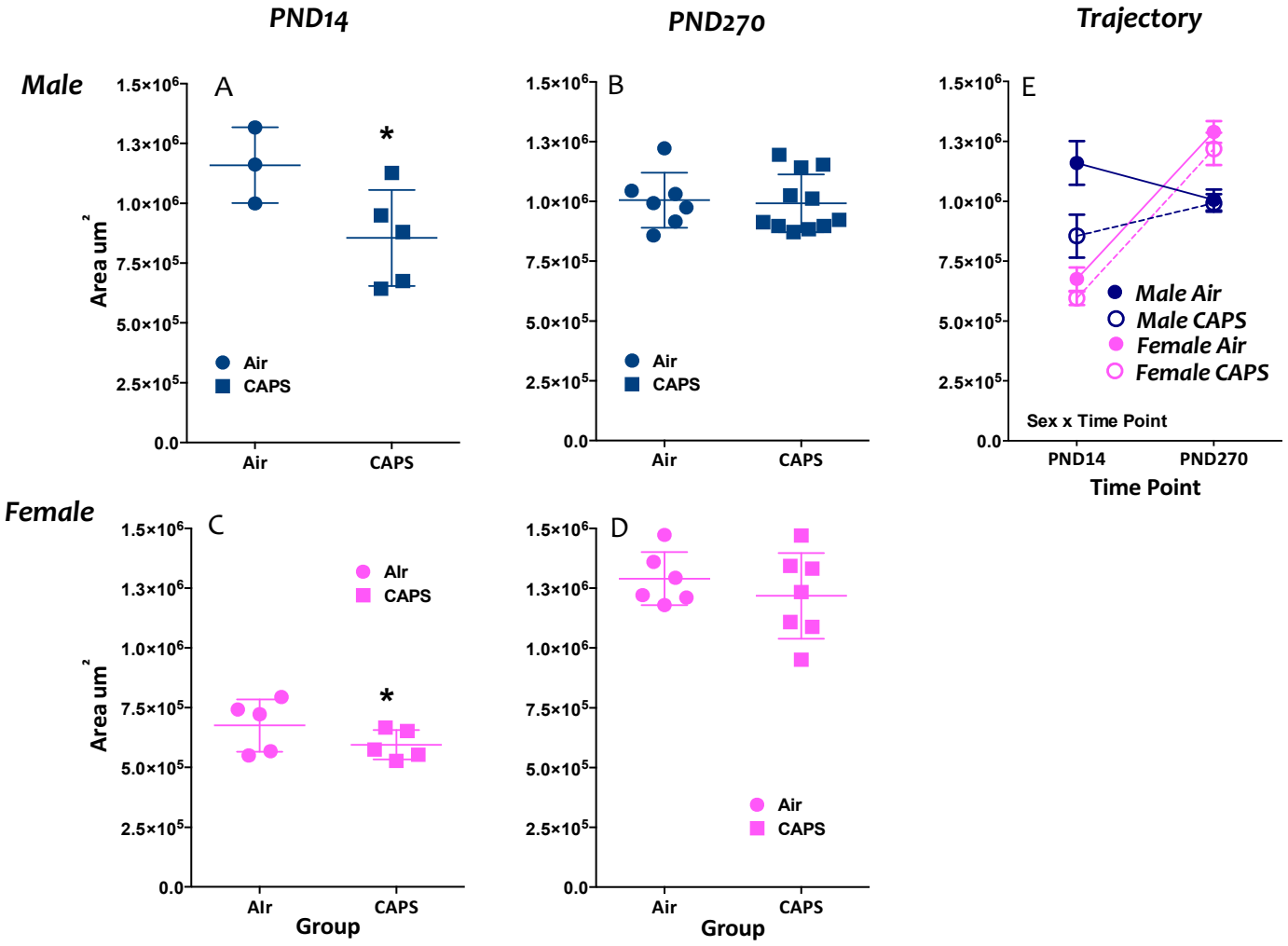


Fig. 4. CAPS treatment reduces size of CC in both sexes at PND14 with a trend towards greater magnitude effects in males. Panels A–D: CC size (μm^2) of individual male and female mice following air of postnatal CAPS treatment as measured at PND14 and PND270. Each data point represents an individual value. Sample sizes of 3–5 for PND14 and 7–11 for PND270. Panel E. Group mean ± S.E. size of CC across time points for male and females in treatment groups as indicated. CAPS = concentrated ambient ultrafine particles; PND = postnatal day; CC = corpus callosum.

delayed maturation to the adult pattern in females (Kim and Juraska, 1997).

At PND14, both males and females exhibited statistically significant CAPS-induced reductions in CC size (Fig. 4A and C), whereas no significant differences were found at PND270 (Fig. 4B and D). While CAPS-treated males showed a 30% size reduction compared to 10% in CAPS-treated females at PND14 relative to Air controls (Fig. 4A and C), statistical analysis of PND14 data confirmed only an effect of treatment ($F(1,14) = 8.1$, $p = 0.013$), but not a treatment by sex interaction that would statistically

confirm greater magnitude effects in males. However, as can be seen from the plotted individual data, differences among males at PND14 included a broader decrement with some overlap with Air controls, while evidence for female effects based on individual data were less biologically compelling. As can be observed in Fig. 4E, there appears to be no disruption of the trajectory of CC size in females, whereas an initial blunting is clear in males.

3.2.3. CC Myelination

The potential for altered myelination patterns was examined using MBP staining at three different sites along the CC, i.e., the truncus, the medial external capsule (MEC) and the lateral external capsule (LEC). At PND14 (Fig. 5A and B), marked reductions of approximately 35% in MBP staining within the CC were seen in males at the truncus that also extended to the medial external capsule (approximately 15%), whereas no significant differences in MBP staining area were seen in females at any point along the CC (overall ANOVA: treatment by sex by region, $F(2,28) = 3.39$, $p = 0.048$; post hoc p values for male PND14: site by treatment, $p = 0.018$; truncus, $p = 0.005$; medial external capsule, $p = 0028$). At PND270 (Fig. 5C and D), no statistically significant treatment related effects were found in either sex despite a visual trend towards hypomyelination in CAPS-treated females.

Fig. 5E–G present time-course trajectory changes in myelination for the truncus, medial external capsule and lateral external capsule, respectively. Consistent with the early sex-specific hypomyelination in males, significant treatment by sex × time point interactions were found for truncus and medial external capsule ($F(1,42) = 12.73$, $p = 0.0009$ and $F(1,42) = 6.62$, $p = 0.0137$, respectively). No CAPS-related changes in trajectory were found in the lateral external capsule, but, consistent with observations in truncus and medial external capsule, increases in area myelination occurred between PND14 and PND270.

In contrast to the CC, striatal myelination levels of females, while significantly higher than those of males at both time points (Fig. 6A and B) and also when considered across time (Fig. 6C, overall ANOVA: sex by time point, $F(1,40) = 4.19$, $p = 0.047$), showed no effects of CAPS in either sex. Levels of MBP staining in fontal cortex were generally quite low (Fig. 7A and B), although increasing between PND14 and PND270 (Fig. 7C), but did not differ by sex or CAPS treatment.

Some of these changes have also been reported to occur in ASD, including reductions in area and myelination of the corpus callosum (CC), the largest white matter tract in the brain (Melillo and Leisman, 2009; Barnea-Goraly et al., 2004) and a tract that is critical to inter-hemispheric communication/integration for sensory, motor and higher cognitive functions (Yates and Juraska, 2007). The consequences of such hypomyelination and reduced CC include under-connectivity of the two hemispheres, and increased localized connectivity. Both correlate with social and language deficits and altered hand preference/usage in ASD (Floris et al., 2013; Forrester et al., 2014; Geschwind and Levitt, 2007; Kana et al., 2011; Wass, 2011), an inter-hemispherically-based behavior. The particular thinning of the genu of the CC in ASD is notable, given its importance to frontal cortical connectivity, and it has been seen in conjunction with increased brain size and complexity of

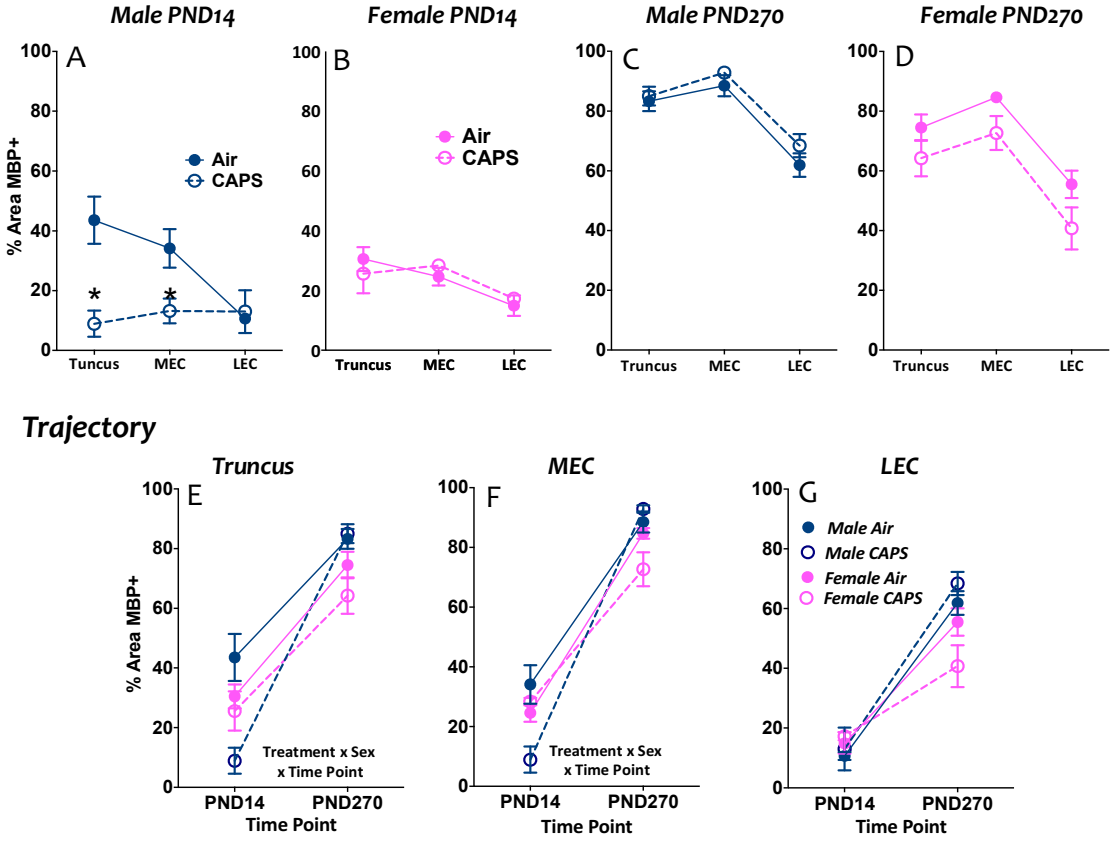


Fig. 5. CAPS treatment induces male specific CC hypomyelination at PND14. Panels A–D. Fluorescent intensity of myelin basic protein labeling expressed as percent of total CC area at PND14 (Panels A,B) and PND270 (Panels C and D) for male and female air vs. postnatal CAPS-treated mice as measured at 3 different sites along the CC: truncus, medial external capsule and lateral external capsule for treatment groups as indicated. Shown is group mean ± S.E. Panels E–G. Relative area of MBP labeling across time points for male and females in treatment groups as indicated for truncus, medial external capsule (MEC) and lateral external capsule (LEC), respectively. Treatment × sex × time point indicates significant 3-way interaction in overall ANOVAs. Sample sizes of 3–5 for PND14 and 4–11 for PND270. Shown is group mean ± S.E. CAPS = concentrated ambient ultrafine particles; PND = postnatal day; CC = corpus callosum.

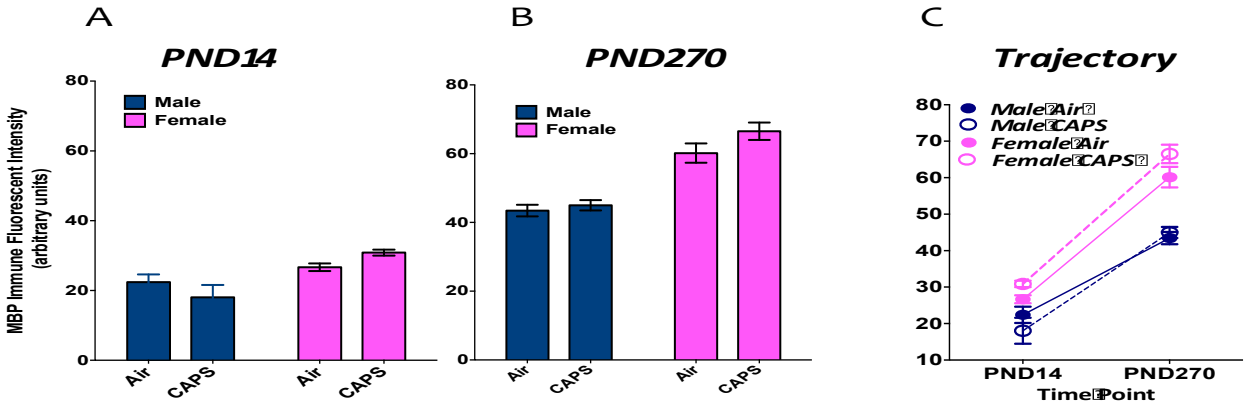


Fig. 6. CAPS exposure does not alter striatal myelination in either sex. Panels A–B: fluorescent intensity of myelin basic protein labeling expressed as arbitrary units in striatum at PND14 and PND270, respectively, for male and female air vs. postnatal CAPS-treated mice. Panel C: trajectory of density of myelin basic protein staining between PND14 and PND270 for males and females for indicated treatment groups. Sample sizes of 3–5 for PND14 and 4–11 for PND270. Shown is group mean ± S.E. CAPS = concentrated ambient ultrafine particles; PND = postnatal day.

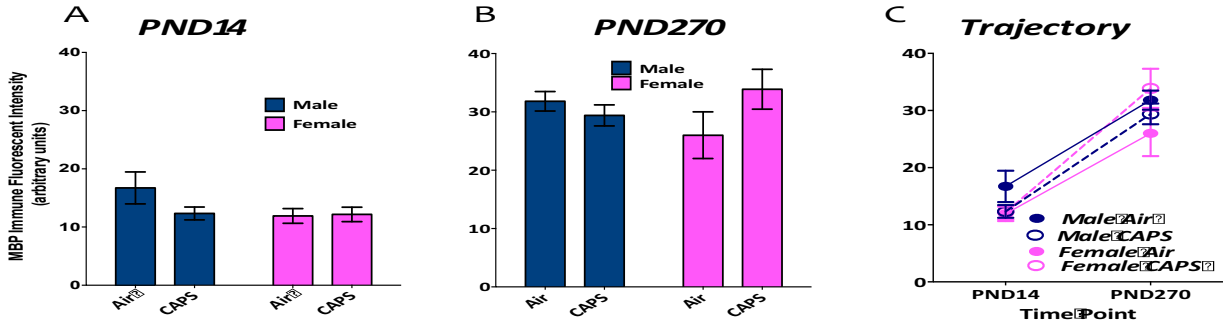


Fig. 7. CAPS treatment does not alter frontal cortex myelination in either sex. Panels A–B: density of myelin basic protein staining (μm^2) in frontal cortex at PND14 and PND270, respectively, for male and female air vs. postnatal CAPS-treated mice. Panel C: trajectory of density of myelin basic protein staining between PND14 and PND270 for males and females for indicated treatment groups. Sample sizes of 3–5 for PND14 and 4–11 for PND270. Data are group mean ± S.E. CAPS = concentrated ambient ultrafine particles; PND = postnatal day.

gyrification (Vidal et al., 2006). Despite some inconsistencies in profiles of white matter tract alterations in ASD (Koldewyn et al., 2014), diminished CC size has been a salient manifestation (Casanova and Pickett, 2013).

The observed VM we identified in CAPS exposure has also been reported in ASD and while this is not a prototypical pathology in ASD, it is a clinical indicator of white matter damage, and often accompanies CC disruption in ASD, likely reflecting an expansion of the ventricles to fill available space (Leviton and Gilles, 1996) due to delayed development and/or cell loss. In a low for birth weight cohort, ventricular enlargement in the first week of life was associated with a 7-fold increase in ASD diagnosis at 16 and 21 years of age (Movsas et al., 2013), and children with VM are found to be more likely to develop ASD (Piven et al., 1995).

3.3. Postnatal CAPS persistently elevated glutamate levels and resulted in male-specific excitatory–inhibitory imbalance, a pathology that is mirrored in ASD (Page et al., 2006)

CAPS increased total levels of frontal cortex glutamate, glutamine and GABA levels in both sexes at various times following postnatal exposures, as we have previously reported (Allen et al., 2014a,b,c). In males, but not females, glutamate levels in hippocampus were also elevated, suggesting potential for greater CAPS-associated excitotoxicity. Indeed, calculated as [Glu]/[GABA] ratios, only males showed significant hippocampal excitatory/inhibitory imbalance as shown for PND14 and PND60 (Fig. 8), as GABA increases were less pronounced than those of glutamate in males. These findings are consistent with the male specificity of

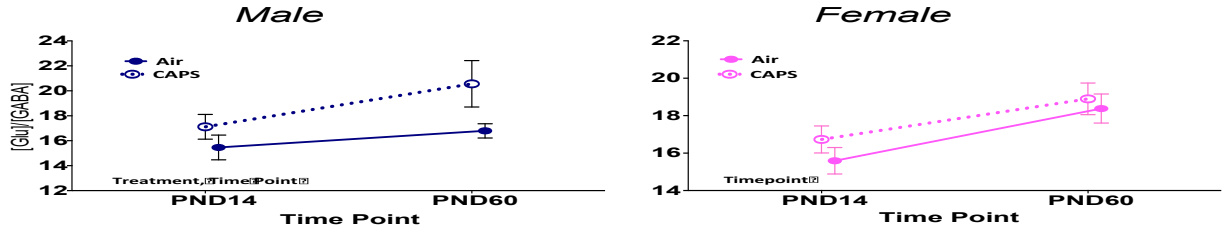


Fig. 8. CAPS produced a male specific frontal cortex excitatory/inhibitory imbalance. Glutamate/GABA ratios based on levels of frontal cortex at PND14 and PND60 as based on extracellular glutamate, glutamine and GABA in air vs. postnatal CAPS treated males (left panel) and female (right panel) mice. CAPS = concentrated ambient ultrafine particles; PND = postnatal day; treatment = main effect of CAPS in statistical analysis; timepoint = main effect of time point in statistical analysis, n = 9–12/group. Data modified from (Allen et al., 2014a) and (Allen et al., 2014b). Shown are group means ± S.E.

microglial activation (Fig. 1) and its potential to produce glutamate release (Murugan et al., 2013; Takeuchi et al., 2005) seen in ASD.

It has been reported that children and adults with ASD show altered glutamatergic balance, both in the periphery and CNS (Naushad et al., 2013; Kuwabara et al., 2013; Horder et al., 2013; Bejjani et al., 2012; Shimmura et al., 2011; Choudhury et al., 2012), which can correlate with altered social functioning (Horder et al., 2013). Single nucleotide polymorphisms in glutamate transporter genes (Jacob et al., 2011), and astrocyte specific dysfunctions that affect glutamate metabolism (Kondapalli et al., 2013), have been found in genetic variants in ASD. These variants affect genes in the neurexin-neuroligin gene superfamily that are important to regulation of glutamatergic synapse formation (Chih et al., 2005). Collectively these finding contribute to the 'hyperglutamate theory' of ASD (Jacob et al., 2011). As noted above, microglial activation/inflammation could trigger glutamate release (Murugan et al., 2013; Takeuchi et al., 2005), and glutamate release further activate microglia (Biber et al., 2007).

3.4. Postnatal CAPS produces astrocytic activation in amygdala consistent with the aberrant amygdala theory of ASD (Baron-Cohen et al., 2000; Cahill et al., 2004; Ruigrok et al., 2014)

We have identified significant increases in the astrocyte specific marker GFAP in amygdala of CAPS-treated males at PND14 (Fig. 9). This adds yet another brain region impacted by UFPs that is considered key to aberrant behaviors involved in ASD (Baron-Cohen et al., 2000). Data from females and later time points are not yet examined, so the extent to which this effect is sex-differential is not yet known.

ASD brains also show altered amygdala volume, marked by early enlargement and normal or reduced volumes in adulthood, that can be linked to social abnormalities in ASD (Schumann et al., 2004, 2009). A recent report cited fewer amygdala neurons in some males diagnosed with ASD (Morgan et al., 2010).

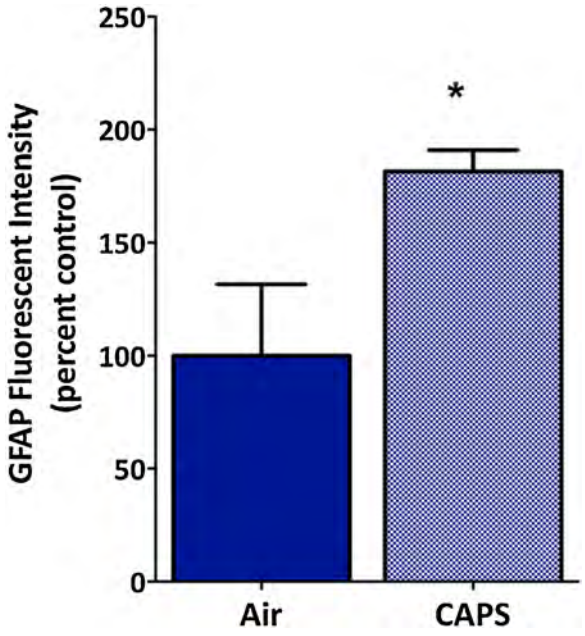


Fig. 9. CAPS exposure increased GFAP labeling in amygdala. Fluorescent intensity of GFAP labeling in amygdala in male mice exposed to postnatal CAPS at PND14 and normalized to air exposed controls. $n = 5$/gp. Shown is group mean ± S.E. CAPS = concentrated ambient ultrafine particles; PND = postnatal day; GFAP = glial fibrillary acidic protein.

3.5. Postnatal CAPS is associated with impulsive-like behavior that has also been reported in ASD

Where diagnosis is predicated on primary behavioral characteristics that include social deficits, impaired communication, and repetition/perseveration (Lai et al., 2014). Executive functions including set shifting can also be impaired in ASD and are frequent co-morbid features of the disorder (Vidal et al., 2006; Troyb et al., 2014; Ravizza et al., 2013; Rosenthal et al., 2013; Christ et al., 2011; Lemon et al., 2011; Scott-Van Zeeland et al., 2010).

The unexpected observations of disrupted CC white matter development, VM and excitatory/inhibitory imbalance in response to CAPS treatment were found only after our completion of behavioral testing in our studies, and therefore explicit testing for these primary ASD behavioral domains has not yet been completed, nor were all behavioral assays that have been implemented carried out in both sexes. Consequently, the full extent to which postnatal CAPS reproduces ASD behavioral features and its sex-dependence is not yet fully delineated.

However, other behavioral dysfunctions associated with ASD have been found in response to CAPS treatment, including perseverative/impulsive behavior in CAPS males (females not yet tested) on a Fixed Ratio waiting for reward paradigm that required 25 lever press responses in an operant chamber to initiate a waiting component during which free reward deliveries occurred. However, the time between each successive free reward delivery doubled during the wait component, thus requiring increasingly longer wait times, and any lever press response during the waiting component re-set the 25 response requirement to re-start the wait component. Postnatal CAPS markedly decreased mean waiting time and increased numbers of fixed ratio resets in males, despite the added cost in terms of numbers of responses required for each reward delivery (Allen et al., 2013). Fig. 10 presents cumulative records of an individual subject from each treatment group depicting this perseverative/impulsive behavior, behaviors consistent with ASD-like repetition and impulsivity.

Sex-dependent deficits in executive-type behavioral domains were also found after CAPS, including alterations in learning, reversal learning, and memory even out to 14 mos (final time point of behavioral observations). Both sexes showed novel object recognition deficits (considered to reflect short term memory) (Allen et al., 2014b) and impairments in repeated learning (in preparation; data not shown), i.e., ability to learn new 3-response chains for reward delivery in each successive behavioral test session, but no deficits in performing a constant already learned 3 response chains, consistent with a selective learning deficit.

4. Discussion

Postnatal exposures of mice to ambient UFP appear to reproduce many features consistent with characteristics of ASD, including inflammation/microglial activation (Fig. 1), reduced CC size (Fig. 4), aberrant white matter development and/or structural integrity (Figs. 2–5), hypomyelination (Fig. 5) and VM (Figs. 2–3), an altered ratio of glutamate and GABA, consistent with excitatory/inhibitory imbalance (Fig. 8), and alterations in GFAP expression in the amygdala (Fig. 9), many of which were either male-specific or of greater magnitude in males. While we are still in the process of completing behavioral tests that define ASD-like behavior in animal models, we found deficits in learning, short-term memory (not shown) and, in males, repetitive and impulsive-like behaviors (Fig. 10), which are part of the primary diagnostic domain of ASD.

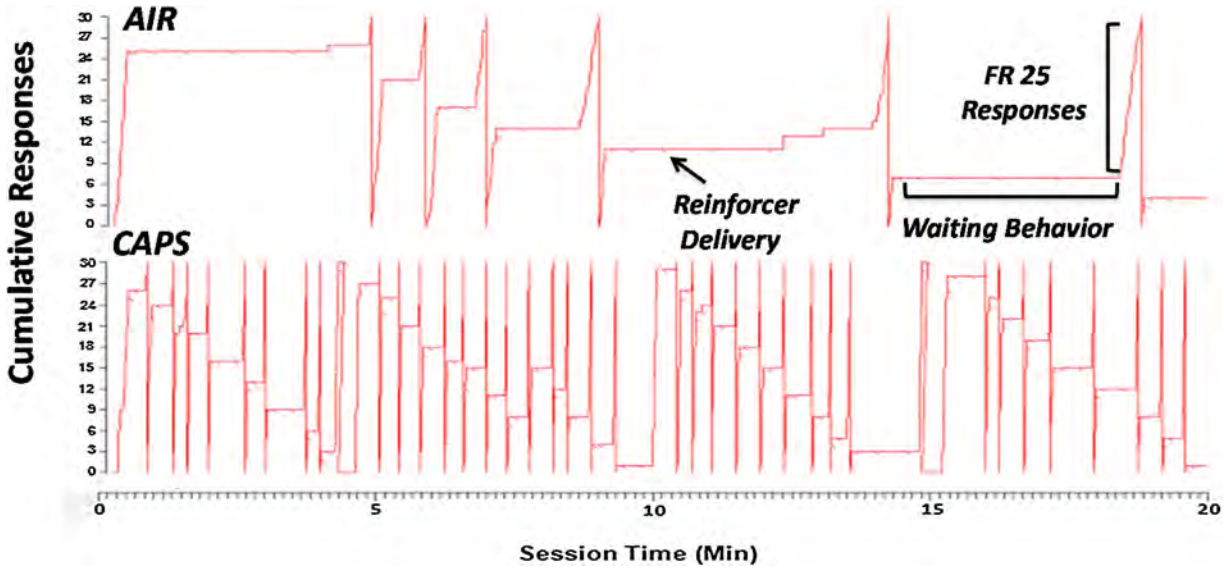


Fig. 10. Cumulative records of individual male from indicated treatment groups on the fixed ratio (FR) wait schedule. *Y* axis response counter resets to baseline after each 30 responses; pips (backslashes) = reward delivery, horizontal lines = periods of waiting, vertical lines = FR responding. Modified from (Allen et al., 2013).

4.1. White matter damage

New analyses presented here reveal UFP-induced white matter alterations at PND14 selectively in commissural tracts (CC), with effects that were of significantly greater magnitude in males, consistent with our previous observation of male-specific and persistent microglial activation and VM (Allen et al., 2014a,b). These changes included both a significantly reduced CC size, as well as male-specific hypomyelination of CC at PND 14, with marked reductions particularly in the truncus and the medial, as opposed to the lateral external capsule. CC size ultimately reached control levels later in life following postnatal CAPS in males, whereas small but non-significant reductions in myelination were suggestive in females at PND270, findings that could indicate delayed neurotoxicity in this sex and perhaps repair in males. In contrast, no changes were seen in white matter in either striatum or in frontal cortex in either sex.

The reduction of CC size and region-specific hypomyelination coupled with our prior observations of persistent microglial activation and VM (Allen et al., 2014a) is markedly similar to the clinical conditions of diffuse periventricular leukomalacia or white matter injury of prematurity/neonatal white matter damage (Leviton and Gilles, 1996; Rezaie and Dean, 2002) that can be produced by fetal inflammatory or hypoxic-ischemic injury. VM is a clinical indicator of disrupted white matter development (Allen et al., 2014a,b) and can be accompanied by significant cognitive deficits (Leviton and Gilles, 1996). Based on its well-known inflammatory properties (Kelly and Fussell, 2015), UFP exposures would be expected to activate brain microglia, resulting in the release of proinflammatory cytokines (Baburamani et al., 2014; Harry and Kraft, 2012; Chew et al., 2013) that could lead to hypomyelination via toxicity to oligodendrocytes, the myelinating cells of the brain (El Waly et al., 2014). Indeed, particular vulnerability of premyelinating olidgodendrocytes to such consequences of microglial activation has been described (Liu et al., 2013; Volpe et al., 2011). Such scenarios are considered the underlying basis of disrupted white matter development associated with prematurity (Rezaie and Dean, 2002).

Our collective findings raise several important questions. For example, what underlies the preferential male vulnerability to the early reduction in CC size and hypomyelination? One hypothesis relates to the greater number of colonizing activated microglia in male brain at the time of CAPS exposure (Schwarz et al., 2012). Neuro- and gliogenesis, which derive from germinal ventricular and subventricular zones next to the ventricle walls, occurs at peak levels during the postnatal period when CAPS exposures occurred (Bandeira et al., 2009), and continues at a constant level into young adulthood (Tabata et al., 2012; Tramontin et al., 2003), with activated microglia actually required for neuro- and oligodendrogenesis through the release of cytokines (potentially in combinations), including IL-1β and IL-6 (Shigemoto-Mogami et al., 2014). However, the greater number of activated microglia, despite its requirement for neuro- and gliogenesis to proceed, could also render male brain microglia more vulnerable to dysfunction or even cell death in response to an ongoing inflammatory insult. Females exhibit increased numbers and more activated microglia than males only at a later postnatal age (PND30) (Schwarz et al., 2012), and thus CAPS exposures in these studies may have preceded the period of female vulnerability.

Other questions raised by our data are what underlies the preferential vulnerability of the truncus of the CC to CAPS-induced hypomyelination, and, what accounts for the lack of vulnerability of striatal and frontal cortex (non-commissural) white matter myelination? One potential contributor to these dichotomous effects could be regional differences in timing of myelination in early development relative to the CAPS exposure period. Interestingly, as in humans (Bird et al., 1989), myelination in mouse brain occurs earliest in the caudal part of the CC (PND14) and only later in the anterior segments, i.e., truncus and genu, e.g., between PND21-28 (Vincze et al., 2008). Myelination of regions such as striatum and cortex occurs even later, with studies showing myelination levels of only 1% in frontal cortex at PND21, up to about 15% at PND90, and up to approximately 70% at PND 180. At PND21, myelination of striatum is only about 5% of the area, and increases to about 28% by PND90 (Mengler et al., 2014).

Thus, it may be that the absence of white matter myelination changes in striatum and frontal cortex reflects the fact that these processes are occurring at a sufficiently later time relative to CAPS exposures and thus are spared, and/or that any ongoing inflammation levels have subsided in that period. With respect to the vulnerability of the truncus of the CC, its primary myelination occurs 1–2 weeks post CAPS exposures, while more caudal parts of CC are undergoing myelination during the period of CAPS exposure itself. This also means that the entirety of CAPS

exposure (cumulative exposure) preceded the period associated with truncus (and genu) myelination, whereas a lesser 'dose' of exposure occurred during myelination of more caudal regions. Thus, there may have been insufficient inflammation during the earlier periods of myelination, whereas a more protracted/higher level of inflammation period ended only days prior to myelination of the truncus/genu. An additional consideration is that perinatal white matter injury can be accompanied by neuronal damage (Wahlsten, 1984; Leviton and Gressens, 2007), including cortical subplate neurons that are critical to formation of axons for the CC, raising the possibility that these neurons were either dysfunctional or dead the thus the infrastructure for myelination never developed, a hypothesis that has yet to be examined.

Hypomyelination at the truncus, i.e., just posterior to the genu, is of particular significance given that these fibers connect motor and prefrontal cortical areas, respectively, and preserve hemispheric connectivity (Pandya and Seltzer, 1986; Barbas and Pandya, 1984; Paul et al., 2007). White matter alterations in these regions have been associated in adolescents with a history of preterm birth, e.g., with cognitive outcomes (Narberhaus et al., 2008) as well as with deficits in social communication (Ewing-Cobbs et al., 2012). In the context of cognitive outcomes, it is notable that air pollution is also associated with prematurity and reductions in birth weight (Shah and Balkhair, 2011; Stieb et al., 2012).

4.2. Air pollution as a broader risk factor: ASD shares features with other neurodevelopmental disorders

Different components of the observed profile of CAPS-induced neuropathology are actually consistent with multiple neurodevelopmental disorders, including ASD (Melillo and Leisman, 2009; Aoki et al., 2013; Keller et al., 2007; Barnea-Goraly et al., 2004), schizophrenia (Lener et al., 2015), and attention deficit disorder (Langevin et al., 2014; Chaim et al., 2014; Newbury and Rosen, 2012; Paul, 2011; Gilliam et al., 2011; Qiu et al., 2011; Schnoebelen et al., 2010; Cao et al., 2010) among others, all of which also show a higher prevalence in males, consistent with the male dominance of outcomes observed here. ASD and schizophrenia, for example, particularly childhood onset schizophrenia, are frequently considered components of a shared spectrum (Cheung et al., 2010; King and Lord, 2011; Meyer et al., 2011; Rapoport et al., 2009). Prior to 1971 these disorders were generally lumped together as 'childhood psychosis', with ASD considered an early manifestation of schizophrenia. They can occur as co-morbidities, and behaviorally, both include deficits in social interactions, cognition, executive functions, emotional processing and sensorimotor gating. Both can involve auditory and visual hallucinations (Meyer et al., 2011; Barneveld et al., 2011), abnormalities of serotonergic, dopaminergic and glutamatergic systems (Brown et al., 2013; Shimmura et al., 2013; Sodhi and Sanders-Bush., 2004) and shared genetic causes (de Lacy and King, 2013; Smoller et al., 2013). Schizophrenia and ASD also share neuropathological features, including VM (Palmen et al., 2005; Sanfilipo et al., 2000; Shen et al., 2013), a clinical indicator of white matter alterations that are crucial to brain interhemispheric connectivity.

Adverse pregnancy outcomes, specifically preterm birth and reduced birth weight are often associated with brain white matter alterations (Elitt and Rosenberg, 2014; Volpe, 2003), as seen in conditions such as periventricular leukomalacia (Back, 2006), that have been linked to inflammatory mechanisms (Melhem et al., 2000; Perlman, 1998; Wang et al., 2013), and can lead to cognitive impairments. In up to 50% of extremely and very preterm infants, alterations in brain white matter constitute the most important basis of axonal/neuronal damage associated with adverse neurocognitive and motor development (Back and Rosenberg, 2014). As noted above, links between prematurity and reduced birth weight with air pollution are increasingly reported (Shah and Balkhair, 2011; Stieb et al., 2012). Alterations in brain white matter are also observed in attention deficit hyperactivity disorder (Gilliam et al., 2011). Disconnectivity, i.e., functional and/or anatomical damage to white matter axons in communicating pathways found in ASD and schizophrenia (Geschwind and Levitt, 2007; Kana et al., 2011; Wass, 2011; Guo et al., 2013), is critical to language, social behavior and some cognitive functions. VM associated with such deficits persists after birth (Gilmore et al., 2001) and is more prevalent in males (Gilmore et al., 1998). Prenatal VM is predictive of time to first-episode psychosis, and schizophrenia diagnosis (Sanfilipo et al., 2000; Gilmore et al., 1998, 2008; Fannon et al., 2000; Kyriakopoulou et al., 2013).

Animal models yielding a similar neuropathological profile to that produced by CAPS treatment can result from exposures to hypoxia, ischemia, maternal-fetal infection and lipopolysaccharide (endotoxin) administration (Yates and Juraska, 2007). Frequently observed in such pathology is an early necrosis in the subventricular zone adjacent to the lateral ventricle with depletion of stem cells, followed by later proliferation, as also observed in conditions such as periventricular leukomalacia (Back, 2006). Numerous studies now demonstrate the role of reactive microglia, with a particular vulnerability of premyelinating oligodendroglia, to such insults (Leviton and Gilles, 1996; Back and Rosenberg, 2014).

5. Conclusions

The findings reported here have two major implications: first, the data highlight the human 3rd trimester equivalent (Clancy et al., 2007a; Rice and Barone, 2000) as a period of potential vulnerability to neurodevelopmental toxicity to ambient UFP, particularly in males, adding to a growing body of evidence that brain is a target of air pollution, and point to the possibility that UFP exposure during periods of rapid neuro- and gliogenesis may be a risk factor for neurodevelopmental disorders. The most prominent period of myelination in the mouse begins at approximately PND10 (Vincze et al., 2008; Bockhorst et al., 2008; Sturrock, 1980) and thus is encompassed by our CAPS exposures. One cited limitation of rodent models of inhaled air pollution has been that rodents, unlike humans, are obligate nose-breathers and thus dosing to mouse results in higher exposures relative to humans. However, this may be a minimal or negligent concern according to a recent study based on computational modeling using an anatomically accurate model of the human nasal cavity that found that the olfactory dose per unit surface area is actually estimated to be higher in humans for 1–7 nm particles based on the larger inhalation rates of humans (Garcia et al., 2015). The latter is of particular note as emphasized in a recent editorial (Pedata et al., 2015), given the presence in fly ash and car exhaust of a significant fraction of particles below 10 nm, often overlooked because of measurement difficulty (Ronkko et al., 2007).

Second, ASD phenotypic expression and severity shows broad variability. If a risk factor for ASD, the variability of air pollution levels and composition across seasons/climate/geography could assist in contributing to the heterogeneity of the phenotype, which could be further compounded by the developmental timing of the exposure. Current thinking posits that the multifactorial genetic and environmental risks for ASD superimposed on different periods of brain development, could ostensibly underlie this variability of the phenotype. Air pollution, as one such risk factor, could pose a greater threat in more highly polluted regions and/or in areas where it includes more toxic elements. Inconsistencies across ASD studies could in part reflect the convergence of different sets of risk factors occurring in geographically different

cohorts and significant differences in UFP exposures could also occur within even cohorts.

Conflict of interest

None.

Acknowledgements

Supported by T32 ES007026 (PI: B.P. Lawrence), P30 ES001247 (PI: D.A. Cory-Slechta), K12 ES019852 (PI: D.A. Cory-Slechta), and R21 ES019105 (PI: D.A. Cory-Slechta).

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ORIGINAL ARTICLE

Traffic-Related Air Pollution, Particulate Matter, and Autism

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Context: Autism is a heterogeneous disorder with genetic and environmental factors likely contributing to its origins. Examination of hazardous pollutants has suggested the importance of air toxics in the etiology of autism, yet little research has examined its association with local levels of air pollution using residence-specific exposure assignments.

Objective: To examine the relationship between traffic-related air pollution, air quality, and autism.

Design: This population-based case-control study includes data obtained from children with autism and control children with typical development who were enrolled in the Childhood Autism Risks from Genetics and the Environment study in California. The mother's address from the birth certificate and addresses reported from a residential history questionnaire were used to estimate exposure for each trimester of pregnancy and first year of life. Traffic-related air pollution was assigned to each location using a line-source air-quality dispersion model. Regional air pollutant measures were based on the Environmental Protection Agency's Air Quality System data. Logistic regression models compared estimated and measured pollutant levels for children with autism and for control children with typical development.

Setting: Case-control study from California.

Participants: A total of 279 children with autism and a total of 245 control children with typical development.

Main Outcome Measures: Crude and multivariable adjusted odds ratios (AORs) for autism.

Results: Children with autism were more likely to live at residences that had the highest quartile of exposure to traffic-related air pollution, during gestation (AOR, 1.98 [95% CI, 1.20-3.31]) and during the first year of life (AOR, 3.10 [95% CI, 1.76-5.57]), compared with control children. Regional exposure measures of nitrogen dioxide and particulate matter less than 2.5 and 10 μm in diameter ($PM_{2.5}$ and PM_{10}) were also associated with autism during gestation (exposure to nitrogen dioxide: AOR, 1.81 [95% CI, 1.37-3.09]; exposure to $PM_{2.5}$: AOR, 2.08 [95% CI, 1.93-2.25]; exposure to PM_{10}: AOR, 2.17 [95% CI, 1.49-3.16) and during the first year of life (exposure to nitrogen dioxide: AOR, 2.06 [95% CI, 1.37-3.09]; exposure to $PM_{2.5}$: AOR, 2.12 [95% CI, 1.45-3.10]; exposure to PM_{10}: AOR, 2.14 [95% CI, 1.46-3.12]). All regional pollutant estimates were scaled to twice the standard deviation of the distribution for all pregnancy estimates.

Conclusions: Exposure to traffic-related air pollution, nitrogen dioxide, $PM_{2.5}$, and PM_{10} during pregnancy and during the first year of life was associated with autism. Further epidemiological and toxicological examinations of likely biological pathways will help determine whether these associations are causal.

JAMA Psychiatry. 2013;70(1):71-77.
Published online November 26, 2012.
doi:10.1001/jamapsychiatry.2013.266

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AUTISM SPECTRUM DISORDERS are a group of developmental disorders commonly characterized by problems in communication, social interaction, and repetitive behaviors or restricted interests.[1] Although the severity of impairment for the autism spectrum disorders varies across the spectrum (full syndrome autism being the most severe), the incidence rate of all autism spectrum disorders is now reported to be as high as 1 in 110 children.[2] Emerging evidence suggests that environment plays a role in autism, yet at this stage, only limited information is available as to what exposures are relevant, their mechanisms of action, the stages of development in which they act, and the development of effective preventive measures.

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Recently, air pollution has been examined as a potential risk factor for autism.

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Table 1. Spearman Correlations of Traffic-Related Air Pollution (TRP) and Regional Pollutants for 524 Children[a]

First Year of Life Estimates	All Pregnancy Estimates				
	TRP	$PM_{2.5}$	PM_{10}	Ozone	Nitrogen Dioxide
TRP	0.92[b]	0.36[c]	0.33[c]	–0.36[c]	0.60[c]
$PM_{2.5}$	0.25[d]	0.67[b]	0.77[c]	–0.11[c]	0.63[c]
PM_{10}	0.27[d]	0.84[d]	0.82[b]	0.13[c]	0.66[c]
Ozone	–0.31[d]	0.26[d]	0.27[d]	0.74[b]	–0.29[c]
Nitrogen dioxide	0.58[d]	0.60[d]	0.64[d]	–0.19[d]	0.89[b]

Abbreviations: $PM_{2.5}$, particulate matter less than 2.5 μm in aerodynamic diameter; PM_{10}, particulate matter less than 10 μm in aerodynamic diameter.
[a] All correlation measures were statistically significant ($P < .05$).
[b] Correlations of the same pollutant across time periods.
[c] Correlations across pollutants within pregnancy.
[d] Correlations across pollutants within the first year of life.

Using the Environmental Protection Agency's dispersion-model estimates of ambient concentrations of hazardous air pollutants, Windham and colleagues[3] identified an increased risk of autism based on exposure to diesel exhaust particles, metals (mercury, cadmium, and nickel), and chlorinated solvents in Northern California census tracts. Additional research using dispersion-model estimates of hazardous air pollutants also reported associations between autism and air toxics at the birth residences of children from North Carolina and West Virginia.[4] These epidemiologic findings on autism are supported by additional research[5,6] describing other physical and developmental effects of air pollution due to prenatal and early life exposure. For example, high levels of air pollutants have been associated with poor birth outcomes, immunologic changes, and decreased cognitive abilities.[5,6]

Recently, we reported an association between the risk of autism and an early life residence within 309 m of a freeway in the Childhood Autism Risks from Genetics and the Environment (CHARGE) study.[7] The near-source traffic-related air pollutant mixture has a large spatial variation, returning to near-background daytime levels beyond this distance.[8,9] Herein, we report associations of autism with estimates of exposure to the mixture of traffic-related air pollution and with regional measures of nitrogen dioxide, particulate matter less than 2.5 μm in aerodynamic diameter ($PM_{2.5}$), and particulate matter less than 10 μm in aerodynamic diameter (PM_{10}) in the CHARGE sample.

METHODS

The CHARGE study is a population-based case-control study of preschool children. The study design is described in detail elsewhere.[10] In brief, the participants in the CHARGE study were between the ages of 24 and 60 months at the time of recruitment, lived with at least one English- or Spanish-speaking biologic parent, were born in California, and lived in one of the study catchment areas. Recruitment was facilitated by the California Department of Developmental Services, the regional centers with which they contract to coordinate services for persons with developmental disabilities, and referrals from the MIND (Medical Investigation of Neurodevelopmental Disorders) Institute clinic at the University of California, Davis, and from other research studies. Population-based control children were recruited from the sampling frame of birth files from the state of California and were frequency matched by sex, age, and broad geographic area to the children with autism.

Each participating family was evaluated. Children with a previous diagnosis of autism were evaluated using the Autism Diagnostic Observation Schedules, and parents were administered the Autism Diagnostic Interview–Revised.[11,12] Children who received a diagnosis of developmental delay and control children from the general population were given the Social Communication Questionnaire to screen for the presence of autistic features.[13] If the Social Communication Questionnaire score was 15 or greater, the child was then evaluated using the Autism Diagnostic Observation Schedules, and the parent was administered the Autism Diagnostic Interview–Revised. In our study, autism cases were children with a diagnosis of full syndrome autism from both the Autism Diagnostic Observation Schedules and the Autism Diagnostic Interview–Revised. All children were also assessed using the Mullen Scales of Early Learning and the Vineland Adaptive Behavior Scales to collect information on motor skills, language, socialization, and daily living skills.[14,15] Controls were children from the general population who received a Social Communication Questionnaire score of less than 15 and who also showed no evidence of other types of delay (cognitive or adaptive).

Parents were interviewed to obtain, among other factors, demographic and medical information and residential histories. Race/ethnicity data were collected by self-report in categories defined by the US Census (**Table 1**). The residential data captured addresses and corresponding dates the mother and child lived at each location beginning 3 months before conception and extending to the most recent place of residence. Further details about the collection of clinical and exposure data have been previously reported.[10]

To obtain model-based estimates of exposure to traffic-related air pollution, we applied the CALINE4 line-source air-quality dispersion model.[16] The dispersion model was used to estimate average concentrations for the specific locations and time periods (trimesters of gestation and first year of life) for each participant. The principal model inputs are roadway geometry, link-based traffic volumes, period-specific meteorological conditions (wind speed and direction, atmospheric stability, and mixing heights), and vehicle emission rates. Detailed roadway geometry data and annual average daily traffic counts were obtained from Tele Atlas/Geographic Data Technology in 2005. These data represent an integration of state-, county-, and city-level traffic counts collected between 1995 and 2000. Because our period of interest was from 1997 to 2008, the counts were scaled to represent individual years based on estimated growth in county average vehicle-miles-traveled data.[17] Traffic counts were assigned to roadways based on location and street names. Traffic volumes on roadways without count data (mostly

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small roads) were estimated based on median volumes for similar class roads in small geographic regions. Meteorological data from 56 local monitoring stations were matched to the dates and locations of interest. Vehicle fleet average emission factors were based on the California Air Resource Board's EMFAC2007 (version 2.3) model. Annual average emission factors were calculated by year (1997-2008) for travel on freeways (65 mph), state highways (50 mph), arterials (35 mph), and collector roads (30 mph) (to convert to kilometers, multiply by 1.6). We used the CALINE4 model to estimate locally varying ambient concentrations of nitrogen oxides contributed by freeways, nonfreeways, and all roads located within 5 km of each child's home. Previously, we have used the CALINE4 model to estimate concentrations of other traffic-related pollutants, including elemental carbon and carbon monoxide, and found that they were almost perfectly correlated (around 0.99) with estimates for nitrogen oxides. Thus, our model-based concentrations should be viewed as an indicator of the traffic-related pollutant mixture rather than of any pollutant specifically.

A second approach was to use the regional air quality data for the exposure assignments for $PM_{2.5}$, PM_{10}, ozone, and nitrogen dioxide. These were derived from the US Environmental Protection Agency's Air Quality System data (http://www.epa.gov/ttn/airs/airsaqs) supplemented by University of Southern California Children's Health Study data for 1997 though 2009.[18] The Children's Health Study continuous PM data were used for a given monitoring station when no Federal Reference/Equivalent Method data for PM were available from the Air Quality System. The monthly air quality data from monitoring stations located within 50 km of each residence were made available for spatial interpolation of ambient concentrations. The spatial interpolations were based on inverse distance–squared weighting of data from up to 4 of the closest stations located within 50 km of each participant's residence; however, if 1 or more stations were located within 5 km of a residence, then only data from the stations within 5 km were used for the interpolation. Because special studies have shown large offshore-to-onshore pollutant gradients along the Southern California coast, the interpolations were performed with pseudostations (or theoretical locations used for estimating pollution gradients from extant data when geography did not permit observed data) located approximately 20 to 40 km offshore that had background concentrations based on long-term measurements (1994-2003) at clean coastal locations (ie, Lompoc, California).

Periods and locations relevant to the modeled traffic exposure were identified based on dates and addresses recorded on the child's birth certificate and from the residential history questionnaire. The birth certificate addresses corresponded to the mother's residence at the time of the child's birth, whereas the residential history captures both the mother's residences during pregnancy (required for estimation of prenatal exposure) and the child's residences after birth through the time of study enrollment. We determined the conception date for each child using gestational age from ultrasonographic measurements or the date of last menstrual period, as determined from prenatal records. We used these locations and dates to estimate exposure for the child's first year of life, for the entire pregnancy period, and for each trimester of pregnancy. When more than 1 address fell into a time interval, we created a weighted average to reflect the exposure level of the participant across the time of interest, taking into account changes in residence. Traffic-related air pollution was determined based on the required inputs reflecting change in each address over the study period. For the regional pollutant measures, we assigned $PM_{2.5}$, PM_{10}, and nitrogen dioxide measurements based on average concentrations for the time period of interest. For ozone, we calculated the averages for the period of interest based on the average range of ozone measurements from 1000 to 1800 hours (reflecting the high 8-hour daytime). Based on these methods, we were able to assign traffic-related air pollutant estimates and regional pollutant measures for 524 mother-child pairs.

Spearman correlations were calculated pairwise between traffic-related air pollutant estimates and regional pollution measures for pregnancy and the first year of life to assess the independence of these exposure metrics. We used logistic regression to examine the association between exposure to traffic-related air pollution and the risk of autism. Models of autism risk as a function of traffic-related air pollutant exposure levels from all road types were fitted separately for each time period. Categories of exposure were formed based on quartiles of the traffic-related air pollutant distribution for all pregnancy estimates because this provided the most comprehensive data for each child. Levels of regional pollutants were examined as continuous variables, and effect estimates were scaled to twice the standard deviation of the distribution for all pregnancy estimates. When levels of correlation permitted, we examined both traffic-related air pollutants and regional pollutants in a single model. Pertinent covariates were included in each model to adjust for potential confounding due to sociodemographic and lifestyle characteristics. We included children's sex and ethnicity, maximum education level of the parents, mother's age, and whether the mother smoked during her pregnancy, as described previously.[7] To examine whether our findings were affected by participants living in an urban or rural area, we included population density, which was obtained from Environmental Systems Research Institute Inc 2008 estimates of people per square meter using ArcGIS software version 9.2. We used the US Census Bureau cutoff of 2500 people per square meter to categorize population density into urban vs rural areas and included this variable as a covariate in our analysis of the effects of air pollution from the first year of life because these residences were the most recently recorded.

We also fitted logistic additive models to evaluate the relationship between autism and traffic-related air pollution. These models used the smoothing spline with 3 degrees of freedom for continuous traffic-related air pollution and used the same adjustment variables as in the linear logistic models already described. Statistical tests were conducted using an α level of .05, and 95% CIs were used to measure precision. All analyses were conducted using the R package version 2.9.2 (http://www.r-project.org). The institutional review boards of the University of Southern California and the University of California, Davis, approved the research.

RESULTS

The children in our study were predominantly male (84%), and most were non-Hispanic white (50%) or Hispanic (30%). No differences were found between cases and controls for any demographic, socioeconomic, or lifestyle variables that we examined (eTable, http://www.jamapsych.com). Details regarding the exposure distributions are presented in the eFigure, A and B. The Spearman correlations calculated for the first year of life and the pregnancy time periods are presented in Table 1. During pregnancy and during the first year of life, traffic-related air pollution was moderately correlated with $PM_{2.5}$ and PM_{10}, highly correlated with nitrogen dioxide, but inversely correlated with ozone. Among the regional pollutant measures, $PM_{2.5}$ and PM_{10} were nearly perfectly correlated, and both were highly correlated with nitrogen dioxide. Correlations with ozone were low and often negative, demonstrating an inverse relationship. We also ex-

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Table 2. Risk of Autism for 524 Children, by Quartile[a] of Modeled Traffic-Related Air Pollution Exposure From All Road Types

Time Period	Odds Ratio (95% CI)		
	4th Quartile	3rd Quartile	2nd Quartile
First year of life			
Crude	2.97 (1.71-5.27)	1.00 (0.63-1.60)	0.88 (0.55-1.42)
Adjusted[b]	3.10 (1.76-5.57)	1.00 (0.62-1.62)	0.91 (0.56-1.47)
All pregnancy			
Crude	1.99 (1.22-3.28)	1.10 (0.67-1.78)	1.20 (0.74-1.95)
Adjusted[b]	1.98 (1.20-3.31)	1.09 (0.67-1.79)	1.26 (0.77-2.06)
First trimester			
Crude	1.91 (1.67-3.14)	1.28 (0.80-2.06)	1.28 (0.77-2.14)
Adjusted[b]	1.85 (1.11-3.08)	1.28 (0.79-2.08)	1.28 (0.77-2.15)
Second trimester			
Crude	1.69 (1.04-2.78)	1.15 (0.71-1.87)	0.89 (0.54-1.47)
Adjusted[b]	1.65 (1.00-2.74)	1.13 (0.69-1.84)	0.90 (0.54-1.49)
Third trimester			
Crude	2.04 (1.25-3.38)	0.92 (0.57-1.48)	1.12 (0.68-1.84)
Adjusted[b]	2.10 (1.27-3.51)	0.91 (0.56-1.46)	1.17 (0.71-1.93)

[a] Quartile cut points correspond to traffic-related air pollution exposure levels of 31.8 ppb or greater (fourth quartile), 16.9 to 31.8 ppb (third quartile), and 9.7 to 16.9 ppb (second quartile), compared with 9.7 ppb or less (first quartile [reference group]).

[b] Model adjusted for male sex of child, child's ethnicity (Hispanic vs white; black/Asian/other vs white), maximum education of parents (parent with highest of 4 levels: college degree or higher vs some high school, high school degree, or some college education), maternal age (>35 years vs ≤35 years), and prenatal smoking (mother's self-report of ever vs never smoked while pregnant).

amined correlations of each pollutant across time periods, and high levels of correlation were identified.

EXPOSURE TO TRAFFIC-RELATED AIR POLLUTION

An increased risk of autism was associated with exposure to traffic-related air pollution during a child's first year of life. Children residing in homes with the highest levels of modeled traffic-related air pollution were 3 times as likely to have autism compared with children residing in homes with the lowest levels of exposure (**Table 2**). Exposure in the middle quartile groups (second and third quartiles) was not associated with an increased risk of autism. In our analysis, which included population density, this association with the highest quartile of exposure was still evident (adjusted odds ratio [AOR], 3.48 [95% CI, 1.81-6.83]), and living in an urban area, compared with living in a rural area, was not associated with autism (AOR, 0.86 [95% CI, 0.56-1.31]). When we examined traffic-related air pollutant exposures during pregnancy, the highest quartile was also associated with autism risk (AOR, 1.98 [95% CI, 1.20-3.31]) compared with the lowest quartile. We further divided the pregnancy into 3 trimesters and modeled traffic-related air pollution based on these intervals. During all 3 trimesters of pregnancy, we found associations with the highest quartile of exposure (≥31.8 ppb), compared with the lowest quartile (≤9.7 ppb), and autism (Table 2). Inclusion of demographic and socioeconomic variables in the models did not greatly alter these associations (Table 2).

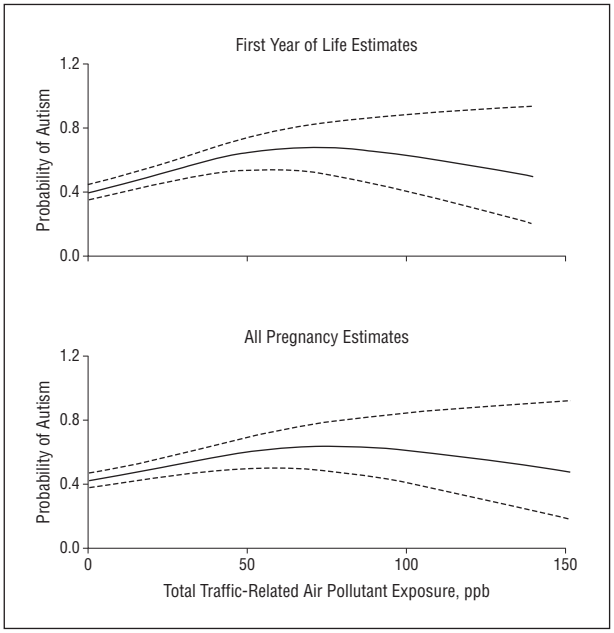


Figure. Probability of autism by increasing level of children's exposure to traffic-related air pollution during the first year of life and during gestation. The dashed lines indicate the 95% CI.

Because our quartile-based categories indicated that there is a threshold upon which traffic-related air pollutant exposure is detrimental, we also examined the relationship between traffic-related air pollutant exposure and autism using smoothed models for the first year of life and all of pregnancy. An increasing probability of autism was seen with increasing traffic-related air pollutant estimates, with the odds reaching a plateau when these estimates were above 25 to 30 ppb (**Figure**).

REGIONAL AIR POLLUTANT EXPOSURE

The higher levels of exposure to $PM_{2.5}$, PM_{10}, and nitrogen dioxide based on the Environmental Protection Agency's regional air quality monitoring program were associated with an increased risk of autism (**Table 3**). Specifically, for an 8.7-unit increase (micrograms per cubic meter) in $PM_{2.5}$ (corresponding to twice the standard deviation of the $PM_{2.5}$ distribution) exposure during the first year of life, children were 2.12 times more likely to have autism. Increases were also present for pregnancy and trimester-specific estimates of $PM_{2.5}$, with the smallest effects present in the first trimester. For PM_{10}, a 14.6-unit increase (micrograms per cubic meter) during the first year was associated with twice the risk of autism (Table 3). Associations were present for pregnancy and for each trimester, with the first trimester having the smallest magnitude. We did not find associations between levels of regional ozone and autism. Regional nitrogen dioxide exposure during the first year was associated with a 2-fold risk of autism. Similar effects were identified for nitrogen dioxide exposure during pregnancy. Although exposure during each of the 3 trimesters was associated with autism, the effects of the first trimester were the smallest. For all regional pollutant measures, adjustment for demographic and socioeconomic

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Table 3. Risk of Autism for 524 Children Based on Continuous Regional Pollutant Exposure[a]

Time Period	Odds Ratio (95% CI)			
	$PM_{2.5}$	PM_{10}	Ozone	Nitrogen Dioxide
First year				
Crude	2.14 (1.48-3.09)	2.14 (1.47-3.10)	1.15 (0.72-1.84)	2.06 (1.39-3.06)
Adjusted[b]	2.12 (1.45-3.10)	2.14 (1.46-3.12)	1.15 (0.72-1.86)	2.06 (1.37-3.09)
All pregnancy				
Crude	2.11 (1.46-3.03)	2.17 (1.50-3.13)	1.08 (0.76-1.52)	1.82 (1.26-2.64)
Adjusted[b]	2.08 (1.93-2.25)	2.17 (1.49-3.16)	1.09 (0.76-1.55)	1.81 (1.23-2.65)
First trimester				
Crude	1.24 (0.99-1.56)	1.47 (1.10-1.98)	1.07 (0.86-1.33)	1.47 (1.07-2.01)
Adjusted[b]	1.22 (0.96-1.53)	1.44 (1.07-1.96)	1.08 (0.86-1.35)	1.44 (1.05-1.20)
Second trimester				
Crude	1.50 (1.16-1.93)	1.82 (1.35-2.45)	1.03 (0.84-1.27)	1.62 (1.17-2.25)
Adjusted[b]	1.48 (1.40-1.57)	1.83 (1.35-2.47)	1.04 (0.84-1.29)	1.61 (1.15-2.25)
Third trimester				
Crude	1.39 (1.11-1.75)	1.61 (1.21-2.13)	1.03 (0.84-1.27)	1.65 (1.19-2.27)
Adjusted[b]	1.40 (1.11-1.77)	1.61 (1.20-2.14)	1.03 (0.83-1.26)	1.64 (1.18-2.29)

Abbreviations: $PM_{2.5}$, particulate matter less than 2.5 μm in aerodynamic diameter; PM_{10}, particulate matter less than 10 μm in aerodynamic diameter.

[a] Regional pollution effects reflect risk of autism based on 2 SDs from the mean value, specifically per increase of 8.7 $\mu g/m^3$ of $PM_{2.5}$, 14.6 $\mu g/m^3$ of PM_{10}, 14.1 ppb of nitrogen dioxide, and 16.1 ppb of ozone.

[b] Models adjusted for male sex of child, child's ethnicity (Hispanic vs white; black/Asian/other vs white), maximum education of parents (parent with highest of 4 levels: college degree or higher vs some high school, high school degree, or some college education), maternal age (>35 years vs ≤35 years), and prenatal smoking (self-report of ever vs never smoked while pregnant).

variables did not alter the associations. As with traffic-related air pollution, when we included population density in the models that included exposure during the first year of life, the associations with $PM_{2.5}$, PM_{10}, and nitrogen dioxide did not change, nor did they change when living in an urban area vs a rural area was included (data not shown).

TRAFFIC-RELATED AIR POLLUTION, $PM_{2.5}$, AND PM_{10}

Because pairwise correlations between traffic-related air pollution and $PM_{2.5}$ and between traffic-related air pollution and PM_{10} were moderate, we included both in models to examine whether local pollution estimates (traffic-related air pollution) and regional pollution measures ($PM_{2.5}$ and PM_{10}) were independently associated with autism. In these analyses, we included the same set of covariates already described in the single pollutant analysis. When examined in the same model, the top quartile of traffic-related air pollutant exposure (AOR, 2.37 [95% CI, 1.28-4.45]) and the exposure to $PM_{2.5}$ (AOR, 1.58 [95% CI, 1.03-2.42]) during the first year of life remained associated with autism. Examining both traffic-related air pollution and PM_{10}, we found that the top quartile of traffic-related air pollutant exposure (AOR, 2.36 [95% CI, 1.28-4.43]) and the exposure to PM_{10} (AOR, 1.61 [95% CI, 1.06-2.47]) remained associated with autism. For the all pregnancy time interval, we found that the top quartile of traffic-related air pollutant exposure (AOR, 2.42 [95% CI, 1.32-4.50]) and the exposure to $PM_{2.5}$ (AOR, 1.60 [95% CI, 1.07-2.40]) were associated with autism when examined in the same model. Similarly, both the top quartile of traffic-related air pollutant exposure (AOR, 2.33 [95% CI, 1.27-4.36]) and the exposure to PM_{10} (AOR, 1.68 [95% CI, 1.11-2.53]) remained associated with autism when examined jointly.

COMMENT

Our study found that local estimates of traffic-related air pollution and regional measures of $PM_{2.5}$, PM_{10}, and nitrogen dioxide at residences were higher in children with autism. The magnitude of these associations appear to be most pronounced during late gestation and early life, although it was not possible to adequately distinguish a period critical to exposure. Children with autism were 3 times as likely to have been exposed during the first year of life to higher modeled traffic-related air pollution compared with control children with typical development. Similarly, exposure to traffic-related air pollution during pregnancy was also associated with autism. Examination of traffic-related air pollution using an additive logistic model demonstrated a potential threshold near 25 to 30 ppb beyond which the probability of autism did not increase. Exposure to high levels of regional $PM_{2.5}$, PM_{10}, and nitrogen dioxide were also associated with autism. When we examined $PM_{2.5}$ or PM_{10} exposure jointly with traffic-related air pollutant exposure, both regional and local pollutants remained associated with autism, although the magnitude of the effects decreased.

We previously reported an association between living near a freeway (based on the location of the birth and third trimester address) and autism.[7] That result relied on simple distance metrics as a proxy for exposure to traffic-related air pollution. The present study builds on that result, demonstrating associations with both regional particulate and nitrogen dioxide exposure and to dispersion-modeled exposure to the near-roadway traffic mixture accounting for traffic volume, fleet emission factors, and wind speed and direction, in addition to traffic proximity. The results provide more convincing evidence that exposure to local air pollution from traffic may increase

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the risk of autism. Demographic or socioeconomic factors did not explain these associations.

Toxicological and genetic research suggests possible biologically plausible pathways to explain these results. Concentrations of many air pollutants, including diesel exhaust particles and other PM constituents, are increased near freeways and other major roads, and diesel exhaust particles and polycyclic aromatic hydrocarbons (commonly present in diesel exhaust particles) have been shown to affect brain function and activity in toxicological studies.[19-23] Polycyclic aromatic hydrocarbons have been shown to reduce expression of the *MET* receptor tyrosine kinase gene, which is important in early life neurodevelopment and is markedly reduced in autistic brains.[24,25] Other research indicates that traffic-related air pollution induces inflammation and oxidative stress after both short- and long-term exposure, processes that mediate the effects of air pollution on respiratory and cardiovascular disease and other neurological outcomes.[26-29] Data examining biomarkers suggest that oxidative stress and inflammation may also be involved in the pathogenesis of autism.[30-33]

Emerging evidence suggests that systemic inflammation may also result in damage to endothelial cells in the brain and may compromise the blood-brain barrier.[29] Systemic inflammatory mediators may cross the blood-brain barrier, activating brain microglia, and peripheral monocytes may migrate into the pool of microglia.[34-36] In addition, ultrafine particles ($PM_{0.1}$) may penetrate cellular membranes.[37,38] These particles translocate indirectly through the lungs and from the systemic circulation or directly via the nasal mucosa and the olfactory bulb into the brain.[39,40] Toxicity may be mediated by the physical properties of PM or by the diverse mixture of organic compounds, including polycyclic aromatic hydrocarbons, and oxidant metals adsorbed to the surface.[29] Neurodevelopmental effects of polycyclic aromatic hydrocarbons may be mediated by aryl hydrocarbon hydroxylase induction in the placenta, decreased exchange of oxygen secondary to disruption of placental growth factor receptors, endocrine disruption, activation of apoptotic pathways, inhibition of the brain antioxidant-scavenging system resulting in oxidative stress, or epigenetic effects.[21]

Our study draws on a rich record of residential locations of children with typical development and children with autism across California, allowing us to assign modeled pollutant exposures for developmentally relevant time points. However, our results could also be affected by unmeasured confounding factors associated with both autism and exposure to traffic-related air pollution. Although we did not find that including demographic or socioeconomic variables altered our estimates of effect, confounding by other factors could still occur. These might include lifestyle, nutritional, or other residential exposures, if they were associated with traffic-related air pollution or PM. We have also not explored indoor sources of pollution, such as indoor nitrogen oxide or secondhand tobacco smoke, although prenatal smoking was examined and did not influence the associations of ambient pollution with autism. In addition, confounding could have occurred if proximity to diagnosing physicians or treatment centers was also associated with exposure. We included population density as an adjustment in an analysis using estimates from the first year of life to examine the sensitivity of our results to urban or rural locations, for which population density is a surrogate. We did not find that living in a more densely populated area altered the association between risk of autism and exposure to traffic-related air pollution or regional pollutants. Despite our attempts to use residential history to examine specific time windows of vulnerability, to incorporate meteorology into our traffic-related air pollutant models, and to include pollutants with seasonal variation, we are currently unable to disentangle the trimester-specific effects during the first year of life because of the high level of correlation across these time periods.

Exposures to traffic-related air pollution, PM, and nitrogen dioxide were associated with an increased risk of autism. These effects were observed using measures of air pollution with variation on both local and regional levels, suggesting the need for further study to understand both individual pollutant contributions and the effects of pollutant mixtures on disease. Research on the effects of exposure to pollutants and their interaction with susceptibility factors may lead to the identification of the biologic pathways that are activated in autism and to improved prevention and therapeutic strategies. Although additional research to replicate these findings is needed, the public health implications of these findings are large because air pollution exposure is common and may have lasting neurological effects.

Submitted for Publication: December 9, 2011; final revision received March 30, 2012; accepted April 3, 2012.
Published Online: November 26, 2012. doi:10.1001/jamapsychiatry.2013.266
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Author Contributions: Dr Volk had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Conflict of Interest Disclosures: Dr Volk received support from Autism Speaks to present research findings at the International Society for Environmental Epidemiology Meeting in 2012. Messrs Lurmann and Penfold are employed by Sonoma Technology, Inc. Dr McConnell has received support from an air quality violations settlement agreement between the South Coast Air Quality Management District (a California state regulatory agency) and British Petroleum.
Funding/Support: This work was supported by National Institute of Environmental Health Sciences grants

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ES019002, ES013578, ES007048, ES11269, ES015359, EPA Star-R-823392, and EPA Star-R-833292 and by the MIND Institute's matching funds and pilot grant program.
Role of the Sponsor: The sponsors did not participate in the design and conduct of the study; in the collection, analysis, and interpretation of the data; or in the preparation, review, or approval of the manuscript.
Previous Presentations: Presented in part at the International Meeting for Autism Research; May 14, 2011; San Diego, California; and the Meeting of the International Society for Environmental Epidemiology; September 16, 2011; Barcelona, Spain.
Online-Only Material: The eTable and eFigure are available at http://www.jamapsych.com.

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Childhood Incident Asthma and Traffic-Related Air Pollution at Home and School

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Background: Traffic-related air pollution has been associated with adverse cardiorespiratory effects, including increased asthma prevalence. However, there has been little study of effects of traffic exposure at school on new-onset asthma.

Objectives: We evaluated the relationship of new-onset asthma with traffic-related pollution near homes and schools.

Methods: Parent-reported physician diagnosis of new-onset asthma (n = 120) was identified during 3 years of follow-up of a cohort of 2,497 kindergarten and first-grade children who were asthma- and wheezing-free at study entry into the Southern California Children's Health Study. We assessed traffic-related pollution exposure based on a line source dispersion model of traffic volume, distance from home and school, and local meteorology. Regional ambient ozone, nitrogen dioxide (NO_2), and particulate matter were measured continuously at one central site monitor in each of 13 study communities. Hazard ratios (HRs) for new-onset asthma were scaled to the range of ambient central site pollutants and to the residential interquartile range for each traffic exposure metric.

Results: Asthma risk increased with modeled traffic-related pollution exposure from roadways near homes [HR 1.51; 95% confidence interval (CI), 1.25–1.82] and near schools (HR 1.45; 95% CI, 1.06–1.98). Ambient NO_2 measured at a central site in each community was also associated with increased risk (HR 2.18; 95% CI, 1.18–4.01). In models with both NO_2 and modeled traffic exposures, there were independent associations of asthma with traffic-related pollution at school and home, whereas the estimate for NO_2 was attenuated (HR 1.37; 95% CI, 0.69–2.71).

Conclusions: Traffic-related pollution exposure at school and homes may both contribute to the development of asthma.

Key words: air pollution, asthma, child, epidemiology, vehicular traffic. *Environ Health Perspect* 118:1021–1026 (2010). doi:10.1289/ehp.0901232 [Online 6 April 2010]

The role of air pollution in the development of new-onset asthma remains controversial, and the contribution of this environmental risk factor to the pandemic remains unclear (Eder et al. 2006; Sarnat and Holguin 2007). Although increasing evidence indicates that living near heavy traffic is associated with increased rates of asthma, some well-designed studies have found only weak or no associations (Heinrich and Wichmann 2004; Oftedal et al. 2009).

These inconsistencies may reflect incomplete assessment of exposures to traffic in the microenvironments in which children spend most of their time. Exposure at locations other than home, especially at school where children spend a large proportion of waking hours and may engage in physical activity that would increase the ventilation rate and dose of inhaled pollutants, may have strong influences on occurrence of asthma. However, few studies have examined the effect of traffic-related pollution at schools on asthma rates among children. Two cross-sectional Dutch studies that examined this question reported higher rates of respiratory symptoms among children in schools near roadways with heavy traffic, especially truck traffic (Janssen et al. 2003; van Vliet et al. 1997). A northern California study found that schools downwind from busy freeways had higher concentrations of oxides of nitrogen (NO_x) and higher asthma prevalence rates (Kim et al. 2004). However, in a subsequent analysis of these same data, the effect of school exposure was attenuated and no longer significant after adjusting for modeled residential traffic-related exposure (Kim et al. 2008).

Nitrogen dioxide (NO_2) is routinely measured at regulatory monitoring stations. However, these measurements reflect both background regional concentrations and local sources near the stations. Some studies have assessed local exposure to traffic-related pollution using measured NO_2 (or NO_x) as surrogate for the complex mixture of traffic-related pollutants that occurs in close proximity to roadways (Brauer et al. 2007; Gauderman et al. 2005; Jerrett et al. 2008; Kim et al. 2004; Kramer et al. 2000; Nordling et al. 2008). NO_2 can feasibly be measured at a large number of locations, and it has been widely used as a proxy for the mixture of traffic-related pollutants that vary markedly depending on distance from roadways, season, wind speed, and wind direction. However, the mixture of pollutants in close proximity to roadways includes transition metals and organic aerosols, which are more plausible causes of asthma than NO_2 (Li et al. 2003).

The Southern California Children's Health Study (CHS) was designed to investigate the chronic effects of air pollution on respiratory health. Previous analyses have found associations of asthma with residential distance to major roads and modeled and measured pollutant markers for intracommunity variation in exposure to traffic (Gauderman et al. 2005; Jerrett et al. 2008; McConnell et al. 2006; Salam et al. 2007b) and with regional pollutants in susceptible children (Islam et al. 2008; McConnell et al. 2002). In the current analysis, a prospective, longitudinal evaluation of new cases of asthma has allowed assessment of exposure before the development of asthma in an ongoing cohort of school children recruited in kindergarten and first grade, an age at which physician-diagnosed asthma becomes reliable and valid (Martinez et al. 1995). Exposure to traffic-related pollutants has been estimated at participating schools and at residences. In addition, NO_2, ozone (O_3), and particulate matter < 10 μm (PM_{10}) and < 2.5 μm in aerodynamic diameter ($PM_{2.5}$) have been measured continuously during the lifetime of most study participants at a location in each community representative of exposure in the neighborhoods where children live (Kunzli et al. 2003; McConnell et al. 2006). This design allowed examination of the joint effects of traffic-related pollution exposure at school and home and of regional measured pollution at community

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Supplemental Material is available online (doi:10.1289/ehp.0901232 via http://dx.doi.org/).

E. Rappaport and J. Manila managed data, and B. Penfold assigned exposures estimated from residential traffic. R. Ma, R.T. Burnett, and E. Hughes assisted with the development and implementation of the random effects program.

This study was supported by National Institutes of Health grants 5P30ES007048, 5P01ES009581, 5 P01ES011627, 1R01ES016535, 5R01ES014447, 5R03ES014046, and 5R01HL61768; U.S. Environmental Protection Agency grants R826708, RD831861, R831845, and R82735201; the South Coast Air Quality Management District, and the Hastings Foundation.

F.L. is employed by Sonoma Technology, Inc, (Petaluma, CA). The other authors declare they have no actual or potential competing interests.

Received 22 July 2009; accepted 22 March 2010.

monitors. We hypothesized that exposure at school and home both contribute to the risk of new-onset asthma.

Methods

Study population. Characteristics of this cohort have been described previously (McConnell et al. 2006). Briefly, 5,349 children attending kindergarten and first grade were enrolled into a new CHS cohort during the 2002–2003 school year from 45 schools in 13 communities. Communities were selected to represent the range and mixture of regional particulate pollutants, NO_2, and O_3 in southern California.

Table 1. Characteristics of participants at study entry and incidence of asthma on follow-up.

Characteristic	*n*[a] (%)	Cases	IR[b] (95% CI)
Age at entry (years)			
< 6	496 (20)	22	17.0 (11.2–25.9)
6	1,178 (47)	58	19.0 (14.7–24.6)
> 6	823 (33)	40	18.9 (13.9–25.8)
Race/ethnicity			
Hispanic white	1,380 (55)	59	16.8 (13.0–21.7)
Non-Hispanic white	905 (36)	45	18.9 (14.0–25.2)
African American	77 (3.1)	6	33.9 (15.2–75.4)
Asian	97 (3.9)	8	30.8 (15.4–61.5)
Other/unknown	38 (1.5)	2	22.7 (5.7–90.8)
Sex			
Female	1,307 (52)	62	18.2 (14.2–23.3)
Male	1,190 (48)	58	19.2 (14.8–24.8)
History of allergy			
Yes	764 (34)	56	28.7 (22.1–37.4)
No	1,508 (66)	50	12.8 (6.7–24.4)
Play team sport			
Yes	918 (39)	47	19.7 (14.8–26.2)
No	1,463 (61)	67	17.9 (9.2–34.5)
Parental history of asthma			
Yes	389 (17)	31	31.3 (22.0–44.6)
No	1,899 (83)	76	15.4 (7.2–33.3)
Maternal smoking during pregnancy			
Yes	156 (6.3)	11	27.9 (15.5–50.5)
No	2,308 (93.7)	107	18.0 (5.4–60.3)
Secondhand smoke			
Yes	164 (6.7)	7	17.0 (8.1–35.6)
No	2,281 (93.3)	110	18.7 (4.1–84.0)
Mildew			
Yes	532 (22)	29	21.1 (14.7–30.4)
No	1,911 (78)	85	17.3 (7.9–37.9)
Pests in home			
Yes	1,603 (67)	75	18.1 (14.4–22.7)
No	777 (33)	36	18.2 (9.7–33.9)
Dogs in home			
Yes	730 (30)	30	15.7 (11.0–22.4)
No	1,706 (70)	86	19.7 (9.1–42.8)
Cats in home			
Yes	462 (19)	17	14.0 (8.7–22.5)
No	1,972 (81)	98	19.4 (7.2–52.2)
Indoor NO_2 source			
Yes	1,799 (73)	88	18.8 (15.3–23.2)
No	675 (27)	31	18.3 (9.9–33.9)
Wildfire exposure[c]			
Yes	251 (12)	16	24.6 (15.1–40.1)
No	1,764 (88)	79	17.3 (6.2–48.2)
Health insurance			
Yes	2,135 (88)	106	19.2 (15.9–23.3)
No	300 (12)	10	13.1 (5.7–30.3)
Household income (US$)			
≤ 14,999	329 (14)	16	19.5 (11.9–31.8)
15,000–49,999	714 (31)	38	21.1 (15.4–29.0)
> 50,000	1,292 (55)	57	16.6 (12.8–21.6)
Parental education			
Less than high school	508 (21)	23	17.9 (11.9–26.9)
At least high school	452 (19)	20	17.5 (11.3–27.1)
Some college	850 (36)	47	20.0 (14.9–26.9)
College and above	560 (24)	24	13.9 (9.1–21.3)
Total	2,497	120	18.7 (15.6–22.3)

[a]Numbers may not add up to 2,497 in some subgroups because of missing data. [b]Crude incidence (IR) rate per 1,000 person-years. [c]Occurred in 2003 during first year of follow-up.

Parents provided informed consent and completed a baseline and yearly questionnaire with information about demographic characteristics, respiratory illness, and risk factors for asthma at study entry. Children with a history of physician-diagnosed asthma at study entry (n = 715, 13.4%) were excluded from this follow-up, because the focus was on risks for incident asthma. To ensure that the study population was free of any previously undiagnosed asthma, we then also excluded children with a history of wheeze (n = 868, 16.2%) and additional children with missing information about wheeze, or missing or a "don't know" answer about asthma (n = 394, 7.4%). These exclusions resulted in a total of 3,372 children classified as disease free at baseline. We excluded another 340 children with no residential traffic information because home address could not be geocoded [disproportionately from a single community, as described in the Supplemental Material (doi:10.1289/ehp.0901232)] and another 535 children who did not participate in any of the annual follow-up questionnaires. The final sample included 2,497 children.

New-onset asthma and covariates. Children with physician-diagnosed asthma reported on a yearly questionnaire during 3 years of follow-up were defined to have new-onset asthma. Children missing questionnaires in any year continued to contribute person-time to the models until they answered yes (at which time they were censored) or were lost to follow-up. The date of new onset of asthma could not be precisely defined. Therefore, the date of onset was assigned to the midpoint of the interval between the date of the questionnaire when asthma diagnosis was first reported and the date of the previous questionnaire reporting asthma status, and this date was used for estimating follow-up time in all statistical analyses. Sociodemographic characteristics, exposure to cigarette and wildfire smoke, health insurance, housing characteristics, history of allergy, and parental asthma were assessed by questionnaire [see Supplemental Material (doi:10.1289/ehp.0901232) for details].

Community ambient air pollution measurements. Ambient levels of O_3, NO_2, PM_{10}, and $PM_{2.5}$ were measured continuously during follow-up at a central site monitor in each community, as described in the Supplemental Material (doi:10.1289/ehp.0901232) and in previous reports (Peters et al. 1999). Because there is marked diurnal variation in O_3 and exposure occurs largely between 1000 and 1800 hours, this average was used in all analyses. Average temperature and relative humidity were also obtained during follow-up from measurements at the monitoring stations.

Local traffic-related pollutant exposure. Exposure to traffic-related pollution was estimated using methods described previously (McConnell et al. 2006), and several metrics

of local traffic related exposure were compiled. Participant residence and school addresses were geocoded, and we estimated distances to the nearest freeway or other highways or arterial roads and traffic density within 150 m of each child's residence and school. Concentrations of pollutants from local vehicle emissions at homes and schools were estimated separately from freeway and nonfreeway sources, using a line source dispersion model of the incremental contribution by these nearby sources to oxides of nitrogen above the regional background levels (Benson 1989). The modeled annual concentration estimates (parts per billion) were based on distance to roadways, vehicle counts, vehicle NO_x emission rates, wind speed and direction, and height of the mixing layer in each community. However, these modeled exposures reflect the mixture of multiple pollutants from nearby traffic, and the high correlation of pollutants in the mixture precludes identifying the effect of any specific pollutant in the mixture, as described in the Supplemental Material (doi:10.1289/ehp.0901232). For brevity, these modeled exposures will be referred to as traffic-related pollutants (TRP). An estimate of combined school and home exposure to traffic was made by weighting the estimates by approximate time at school (35 hr weekly, or 21%) and assigning the remaining 79% of time to the home. Health effect estimates based on models in which the contribution of school to the combined exposure was reduced to 16% to account for a lack of school exposure during summer recess were very similar (data not shown).

Statistical methods. We fitted a multilevel Cox proportional hazards model that allows for assessment of residual variation in time to asthma onset and also for clustering of children around schools and communities (Ma et al. 2003). Letting u_i and u_{ij} denote community- and school (within community)-level random effects, with u_{ij} assumed to be positive and independent conditional on u_i, we fit the following model:

$$h_{ijl}(t) = h_{0s}(t)\, u_{ij}\, exp(\beta X_{ijl} + \delta^T Z_{ijl}), \quad [1]$$

where, for the lth subject in the ith community, and jth school, $h_{ijl}(t)$ is the hazard function at age t; $h_{0s}(t)$ is the baseline hazard function in stratum s (defined by age at study entry and sex), X_{ijl} is a traffic pollution exposure metric, and Z_{ijl} are other individual covariates, such as secondhand smoke exposure, pets in the home, and other possible confounders. All models included race/ethnicity.

The model allowed for joint evaluation of the effects of exposure to traffic-related pollutants at homes and at schools and to ambient pollutants measured at community central sites, with effects scaled to the interquartile range (IQR) for each metric of residential exposure (e.g., for TRP from the line source dispersion model) and to the total range across the 13 communities, respectively. Traffic exposure at homes and school were correlated. Therefore, in models including both exposures, home traffic estimates were deviated from the corresponding school metric to minimize the chance of collinearity and allow for valid independent effect estimates (for example, r-square for school with deviated home TRP were < 0.38 for freeway, nonfreeway, and total TRP). Although the school-specific estimates of exposure were of primary interest, models including the average residential exposure corresponding to each school (and residential exposures deviated from this average) were also fitted [see Supplemental Material (doi:10.1289/ehp.0901232) for details]. Potential confounders were evaluated one at a time, based on whether the estimates for the pollutant associations changed by > 10%. We assessed heterogeneity of traffic pollution effects by level of community central site regional pollutant measurements by comparing nested models using a partial likelihood ratio test with and without interaction terms. We examined any potential nonlinearity in the exposure–response relationship using cubic spline terms, piecewise polynomials joined smoothly at a number of break points (Hastie and Tibshirani 1990), for the exposure terms and comparing the nested models using a partial likelihood ratio test. All analyses were conducted using software designed to run within R software (R Development Core Team, Vienna, Austria) for implementing random effects Cox proportional hazards models (Krewski et al. 2009; Ma et al. 2003). All hypotheses were tested assuming a 0.05 significance level and a two-sided alternative hypothesis.

Results

Most of the 2,497 disease-free children included in this analysis were ≤ 6 years of age (range, 4.8–9.0 years) at study entry (Table 1). There were 120 new cases of asthma, resulting in an incidence rate of approximately 18.7 cases per 1,000 person-years (based on 6,434 person-years of follow-up). Rates did not differ by age at study entry or sex. About half the children were Hispanic whites, and they had the lowest rates of asthma (16.8/1,000 person years), whereas African Americans had the highest rate (33.9/1,000 person-years), but this was based on only six cases. Substantially higher rates were also observed for children with history of allergy, parental history of asthma, and maternal smoking during pregnancy.

Both residential and school TRP metrics had a wide range with skewed distributions (Table 2). For example, the mean and median for nonfreeway residential TRP were 7.3 and 6.1 ppb, respectively, and the IQR was 8.0 ppb, with a total range from 0.08 to a maximum of 55.1 ppb. A few homes and schools had very low freeway TRP (largely in a single community that has no freeways). There was ≥ 3-fold variation in the multiyear average NO_2, PM_{10}, and $PM_{2.5}$ from the lowest to highest pollution community for measurements at the central site monitors. O_3 levels varied by 2-fold.

The associations of new-onset asthma were strongest with nonfreeway TRP. The hazard ratio (HR) at homes was 1.51; 95% confidence interval (CI), 1.25–1.81; $p < 0.001$

Table 2. Distribution of annual average residential traffic-modeled pollution and of community central site measurements.

	Mean	Median	IQR	Minimum	Maximum	Range
Residential traffic (ppb)						
Nonfreeway TRP	7.3	6.1	8	0.08	55.1	55
Freeway TRP	11.1	7.3	13	< 0.0001	134.5	134.5
Total TRP	18.4	14.6	20.9	0.23	144.1	143.9
School traffic (ppb)						
Nonfreeway TRP	6.1	5.9	5.9	0.3	19.7	19.4
Freeway TRP	10.9	8.2	15.2	< 0.0001	39.9	39.9
Total TRP	17	11.9	18.5	0.7	51.4	50.7
Central-site measurements						
NO_2 (ppb)	20.4	21.8	12.8	8.7	32.3	23.6
PM_{10} (μg/m^3)	35.5	34	11.7	17.6	61.5	43.9
$PM_{2.5}$ (μg/m^3)	13.9	15.1	9.7	6.3	23.7	17.4
1000–1800 hours O_3 (ppb)	44.6	43.6	11.1	29.5	59.8	30.3

Table 3. Association between new-onset asthma and modeled exposure at home and school.

Traffic-related exposure[a]	Home HR[b] (95% CI)	School HR[b] (95% CI)	Combined[c] HR[b] (95% CI)
Nonfreeway TRP	1.51 (1.25–1.81)*	1.45 (1.06–1.98)	1.61 (1.29–2.00)*
Freeway TRP	1.12 (0.95–1.31)	1.08 (0.86–1.34)	1.12 (0.94–1.35)
Total TRP	1.32 (1.08–1.61)**	1.20 (0.91–1.58)	1.34 (1.07–1.68)

[a]Scaled to the IQR at homes for each metric (from Table 2). [b]HR (95% CI, adjusted for race/ethnicity and for baseline hazards strata of age at study entry and sex) with random effects for community and school. [c]Combined weighted for time at home and school. *$p < 0.001$. **$p < 0.01$.

(Table 3). The HR for exposure at schools was almost as large as for residential exposure (HR = 1.45; 95% CI, 1.06–1.98), and the combined average exposure weighted for time at school and home had a slightly stronger association (HR = 1.61; 95% CI, 1.29–2.00). These associations were not confounded by any of the covariates in Table 1 or by community relative humidity, which we have previously found to confound TRP exposure (Jerrett et al. 2008). There also were no significant interactions of either residential or school nonfreeway TRP with sex, allergy, or parental history of asthma, which we have previously shown modified effects of traffic exposure (McConnell et al. 2006). Similar effect sizes were observed in sensitivity analyses restricted to lifetime residents at the same address, analyses excluding children diagnosed in the first year of follow-up and excluding children who changed schools during the follow-up period. There was little evidence of nonlinearity in the exposure–response relationship based on sensitivity analyses comparing the fit of a smoothed cubic spline model of asthma with a linear model (p-value > 0.80) for the partial likelihood ratio test for models with 3 and 5 knots compared with the linear model. Weaker associations were observed with total TRP at homes (HR = 1.32; 95% CI, 1.08–1.61) and school (HR = 1.20; 95% CI, 0.91–1.58). There were weaker and nonsignificant associations with TRP modeled from freeways. Nonfreeway TRP was moderately to strongly correlated with freeway TRP at homes (R = 0.64) and at schools [R = 0.70; Supplemental Material, Table E-1, (doi:10.1289/ehp.0901232)]. However, in models co-adjusted for freeway and nonfreeway TRP, the nonfreeway effect estimates for school and home were similar to the unadjusted estimates.

Of the regional community central-site pollutants, NO_2 was associated with more than double the risk of new-onset asthma (HR = 2.17; 95% CI, 1.18–4.00; p = 0.01) over the range of exposure (23.6 ppb) across the 13 study communities (Table 4). In a model with NO_2, school and residential nonfreeway TRP exposure, the estimate for NO_2 was attenuated (HR = 1.37; 95% CI, 0.69–2.71; Table 5). However, the adjusted associations of asthma with nonfreeway TRP at homes (HR = 1.46) and schools (HR = 1.45) in Table 5 were very similar to the unadjusted effect estimates (HR = 1.51 and 1.45, respectively, shown in Table 3). In sensitivity analyses, a similar pattern of attenuation of regional NO_2 effect estimates was observed in models weighted for time at school and home (results not shown), and in models adjusted for total (freeway plus nonfreeway) TRP exposure at school and home [Supplemental Material, Table E-2 (doi:10.1289/ehp.0901232)]. There were neither statistically significant interactions of central site pollutants with residential TRP nor any consistent patterns suggestive of different effects in high and low regional pollutant communities (results not shown). We have previously shown that O_3 modified the association of team sports participation with new-onset asthma in an older cohort (McConnell et al. 2002), but there was neither a main effect of sports nor confounding or effect modification of effects of residential TRP or ambient central monitor pollutant exposure.

Distance to freeways and other major roads and traffic volume on those roads have been used in other studies as independent predictors of traffic exposure, so we examined the distribution [Supplemental Material, Table E-3 (doi:10.1289/ehp.0901232)] and correlations of these metrics (Supplemental Material, Table E-1) and the association at school and home with asthma (Supplemental Material, Tables E-4 and E-5). In general, these exposure metrics were weakly to moderately correlated with the TRP metrics but were not consistently associated with asthma in our data set.

Discussion

The study is unique in its prospective assessment of the relationship of new-onset childhood asthma to community regional air pollution and near-source traffic-related exposure at home and in a large number of schools. The results indicate that associations of asthma with traffic-related pollution from nearby sources at schools were independent of estimated effects of exposures at homes, and these effects were of similar size over a range of exposure common in Southern California. Evidence of a school effect comparable with that associated with the much larger amount of time spent at home could potentially be explained by physical education and other exercise at school that may increase ventilation rate and dose of pollutants to the lungs and thereby increase the risk associated with exposure. Traffic-related pollutant levels may also be considerably higher during the morning hours, when children are arriving at school, especially during temperature inversions that occur largely in the winter months when children are attending school (Kim et al. 2002; Ning et al. 2007). It is possible that school exposure may have reflected time spent in other locations in the child's neighborhood rather than school-specific exposure, and this possibility merits further investigation. However, time at school during the school year accounts for more than one-third of all waking hours, and in this age group it is likely that most of the child's remaining nonschool time was spent at home (Xue et al. 2004). The increased risk associated with TRP could not be explained by confounders commonly associated with asthma or by ambient NO_2 or other currently regulated regional pollutants measured at the central-site monitoring stations. These results strengthen an emerging body of evidence from both toxicologic and epidemiologic studies that air pollutants from nearby traffic contribute to the development of asthma (Salam et al. 2008).

NO_2 measured at community monitoring stations has been associated with wheeze prevalence in an older CHS cohort (Peters et al. 1999) and with increased risk of asthma incidence in a Japanese cohort (Shima et al. 2002). We have recently reported associations of both incident and prevalent asthma with ambient residential NO_2 measured outside homes of a relatively small sample of children from another CHS cohort in many of the same communities, but NO_2 in that study was a marker for intracommunity variation in the mixture of TRPs (Gauderman et al. 2005; Jerrett et al. 2008). Other studies also indicate that associations of respiratory disease with intracommunity variation in NO_2 reflect the effects of other TRP rather than NO_2 (Kramer et al. 2000). A study that measured NO_2 and NO_x in central neighborhood

Table 4. Association of new-onset asthma with community central site pollutant measurements.

Pollutant	HR[a] (95% CI)
NO_2	2.17 (1.18–4.00)
PM_{10}	1.35 (0.64–2.85)
$PM_{2.5}$	1.66 (0.91–3.05)
O_3	0.76 (0.38–1.54)

[a]HR (95% CI) across the range of exposure in the 13 communities (23.6 ppb for NO_2, 43.9 μg/m^3 PM_{10}, 17.4 μg/m^3 $PM_{2.5}$, and 30.3 ppb for 1000–1800 hours O_3), adjusted for race/ethnicity and for baseline hazards strata of age at study entry and sex with random effects for community and school.

Table 5. Mutually adjusted associations of new-onset asthma with community central site pollutant measurements and nonfreeway TRP at home and school.[a]

Central site pollutant	HR[b] (95% CI) for ambient pollutant, adjusted for TRP at home and school	HR[b] (95% CI) for home TRP, adjusted for school TRP and ambient pollutant	HR[b] (95% CI) for school TRP, adjusted for home TRP and ambient pollutant
NO_2	1.37 (0.69–2.71)	1.46 (1.16–1.84)*	1.45 (1.03–2.06)
PM_{10}	1.40 (0.62–3.17)	1.46 (1.16–1.85)*	1.53 (1.10–2.12)*
$PM_{2.5}$	1.30 (0.66–2.56)	1.48 (1.19–1.85)*	1.49 (1.07–2.08)
O_3	1.01 (0.49–2.11)	1.50 (1.20–1.86)*	1.54 (1.10–2.14)*

[a]Mutually adjusted across each row (i.e., effect of each community pollutant was examined separately in a model including both home and school TRP). [b]HR (95% CI) for central-site pollutants scaled across the range of exposure in the 13 communities (23.6 ppb for NO_2, 43.9 μg/m^3 PM_{10}, 17.4 μg/m^3 $PM_{2.5}$, and 30.3 ppb for 1000–1800 hours O_3); household nonfreeway TRP was deviated from school, scaled to the IQR for home exposure (8 ppb from Table 2). *p < 0.01.

locations found that associations with asthma were attenuated by adjustment for modeled residential traffic exposure (Kim et al. 2004, 2008). In the current study, the attenuated association between asthma and NO_2 continuously measured at the community monitor in models with adjustment for TRP also suggests that NO_2 was not causally related to asthma. However, interpretation of this result is not clear because exposure measured at the community monitor may have misclassified exposures of children in parts of the community with significant local sources of NO_2. We did not find evidence for main effects of regional O_3 and PM with asthma, consistent with results from previous analyses in older CHS cohorts, although we have previously shown that O_3 modified the effect of outdoor exercise in a genetically susceptible subgroup (Islam et al. 2009; McConnell et al. 2002).

Associations with asthma were significant for TRP exposure estimates modeled from local nonfreeway roadway proximity, traffic volume, and meteorology. There was little evidence for an effect of major roadway proximity alone, for traffic density, or for pollution from freeways. The absence of a freeway TRP effect suggests that causal pollutants may be highly reactive, resulting in steep spatial gradients from freeway sources and little exposure at the longer distances of homes and schools to freeways compared with distance to other major roads [Supplemental Material, Table E-3 (doi:10.1289/ehp.0901232)]. Several previous studies have found that the largest gradients in traffic-related pollutants occur within 150 m from roadways (Gilbert et al. 2003; Zhu et al. 2002), and variability has often been best explained by traffic volume within 300 m (Briggs et al. 2000; Gilbert et al. 2003; Ross et al. 2006). High-volume traffic on secondary roads may also produce pollutants resulting from frequent stops and accelerations, which have been found to be associated with asthma symptoms (Ryan et al. 2005). However, in an older cohort from some of these same communities, we observed associations of freeway-modeled exposures and residential freeway proximity with respiratory outcomes (Gauderman et al. 2005, 2007). Different traffic metric associations with respiratory health may have been due to variation in the distribution of freeway and nonfreeway traffic around homes in the different cohorts and the relatively small number of children living near freeways (< 7% within 150 m in the current cohort). It is also possible that the accuracy of exposure models for the freeway and nonfreeway sources varied in the two cohorts or that the greater mobility of older children resulted in health effects associated with spending time in areas such as parks in close proximity to freeways near homes.

An important distinction between the TRP and simpler traffic metrics is the inclusion of meteorology (average annual wind speed and direction and height of the mixing layer) in addition to proximity and volume. Traffic density alone [Supplemental Material, Table E-4 (doi:10.1289/ehp.0901232)] and proximity to a major roadway (Supplemental Material, Tables E-4 and E-5) had weaker positive associations with incident asthma that were not statistically significant. Therefore, inconsistent findings in some of the (largely cross-sectional) studies that have evaluated associations with asthma (Heinrich and Wichmann 2004) may reflect the failure to account for the impact of meteorology on exposure. We have recently measured NO_x at > 900 locations in these communities. Approximately two thirds of the within-community variability in NO_x was explained by TRP, a substantially higher amount of variation than was explained by any other traffic metric (unpublished data). We have also previously observed that both TRP and residential traffic proximity were associated with increased asthma prevalence in this cohort (McConnell et al. 2006).

The prospective design is a strength of this study. In other prospective studies of birth cohorts in Sweden and the Netherlands, modeled traffic-related pollutants, including NO_x and/or $PM_{2.5}$, were associated with incidence of wheeze and atopy (Nordling et al. 2008) and doctor-diagnosed asthma (Brauer et al. 2007) in children < 5 years of age, when the diagnosis of asthma may be difficult to distinguish from transient wheeze not predictive of asthma. As these cohorts mature, the relationship to asthma is likely to become more clear. For example, associations between $PM_{2.5}$ light absorption, roadway proximity, and asthmatic bronchitis and atopy were found in a study of two German birth cohorts that followed some children to 6 years of age (Morgenstern et al. 2008). Associations with allergic symptoms in these cohorts were less robust at an earlier age (Gehring et al. 2002). Other recent results from prospective studies of birth cohorts (Gehring et al. 2009) and of children (Shima et al. 2002) followed to older ages have generally shown positive associations between markers of residential TRP and asthma, although a recent Norwegian study found no association with modeled exposure at the birth address of a large cohort of children (Oftedal et al. 2009). Genetic studies examining pathways likely to mediate effects of air pollution also strengthen the causal inference that traffic-related pollutants may cause asthma. We have shown elsewhere that the risk of asthma associated with traffic exposure and with traffic-related ambient PM was modified in a predictable way by functional gene variants in pathways associated with asthma, including inflammation and airway remodeling (Salam et al. 2007a) and oxidative stress (Islam et al. 2008; Salam et al. 2007b). In another analysis of the data from this cohort, we have shown that the estimated effect of TRP was modified by socioeconomic status and psychosocial stress (Shankardass et al. 2009).

There are some limitations to these data. Our conservative estimates of TRP for the center of school buildings are likely to underestimate the exposure of students in buildings closer to the roadways, especially during dropoff and pickup of students at the beginning and end of the school day. The impact of this underestimate of exposure on the assessment of health effects is not clear, although in general it might be expected that this exposure misclassification would be nondifferential with respect to asthma and would result in underestimation of the effect of traffic exposure. Other limitations include the relatively short (3-year) period of follow-up and the retrospective questionnaire assessment of early-life risk factors, as this was not a pregnancy cohort. Our cohort excluded children who left the community before school entry and who had asthma or wheeze at study entry. However, our cohort allowed us to examine risk factors in school children, an age during which there has been little study of new-onset asthma.

Asthma is a clinical syndrome with no sensitive and specific diagnostic test available to confirm clinical assessments. Because of the clinical nature of the assessment, the reported physician diagnosis of asthma we used has been recommended and widely used as a method to classify asthma status in epidemiologic studies, although this approach has limitations (Asher et al. 1995; Burr 1992). If misclassification of true asthma based on this approach were random with respect to exposure to air pollution, then the observed associations would be likely to have underestimated the effect of exposure. Bias could explain our results if asthma misclassification were related also to exposure. This could occur if exposure were associated with access to care and differences in practice among physicians that have the potential to influence asthma diagnosis (Samet 1987). However, adjustment for factors that mediate access to care including family income, parental education, and having medical insurance did not alter our results, indicating that confounding due to differential access to care was unlikely to explain these findings. The validity of questionnaire-reported physician diagnosis has also been established in a subset of CHS participants (Salam et al. 2007a). In addition, any child with a history of wheezing at study entry was excluded from the analysis, so it is unlikely that the exacerbation of undiagnosed prevalent asthma by traffic explained these associations. Loss to follow-up could also potentially result in bias because of selection. Sociodemographic characteristics varied between the analysis cohort and children

not contributing to the analysis because of loss to follow-up or missing or poorly matched geocodes for addresses precluding estimation of residential exposure [Supplemental Material, Table E-6 (doi:10.1289/ehp.0901232)]. Hispanic children were less likely than non-Hispanic white children to be included in the follow-up analysis, as were children without insurance and with lower parental education and income. However, adjusting for these factors had little impact on the pattern of observed effects. In addition, there was little difference between exposure to nonfreeway TRP in the study sample (7.3 ppb) and in the group not included because of loss to follow-up (7.6 ppb). Therefore, it is unlikely that selection bias due to loss to follow-up explained our results.

Conclusions

An estimated 6.2 million children have asthma in the United States, making it the most common chronic disease in childhood (Moorman et al. 2007), and rates have increased markedly in developed countries over the past several decades (Braman 2006). Morbidity results in impaired quality of life for the affected child and other family members, in increased use of health services, and in school absences that have large social and economic costs (Wang et al. 2005). Our results indicate that children exposed to higher levels of traffic-related air pollution at school and home are at increased risk of developing asthma. Almost 10% of public schools in California are located within 150 m of roadways with > 25,000 vehicles daily (Green et al. 2004). Students in urban areas in eastern U.S. cities are even more likely than children in Los Angeles to attend schools near major highways (Appatova et al. 2008). Therefore, exposure to TRP is potentially an important public health problem affecting large populations of children. Planning transportation and other urban development to limit population exposure to traffic exhaust, as well as more effective control of vehicular emissions, may result in substantial long-term public health benefits.

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N Engl J Med. Author manuscript; available in PMC 2015 September 05.

Published in final edited form as:

N Engl J Med. 2015 March 5; 372(10): 905–913. doi:10.1056/NEJMoa1414123.

Association of Improved Air Quality with Lung Development in Children

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Abstract

BACKGROUND—Air-pollution levels have been trending downward progressively over the past several decades in southern California, as a result of the implementation of air quality– control policies. We assessed whether long-term reductions in pollution were associated with improvements in respiratory health among children.

METHODS—As part of the Children's Health Study, we measured lung function annually in 2120 children from three separate cohorts corresponding to three separate calendar periods: 1994–1998, 1997–2001, and 2007–2011. Mean ages of the children within each cohort were 11 years at the beginning of the period and 15 years at the end. Linear-regression models were used to examine the relationship between declining pollution levels over time and lung-function development from 11 to 15 years of age, measured as the increases in forced expiratory volume in 1 second (FEV_1) and forced vital capacity (FVC) during that period (referred to as 4-year growth in FEV_1 and FVC).

RESULTS—Over the 13 years spanned by the three cohorts, improvements in 4-year growth of both FEV_1 and FVC were associated with declining levels of nitrogen dioxide ($P<0.001$ for FEV_1 and FVC) and of particulate matter with an aerodynamic diameter of less than 2.5 μm ($P = 0.008$ for FEV_1 and $P<0.001$ for FVC) and less than 10 μm ($P<0.001$ for FEV_1 and FVC). These associations persisted after adjustment for several potential confounders. Significant improvements in lung-function development were observed in both boys and girls and in children with asthma and children without asthma. The proportions of children with clinically low FEV_1 (defined as <80% of the predicted value) at 15 years of age declined significantly, from 7.9% to 6.3% to 3.6% across the three periods, as the air quality improved ($P = 0.001$).

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No other potential conflict of interest relevant to this article was reported.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

We dedicate this article to Dr. John M. Peters, who conceived the original Children's Health Study design, directed the study over most of its time, and recruited and inspired the colleagues who worked with him to investigate the effects of air pollution on children's health.

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CONCLUSIONS—We found that long-term improvements in air quality were associated with statistically and clinically significant positive effects on lung-function growth in children. (Funded by the Health Effects Institute and others.)

In previous investigations, we and others have linked exposure to ambient air pollution with lung-function impairment in children. [1–8] Reduced lung function in children has been associated with an increased risk of asthma. [9] In addition, the adverse effects of air pollution on the lungs in childhood can potentially have long-term effects: lung function lower than the predicted value for a healthy adult has been found to be associated with an increased risk of cardiovascular disease and increased mortality rate.[10–12] Although progress has been made throughout the United States to reduce outdoor levels of several air pollutants, it is not known whether these reductions have been associated with improvements in children's respiratory health.

Southern California has historically been plagued by high levels of air pollution owing to the presence of a large motor-vehicle fleet, numerous industries, the largest seaport complex in the United States, and a natural landscape that traps polluted air over the Los Angeles basin. With mounting scientific evidence of the adverse health effects of air pollution, aggressive pollution- reduction policies have been enacted. These have included strategies to control pollution from mobile and stationary sources, as well as fuel and consumer-product reformulations. As a result, air-pollution levels have been trending downward over the past several decades in southern California.

Improvements in air quality over time provide the backdrop for a "natural experiment" to examine the potential beneficial health effects. As part of the 20-year Children's Health Study, three separate cohorts of children have had longitudinal lung-function measurements recorded over the same 4-year age range (11 to 15 years) and in the same five study communities but during different calendar periods. In this study, we examined whether changes that have occurred across these time spans in levels of nitrogen dioxide, ozone, and particulate matter with an aerodynamic diameter of less than 2.5 μm ($PM_{2.5}$), less than 10 μm (PM_{10}), and between 2.5 and 10 μm (coarse particulate matter [PM_{10}–$PM_{2.5}$]) are associated with the development of lung function in children.

METHODS

PARTICIPANTS

The study sample included children recruited from three separate Children's Health Study cohorts (Fig. S1 in the Supplementary Appendix, available with the full text of this article at NEJM. org). The two earlier cohorts (cohorts C and D) enrolled fourth-grade students in 1992–1993 and 1995–1996, respectively, from elementary schools in 12 southern California communities.[13] The third cohort (cohort E) enrolled kindergarten and first-grade students in 2002–2003 from 13 communities, [14] 9 of which overlapped with the 12 cohort C and D communities. Because of budgetary limitations, pulmonary-function testing was conducted in only 5 of the 9 overlapping communities. To facilitate direct comparisons across calendar periods, analyses were restricted to the 5 study communities (Long Beach, Mira Loma, Riverside, San Dimas, and Upland) in which pulmonary-function testing was performed in

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all three cohorts (Fig. S2 in the Supplementary Appendix). This sample included a total of 2120 children, including 669 in cohort C, 588 in cohort D, and 863 in cohort E.

The study protocol was approved by the institutional review board for human studies at the University of Southern California, and written informed consent was provided by a parent or legal guardian for all study participants.

PULMONARY-FUNCTION TESTING

Trained technicians assisted the students in performing pulmonary-function maneuvers that met the standards of the American Thoracic Society, as described elsewhere.[8] For each child, maximal forced expiratory volume in 1 second (FEV_1) and forced vital capacity (FVC) were measured. For cohorts C and D, pulmonary-function testing was performed annually from 4th through 12th grade (mean ages, 10 to 18 years), with the use of rolling-seal spirometers. In cohort E, pulmonary-function testing was performed every other year, when the children were approximately 11, 13, and 15 years of age, with the use of pressure transducer–based spirometers. Of the 2120 children, 1585 (74.8%) were tested at the beginning (age 11 years) and end (age 15 years) of the follow-up period, whereas the remaining 535 children (25.2%) were tested at 11 but not at 15 years of age.

QUESTIONNAIRES

Written questionnaires regarding each child's general health and personal exposures were completed by the parent or guardian at baseline and by the child participants annually throughout the study thereafter. The questionnaires obtained basic information about the child, including age, sex, self-identified race and ethnic background, insurance coverage, and parental education, as well as the child's health conditions (asthma or acute respiratory illness), tobacco-smoke exposures (personal smoking, secondhand exposure, or in utero exposure), and other exposures.

AIR POLLUTANTS

Outdoor air-pollution monitoring stations in each of the study communities have been continuously measuring regional air pollutants since 1994. Data on hourly or daily concentrations of nitrogen dioxide, $PM_{2.5}$, PM_{10}, and ozone were routinely collected with Federal Reference Method or Federal Equivalent Method instrumentation. A systematic quality-assurance program was in place to review all data. Mean air-pollutant concentrations were calculated for each community over the relevant periods of exposure for each cohort (1994–1997 for cohort C, 1997–2000 for cohort D, and 2007–2010 for cohort E).

STATISTICAL ANALYSIS

The goal of the analyses was to examine the association between long-term improvements in ambient air quality and lung-function development in children from 11 to 15 years of age, measured as the increases in FEV_1 and FVC during that period (hereafter referred to as 4-year growth in FEV_1 and FVC). All available pulmonary-function measurements were used to estimate lung-function growth curves, including measurements at ages ranging from approximately 9 to 19 years in cohorts C and D and 10 to 16 years in cohort E. A previously developed linear-spline model,[5] with knots placed at ages 12, 14, and 16 years, was used to

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capture the nonlinear pattern of growth during adolescence (see the Supplementary Appendix for details). The model included adjustments for sex, race, Hispanic ethnic background, height, height squared, body-mass index (BMI, the weight in kilograms divided by the square of the height in meters), BMI squared, and presence or absence of respiratory-tract illness on the day of the pulmonary-function test. The model was constructed to yield estimates of the effects of pollutants on 4-year lung-function development (from 11 to 15 years of age) and on mean attained lung function at either 11 or 15 years of age. The range from 11 to 15 years of age was targeted because it covers the overlapping age period of pulmonary-function testing across cohorts. Follow-up over this age range was conducted from 1994 through 1998 in cohort C, from 1997 through 2001 in cohort D, and from 2007 through 2011 in cohort E. The estimated health effect of each pollutant is reported as the expected difference in lung-function growth associated with a difference in exposure equal to the median of the changes in pollution in the five communities over the course of the study period (Table 1).

In addition to examining 4-year growth from 11 to 15 years of age, we analyzed the cross-sectional pulmonary-function measurements obtained for 1585 children at the end of this period (mean age, 15 years) to determine whether changes in air quality over time were associated with clinically important deficits in attained FEV_1 and FVC. Using data from all three cohorts, we developed a linear prediction model for FEV_1 that included adjustments for age, sex, race and ethnic background, height, height squared, BMI, BMI squared, and the presence or absence of respiratory illness. This model explained 61% of the variance in FEV_1 and 69% of the variance in FVC measurements at 15 years of age (i.e., $R^2 = 0.61$ and 0.69, respectively). For each child, we determined whether the ratio of observed to predicted FEV_1 and FVC fell below each of three cutoffs for defining low lung function: 90%, 85%, and 80%. Logistic regression was used to test for temporal trends in the proportion of children with low lung function across cohorts after adjustment for community. A P value of less than 0.05 was considered to indicate statistical significance, under the assumption of a two-sided alternative hypothesis.

RESULTS

CHARACTERISTICS OF THE STUDY PARTICIPANTS

There were slightly more girls than boys (52% vs. 48%) in each of the three cohorts (Table S1 in the Supplementary Appendix). The mean age at the baseline pulmonary-function test was higher in cohort E (11.3 years) than in cohort C (10.9 years) and cohort D (10.9 years). The age-specific mean height did not differ significantly across cohorts at 11, 13, or 15 years of age. There was a significantly higher proportion of Hispanic children in cohort E than in cohorts C and D (58% vs. 31% and 33%, respectively). Cohort E also differed significantly from cohorts C and D with regard to several other factors, including exposure to passive smoke and pets (lower in cohort E) and the proportion of parents with health insurance (higher in cohort E) (Table S1 in the Supplementary Appendix).

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CHANGES IN AIR QUALITY

Regional air quality has improved dramatically over the course of the Children's Health Study with respect to some pollutants (Fig. 1). The colored bands in Figure 1 represent the 4-year exposure periods for cohorts C (1994–1997), D (1997–2000), and E (2007–2010). For example, the 4-year mean $PM_{2.5}$ level in the community with the highest levels of particulate matter (Mira Loma) declined from 31.5 μg per cubic meter in cohort C to 17.8 μg per cubic meter in cohort E, a 43% reduction (Table S2 in the Supplementary Appendix). All five communities had large declines in levels of $PM_{2.5}$ and nitrogen dioxide. Changes in levels of PM_{10} and ozone over time were more modest (Fig. 1), as were changes in levels of PM_{10}–$PM_{2.5}$ (Fig. S3 in the Supplementary Appendix).

CHANGES IN LUNG-FUNCTION GROWTH

Across all three study cohorts, the mean FEV_1 among girls increased from 2274 ml at 11 years of age to 3150 ml at 15 years of age, for a mean 4-year increase of 876 ml (Table S3 in the Supplementary Appendix). Among boys, the mean FEV_1 was 2311 ml at 11 years of age and 3831 ml at 15 years of age, for a mean 4-year growth of 1520 ml. Similar magnitudes of growth were observed for FVC.

Increases in 4-year growth in both FEV_1 and FVC were associated with reduced levels of nitrogen dioxide, PM_{10}, and $PM_{2.5}$ within all five study communities (Fig. 2). When the effects were averaged across communities, we found that the mean 4-year growth in FEV_1 increased by 91.4 ml per decrease of 14.1 ppb in nitrogen dioxide level ($P<0.001$), by 65.5 ml per decrease of 8.7 μg per cubic meter in PM_{10} level ($P<0.001$), and by 65.5 ml per decrease of 12.6 μg per cubic meter in $PM_{2.5}$ level ($P = 0.008$) (Table 1). At the beginning of follow-up (when participants were 11 years of age), significant increases in mean FEV_1 values were associated with decreases in levels of nitrogen dioxide, PM_{10}, and $PM_{2.5}$ (Table 1). However, the increases in mean FEV_1 at 15 years of age, after 4 years of pollution-affected growth, were even more pronounced. Analogous effects were observed for FVC. Changes in ozone (Fig. 2) and PM_{10}–$PM_{2.5}$ (Fig. S4 in the Supplementary Appendix) were not associated with differences in mean FEV_1 or FVC values at 11 or 15 years of age or with 4-year growth in these values.

The estimated pollution-related effects on 4-year FEV_1 and FVC growth remained significant in sensitivity analyses (Table S4 in the Supplementary Appendix). For example, the associations between improved lung-function development and reduced nitrogen dioxide levels in Table 1 (shown as "base model" in Table S4 in the Supplementary Appendix) remained significant and of similar magnitude when additional adjustment was made for in utero or passive tobacco-smoke exposure, personal smoking, health insurance, parental education, asthma at baseline, or several indoor exposures, including cats, dogs, and mold or mildew. There were significant effects on lung-function growth in both boys and girls, although the magnitude of the air-pollution effect was significantly larger in boys than in girls with respect to both FEV_1 ($P = 0.04$) and FVC ($P = 0.001$). There were also significant pollution effects on lung-function growth in Hispanic white and non-Hispanic white children and in children with asthma and children without asthma. Although the magnitude of the nitrogen dioxide effect on 4-year growth in FEV_1 and FVC was nearly twice as large in

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children with asthma, as compared with children without asthma, the difference was not significant for either lung-function measure. Pollution-effect estimates were of a magnitude similar to those in the base model when the sample was restricted to children with complete 4-year follow-up data. Sensitivity analyses of the other pollutants yielded results similar to those for nitrogen dioxide (data not shown). We found no significant association between growth in height and change in pollution during the study period (Table S5 in the Supplementary Appendix), which indicates that our findings on lung-function growth are probably not the result of a secular trend in general development.

The large improvements in lung function associated with reduced air pollution (Table 1) suggest that the mean attained FEV_1 and FVC values at 15 years of age were substantially larger in cohort E (the cohort with the lowest level of exposure, as seen in Fig. 1) than in cohorts C and D. Further analysis of lung function at 15 years of age also revealed significant differences across cohorts in the proportion of children with low lung function (Fig. 3). For example, at a cutoff of 80% for the ratio of observed to predicted values, the proportion of children with low FEV_1 was 7.9% in cohort C, 6.3% in cohort D, and only 3.6% in cohort E ($P<0.005$). Similar significant trends were observed for FVC.

DISCUSSION

This study shows an association between secular improvements in air quality in southern California and measurable improvements in lung-function development in children. Improved lung function was most strongly associated with lower levels of particulate pollution ($PM_{2.5}$ and PM_{10}) and nitrogen dioxide. These associations were observed in boys and girls, Hispanic white and non-Hispanic white children, and children with asthma and children without asthma, which suggests that all children have the potential to benefit from improvements in air quality.

In addition to improvements in lung-function development from 11 to 15 years of age, we also found a strong association between a reduction in air pollution and a reduction in the proportion of children with clinically low FEV_1 and FVC at 15 years of age. In general, the age range of 11 to 15 years captures a period during which lungs are developing rapidly in both boys and girls. Lung-function development continues in girls until their late teens and in boys until their early 20s, but at a much-reduced rate as compared with the rate during the earlier adolescent period.[15,16] It is therefore likely that the improved function we observed in the children who were less exposed to the pollutants will persist into their adulthood. A higher level of lung function in early adulthood may decrease the risk of respiratory conditions.[17] However, the greatest benefit of improvements in lung-function development may occur later in life, because it has been shown that greater lung function in adulthood can contribute to lower risks of premature death and other adverse health outcomes.[18–24] Consistent with the growth effects we have observed in children, there is evidence that reduced exposure to pollution in adulthood can slow the decline in lung function[25] and increase life expectancy.[26,27]

In southern California, motor vehicles are a primary source of $PM_{2.5}$, PM_{10}, and nitrogen dioxide, through direct tailpipe emissions as well as downwind physical and photochemical

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reactions of vehicular emissions.[28,29] Gasoline-powered and diesel-powered engines contribute to high levels of these pollutants, and improved emission standards for both types of vehicles have contributed to the observed declines in air pollutants. Control strategies implemented in the 1970s and 1980s focused primarily on reducing the levels of ozone, a pollutant with a long history of demonstrated acute health effects.[30] Although levels of ozone continued to decline in the 1990s and 2000s, the changes were smaller than for nitrogen dioxide and particulate matter, and we did not observe ozone-related effects on lung-function growth. This finding is consistent with our previous report that decreased lung-function growth was related to increased exposure to nitrogen dioxide and particulate matter but not to ozone.[6] Only a few other studies have addressed the long-term effects of ozone on lung function in children, and the results have been inconsistent. [31] Because of high correlations among reductions of $PM_{2.5}$, PM_{10}, and nitrogen dioxide (Table S6 in the Supplementary Appendix), we could not assess the independent associations between lung function and each of these pollutants. Many other studies have also been unable to identify the health effects of specific pollutants that are constituents of a multipollutant mixture.[3,32] However, the results of our investigation make it clear that broad-based efforts to improve general air quality are associated with substantial and measurable public health benefits.

A main directive of the 1970 U.S. Clean Air Act was to establish "…ambient air quality standards … allowing an adequate margin of safety … requisite to protect the public health …." A basic tenet of the act is that changes in airborne pollutant levels can lead to improved public health and that the scientific evidence needed to determine the appropriate levels for those standards can be identified. Our observation of improvements in air quality and subsequent improvements in longitudinal respiratory health outcomes may provide objective evidence in support of that basic tenet.

The data necessary to conduct this study were collected over a period of nearly two decades. Strengths of the study include the use of consistent protocols for collecting health, covariate, and air-quality data over the entire study period. Although the extended follow-up period can be viewed as a strength, it also presented several challenges. A change in spirometers during the course of the study was necessary to replace aging equipment and raises the issue of instrumental comparability. To address this, we conducted an additional analysis to show that our findings are robust to the use of different spirometers (Table S7 in the Supplementary Appendix).

The change from annual testing in cohorts C and D to testing every other year in cohort E, as a result of budgetary constraints, may raise concern about dropout of participants in cohort E. In general, bias can occur in a cohort study if dropout depends simultaneously on both outcome and exposure. In our study, however, participant attrition during the follow-up period was not jointly associated with baseline lung function and several measures of exposure, including cohort membership and cohort-specific mean levels of nitrogen dioxide and particulate matter, the pollutants that showed significant associations with lung-function growth. In addition, the magnitude and significance of our observed growth effects were similar among participants with complete follow-up (Table S4 in the Supplementary Appendix), making it unlikely that selective dropout is responsible for our observed associations.

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The shift in ethnic background across cohorts to a more Hispanic population, synchronous with general trends occurring more broadly in southern California,[33,34] raises potential concerns about confounding by factors specific to ethnic background. Also, because this is an observational study, it is possible that one or more additional factors associated with both lung-function growth and change in air quality over time could confound our pollution analyses. However, we conducted many sensitivity analyses and found that none of these factors appreciably affected our estimates or inferences. Furthermore, because the mean growth in height from 11 to 15 years of age did not vary over the study period, one might conclude that the change in growth is specific to the lung, with improvement in air quality serving as an important contributing factor.

Another limitation of our study is the lack of a pure "control" community — that is, a community in which there was no change in pollution during the study period. However, we studied five different communities with differing magnitudes of improvement in air quality, which collectively serve as five replicate experiments of our within-community temporal-trend experiment. We conducted an additional analysis that showed that the expected gain in lung function over time within any one community was aligned with the magnitude of improvement in air quality within that community (Fig. S5 in the Supplementary Appendix). The trends in these effects suggest that if we had had a pure control community, we would have seen little change in lung-function growth. This analysis also suggests that even modest improvements in air quality can lead to improved health, although with only five communities included in the study, we caution that we do not have adequate data to make definitive conclusions about the exposure–response relationship.

We have shown that improved air quality in southern California is associated with statistically and clinically significant improvements in childhood lung-function growth. The pollutants we found to be associated with lung-function growth — nitrogen dioxide, $PM_{2.5}$, and PM_{10} — are products of primary fuel combustion and are likely to be at increased levels in most urban environments. These pollutants were among those effectively reduced through targeted policy strategies. If we make the not-unreasonable assumption of causality, the magnitude of the effects we observed and the importance of lung function over the course of the human lifetime justify the efforts that have been made to improve air quality.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

Supported in part by contracts with the Health Effects Institute (4910-RFA11-1/12-4) and the California Air Resources Board (A033-186) and by grants from the National Institute of Environmental Health Sciences (ES011627, ES07048, and ES022719) and the Hastings Foundation.

Dr. McConnell reports holding a research contract from funds from an air-quality-violations settlement between the South Coast Air Quality Management District, a California state regulatory agency, and BP.

We thank the participating students and their families, the school staff and administrators, the regional and state air monitoring agencies, and the members of the health testing field team.

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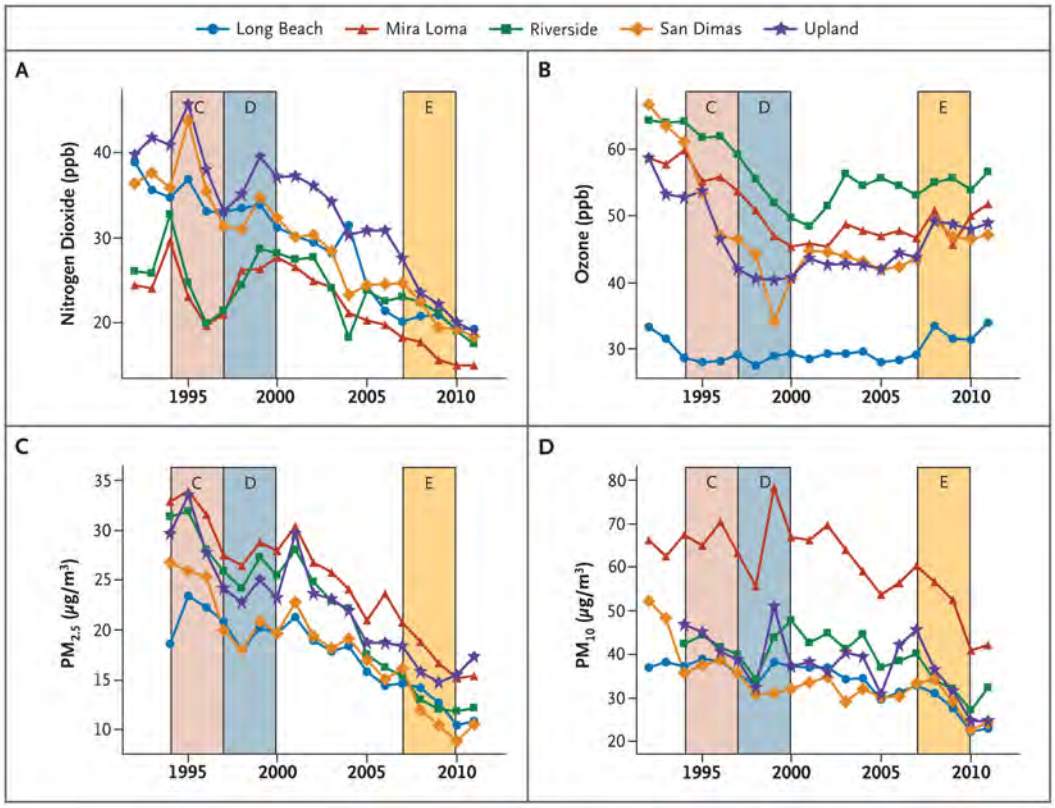


Figure 1. Levels of Four Air Pollutants from 1994 to 2011 in Five Southern California Communities

Colored bands represent the relevant 4-year averaging period for the analysis of lung-function growth in each of the three cohorts, C, D, and E. $PM_{2.5}$ denotes particulate matter with an aerodynamic diameter of less than 2.5 μm, and PM_{10} particulate matter with an aerodynamic diameter of less than 10 μm.

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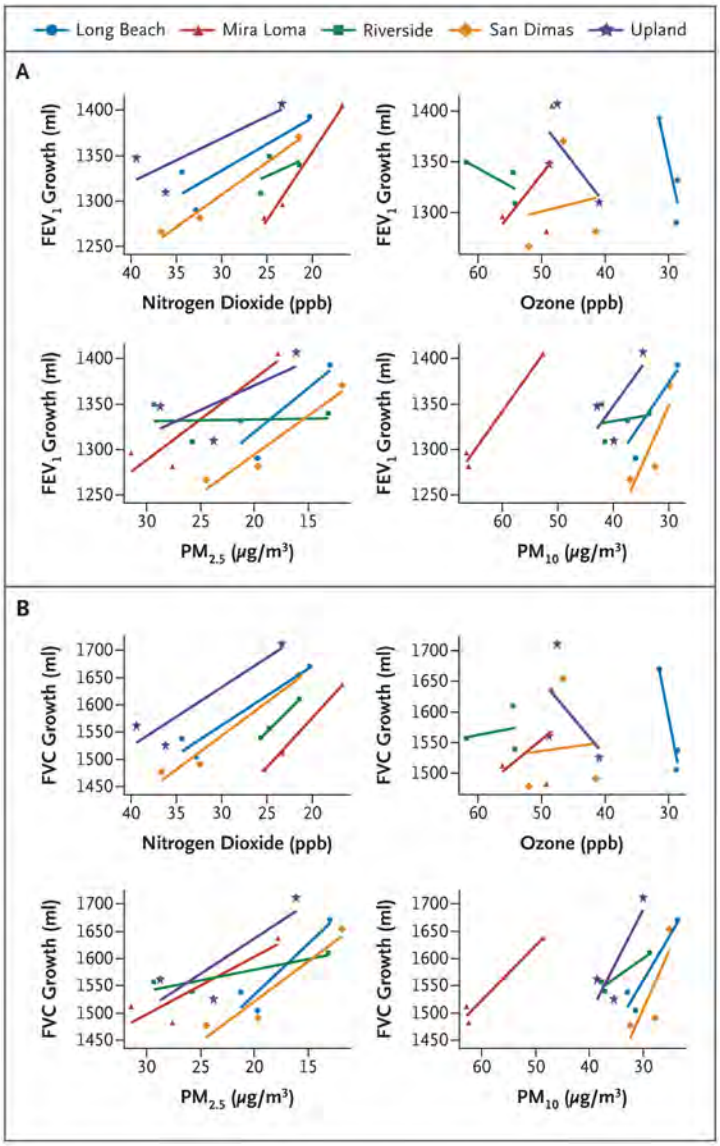


Figure 2. Mean 4-Year Lung-Function Growth versus the Mean Levels of Four Pollutants

The mean growth in forced expiratory volume in 1 second (FEV_1) (Panel A) and the mean growth in forced vital capacity (FVC) (Panel B) from 11 to 15 years of age are plotted against the corresponding levels of nitrogen dioxide, ozone, $PM_{2.5}$, and PM_{10} for each community and cohort.

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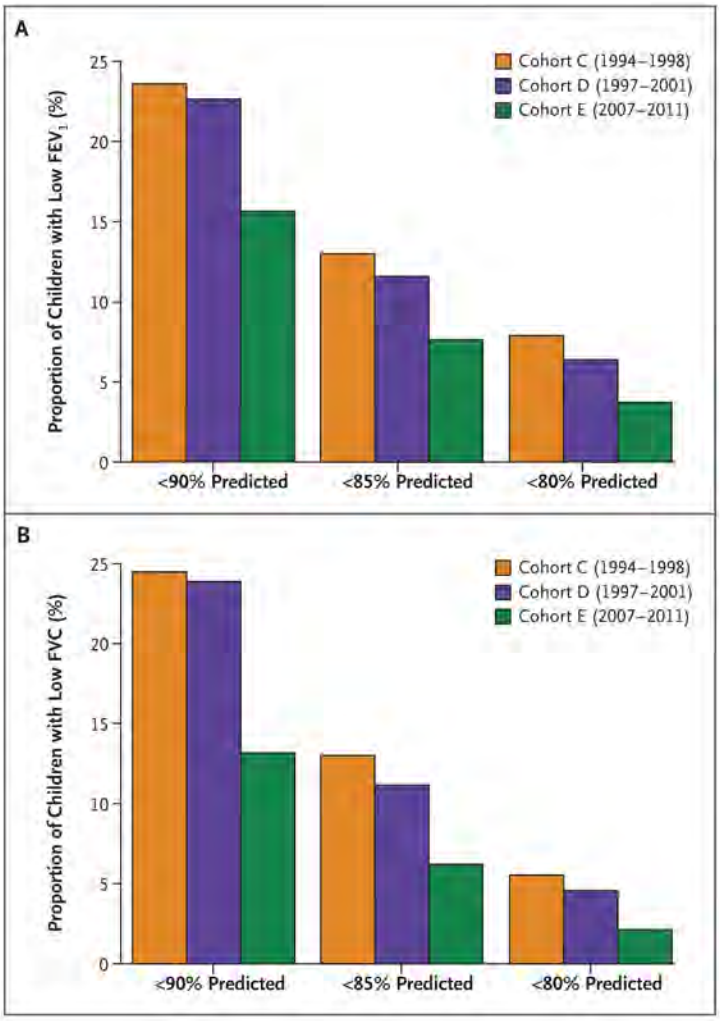


Figure 3. Proportions of Children with Low Lung Function in Each Cohort

The proportions of children with lung function below 90%, 85%, or 80% of the predicted value at 15 years of age in cohorts C, D, and E are shown for FEV_1 (Panel A) and FVC (Panel B).

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N Engl J Med. Author manuscript; available in PMC 2015 September 05.

Table 1

Estimated Differences in 4-Year Lung-Function Growth for Median Decreases in Ambient Pollutant Levels.*

Lung-Function Measurement and Pollutant	Lung-Function Difference at 11 Years of Age		Lung-Function Difference at 15 Years of Age		Growth from 11 to 15 Years of Age	
	Mean (95% CI)	P Value	Mean (95% CI)	P Value	Mean (95% CI)	P Value
	ml		*ml*		*ml*	
FEV_1						
Nitrogen dioxide	119.2 (76.5 to 161.9)	<0.001	210.6 (156.0 to 265.2)	<0.001	91.4 (47.9 to 134.9)	<0.001
Ozone	15.0 (−38.5 to 68.6)	0.58	8.3 (−82.9 to 99.6)	0.86	−6.7 (−51.0 to 37.5)	0.77
PM_{10}	87.7 (50.2 to 125.2)	<0.001	153.2 (97.7 to 208.6)	<0.001	65.5 (27.2 to 103.7)	<0.001
$PM_{2.5}$	100.0 (58.9 to 141.2)	<0.001	165.5 (95.4 to 235.6)	<0.001	65.5 (17.1 to 113.8)	0.008
FVC						
Nitrogen dioxide	131.3 (91.0 to 171.6)	<0.001	300.2 (240.0 to 360.3)	<0.001	168.9 (127.0 to 210.7)	<0.001
Ozone	7.6 (−50.2 to 65.4)	0.80	0.3 (−126.0 to 126.5)	0.99	−7.3 (−79.3 to 64.6)	0.84
PM_{10}	93.8 (54.0 to 133.6)	<0.001	206.8 (124.6 to 289.1)	<0.001	113.0 (60.0 to 166.1)	<0.001
$PM_{2.5}$	110.1 (69.8 to 150.4)	<0.001	237.0 (147.2 to 326.7)	<0.001	126.9 (65.7 to 188.1)	<0.001

*The estimated means of community-specific pollution effects on lung-function values at 11 years of age and at 15 years of age and growth from 11 to 15 years of age are scaled to the median of the five community-specific declines in each air pollutant — specifically, 14.1 ppb in nitrogen dioxide, 5.5 ppb in ozone (10 a.m. to 6 p.m.), 8.7 $\mu g/m^3$ in particulate matter with an aerodynamic diameter of less than 10 μm (PM_{10}), and 12.6 $\mu g/m^3$ in particulate matter with an aerodynamic diameter of less than 2.5 μm ($PM_{2.5}$). For example, a decline of 14.1 ppb in nitrogen dioxide is associated with an increase of 91.4 ml in the growth of FEV_1 from 11 to 15 years of age (the mean of the five community- specific slopes).

Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study

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Summary

Background **Whether local exposure to major roadways adversely affects lung-function growth during the period of rapid lung development that takes place between 10 and 18 years of age is unknown. This study investigated the association between residential exposure to traffic and 8-year lung-function growth.**

Methods **In this prospective study, 3677 children (mean age 10 years [SD 0·44]) participated from 12 southern California communities that represent a wide range in regional air quality. Children were followed up for 8 years, with yearly lung-function measurements recorded. For each child, we identified several indicators of residential exposure to traffic from large roads. Regression analysis was used to establish whether 8-year growth in lung function was associated with local traffic exposure, and whether local traffic effects were independent of regional air quality.**

Findings **Children who lived within 500 m of a freeway (motorway) had substantial deficits in 8-year growth of forced expiratory volume in 1 s (FEV_1, –81 mL, p=0·01 [95% CI –143 to –18]) and maximum midexpiratory flow rate (MMEF, –127 mL/s, p=0·03 [–243 to –11), compared with children who lived at least 1500 m from a freeway. Joint models showed that both local exposure to freeways and regional air pollution had detrimental, and independent, effects on lung-function growth. Pronounced deficits in attained lung function at age 18 years were recorded for those living within 500 m of a freeway, with mean percent-predicted 97·0% for FEV_1 (p=0·013, relative to >1500 m [95% CI 94·6–99·4]) and 93·4% for MMEF (p=0·006 [95% CI 89·1–97·7]).**

Interpretation **Local exposure to traffic on a freeway has adverse effects on children's lung development, which are independent of regional air quality, and which could result in important deficits in attained lung function in later life.**

Lancet 2007; 369: 571–77

Published **Online** January 26, 2007 DOI:10.1016/S0140-6736(07)60037-3

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Introduction

Both cross-sectional[1–9] and longitudinal[10–15] studies have shown that lung function in children is adversely affected by exposure to urban, regional air pollution. Evidence has emerged that local exposure to traffic is related to adverse respiratory effects in children, including increased rates of asthma and other respiratory diseases.[16–28] Cross-sectional studies in Europe have shown that deficits in lung function are related to residential exposure to traffic.[27,29–32] However, does traffic exposure have an adverse effect on lung-function development in children? The answer to this question is important in view of the extent of traffic exposure in urban environments and the established relation between diminished lung function in adulthood and morbidity and mortality.[33–39]

We investigated the association between residential exposure to traffic and 8-year lung-function development on the basis of cohort data from the Children's Health Study. We also studied the joint effects of local traffic exposure and regional air quality on children's lung development.

Methods

Participants

The Children's Health Study recruited two cohorts of fourth-grade children (mean age 10 years [SD 0·44], one in 1993 (cohort 1, n=1718) and the other in 1996 (cohort 2, n=1959). All children were recruited from schools in 12 southern California communities as part of an investigation into the long-term effects of air pollution on children's respiratory health.[7,14,40] A consistent protocol was used in all communities to identify schools, and all students targeted for study were invited to participate.[40] Overall, 82% (3677) of available students agreed to participate. Pulmonary-function data were obtained yearly by trained field technicians, who travelled to study schools to undertake maximum effort spirometry on the children, using the same equipment and testing protocol throughout the study period. Details of the testing protocol have been previously reported.[7,15] Children in both cohorts were followed up for 8 years.

A baseline questionnaire, completed at study entry by each child's parent or legal guardian, was used to obtain information on race, Hispanic ethnic origin, parental income and education, history of doctor-diagnosed asthma, in-utero exposure to maternal smoking, and household exposure to gas stoves, pets, and environmental tobacco smoke.[40] A yearly questionnaire, with similar structure to that of the baseline questionnaire, was used to update information on asthma status, personal smoking, and exposure to environmental tobacco smoke. For statistical modelling, a three-category socioeconomic status variable was created on the basis of total household income and education of the parent or guardian who completed the questionnaire. High socioeconomic status (23% of children, n=823) was defined as a parental

income greater than US$100 000 per year, or an income over US$15 000 per year and at least 4 years of college education. The middle category (36%, n=1283) included children with a parental income between US$15 000 and US$100 000 and some (less than 4 years) college or technical school education, and low socioeconomic status (41%, n=1483) included all remaining children.

The study protocol was approved by the institutional review board for human studies at the University of Southern California, and written consent was provided by a parent or legal guardian for every study participant.

Exposure data

We characterised exposure of every study participant to traffic-related pollutants by two types of measures—proximity of the child's residence to the nearest freeway or to the nearest major non-freeway road, and model-based estimates of traffic-related air pollution at the residence, derived from dispersion models that incorporated distance to roadways, vehicle counts, vehicle emission rates, and meteorological conditions.[41] Regional air pollution was continuously monitored at one central site location within each study community over the course of the investigation. Further details of exposure assessment are available in the webappendix.

See Online for webappendix

Statistical methods

The outcome data consisted of 22 686 pulmonary-function tests recorded from 3677 participants during 8 years in both cohorts. We focused on three pulmonary-function measures: forced vital capacity (FVC), forced expiratory volume in 1 s (FEV_1), and maximum midexpiratory flow rate (MMEF, also known as FEF_{25-75}). The exposures of primary interest were the traffic measures described above.

We used a hierarchical mixed-effects model to relate 8-year growth in each lung-function measure to traffic exposure, with basic structure that has been previously described.[42] To account for the growth pattern in lung function during this period, we used a linear spline model,[43] constructed so that 8-year growth in lung function was estimated jointly with other model parameters. We estimated and tested the effect of traffic exposure on 8-year growth, and in some analyses on mean lung function at 10 and 18 years of age. The model allowed for separate growth curves for each sex, race, ethnic origin, cohort, and baseline-asthma subgroup. The model also included adjustments for height, height squared, body-mass index (BMI), BMI squared, present asthma status, exercise or respiratory illness on the day of the test, any tobacco smoking by the child in the previous year, and indicator variables for field technician. Random effects for the intercept and 8-year growth parameters were included at the level of participant and community.

To keep the potential effect of outliers to a minimum and to examine possible non-linear exposure-response relations, we used categorical forms of each traffic indicator in our models. For distance to the freeway, we formed four categories—less than 500 m, 500–1000 m, 1000–1500 m, and more than 1500 m. Distances to non-freeway major roads were similarly categorised based on distances of 75 m, 150 m, and 300 m. Model-based estimates of pollution from freeways and non-freeways were categorised into quartiles on the basis of their respective distributions (see webappendix). The categories for all traffic indicators were fixed before any health analyses were done. Traffic effects are reported as the difference in 8-year growth for each category relative to the least exposed category, so that negative estimates signify reduced lung-function growth with increased exposure.

We also considered joint estimation of traffic effects within the community and pollution between communities, which was based on the long-term average pollutant concentrations measured at the central sites (see webappendix). Pollutant effects are reported as the difference in 8-year growth in lung function from the least to the most polluted community, with negative differences indicating growth deficits with increased exposure. Possible modification of a traffic effect by community-average ambient pollutant concentration was tested by inclusion of the appropriate interaction term in the model.

To examine attained lung function, we computed percent-predicted lung function for participants who were measured in 12th grade, our last year of follow-up (n=1497, mean age 17·9 years [SD 0·41]). To estimate predicted FEV_1 values, we first fitted a regression model for observed FEV_1 (log transformed) with predictors log height, BMI, BMI squared, sex, asthma status, race or ethnic origin, field technician, and sex-by-log height, sex-by-BMI, sex-by-BMI squared, sex-by-asthma, and sex-by-race or ethnic origin interactions. We calculated predicted FEV_1 on the basis of this model and percent-predicted as observed divided by predicted FEV_1. We used a regression model to calculate the mean percent-predicted value for each category of distance to the freeway, with adjustment for community. To aid in interpretation, we scaled percent-predicted values so that children who lived furthest (>1500 m) from a freeway had a mean of 100%, and we give means for the remaining distance groups relative to this benchmark. Analogous calculations were used to obtain the percent-predicted mean for FVC and MMEF.

Regression procedures in SAS (version 9.0) were used to fit all models. Associations denoted as significant were those with a p value less than 0·05, assuming a two-sided alternative hypothesis.

Role of the funding source

The funding sources of this study had no role in the study design, collection, analysis, or interpretation of data, in the writing of the report, or in the decision to submit the paper for publication. The corresponding

author had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Results

An average of 6·2 pulmonary function tests were done per child. There were equal proportions of male and female participants (webtable 1). Most children were of non-Hispanic white or Hispanic ethnic origin. 440 (12%) children lived within 500 m of a freeway, with most of these children residing in six of the 12 communities (webtable 2 and webfigure). Model-based estimates of pollution from a freeway were skewed toward either high or low values within most study communities.

8-year growth in FVC, FEV_1, and MMEF averaged 1512 mL, 1316 mL, and 1402 mL/s, respectively, in girls, and 2808 mL, 2406 mL, and 2476 mL/s, respectively, in boys. Closer residential distance to a freeway was associated with reduced growth in lung function (table 1). In children who lived within 500 m of a freeway, 8-year growth was significantly reduced compared with those who lived at least 1500 m from a freeway. Large deficits in FEV_1 and MMEF growth were also estimated for the two highest-exposure quartiles of model-based pollution from a freeway, although neither deficit was statistically significant. Indicators of traffic from non-freeway roads, including both distance and model-based pollution estimates, were not associated with reduced growth.

The association between FEV_1 growth and distance to a freeway was significant in various sensitivity analyses (table 2). Compared with the results shown in table 1 (base model), distance-effect estimates were larger with additional adjustment for socioeconomic status. Further investigation showed that low socioeconomic status was associated with increased traffic exposure, with mean residential distance to freeways of 1·8 km (SD 1·32), 2·0 km (1·65), and 2·5 km (1·91) for low, middle, and high groups respectively. However, socioeconomic status was not significantly associated with FEV_1 growth, and therefore adjustment for this variable induced only a modest change. Adjustment for indoor sources of air pollution including gas stoves, pets, and exposure to environmental tobacco smoke also resulted in little change in the estimated freeway-distance effects.

Significant distance effects were seen in the subset of children who reported never having had asthma, and in the subset of children who reported no active tobacco smoking. The relation between FEV_1 growth and distance was noticeably larger in boys than in girls, although a test of effect modification by sex was non-significant (p=0·10). Only six of the 12 communities had substantial numbers of children living within 500 m of a freeway. The estimated effects of freeway distance on lung development were more pronounced in these six higher-traffic communities than in the other communities. There was no significant evidence of heterogeneity in the local distance effects in these six communities (data not shown). Furthermore, around 34% (1267) of children moved from their baseline residence during follow-up but remained in one of the 12 study communities and thus continued to participate. If we omitted post-move lung-function measurements from the analysis, the estimated effects of freeway-distance on FEV_1 growth were more pronounced.

	FVC (mL) difference (95% CI)	FEV_1 (mL) difference (95% CI)	MMEF (mL/sec) difference (95% CI)
Freeway distance*			
<500 m	−63 (−131 to 5)	−81 (−143 to −18)	−127 (−243 to −11)
500–1000 m	−31 (−93 to 32)	−41 (−99 to 17)	−35 (−142 to 73)
1000–1500 m	−19 (−84 to 46)	−33 (−93 to 26)	−94 (−204 to 16)
Model-based pollution from freeway†			
4th quartile (high)	−66 (−186 to 54)	−69 (−179 to 42)	−147 (−352 to 58)
3rd quartile	−61 (−151 to 29)	−78 (−161 to 5)	−144 (−298 to 9)
2nd quartile	−27 (−90 to 36)	−22 (−80 to 36)	−37 (−144 to 71)
Non-freeway distance‡			
<75 m	5 (−63 to 72)	−35 (−97 to 27)	−66 (−181 to 49)
75–150 m	4 (−59 to 68)	22 (−37 to 80)	35 (−74 to 144)
150–300 m	−10 (−63 to 42)	−8 (−56 to 40)	−16 (−105 to 73)
Model-based pollution from non-freeway†			
4th quartile (high)	13 (−70 to 96)	3 (−74 to 80)	2 (−140 to 144)
3rd quartile	42 (−27 to 111)	16 (−47 to 80)	−23 (−141 to 95)
2nd quartile	6 (−54 to 66)	2 (−53 to 57)	11 (−91 to 113)

*Difference in 8-year lung-function growth relative to children living at least 1500 m from a freeway. †Difference in 8-year lung-function growth relative to children in the first (lowest) quartile of exposure. ‡Difference in 8-year lung-function growth relative to children living at least 300 m from a non-freeway road.

Table 1: **Association between 8-year lung-function growth and several indicators of residential traffic exposure**

	Freeway distance (m)					
	<500	p	500–1000	p	1000–1500	p
Base model*	−81	0·012	−41	0·165	−33	0·275
Additional covariates						
Base+socioeconomic status	−92	0·005	−50	0·092	−37	0·228
Base+gas stove in the home	−86	0·008	−42	0·160	−33	0·281
Base+pets in the home	−80	0·013	−41	0·165	−33	0·275
Base+in-utero exposure to maternal smoking	−83	0·011	−33	0·269	−36	0·245
Base+second-hand smoke exposure	−86	0·008	−41	0·163	−37	0·230
Subgroups						
Non-asthmatics only	−83	0·025	−70	0·042	−61	0·091
Non-smokers only	−99	0·006	−49	0·154	−48	0·182
Boys only	−158	0·003	−54	0·264	−77	0·123
Girls only	−12	0·750	−39	0·254	3	0·932
Six communities with closest freeway proximity†	−105	0·003	−56	0·101	−40	0·260
Deleting observations after a residence change‡	−86	0·030	−73	0·042	−53	0·148

*Base model results are the same as those in table 1. All models include adjustment for the covariates listed in the Methods section. Values are the difference in 8–year FEV_1 growth relative to those living >1500 m from a freeway. †Including only children from the six communities with the largest number of children living near a freeway (Riverside, Atascadero, Alpine, San Dimas, Long Beach, and Santa Maria). ‡Censoring any pulmonary function tests recorded after a participant left his or her baseline address.

Table 2: **Sensitivity analysis of freeway-distance effects on 8-year FEV_1 growth**

See Online for webtables 1 and 2 and webfigure

	Regional pollutant effect*	p	Local freeway distance (m)						
			<500	p	500–1000	p	1000–1500	p	p for interaction†
1000–1800 h ozone	–13	0·821	–81	0·012	–41	0·165	–33	0·275	0·51
Nitrogen dioxide	–109	0·003	–80	0·012	–41	0·166	–33	0·279	0·81
Acid	–111	0·002	–80	0·013	–41	0·164	–33	0·285	0·54
PM_{10}	–111	0·013	–81	0·012	–42	0·158	–32	0·287	0·24
$PM_{2·5}$	–100	0·009	–80	0·012	–41	0·160	–33	0·285	0·40
Elemental carbon	–101	0·001	–80	0·012	–42	0·156	–33	0·282	0·63

*Pollutant effects are the difference in 8–year FEV_1 growth from lowest to highest observed community–average concentration of the pollutant, specifically: per increase of 37·5 ppb ozone (1000–1800 h), 34·6 ppb of nitrogen dioxide, 9·6 ppb of acid vapour, 51·4 μg/m³ of PM_{10}, 22·8 μg/m³ of $PM_{2·5}$, and 1·2 μg/m³ elemental carbon. Distance effects are the difference in 8–year growth relative to those living >1500 m from a freeway. † A test of whether freeway–distance effect is modified by regional concentration of the pollutant. PM_{10}=particulate matter <10 μm aerodynamic diameter, $PM_{2·5}$=particulate matter <2·5 μm aerodynamic diameter.

Table 3: **Joint effect of regional pollution and local distance to a freeway on 8-year FEV_1 growth**

Reduced lung-function growth was independently associated with both freeway distance and with regional air pollution (table 3). Statistically significant joint models of regional pollution with distance to freeway were seen for nitrogen dioxide, acid vapour, elemental carbon, and particulate matter with aerodynamic diameter less than 10 μm and less than 2·5 μm. Ozone was not associated with reduced lung-function growth. There was no significant evidence of effect modification (interaction) of local traffic effects with any of the regional pollutants.

A subset of 1445 children were observed over the full 8 years of the study, from age 10 to 18 years. In this group, we noted significant deficits in 8-year FEV_1 growth and MMEF growth for those who lived within 500 m of a freeway (table 4). At 10 years of age, there was some evidence of reduced lung function for those who lived closer to a freeway than those who did not, although none of the differences between distance categories was statistically significant. However, by 18 years of age, participants who lived closest to a freeway had substantially lower attained FEV_1 and MMEF than those who lived at least 1500 m from a freeway.

These deficits in average FEV_1 and MMEF translated into pronounced deficits in percent-predicted lung function at 18 years of age (figure). There was a trend of lower percent-predicted lung function for children who lived closer to a freeway than for those who lived further away. The effect was most pronounced for those who lived less than 500 m from a freeway, with average percent predicted values of 97·0% (95% CI 94·6–99·4) for FEV_1 (p=0·013 relative to >1500 m) and 93·4% (89·1–97·7) for MMEF (p=0·006).

		Lung function		8–year growth
		Age 10 years	Age 18 years	Difference* (95% CI)
		Difference* (95% CI)	Difference* (95% CI)	
FVC	**Freeway distance**			
	<500 m	–17 (–70 to 37)	–85 (–192 to 22)	–69 (–160 to 22)
	500–1000 m	–12 (–61 to 37)	–54 (–151 to 43)	–42 (–125 to 41)
	1000–1500 m	–30 (–80 to 21)	–81 (–181 to 19)	–52 (–137 to 33)
FEV_1	**Freeway distance**			
	<500 m	–23 (–73 to 28)	–121 (–219 to –23)	–98 (–182 to –15)
	500–1000 m	–32 (–78 to 14)	–93 (–183 to –4)	–61 (–137 to 15)
	1000–1500 m	–34 (–81 to 14)	–78 (–170 to 14)	–44 (–122 to 34)
MMEF	**Freeway distance**			
	<500 m	–57 (–169 to 56)	–230 (–432 to –28)	–173 (–327 to –19)
	500–1000 m	–92 (–195 to 10)	–105 (–289 to 79)	–12 (–152 to 128)
	1000–1500 m	–45 (–150 to 60)	–151 (–340 to 38)	–106 (–250 to 38)

*Difference in 8–year lung function or growth relative to children living >1500 m from a freeway.

Table 4: **Cumulative effect of residential distance in the 1445 children with full 8-year follow-up**

Discussion

This study shows that residential proximity to freeway traffic is associated with substantial deficits in lung-function development in children. 8-year increases in both FEV_1 and MMEF were smaller for children who lived within 500 m of a freeway, than for those who lived at least 1500 m from a freeway. Freeway effects were seen in subsets of non-asthmatic and non-smoking participants, which is an indication that traffic exposure has adverse effects on otherwise healthy children. Deficits in 8-year growth resulted in lower attained FEV_1 and MMEF at 18 years of age for participants who lived within 500 m of a freeway than for those who lived further away. Since lung development is nearly complete by age 18 years, an individual with a deficit at this time will probably continue to have less than healthy lung function for the remainder of his or her life.

We previously reported an association between community-average pollutant concentrations and 8-year lung-function growth.[15] That result relied on comparisons in communities that had different concentrations of regional air pollution, and implicated many pollutants such as nitrogen dioxide, acid vapour, particulate matter with aerodynamic diameter less than 10 μm and 2·5 μm, and elemental carbon. Our present study builds on that result, and shows that in addition to regional pollution, local exposure to large roadways is associated with diminished lung-function development

in children. We did not find any evidence that traffic effects varied depending on background air quality, which suggests that even in an area with low regional pollution, children living near a major roadway are at increased risk of health effects. Our results also suggest that children who live close to a freeway in a high pollution area experience a combination of adverse developmental effects because of both local and regional pollution.

We noted a larger freeway effect in boys than in girls, although the difference between sexes was not significant. By contrast, a cross-sectional European study[29] reported larger traffic effects on lung function in girls than in boys.[29] Several factors could explain this discrepancy in sex-specific effects between studies, from differences in specific air pollution mixtures and underlying population susceptibilities, to the general difficulty of comparisons between longitudinal and cross-sectional study effect estimates. In general, however, both studies show that lung function in children is adversely affected by exposure to traffic.

The concentrations of several pollutants are raised near major freeways. Daytime concentrations of black carbon, ultrafine particulate, and other exhaust pollutants have been reported to be high, but decline exponentially, within 500 m of a freeway,[44,45] although night-time concentrations of ultrafine particulate remain above background concentrations for distances greater than 500 m from a freeway.[46] Some studies have reported increased traffic pollution, particularly nitrogen dioxide, at distances over 1000 m from a freeway.[16,47–49] Elemental carbon, an indicator of pollution from diesel exhaust, varies with nearby high-traffic roads[47,50,51] but can also be transported across large distances.[52] Diesel exhaust is one of the primary contributors to particulate-matter concentrations in those communities most affected by traffic.[53] A pollutant such as elemental carbon could explain our reported health effects both locally and regionally.

Both regional ambient and ultrafine particulate matter present in high concentration in close proximity to roadways can elicit oxidative and nitrosative stress in the airways, which results in inflammation.[54,55] Kulkarni and co-workers[32] reported that traffic-related particulate matter was correlated with the amount of carbon in the airway macrophages of children, which in turn was associated with reductions in FEV_1, MMEF, and FVC. Chronic airway inflammation could produce our reported deficits in MMEF and FEV_1. Additional research is needed to identify the specific traffic pollutants that bring about health effects, and to elucidate the contribution of each pollutant to regional and local associations.

A strength of this study was the long-term, prospective follow-up of two large cohorts of children, with exposure and outcome data obtained consistently. However, as in any epidemiological study, our results could be confounded by one or more other factors related to both traffic and lung-function growth. Our results were robust

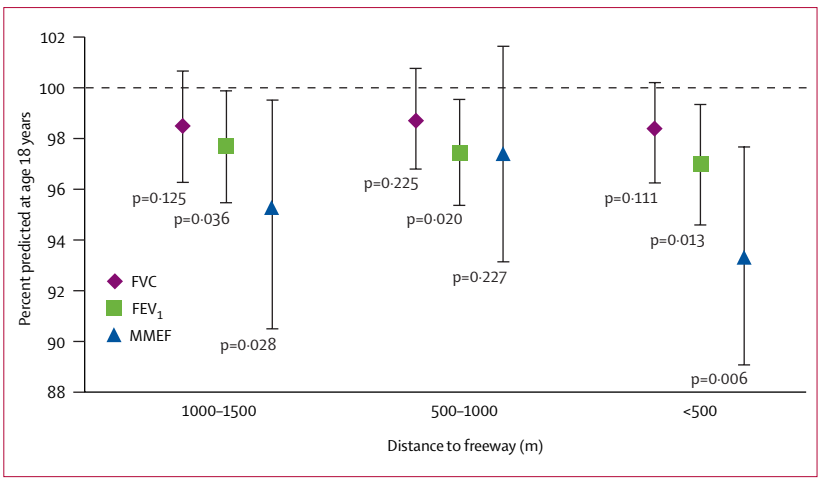


Figure: **Percent-predicted lung function at age 18 years versus residential distance from a freeway**
The horizontal line at 100% corresponds to the referent group, children living >1500 m from a freeway.

to adjustment for several factors, including socioeconomic status and indoor sources of air pollution, but the possibility of confounding by other factors still exists. Throughout the 8-year follow-up, we noted around an 11% loss of study participants per year. Participant attrition is a potential source of bias in cohort studies. We analysed the subset of children who were followed up for the full 8-year duration of the study and also noted significant traffic-effect estimates, which make participant loss an unlikely explanation for our results. We did not note a significant association between growth and model-based pollution from a freeway, despite large estimated deficits in the highest-exposure quartiles (table 1). However, we were restricted in detection of an association with model-based pollution from freeways because there was little variation in this measure within most of our study communities (webtable 2).

We have shown that residential distance from a freeway is associated with significant deficits in 8-year respiratory growth, which result in important deficits in lung function at age 18 years. This study adds to evidence that the present regulatory emphasis on regional air quality might need to be modified to include consideration of local variation in air pollution. In many urban areas, population growth is forcing the construction of housing tracts and schools near to busy roadways, with the result that many children live and attend school in close proximity to major sources of air pollution. In view of the magnitude of the reported effects and the importance of lung function as a determinant of adult morbidity and mortality, reduction of exposure to traffic-related air pollutants could lead to substantial public-health benefits.

Contributors

W J Gauderman, R McConnell, F Gilliland, E Avol, J Peters, M Jerrett, and N Kunzil participated in the writing of the manuscript. W J Gauderman, H Vora, K Berhane, D Thomas, and F Lurmann participated in the analysis of the data. All named authors took part in the interpretation of results, and approved the final version of the manuscript.

Conflict of interest statement
We declare that we have no conflict of interest.

Acknowledgments
This study was supported in part by the California Air Resources Board (contract A033-186), the National Institute of Environmental Health Sciences (P01ES11627 and P30ES07048), the US Environmental Protection Agency (R82735201), and the Hastings Foundation. We thank Cheryl Faucett for helpful discussions, members of our external advisory committee (Jonathan Samet, Nan Laird, Steve Rich, Petros Koutrakis, Gerhardt Coetzee) for important input, the school principals, teachers, students, and parents in each of the 12 study communities for their cooperation and the health testing field team.

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A Section 508–conformant HTML version of this article is available at http://dx.doi.org/10.1289/ehp.1307031.

A Longitudinal Cohort Study of Body Mass Index and Childhood Exposure to Secondhand Tobacco Smoke and Air Pollution: The Southern California Children's Health Study

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Background: Childhood body mass index (BMI) and obesity prevalence have been associated with exposure to secondhand smoke (SHS), maternal smoking during pregnancy, and vehicular air pollution. There has been little previous study of joint BMI effects of air pollution and tobacco smoke exposure.

Methods: Information on exposure to SHS and maternal smoking during pregnancy was collected on 3,318 participants at enrollment into the Southern California Children's Health Study. At study entry at average age of 10 years, residential near-roadway pollution exposure (NRP) was estimated based on a line source dispersion model accounting for traffic volume, proximity, and meteorology. Lifetime exposure to tobacco smoke was assessed by parent questionnaire. Associations with subsequent BMI growth trajectory based on annual measurements and attained BMI at 18 years of age were assessed using a multilevel modeling strategy.

Results: Maternal smoking during pregnancy was associated with estimated BMI growth over 8-year follow-up (0.72 kg/m^2 higher; 95% CI: 0.14, 1.31) and attained BMI (1.14 kg/m^2 higher; 95% CI: 0.66, 1.62). SHS exposure before enrollment was positively associated with BMI growth (0.81 kg/m^2 higher; 95% CI: 0.36, 1.27) and attained BMI (1.23 kg/m^2 higher; 95% CI: 0.86, 1.61). Growth and attained BMI increased with more smokers in the home. Compared with children without a history of SHS and NRP below the median, attained BMI was 0.80 kg/m^2 higher (95% CI: 0.27, 1.32) with exposure to high NRP without SHS; 0.85 kg/m^2 higher (95% CI: 0.43, 1.28) with low NRP and a history of SHS; and 2.15 kg/m^2 higher (95% CI: 1.52, 2.77) with high NRP and a history of SHS (interaction p-value 0.007). These results suggest a synergistic effect.

Conclusions: Our findings strengthen emerging evidence that exposure to tobacco smoke and NRP contribute to development of childhood obesity and suggest that combined exposures may have synergistic effects.

Citation: McConnell R, Shen E, Gilliland FD, Jerrett M, Wolch J, Chang CC, Lurmann F, Berhane K. 2015. A longitudinal cohort study of body mass index and childhood exposure to secondhand tobacco smoke and air pollution: the Southern California Children's Health Study. Environ Health Perspect 123:360–366; http://dx.doi.org/10.1289/ehp.1307031

Introduction

Prevalence of obesity in U.S. children has been increasing for > 40 years [Centers for Disease Control and Prevention (CDC) 2011]. The current epidemic threatens the health of a generation of children because obesity and increased body mass index (BMI) in childhood are strong determinants of morbidity and premature mortality in adult life (Reilly and Kelly 2011; Tirosh et al. 2011). Beyond dietary factors and physical activity, a growing body of evidence indicates that environmental stressors may play a role in the etiology of childhood obesity (Blumberg et al. 2011).

Maternal smoking during pregnancy (hereafter referred to as *in utero* exposure) predicts subsequent childhood obesity (Ino 2010). *In utero* and secondhand tobacco smoke (SHS) exposure in children are correlated, but a few studies have found BMI, overweight, and obesity to be associated with SHS independent of *in utero* exposure (Griffiths et al. 2010; Raum et al. 2011). There is also emerging evidence that SHS exposure in adults is associated with obesity, as well as other metabolic abnormalities (Xie et al. 2010; Zhang et al. 2011). A recent study suggested that *in utero* exposure to another combustion source, ambient near-roadway pollution (NRP; estimated based on measured maternal exposure to polyaromatic hydrocarbons), is associated with increased BMI and obesity at 7 years of age (Rundle et al. 2012). However, to our knowledge there has been no previous prospective investigation in school children of joint obesogenic effects of tobacco smoke and air pollution exposure. Because these exposures are common, they have potentially significant clinical and public health impact.

The Southern California Children's Health Study (CHS) collected information on *in utero* exposure to maternal smoking, exposure to SHS (before or at the time of enrollment), and exposure to ambient particles and NRP at the time of enrollment in a longitudinal study of BMI growth trajectory across adolescence and attained BMI at 18 years of age (Gauderman et al. 2007; Jerrett et al. 2010). We estimated the independent and joint effects of tobacco smoke and ambient exposure on BMI in the CHS.

Methods

Two cohorts of children in fourth grade classrooms in 12 Southern California communities (Figure 1) were recruited at average age 10 years in 1993 and 1996 and followed through secondary school graduation 8 years later, as described previously (Gauderman et al. 2007; Jerrett et al. 2010). Of the 3,887 participants recruited, 569 (14.6%) had fewer than two BMI measurements, leaving a sample of 3,318 for analysis. Subsequent attrition was 5–10% per year. For analyses including NRP exposure, one community (n = 300 participants) was excluded, as described below.

Height (to the nearest centimeter) and weight (to the nearest pound) were measured at study entry and annually at the child's school by a trained study technician, following a standardized procedure that included daily scale calibration (Jerrett et al. 2010). BMI (weight in kilograms divided by height in

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Supplemental Material is available online (http://dx.doi.org/10.1289/ehp.1307031).

Funding was provided by the National Institutes of Health (grants P01ES022845, P30ES007048, P01ES009581, P01ES011627, P50 CA180905, R01ES016535, R01HD061968, and R03ES014046), the U.S. Environmental Protection Agency (grants RD83544101, R826708, and RD831861), and the Hastings Foundation.

R.M. and F.L. have received research support from funds from an air quality violations settlement agreement between the South Coast Air Quality Management District, a California state regulatory agency, and BP. F.L. is employed by Sonoma Technology, Inc. The other authors declare they have no actual or potential competing financial interests.

Received: 1 May 2013; Accepted: 4 November 2014; Advance Publication: 12 November 2014; Final Publication: 1 April 2015.

square meters) was calculated at each visit. Overweight and obesity were defined using the CDC criteria of > 85% and < 95%, and ≥ 95%, respectively, of the age- and sex-specific U.S. population distribution (CDC 2013). Participants in the analyses had on average (± SD) 6.4 ± 2.4 BMI measurements.

Parents completed a detailed baseline questionnaire that provided information about each child's *in utero* and SHS exposure and relevant covariates, including physical activity, childhood medical history, and the child's residential location history. Study procedures were approved by the University of Southern California Institutional Review Board, and parents provided written informed consent on behalf of themselves and their children at the time of enrollment of each child into the study.

Information on *in utero* exposure to maternal smoking, the child's history of previous SHS exposure, and number of smokers in the home at study enrollment was provided in the baseline questionnaire. Children were classified as having *in utero* exposure if a parent indicated "yes" in response to the question "Did your child's biologic mother smoke while she was pregnant with your child? (Include time when she was pregnant but did not yet know that she was.)" Any SHS exposure before study entry was classified based on a positive response to either of the following questions: "Does anyone living in this child's home currently smoke cigarettes, cigars or pipes on a daily basis INSIDE THE HOME?" or "In the past, has anyone living in this child's home ever smoked cigarettes on a daily basis INSIDE THE HOME while the child was living there?" For children exposed to SHS at home at study entry, the number of smokers was characterized by the question "How many people smoke inside this child's home on a daily basis?" Responses were categorized as 0, 1, 2, or more smokers. Children who indicated that they had smoked > 6 cigarettes in the last week were classified as smokers.

Near-roadway air pollution exposure. Data on traffic proximity, volume, Southern California vehicular fleet emissions, and meteorology were used to characterize exposure at each child's primary residential address at study entry. Participant residence and school addresses were standardized and their locations were geocoded to 13 m perpendicular to the side of the adjacent road, using the Tele Atlas database and software (http://www.na.teleatlas.com). Distance to the nearest major road was estimated using ESRI ArcGIS version 8.3 (http://www.esri.com). We included in the analysis only children with residential addresses for which the TeleAtlas geocoding software assigned its highest quality match code. These addresses were located on the correct side of the street, with their relative position between cross streets determined by linear interpolation of residence number between the nearest intersections. One of the original 12 CHS communities, Lake Arrowhead, was not included in analyses of NRP. Many participants in this community had only a post office box rather than a street address. Lake Arrowhead also has winding streets and long distances between intersections that made it difficult to interpolate accurately to a geocoded location.

Annual average daily traffic volumes on roadways were obtained from the California Department of Transportation Highway Performance Monitoring System (2005). Using previously described methods, we transferred the traffic volumes from the Department of Transportation roadway network to the TeleAtlas networks (Wu et al. 2005). Annual average exposure to local NRP at homes and schools was estimated from CALINE4 dispersion models that incorporate distance to roadways, vehicle counts, vehicle emission rates, wind speed and direction, and height of the mixing layer in each community (Benson 1992). Separate estimates were made for the contribution of traffic on all other roadways to concentrations of several pollutants, including carbon monoxide, nitrogen dioxide, total oxides of nitrogen (NO_x), elemental and organic carbon, and particulate matter ≤ 10 μm (PM_{10}) and ≤ 2.5 μm in aerodynamic diameter ($PM_{2.5}$) These estimated pollutant exposures should be regarded as indicators of incremental increases due to primary emissions from local vehicular traffic on top of background ambient levels, based on annual average estimates. For our analysis, we characterized NRP exposure using modeled NO_x to represent the incremental contribution of local traffic to a more homogeneous community background concentration of NO_x that included both primary and secondary pollution resulting from long range transport and regional atmospheric photochemistry. This metric was highly correlated with other pollutants estimated by CALINE4 (R > 0.95). Therefore, modeled NO_x represented primary local NO_x from vehicular traffic, these other highly correlated pollutants in fresh traffic exhaust, and probably other pollutants for which we did not estimate exposures. The mean (± SD) NRP was 6.9 ± 7.5 (expressed as parts per billion of the near-roadway contribution to NO_x), median 3.86 ppb. Associations with BMI were estimated for a 16.8-ppb increase in NRP, which represented the difference between the 90th and 10th percentiles of the overall distribution (17.8 and 1.0 ppb, respectively). Associations with quartiles of NRP exposure (< 1.85, 1.85–3.86, 3.86–9.08, and > 9.08 ppb) were also examined. In models of joint effects with SHS and *in utero* exposure, NRP was also treated as a dichotomous variable stratified at the study population median.

Covariates. We included child's ethnicity and age, as reported by the parent on the baseline questionnaire at study entry, sex, community, and year of enrollment (1993 or 1996) in all models. In addition, we examined potential confounding by

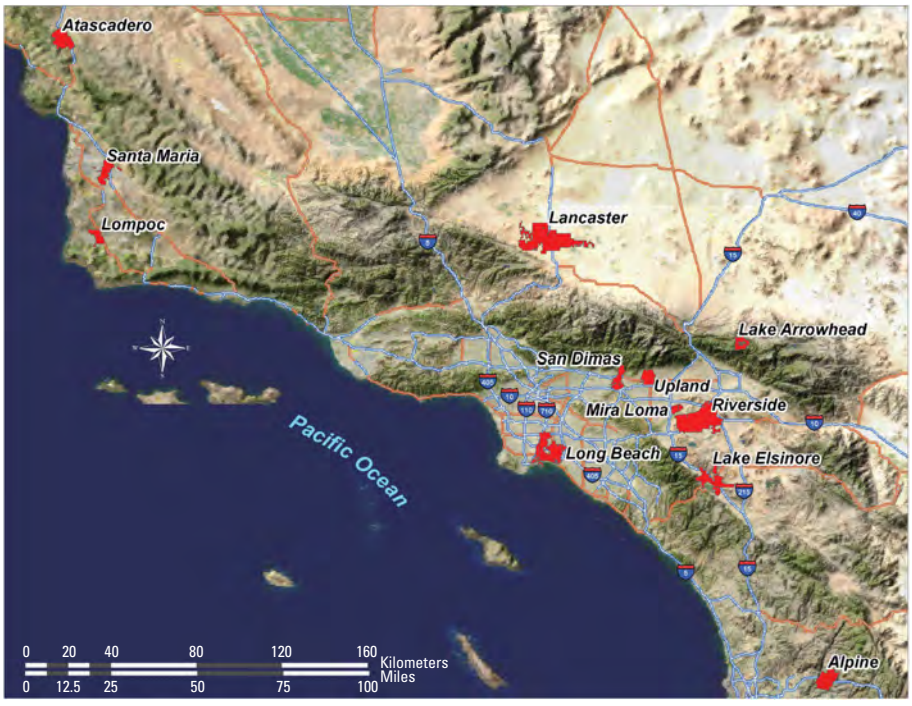


Figure 1. Southern California Children's Health Study communities.

individual, household level, and neighborhood confounders of effects on BMI in this population, as described previously (Jerrett et al. 2010; Wolch et al. 2011). Information on child's history of asthma and physical activity were based on information collected at study entry, including the number of team sports in which the child participated. Social characteristics of the child, family, and neighborhood included whether the child was born outside of the United States and had health insurance coverage at study entry, the educational attainment and responding parent preference for a Spanish questionnaire, neighborhood population density within 500 m of the child's home, and residential census block unemployment among men and women and percentage living in poverty. Using information available from publicly and commercially available data sets, features of the built environment were obtained, including walkability based on street connectivity, acres of parks and recreation facilities, green space based on the Normalized Difference Vegetation Index (NDVI), and a restaurant or store selling food, all based on a 500-m Euclidian buffer around the child's residence at study entry, using previously described methods (Jerrett et al. 2010; Wolch et al. 2011). Rates of violent crime in each study community were characterized, also as previously described (Jerrett et al. 2010; Shankardass et al. 2011; Wolch et al. 2011).

Information on annual average regional pollutant exposure to PM_{10} and $PM_{2.5}$ mass, to nitrogen dioxide and to ozone from 1000 hours to 1800 hours was available from continuous measurements made at a central-site monitor in each community throughout the period of follow-up of this cohort. We have previously shown that there was relatively little temporal variation in the annual exposure to these pollutants in each community (Gauderman et al. 2004). Therefore, we used an 8-year annual average exposure to each regional pollutant for analyses.

Statistical analysis. We used a multilevel approach to estimate associations with BMI growth (i.e., the projected change in BMI) over an 8-year follow-up period while explicitly controlling for baseline BMI and for differences in the progression of BMI by age and sex. Sex-specific BMI trajectories were estimated using linear splines with knots at 12, 14, and 16 years of age to account for nonlinearity in BMI change, with random effects on all growth parameters to account for subject-to-subject heterogeneity in BMI trajectories. Models were parameterized to estimate associations of tobacco smoke and NRP with attained BMI at 18 years, in addition to associations with overall BMI growth over the follow-up period, and effects were estimated at various levels: between years, between individuals, and between communities.

The modeling approach is similar to what has been previously described (Berhane and Molitor 2008; Jerrett et al. 2010), but it includes a richer random-effects structure on all growth curve parameters for better control of subject-to-subject heterogeneity than we have previously used in analysis of this data set (Jerrett et al. 2010). We began by fitting a base model that included ethnicity, race, sex, year of enrollment, and community, with a missing indicator category used to account for missing values for potential confounders. Each potential confounder was examined to see whether it changed the coefficient of tobacco smoke or NRP exposure by at least 10% when added to the model. A missing indicator category was included for missing values for potential confounders. We also included a fixed or random effect for community, as appropriate. Because some regional pollutant concentrations were correlated with the community mean NRP exposure, NRP was deviated from its community mean to produce orthogonal exposures in models that also included regional pollution.

Because BMI trajectories during childhood are different for boys and girls, interaction terms were included in the final models, and Wald tests were used to assess whether effects of tobacco smoke and NRP exposure on BMI growth and attained level were different in boys and girls. Because they were not different, associations were reported for both sexes combined for parsimony. In addition, we modeled interactions between tobacco smoke and NRP exposures. In sensitivity analyses, we modeled the joint effects of NRP and SHS centered at each age of follow-up among 1,514 children at the same address for at least 4 years at study entry, to estimate associations with attained BMI in children with prolonged exposure to a consistent NRP environment before study enrollment.

Statistical significance was based on a probability of 0.05 for a two-sided hypothesis. Data were analyzed using SAS (version 9.2; SAS Institute Inc., Cary, NC) and R (version 3.0.1; R Foundation for Statistical Computing, Vienna, Austria) software. Data were compiled using ArcGIS 9.2, and some distance measurements were computed using Matlab version R2006a (Mathworks, Natick, MA).

Results

The mean age of children at study entry in 1993 and 1996 in two waves of recruitment was 10.1 years (SD 0.59). Over the 8 years of follow-up from enrollment through year 8 (average age, 18 years), there was a 5.3-unit increase in mean BMI, from 18.3 ± 3.4 to 23.6 ± 5.1. The prevalence of obesity increased from 12% to 13.3% during this period.

Most children were non-Hispanic white or Hispanic (Table 1). Average BMI at baseline varied from 17.6 (± 2.9) kg/m^2 among Asians to 19.1 (± 3.9) in Hispanics in this unadjusted analysis. A larger proportion of children had a history of SHS exposure (34.6%) at enrollment than of *in utero* exposure (16.7%). A history of exposure to SHS was associated with small increased BMI (18.5 ± 3.5 kg/m^2) compared with children with no exposure (18.2 ± 3.4 kg/m^2). Seven children reported personal smoking at study entry. Average BMI by quartile of NRP

Table 1. Selected participant characteristics and exposures at Children's Health Study enrollment.

Characteristic	No. (%)[a]	BMI (mean ± SD)
Race/ethnicity		
African American	155 (4.7)	18.7 ± 3.5
Asian	151 (4.5)	17.6 ± 2.9
Hispanic white	1,000 (30.1)	19.1 ± 3.9
Non-Hispanic white	1,825 (55.0)	18.0 ± 3.1
Other	187 (5.6)	18.3 ± 3.9
Sex		
Male	1,647 (49.6)	18.4 ± 3.5
Female	1,671 (50.4)	18.3 ± 3.5
SHS at study entry		
No one ever smoked in the house	2,070 (65.4)	18.2 ± 3.4
Anyone ever smoked in the house	1,094 (34.6)	18.5 ± 3.5
In utero exposure to maternal smoking		
No	2,764 (83.2)	18.3 ± 3.5
Yes	554 (16.7)	18.6 ± 3.6
Personal smoking		
No	3,311 (99.8)	18.4 ± 3.5
Yes	7 (0.21)	20.3 ± 4.7
NRP exposure[b]		
Lowest quartile (< 1.85)	736	18.1 ± 3.2
Second quartile (1.85–3.86)	736	18.7 ± 3.6
Third quartile (> 3.86–9.08)	736	18.2 ± 3.5
Fourth quartile (> 9.08)	736	18.5 ± 3.8

[a]For the first observation of the participant (n = 3,318); denominator (n = 3,318) varies due to missing covariates values.
[b]In parts per billion NO_x; 11 communities.

ranged from 18.1 ± 3.2 kg/m^2 for the lowest quartile to 18.7 ± 3.6 kg/m^2 for the second quartile, without evidence for a dose–response relationship. In addition, BMI was higher in children with asthma and in children who were foreign born, did not play a team sport, and who had a responding parent with less than a high school education or who completed a Spanish questionnaire (see Supplemental Material, Table S1).

Maternal smoking during pregnancy, a history of SHS exposure, and NRP exposure at the child's home at study entry were each associated both with the estimated 8-year growth of BMI and with estimated attained BMI at 18 years (Table 2). Compared with children who had no history of SHS exposure at enrollment, those with SHS exposure had a greater estimated increase in BMI from baseline to age 18 years [0.81 kg/m^2; 95% confidence interval (CI): 0.36, 1.27] and a higher attained BMI at age 18 (1.23 kg/m^2 higher on average; 95% CI: 0.86, 1.61), consistent with a greater rate of increase during follow up combined with a higher average BMI at study entry. Number of smokers in the home at study entry was also associated with increased 8-year growth trajectory (0.48 kg/m^2; 95% CI: 0.16, 1.12 for one smoker, 1.08 kg/m^2; 95% CI: 0.19, 1.97 for two or more smokers) and with increased attained BMI at 18 years (0.95 kg/m^2; 95% CI: 0.42, 1.47 for one smoker, 1.77 kg/m^2; 95% CI: 1.04, 2.51 for two or more smokers). Associations of *in utero* exposure to maternal smoking (vs. no *in utero* exposure) with BMI growth (0.72 kg/m^2 higher; 95% CI: 0.14, 1.31) and attained BMI at 18 years (1.14 kg/m^2 higher; 95% CI: 0.66, 1.62) were similar in magnitude to associations of SHS with BMI. There was no evidence of an association between personal smoking at study entry with BMI growth (–0.33 kg/m^2; 95% CI: –0.66, 1.61) and with attained level (–0.15 kg/m^2; 95% CI: –0.40, 0.15), not tabulated. A 16.8-ppb increase in NRP (representing an increase from the 10th to the 90th percentile of the exposure distribution) also was associated with 8-year growth in BMI (1.13 kg/m^2 higher; 95% CI: 0.61, 1.65) and attained BMI (1.27 kg/m^2 higher; 95% CI: 0.75, 1.80; Table 2). When NRP exposure was categorized into quartiles, the association with BMI growth was 1.10 (95% CI: 0.46, 1.74), 1.26 (95% CI: 0.6, 1.91), and 2.31 (95% CI: 1.66, 2.96) kg/m^2 for the 2nd, 3rd, and 4th quartile compared with the growth in children in the 1st quartile of exposure; attained BMI at 18 years was 1.63 (95% CI: 1.08, 2.18), 1.68 (95% CI: 1.08, 2.28), and 2.29 (95% CI: 1.57, 3.01) kg/m^2 higher than in children in the 1st quartile of exposure (results not tabulated).

In a model mutually adjusted for SHS and *in utero* exposure, the associations of each with BMI growth and attained BMI at age 18 were attenuated but remained significant, except for the adjusted effect estimate for *in utero* exposure on growth (0.35 kg/m^2: 95% CI: –0.29, 0.99). (See Supplemental Material, Table S2.) However, SHS and *in utero* exposure to maternal smoking were correlated (phi coefficient 0.45).

There was no confounding (based on a change > 10% of the estimate in Table 2) of the associations of attained BMI at 18 years or of BMI growth with NRP, SHS, or *in utero* exposure to maternal smoking by team sports participation or history of asthma; by social characteristics of the child, family, or neighborhood, including whether the child was foreign born, parental education, language of questionnaire, residential population density, and residential census tract rates of unemployment; or by features of the built environment including neighborhood walkability, availability of sports and recreation facilities, and green cover. The effect of NRP was not confounded by community regional average PM_{10}, $PM_{2.5}$, ozone, or nitrogen dioxide levels (nor in these models were there statistically significant associations of any regional pollutant with BMI growth or attained level at 18 years of age; data not shown). However, there were modest changes in the estimates in Table 2 after adjusting for percent poverty in residential census tract, including increased effect of SHS (by 15%) on BMI growth to 0.93 kg/m^2 (95% CI: 0.50, 1.36). Effect of NRP on growth was increased (by 12%) to 1.26 kg/m^2 (95% CI: 0.62, 1.91). The effect of NRP on attained BMI level was reduced in models adjusted for availability of health insurance for the child (by 10%) to 1.14 kg/m^2 (95% CI: 0.69, 1.59) and for a restaurant or food store within 500 m of the home (by 18%) to 1.04 kg/m^2 (95% CI: 0.51, 1.56). In an analysis adjusting for a common set of these confounders across all models, associations of SHS exposure with BMI growth and attained BMI at 18 years of age were not substantially changed (see Supplemental Material, Table S3). There was modest attenuation of associations of NRP with BMI growth (from 1.13 kg/m^2; 95% CI: 0.61, 1.65 to 0.99 kg/m^2; 95% CI: 0.46, 1.51) and with attained BMI (from 1.27 kg/m^2; 95% CI: 0.75, 1.80 to 1.10 kg/m^2; 95% CI: 0.58, 1.61).

We also found no significant differences between boys and girls in the associations of tobacco smoke and NRP exposures with BMI growth or attained level, based on tests for interaction (data not shown).

We found evidence of synergism between tobacco smoke and NRP exposure on attained BMI at 18 years of age (Table 3). Compared with attained BMI among participants living in residences with low exposure to NRP with no history of SHS exposure, being in the upper half of the NRP exposure distribution (without a history of SHS) or having a history of SHS exposure (with low NRP) was associated with attained BMI estimates that were 0.80 kg/m^2 higher (95% CI: 0.27, 1.32) and 0.85 kg/m^2 higher (95% CI: 0.43, 1.28), respectively. Attained BMI among participants with both high NRP residences and a history of SHS exposure was 2.15 kg/m^2 higher (95% CI: 1.52, 2.77) in contrast with an expected increase (based on the sum of the individual effect estimates) of 1.65 kg/m^2 (interaction p-value = 0.007). There were no significant interactions of

Table 2. Association of sources of tobacco smoke and NRP exposures[a] at study enrollment with BMI growth over 8 years and with attained BMI at 18 years of age.

Exposure	BMI growth[b] (95% CI)	Difference in attained BMI[b] (95% CI)
SHS[c]	0.81 (0.36, 1.27)*	1.23 (0.86, 1.61)*
1 smoker in home	0.48 (0.16, 1.12)	0.95 (0.42, 1.47)
≥ 2 smokers in home	1.08 (0.19, 1.97)	1.77 (1.04, 2.51)
Maternal smoking during pregnancy[c]	0.72 (0.14, 1.31)	1.14 (0.66, 1.62)*
NRP[c]	1.13 (0.61, 1.65)*	1.27 (0.75, 1.80)*

[a]Exposure before or at enrollment at average age 10 years. [b]BMI growth (kg/m^2) over 8-year follow-up, and difference in attained BMI at age 18 years, compared with participants without tobacco smoke exposure, or scaled to NRP 10th–90th percentile range of 16.8 ppb of NO_x, adjusted for ethnicity, sex, community, year of enrollment, and age; NRP exposure restricted to 11 communities. [c]For SHS, n = 3,164; for maternal smoking during pregnancy, n = 3,318; for NRP, n = 2,944. *$p < 0.001$.

Table 3. Synergistic effects of SHS and NRP exposures[a] on attained BMI at age 18 years.

SHS	NRP exposure	Difference in attained BMI[b] (95% CI)
No	Low	Reference
No	High	0.80 (0.27, 1.32)*
Yes	Low	0.85 (0.43, 1.28)**
Yes	High	2.15 (1.52, 2.77)**

[a]Exposure before or at enrollment at average age 10 years (n = 2,806 with complete information on both exposures); NRP (11 communities) dichotomized at population median of NRP (3.86 ppb NO_x). [b]Difference in attained BMI (kg/m^2) at age 18 years, compared with participants without SHS exposure and with low residential NRP exposure, adjusted for ethnicity, community, sex, year of enrollment, child health insurance, percent poverty in the census block, and no food outlet within 500-m road network residence buffer; analysis restricted to 11 communities. *$p < 0.01$. **$p < 0.001$.

in utero exposure to maternal smoking with either NRP or SHS for BMI growth or attained level (data not shown).

A sensitivity analysis was restricted to the 1,514 participants living at the same address for at least 4 years before study entry in order to determine whether effects would be larger in children with consistent longer-term NRP exposures. For this analysis the association of each exposure category with mean attained BMI was compared with BMI among referent children with neither SHS nor high residential NRP exposure (represented by zero on the *x*-axis in Figure 2). To illustrate the pattern of estimated effect on attained BMI the model-based estimate was re-centered at each age of follow-up. The association of attained BMI at 18 years with NRP with early-life SHS exposure was larger than that observed in the entire population (in Table 3), and the joint effect estimate accounted for almost an additional 3 kg/m^2, compared with children who had neither exposure.

There was also evidence of an interaction between SHS and NRP based on NO_x modeled as a continuous variable. Specifically, among children with no history of SHS, a 16.8-ppb increase in NO_x was associated with a 0.34-kg/m^2 increase in attained BMI at age 18 years (95% CI: –0.26, 0.94), compared with a 1.22-kg/m^2 increase (95% CI: 0.65, 1.77) among children with a history of SHS (interaction p-value < 0.001).

Discussion

Previous studies have reported associations between SHS and BMI in younger children (Griffiths et al. 2010; Raum et al. 2011). In our study population, both history of SHS exposure at study entry and of *in utero* exposure were associated with greater subsequent BMI growth over an 8-year period spanning adolescence through young adulthood. Furthermore, associations of SHS exposure with BMI attained by the time these children reached adult age were stronger among children exposed to higher levels of NRP. Children with a history of SHS exposure who lived in a home in the upper half of the NRP distribution had BMI at 18 years of age > 2 kg/m^2 larger than BMI in young adults with neither SHS nor high NRP exposures. The prospective design and corresponding temporal sequence of exposure and substantial increases in BMI, which were not explained by a variety of potential confounders, the consistency of association and the synergism between combustion products from two different sources, and the emerging epidemiological and toxicological evidence all suggest that these combustion products contribute to the development of obesity.

Previous work has identified the systemic inflammatory effect of SHS and particulate air pollution as a potential common mechanism explaining the epidemiologic associations with cardiopulmonary disease [Pope and Dockery 2006; U.S. Department of Health and Human Services (DHHS) 2010]. Emerging evidence from experiments on mice suggests that $PM_{2.5}$-induced adipose tissue inflammation and redistribution of adipose tissue to viscera may play a key role in the development of insulin resistance, diabetes, and systemic inflammatory effects (Sun et al. 2009; Zou 2010). However, in these studies metabolic and inflammatory effects of $PM_{2.5}$ were not associated with weight gain. In contrast, a recent experimental study reported that early-life exposure of mice to diesel exhaust particulate, a model NRP, resulted in markedly larger subsequent weight gain than in animals exposed to filtered air (Bolton et al. 2012). Our results showing associations of BMI with NRP but not with regional PM are consistent with these experimental results. Further investigation is needed to understand the mechanisms underlying the NRP mixture effects.

Other biologically plausible explanations for the obesogenic effects of tobacco smoke and NRP include inhibition of catecholamine-induced lipolysis by polycyclic aromatic hydrocarbons (PAHs), resulting in weight gain in experimental animals (in the absence of increased caloric intake) (Irigaray et al. 2006). PAHs are part of the pollutant mixture in both NRP and SHS (DHHS 2010). Nicotine exposure from maternal smoking during pregnancy is a plausible cause of subsequent obesity, based on toxicological studies (Thayer et al. 2012). PM exposure has been reported to cause oxidative stress–mediated damage to mitochondria and down-regulation of expression of key brown adipose tissue genes involved in thermogenesis and energy expenditure (Xu et al. 2011). Direct inflammatory effects on feeding centers in the hypothalamus, or indirect effects through up-regulation of inflammatory pathways in adipose tissue, may also result in increased dietary intake (Bolton et al. 2012).

In utero exposure to tobacco smoke has been consistently reported to have obesogenic effects (Thayer et al. 2012). Our results support a few other studies showing increased BMI and obesity in SHS-exposed children, even after adjustment for *in utero* exposure (Griffiths et al. 2010; Raum et al. 2011). A few other epidemiological studies also have reported associations of markers of NRP exposure with obesity. Early-life exposure to PAHs in children in New York City was associated with the subsequent development of obesity by 7 years of age (Rundle et al. 2012).

We have previously reported associations between traffic density and BMI in this cohort, which we attributed to reduced opportunities for physical activity in an environment with heavy traffic corridors, although reported physical activity did not explain the associations (Jerrett et al. 2010). Exposure assignment to residence in the current analysis accounting for meteorology and vehicular emissions is likely to have been a more accurate estimate of NRP exposure than traffic density alone. Associations of modeled NRP exposure with increased BMI have also been observed in another Children's Health Study cohort (Jerrett et al. 2014).

Maternal smoking and childhood SHS exposures may have been misclassified, although there is evidence from at least some populations that such exposures may be accurately reported by mothers (Gehring et al. 2006; Matt et al. 2000; Pickett et al. 2009). Exposure would have to have been both misclassified and also overreported by parents of children who would go on to have steeper BMI trajectory to explain the observed results. Given the strength of the association and the interaction with NRP, this seems an unlikely explanation for the observed results.

We examined the potential for selection or confounding bias to explain these results. There were 569 participants from the cohort who were not available for at least two measurements of height and weight. Attrition is a potential source of bias in a cohort study if loss to follow-up is related both to exposure and outcome, but BMI outcome at study entry did not differ between those lost to follow-up (18.5 ± 3.6 kg/m^2) and those with two or more BMI measurements contributing to the analysis (18.3 ± 3.4 kg/m^2). Mean exposure to NRP (adjusted for community) differed little between participants and those lost to follow-up (by only 0.013 ppb NO_x). SHS exposure was more common

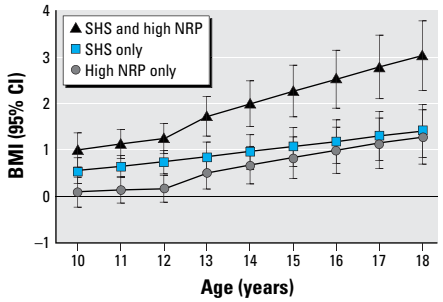


Figure 2. Estimated effects of SHS and NRP exposure on attained BMI at ages 10–18 years among long-term residents (n = 1,514 with ≥ 4 years at same residence at time of enrollment in 11 communities with NRP estimates). Differences in mean BMI (95% CIs) at each age were estimated for children with NRP above the median and no history of SHS (high NRP only), children with a history of SHS and NRP below the median (SHS only), and children with a history of SHS and high NRP, compared with a common reference group of children who had low NRP and no history of SHS at enrollment.

among those lost to follow-up (45%) than in participants contributing to the analysis (35%), as was *in utero* exposure to maternal smoking (23% compared with 17%). Some other sociodemographic characteristics (foreign-born parents, health insurance for the child, race/ethnicity, and parental education) also differed among participants and those lost to follow-up (see Supplemental Material, Table S4). However, we adjusted for these sociodemographic characteristics, for health and physical activity information about the child, and for other features of the urban environment that might affect patterns of activity or food intake, and these did not substantially influence the pattern of associations of SHS and NRP with BMI. For caloric intake to explain our results, it would not only have had to be correlated both with SHS and NRP, but also to explain the synergistic pattern of association of these exposures with BMI, and this seems an unlikely confounding scenario. In addition, we observed significant associations of SHS and NRP with BMI in a subgroup of children who were followed through at least one of the last 2 years of the study (years 7 and 8 of follow-up; n = 2,120), and effect estimates were generally similar to those in the participants as a whole (results not shown). Although selection bias and confounding by other factors cannot be excluded as an explanation for our results, these analyses provide little evidence that this was the case.

The magnitude of the associations of BMI with SHS and NRP was large, especially in combination. The 2 kg/m^2 associated with the combination of SHS with high-NRP exposures at 18 years of age (compared with low NRP and no SHS) were almost half the standard deviation of 5.1. A 2-kg/m^2 relative increase in attained BMI is equivalent to a 6-kg (6.6%) increase in body weight in an adult male who is 1.78 m tall and weighs 95 kg (BMI = 30). For comparison, multifaceted, albeit short-term, interventions in adolescents are estimated to result in weight reductions of < 0.1 kg/m^2 (Waters et al. 2011).

Further research is warranted to determine whether our findings can be replicated in other populations and to assess both the potential contribution of combustion sources to the epidemic of obesity and the potential impact of interventions to reduce exposure. *In utero* and SHS exposure and regional ambient PM exposure have been decreasing in California over the past several decades during which the obesity epidemic has developed (Al-Delaimy et al. 2010), so these exposures by themselves are unlikely to have contributed to the epidemic. However, these trends in regional air pollutants have limited relevance to the potential role of NRP, which is a different pollutant mixture. Vehicle miles traveled, exposure to some components of the NRP mixture, and near-roadway residential development have increased during this period (Geller et al. 2005) (U. S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information 2010). Thus, the potential for NRP to be among several factors contributing to the epidemic of obesity merits further investigation.

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AHA Scientific Statement

Particulate Matter Air Pollution and Cardiovascular Disease

An Update to the Scientific Statement From the American Heart Association

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Abstract—In 2004, the first American Heart Association scientific statement on "Air Pollution and Cardiovascular Disease" concluded that exposure to particulate matter (PM) air pollution contributes to cardiovascular morbidity and mortality. In the interim, numerous studies have expanded our understanding of this association and further elucidated the physiological and molecular mechanisms involved. The main objective of this updated American Heart Association scientific statement is to provide a comprehensive review of the new evidence linking PM exposure with cardiovascular disease, with a specific focus on highlighting the clinical implications for researchers and healthcare providers. The writing group also sought to provide expert consensus opinions on many aspects of the current state of science and updated suggestions for areas of future research. On the basis of the findings of this review, several new conclusions were reached, including the following: Exposure to PM <2.5 μm in diameter ($PM_{2.5}$) over a few hours to weeks can trigger cardiovascular disease–related mortality and nonfatal events; longer-term exposure (eg, a few years) increases the risk for cardiovascular mortality to an even greater extent than exposures over a few days and reduces life expectancy within more highly exposed segments of the population by several months to a few years; reductions in PM levels are associated with decreases in cardiovascular mortality within a time frame as short as a few years; and many credible pathological mechanisms have been elucidated that lend biological plausibility to these findings. It is the opinion of the writing group that the overall evidence is consistent with a causal relationship between $PM_{2.5}$ exposure and cardiovascular morbidity and mortality. This body of evidence has grown and been strengthened substantially since the first American Heart Association scientific statement was published. Finally, $PM_{2.5}$ exposure is deemed a modifiable factor that contributes to cardiovascular morbidity and mortality. **(*Circulation*. 2010;121:2331-2378.)**

Key Words: AHA Scientific Statements ■ atherosclerosis ■ epidemiology ■ prevention ■ air pollution ■ public policy

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In 2004, the American Heart Association (AHA) published its first scientific statement regarding air pollution and cardiovascular disease (CVD).[1] The rationale was to provide researchers, healthcare providers, and regulatory agencies with a comprehensive review of the evidence linking air pollution exposure with cardiovascular morbidity and mor-

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This statement was approved by the American Heart Association Science Advisory and Coordinating Committee on February 22, 2010. A copy of the statement is available at http://www.americanheart.org/presenter.jhtml?identifier=3003999 by selecting either the "topic list" link or the "chronological list" link (No. KB-0038). To purchase additional reprints, call 843-216-2533 or e-mail kelle.ramsay@wolterskluwer.com.

The American Heart Association requests that this document be cited as follows: Brook RD, Rajagopalan S, Pope CA 3rd, Brook JR, Bhatnagar A, Diez-Roux AV, Holguin F, Hong Y, Luepker RV, Mittleman MA, Peters A, Siscovick D, Smith SC Jr, Whitsel L, Kaufman JD; on behalf of the American Heart Association Council on Epidemiology and Prevention, Council on the Kidney in Cardiovascular Disease, and Council on Nutrition, Physical Activity and Metabolism. Particulate matter air pollution and cardiovascular disease: an update to the scientific statement from the American Heart Association. *Circulation*. 2010;121:2331–2378.

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tality. There was also an explicit aim to educate clinicians about the importance of this issue, because the cardiovascular health consequences of air pollution generally equal or exceed those due to pulmonary diseases.[1–4] Finally, a list of key remaining scientific questions and strategic avenues for investigation were provided to help foster and guide future research.

The first AHA writing group concluded that short-term exposure to particulate matter (PM) air pollution contributes to acute cardiovascular morbidity and mortality[1] and that exposure to elevated PM levels over the long term can reduce life expectancy by a few years. Although some mechanistic details remained incompletely described, the existing science was deemed adequate to substantiate several plausible biological pathways whereby PM could instigate acute cardiovascular events and promote chronic disease.

There is mounting evidence from a rapid growth of published data since the previous statement related to the harmful cardiovascular effects of air pollution.[3,4] Most, but not all, epidemiological studies corroborate the elevated risk for cardiovascular events associated with exposure to fine PM <2.5 μm in aerodynamic diameter ($PM_{2.5}$). $PM_{2.5}$ generally has been associated with increased risks of myocardial infarction (MI), stroke, arrhythmia, and heart failure exacerbation within hours to days of exposure in susceptible individuals. Several new studies have also demonstrated that residing in locations with higher long-term average PM levels elevates the risk for cardiovascular morbidity and mortality. Some recent evidence also implicates other size fractions, such as ultrafine particles (UFPs) <0.1 μm, gaseous copollutants (eg, ozone and nitrogen oxides [NO_x]), and specific sources of pollution (eg, traffic). In addition, there have been many insights into the mechanisms whereby PM could prove capable of promoting CVDs.[2–4] Air pollutants have been linked with endothelial dysfunction and vasoconstriction, increased blood pressure (BP), prothrombotic and coagulant changes, systemic inflammatory and oxidative stress responses, autonomic imbalance and arrhythmias, and the progression of atherosclerosis. In the interim, the US Environmental Protection Agency (EPA) completed its updated "Air Quality Criteria for Particulate Matter"[5] and afterward strengthened the National Ambient Air Quality Standards (NAAQS) for daily $PM_{2.5}$ levels starting in 2006 (down from 65 to 35 $\mu g/m^3$).[6] The most recent scientific review coordinated by the EPA, the final report of the Integrated Science Assessment for Particulate Matter (http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546), has also been made available publicly. These numerous changes and advances provide the rationale for the present updated AHA scientific statement on PM air pollution and CVD. This updated statement is similar in scope, content, and overall structure to the first document; however, it provides many additional conclusions and recommendations that can now be made because of the expanded number and quality of studies.

Objectives and Methods

The primary objective of this scientific statement is to provide a comprehensive updated evaluation of the evidence linking PM exposure with CVDs. The focus of this review is explicitly on PM because the majority of air pollution studies have centered on its cardiovascular effects, and the strength of the evidence makes it possible to provide consensus opinions and recommendations. Except for in a few circumstances, such as when copollutants have been shown to (or not to) modify the responses to PM exposure or to have independent cardiovascular effects in epidemiological studies of major importance, a detailed discussion of other air pollutants (eg, ozone and NO_2) is beyond the scope of this document. Additional objectives are to provide expert consensus opinions on aspects related to the current state of science, to specifically highlight the health and clinical implications of the reviewed findings, and to provide prudent and practical recommendations for measures to reduce PM exposure that might thereby lower the associated cardiovascular risk. This updated scientific statement is structured to first provide a clinical perspective on the cardiovascular risks posed by PM exposure and then briefly review the components of air pollution. The following sections highlight the major findings from epidemiological studies, including mortality, morbidity, and surrogate outcome results. Next, the animal and human mechanistic studies are reviewed, and an overall framework whereby PM exposure could cause CVDs is outlined. Finally, updated consensus opinions and conclusions are provided, followed by suggestions for areas of future research and policy considerations.

Members of the current writing group were selected from across a broad range of disciplines, including cardiovascular and environmental epidemiology and statistics, atmospheric sciences, cardiovascular and pulmonary medicine, basic science research, and public policy. The writing group identified studies published in the English language between January 1, 2004, and March 31, 2009, by a World Wide Web–based literature search using Medline, PubMed, and Google search engines. Key terms included *air pollution* or *particulate matter* plus any of the following: *cardiovascular, myocardial, heart, cardiac, stroke, heart failure, arrhythmia, heart rate variability, autonomic, sympathetic, atherosclerosis, vascular, blood pressure, hypertension, diabetes, metabolic, thrombosis,* and *coagulation*. Additional studies were identified within the references of these publications and by the personal knowledge of the writing group members. A few studies published after March 31, 2009, were added during the review process. All of the identified epidemiological studies that provided mortality data or hard cardiovascular outcomes (eg, MIs) and controlled human exposure protocols were included. In a few circumstances, studies before 2004 were included briefly in the discussion or tables when it was believed that they provided contextual background and/or relevant findings from earlier analyses of ongoing studies (eg, Harvard Six Cities and American Cancer Society [ACS] cohorts) from which new results after 2004 have been published. It is a limitation of the present review that it was not possible to cite all surrogate outcome human studies because of the enormous number of publications. Some were not included, without intentional bias with regard to results, when multiple referenced studies demonstrated similar findings. In such a situation (eg, heart rate variability [HRV]), this

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limitation was noted within the specific section. A main theme of the present statement is to provide clinical context and recommendations for healthcare providers, and thus, it was beyond the scope and not the intent of this document to include all animal, ex vivo, or toxicological studies. A number of these publications were also not included, without intentional bias with regard to results. The writing group included publications that were believed to have relevant implications for human cardiovascular health, those that formed the foundation of the mechanistic hypotheses, and studies that were deemed of major importance. Finally, the "evidence summary" statements and all points in the conclusions and recommendations represent consensus expert opinions agreed on by all members of the writing group during formal discussions. It is explicitly stated when no such agreement was reached. These statements and the points within Tables 6 and 7 do not represent the result of applying the standard AHA criteria (ie, level and class) to the sum findings of the present review, because those do not apply, but rather the qualitative consensus opinions agreed on by the writing group. The purpose is to provide expert opinions on the comparative relative ranking and the strength of the overall evidence regarding different areas within this field of science.

Perspective on the Air Pollution–Cardiovascular Risk Association

Traditional cardiovascular risk factors account for the major portion of the risk for ischemic cardiac events within a population.[7] Individuals with optimal levels of all risk factors have been shown to have a low lifetime cardiovascular event rate.[8] Thus, control of the traditional risk factors is recognized to be of paramount importance to prevent CVDs. In this context, there has been some debate about the overall clinical relevance and utility of adding novel risk factors to risk-prediction models to incrementally improve their overall predictive value, even when assessed by multiple methodologies.[9] On the other hand, the ability to predict future events by existing models remains imperfect. In addition to several mathematical and statistical explanations for this shortcoming,[10,11] it is important to recognize that the development of vascular or atherosclerotic disease (the factor predicted by most statistical models) is usually a necessary but insufficient cause of future ischemic events in and of itself. Cardiovascular events must also be triggered by an additional factor at some unknowable future time, and therefore, they transpire as a stochastic process within a population.[12] This is one of several reasons why PM air pollution is a uniquely important public health issue among the list of novel risk factors; PM inhalation is an established trigger of cardiovascular events that occur within hours to days after exposure.[12] Because of the ubiquitous and involuntary nature of PM exposure, it may continuously enhance acute cardiovascular risk among millions of susceptible people worldwide in an often inconspicuous manner. Moreover, beyond serving as a simple trigger, PM elicits numerous adverse biological responses (eg, systemic inflammation) that, in premise, may further augment future cardiovascular risk over the long term after months to years of exposure.

Effects of Short-Term Exposure

Time-series studies estimate that a 10-$\mu g/m^3$ increase in mean 24-hour $PM_{2.5}$ concentration increases the relative risk (RR) for daily cardiovascular mortality by approximately 0.4% to 1.0%.[3] Despite theoretical statistical risks ascribed to all individuals, this elevated risk from exposure is not equally distributed within a population. At present-day levels, $PM_{2.5}$ likely poses an acute threat principally to susceptible people, even if seemingly healthy, such as the elderly and those with (unrecognized) existing coronary artery or structural heart disease.[13] Therefore, the absolute risk rather than the RR of exposure may more effectively convey the tangible health burden within a population. A 10-$\mu g/m^3$ increase during the preceding day contributes on average to the premature death of approximately 1 susceptible person per day in a region of 5 million people (based on annual US death rates in 2005).[3,14] Although the dangers to 1 individual at any single time point may be small, the public health burden derived from this ubiquitous risk is enormous. Short-term increases in $PM_{2.5}$ levels lead to the early mortality of tens of thousands of individuals per year in the United States alone.[1,3,5]

Effects of Long-Term Exposure

Cohort studies estimate that the RR associated with living in areas with higher PM levels over the long term is of greater magnitude than that observed from short-term exposure increases (RR between 1.06 and 1.76 per 10 $\mu g/m^3$ $PM_{2.5}$).[3] In this context, the World Health Organization estimated that $PM_{2.5}$ contributes to approximately 800 000 premature deaths per year, ranking it as the 13th leading cause of worldwide mortality.[15] Hence, PM air pollution appears to be an important modifiable factor that affects the public health on a global scale.

Air Pollution

The first AHA statement on air pollution reviewed the size fractions, sources, and chemical constituents of PM and the main gaseous air pollutants: Nitrogen oxides (NO_x; ie, $NO+NO_2$), carbon monoxide (CO), sulfur dioxide (SO_2), and ozone (O_3).[1] Therefore, this section within the updated statement focuses on several other contemporary aspects of air pollution characterization and exposure assessment, particularly in relation to their potential influences on cardiovascular health. In brief, PM is broadly categorized by aerodynamic diameter: All particles <10 μm (thoracic particles [PM_{10}]), all particles <2.5 μm (fine particles [$PM_{2.5}$]), all particles <0.1 μm (UFP), and particles between 2.5 and 10 μm (coarse particles [$PM_{10-2.5}$]). Hence, PM_{10} contains within it the coarse and $PM_{2.5}$ fractions, and $PM_{2.5}$ includes UFP particles. The concentrations of PM_{10} and $PM_{2.5}$ are typically measured in their mass per volume of air ($\mu g/m^3$), whereas UFPs are often measured by their number per cubic centimeter (Table 1). The major source of $PM_{2.5}$ throughout

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Table 1. Ambient Air Pollutants

Pollutant	US Average Range	US Typical Peak*	Most Recent NAAQS for Criteria Pollutants (Averaging Time)
O_3†	0–125 ppb	200 ppb	75 ppb (8 h)‡
NO_2†	0.5–50 ppb	200 ppb	100 ppb (1 h)§ 53 ppb (Annual mean)
NO†	0–100 ppb	200 ppb	
SO_2†	0.1–50 ppb	150 ppb	140 ppb (24 h)‖ 30 ppb (Annual mean)
CO†	0.1–5 ppm	20 ppm	35 ppm (1 h)‖ 9 ppm (8 h)‖
PM_{10}¶	10–100 $\mu g/m^3$	300 $\mu g/m^3$	150 $\mu g/m^3$ (24 h)#
$PM_{2.5}$¶	5–50 $\mu g/m^3$ (Mean=13.4±5.6)	100 $\mu g/m^3$	15 $\mu g/m^3$ (Annual mean) 35 $\mu g/m^3$ (24 h)**
$PM_{2.5}$ lead¶	0.5–5 ng/m^3	150 ng/m^3	0.15 $\mu g/m^3$ (Rolling 3-month average)††
NH_3†	0.1–20 ppb	100 ppb	
HNO_3†	0–5 ppb	10 ppb	
Methane†	1–2 ppm	5 ppm	
Formaldehyde†	0.1–10 ppb	40 ppb	
Acetaldehyde†	0.1–5 ppb	20 ppb	
NMHC (VOC)¶	20–100 $\mu g/m^3$	250 $\mu g/m^3$	
Propane¶	2–20 $\mu g/m^3$	500 $\mu g/m^3$	
Benzene¶	0.5–10 $\mu g/m^3$	100 $\mu g/m^3$	
1,3-Butadiene¶	0.1–2 $\mu g/m^3$	10 $\mu g/m^3$	
Total suspended particles¶	20–300 $\mu g/m^3$	1000 $\mu g/m^3$	
$PM_{10-2.5}$¶	5–50 $\mu g/m^3$	200 $\mu g/m^3$	
Sulfate¶	0.5–10 $\mu g/m^3$	30 $\mu g/m^3$	
Nitrate¶	0.1–5 $\mu g/m^3$	20 $\mu g/m^3$	
Organic carbon¶	1–20 $\mu g/m^3$	30 $\mu g/m^3$	
Elemental carbon¶	0.1–3 $\mu g/m^3$	10 $\mu g/m^3$	
PAH¶	2–50 ng/m^3	200 ng/m^3	
UFP†	1000–20 000/cm^3	100 000/cm^3	

ppb Indicates parts per billion; ppm, parts per million; and PAH, polycyclic aromatic hydrocarbon.

*Generally not in concentrated plumes or locations of direct source emission impact.

†Typical hourly average concentrations reached in US cities.

‡The 8-hour standard is met when the 3-year average of the 4th highest daily maximum 8-hour average is less than or equal to the indicated number. In January 2010, the EPA proposed a more stringent 8-hour standard within the range of 60 to 70 ppb (http://www.epa.gov/air/ozonepollution/actions.html).

§To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed this value.

‖The level is not to be exceeded more than once per year.

¶Typical 24-hour average concentrations.

#The level is not to be exceeded more than once per year on average over 3 years.

**The daily standard is met when the 3-year average of the 98th percentile of 24-hour PM level is less than or equal to the indicated number.

††Although the typical concentrations shown in the table are for $PM_{2.5}$, the lead standard continues to be based on measurements in total suspended particulate.

the world today is the human combustion of fossil fuels from a variety of activities (eg, industry, traffic, and power generation). Biomass burning, heating, cooking, indoor activities, and nonhuman sources (eg, fires) may also be relevant sources, particularly in certain regions.

Common air pollutants and those designated as EPA criteria pollutants (ie, specifically targeted in regulations through limits on emissions or government standards such as the NAAQS) are listed in Table 1. The World Health Organization also provides ambient guidelines (http://www.euro.who.int/Document/E90038.pdf). As a result, many pollutant concentrations are tracked in the United States by nationwide monitoring networks, with up to approximately 1200 sites for O_3 and $PM_{2.5}$. Data are archived by the EPA and are available to the public (http://www.epa.gov/ttn/airs/airsaqs/). O_3 levels exceed the national standard in many areas, and thus, daily information is provided to assist the public in reducing their exposure. A lower standard for ozone concentrations was proposed recently, which will lead to more frequent occurrences of outdoor exposures deemed to be excessive (Table 1). The reporting of $PM_{2.5}$ is also becoming common because of its impact on public health and frequent violations of standards. Current and forecast air quality indices and information on both $PM_{2.5}$ and ozone are available (http://airnow.gov/). At the end of 2008, 211 US counties (or portions of counties) were in nonattainment of the 2006 daily $PM_{2.5}$ NAAQS (http://www.epa.gov/pmdesignations/2006standards/state.htm). On a positive note, the various regulations that have been established have led to substantial reductions in PM and other pollutant levels over the past 40 years in the United States and contributed toward similar improvements in other countries. However, reducing the levels of some pollutants, such as O_3, remains a challenge because of the complex chemical processes that lead to their formation in the atmosphere.[16] The population of many developing nations (China, India, Middle Eastern countries) continues to be exposed to high levels, particularly of PM, which can routinely exceed 100 $\mu g/m^3$ for prolonged periods (http://siteresources.worldbank.org/DATASTATISTICS/Resources/table 3_13.pdf).

Air Pollution Mixtures, Chemistry, and Sources

Detailed information regarding PM sizes, composition, chemistry, sources, and atmospheric interactions is beyond the scope of this document but can be found in the 2004 US EPA Air Quality Criteria for Particulate Matter final report (http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=87903). The source for much of the information provided in this brief summary is this document, unless otherwise specifically referenced. The typical range of ambient concentrations for several air pollutants in the United States, including the latest US NAAQS for the criteria pollutants, is given in Table 1. Classification of air quality according to 1 single pollutant and by size or mass provides an incomplete picture, because ambient air pollution is a complex mixture of gases, particles, and liquids that are continually changing and interacting with each other and natural atmospheric gases. Although $PM_{2.5}$ mass has rightfully attracted considerable attention as a target for regulation and epidemiological study, more than 98% of

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the air pollutant mass in the mixture we breathe in urban settings is from gases or vapor-phase compounds such as CO, nonmethane hydrocarbons or volatile organic carbons (VOCs), NO_2, NO, O_3, and SO_2. Each of these can have independent and potentially synergistic or antagonistic effects with each other and with PM; however, at present, the cardiovascular health impact of exposure to combinations of air pollutants is not well understood.

Most of the studies linking CVDs with PM exposures have focused on particle mass; thus, this association is evaluated and reported in the majority of epidemiological and toxicological studies reviewed. Although PM is regulated by mass concentration, the aspect of PM most harmful to cardiovascular health may not be best quantified by mass measurement alone. The sum effect of many features related to chemical composition and size/morphology (eg, oxidative stress potential, solubility, charge, surface area, particle count, lung deposition, and stability within the atmosphere and biological tissues) is important to consider. With regard to specific "toxic" compounds within PM, several lines of existing evidence support the idea that transition metals, organic compounds, semiquinones, and endotoxin are likely relevant in relation to promoting CVDs. In addition, certain characteristics of UFPs (eg, high surface area, particle number, metal and organic carbon content) suggest that they may pose a particularly high cardiovascular risk after short-term exposure.[17] Both the additional characterization of "criteria" pollutants and the measurement of several other pollutants (discussed below) are important to inform air quality management practices that involve air quality modeling, as well as epidemiological studies and risk assessment, which ultimately aim to improve risk-reduction strategies.

In addition to their mass concentration, pollutants can be characterized on the basis of their origin or chemical and physical properties. In terms of origin, nitrogen oxides ($NO+NO_2$), CO, SO_2, and $PM_{2.5,}$ as well as carbon dioxide (CO_2), are mainly associated with combustion of fuel or other high-temperature industrial processes. Combustion PM is composed of many chemical compounds, including organic carbon species, elemental or black carbon, and trace metals (eg, lead and arsenic). They range in size from molecular clusters a few nanometers in diameter to light-scattering particles that peak on a mass contribution basis in the diameter range of 200 to 1000 nm (0.2 to 1 μm). UFP numbers are also strongly linked to fresh combustion and traffic-related pollution. Ammonia, methane, pesticides (persistent organic pollutants), reduced sulfur compounds, resuspended dust, and natural coarse particles ($PM_{10-2.5}$) are associated with noncombustion surface or fugitive releases that arise from a variety of human (eg, agriculture) and natural (eg, erosion) activities. Agricultural emissions and releases from a range of industrial processes and waste management are also important sources. Road and wind-blown dust from agricultural practices and from certain industrial facilities (eg, mineral industry) also contribute to these particles, which are typically in the coarse ($PM_{10-2.5}$) or even larger ($>PM_{10}$) range.

In addition to pollutants formed directly by combustion, many others are produced primarily through chemical reactions in the atmosphere among directly emitted pollutants. These are known as secondary pollutants. Sunlight, water vapor, and clouds are often involved in this atmospheric chemistry, which leads to greater oxidation of the pollutants. Examples include PM-associated sulfate, nitrate, and ammonium and many of the organic compounds within $PM_{2.5}$. Besides O_3, which is the most prevalent secondary gaseous oxidant, a number of inorganic and organic acids and VOCs form in the atmosphere. Examples are the hydroxyl radical, peroxyacetyl nitrate, nitric acid, formic and acetic acid, formaldehyde, and acrolein.

VOCs and semivolatile organic compounds (SVOCs), the latter of which are found in both the gas and particle phase, are an additional large class of pollutants. They are associated with both combustion and fugitive emissions, as well as with secondary formation. Key examples are benzene, toluene, xylene, 1,3-butadiene, and polycyclic aromatic hydrocarbons. VOCs are among the 188 hazardous air pollutants listed by the EPA, and their main emission sources have been identified and are regulated (http://www.epa.gov/ttn/atw/mactfnlalph.html). VOCs can undergo reactions that convert toxic substances to less toxic products or vice versa. Many VOCs contribute to the formation of O_3 and are oxidized in the atmosphere, becoming SVOCs, and subsequently partition within particles and contribute to the composition of $PM_{2.5}$, as well as to its mass. A great deal of research has focused on $PM_{2.5}$ in the past decade, which has led to advances in measurement technologies[18] and greater understanding of its chemistry and atmospheric behavior.[19] Nonetheless, understanding is incomplete, particularly with regard to formation of the secondary organic fraction, the relative role of anthropogenic and biogenic emissions to organics, surface chemistry, oxidative potential,[20] and gas-to-particle partitioning.

An alternative to attempting to identify one by one which pollutant(s) or chemical compounds are most harmful is to focus on identifying the sources, which typically emit mixtures of pollutants, of greatest concern. It may be the mixture of pollutants (along with the source from which it is derived, which determines its characteristics) that is most pertinent to human health outcomes. Such information may actually be more relevant for aiding the development of effective air quality policies. One important example reviewed in the epidemiology section is that the evidence continues to grow regarding the harmful cardiovascular effects of traffic-related pollution. Traffic is ubiquitous in modern society, with a sizeable proportion of the population, particularly persons disadvantaged by low socioeconomic status, living close enough (within 500 m) to a major road or a freeway to be chronically exposed to elevated concentrations. Additionally, daily behavior brings most people close to this source, with the average US citizen over 15 years of age spending 55 minutes each day traveling in motor vehicles.[21] However, despite the consistent epidemiological findings, these studies have yet to elucidate which of the many pollutants or other associated risks (ie, noise) produced by traffic are responsible for the increase in risk for CVD. Until the most harmful agents are identified, the only practical manner to potentially reduce health consequences would be to reduce overall traffic and related emissions and to configure cities and lifestyles

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such that there is greater separation between the people and the source, so that we could spend less time in traffic (a major source of personal exposures in our society). There are also a myriad of other important pollutant sources of known toxic pollutants that have been implicated in health-effect studies (eg, power generation, industrial sources, steel mills, and wood smoke). A better understanding of the factors that influence population exposure to these sources, of how their emissions and mixtures of different sources affect health, and about the factors that make individuals more susceptible will aid in the development of more effective environmental health policies.

Determinants of Air Pollution Exposure

Many aspects of air pollution play a role in the characteristics of population- and individual-level exposures. Pollutants vary on multiple time scales, with emission rates, weather patterns, and diurnal/seasonal cycles in solar radiation and temperature having the greatest impact on concentrations. The temporal behavior of a pollutant is also governed by its formation rate and the length of time it remains in the atmosphere. As such, the concentrations of many air pollutants tend to co-vary. For example, NO_x and CO are emitted during combustion, as are some particle constituents (eg, elemental carbon) and VOCs, and thus, their concentrations peak during rush hour. On the other hand, O_3 and other photochemical oxidants, including secondary $PM_{2.5}$ and secondary VOCs, peak in the afternoon, particularly given certain meteorologic conditions (eg, more sunshine). Among the common air pollutants, O_3 and $PM_{2.5}$ have the longest atmospheric lifetime and thus can build up over multiple days and spread, by the prevailing winds, over large geographic regions. This can lead to similarities in their temporal and spatial patterns over broad regions and to greater numbers of people being exposed to similar levels, thus lessening interindividual variability in exposure.

Periods of suppressed horizontal and vertical mixing in the lower atmosphere lead to the buildup of multiple pollutants. These situations are most common under slow-moving or stationary high-pressure systems, which bring light winds, a stable atmosphere, and more sunshine. The frequency and seasonality of these meteorologic conditions and how they affect concentrations vary geographically, which leads to differences in the characteristics of pollution episodes from the western to the eastern United States, as well as within these regions.

The commonality of meteorology and emission sources leads to covariation in pollutant concentrations on multiple temporal and spatial scales, which makes it more challenging for epidemiological studies to identify the health effects of individual pollutants and the effects of copollutants or mixtures. Studies that depend on daily counts of mortality or morbidity events have difficulties separating the effects of the different pollutants in the urban mix. Even prospective panel studies measuring specific end points on a subdaily time scale are hindered by pollutant covariation. Some of these challenges could potentially be addressed by undertaking studies covering multiple geographic locations with differences in the structure of pollutant covariation due to different meteorology and source mixes. Indeed, this has been done, at least in part, by several existing multicity studies. Consistency in the findings in individual studies conducted in different cities also helps isolate the pollutants that may be more responsible for the health effects. The consistent positive findings with certain pollutants (eg, PM mass concentration) have helped strengthen the evidence regarding PM_{10} and $PM_{2.5}$ effects, but regardless of location, there remains the strong underlying commonality of fossil fuel combustion for many pollutants.

A final issue to consider is the cardiovascular health effects of exposures that occur at the personal level because of the different microenvironments or activities an individual experiences (eg, time in traffic, indoor sources, secondhand tobacco smoke, occupational exposure, and degree of indoor penetration of ambient PM into homes) versus the effects of exposures from less variable urban- to regional-scale ambient concentrations (ie, background pollution that most individuals encounter more uniformly). Personal monitoring demonstrates substantial variations among individual pollution exposures or characteristics among those living within the same metropolitan area and even the same neighborhood.[22,23] However, the differing additive, synergistic, and/or confounding effects on cardiovascular health of these 2 contrasting components of a person's overall exposure have not been well described. For the most part, the magnitude of the findings reported by the major epidemiological studies (see next section) are indicative of the effects of the urban- to regional-scale ambient concentrations. Actual exposures to all pollutants also vary at the personal level. The cardiovascular health importance of these individual-level variations (above and beyond the effect of urban/regional levels) remains largely unknown, in part because it has been difficult to quantify. The degree to which measurement of personal exposures or more precise exposure assessment (eg, use of geographic information systems, land-use regression models, spatial-temporal models, and adjustments for indoor penetration) can reduce the effects of exposure misclassification in epidemiological studies also remains to be fully elucidated.[24–26]

Epidemiological Studies of Air Pollution

Epidemiological studies of air pollution have examined the health effects of exposures observed in real-world settings at ambient levels. Associations between relevant health end points and measures of air pollution are evaluated while attempting to control for effects of other pertinent factors (eg, patient and environmental characteristics). Despite substantial study and statistical improvements and the relative consistency of results, some potential for residual confounding of variables and publication bias[27] of positive studies are limitations to acknowledge. Probably the most relevant, well-defined, and extensively studied health end points include mortality (all-cause and cause-specific), hospitalizations, and clinical cardiovascular events. This section reviews the results of the epidemiological research with a focus on new studies since the first AHA statement was published,[1] as well as on the cardiovascular health implications. In sum, numerous studies of varied design have been published in the interim that significantly add to the overall weight of evi-

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Table 2. Comparison of Pooled Estimated of Percent Increase (and 95% CI or Posterior Interval or *t* Value) in RR of Mortality Estimated Across Meta-Analyses and Multicity Studies of Daily Changes in Exposure

			Percent Increases in Mortality (95% CI)		
	Primary Source	Exposure Increment	All-Cause	Cardiovascular	Respiratory
Meta-estimate with and without adjustment for publication bias	Anderson et al[27] 2005	20 μg/m^3 PM_{10}	1.0 (0.8–1.2) 1.2 (1.0–1.4)	…	…
Meta-estimates from COMEAP report to the UK Department of Health on CVD and air pollution	COMEAP[31] 2006	20 μg/m^3 PM_{10} 10 μg/m^3 $PM_{2.5}$	… …	1.8 (1.4–2.4) 1.4 (0.7–2.2)	… …
NMMAPS, 20 to 100 US cities	Dominici et al[34] 2003	20 μg/m^3 PM_{10}	0.4 (0.2–0.8)	0.6 (0.3–1.0)*	…
APHEA-2, 15 to 29 European cities	Katsouyanni et al[35] 2003 Analitis et al[36] 2006	20 μg/m^3 PM_{10}	1.2 (0.8–1.4)	1.5 (0.9–2.1)	1.2 (0.4–1.9)
US, 6 cities	Klemm and Mason[37] 2003	10 μg/m^3 $PM_{2.5}$	1.2 (0.8–1.6)	1.3 (0.3–2.4)†	0.6 (−2.9, 4.2)‡
US, 27 cities, case-crossover	Franklin et al[38] 2007	10 μg/m^3 $PM_{2.5}$	1.2 (0.3–2.1)	0.9 (−.1, 2.0)	1.8 (0.2, 3.4)
California, 9 cities	Ostro et al[39] 2006	10 μg/m^3 $PM_{2.5}$	0.6 (0.2–1.0)	0.6 (0.0, 1.1)	2.2 (0.6, 3.9)
France, 9 cities	Le Tertre et al[40] 2002	20 μg/m^3 BS	1.2 (0.5–1.8)§	1.2 (0.2–2.2)§	1.1 (−1.4, 3.2)§
Japan, 13 cities, age >65 y	Omori et al[41] 2003	20 μg/m^3 SPM	1.0 (0.8–1.3)	1.1 (0.7–1.5)	1.4 (0.9–2.1)
Asia, 4 cities	Wong et al[42] 2008	10 μg/m^3 PM_{10}	0.55 (0.26–0.85)	0.59 (0.22–0.93)	0.62 (0.16–1.04)
US, 112 cities	Zanobetti et al[43] 2009	10 μg/m^3 $PM_{2.5}$	0.98 (0.75–1.22)	0.85 (0.46–1.24)	1.68 (1.04–2.33)
		10 μg/m^3 $PM_{10-2.5}$‖	0.46 (0.21–0.71)	0.32 (0.00–0.64)	1.16 (0.43–1.89)
		10 μg/m^3 $PM_{2.5}$¶	0.77 (0.43–1.12)	0.61 (0.05–1.17)	1.63 (0.69–2.59)
		10 μg/m^3 $PM_{10-2.5}$¶	0.47 (0.21–0.73)	0.29 (−0.04, 0.61)	1.14 (0.043–1.85)

CI indicates confidence interval or posterior interval.
*Cardiovascular and respiratory deaths combined.
†Ischemic heart disease deaths.
‡Chronic obstructive pulmonary disease deaths.
§Includes general additive model–based analyses with potentially inadequate convergence.
‖Results for $PM_{10-2.5}$ are from 47 cities.
¶Results of 2 pollutant models controlling for alternate PM size in 47 cities.

dence that exposure to air pollutants at present-day levels contributes to cardiovascular morbidity and mortality.

Mortality and Air Pollution

Time-Series and Related Studies

Time-series and case-crossover studies explore associations between short-term changes in air pollution and daily changes in death counts. The sum of current evidence supports the findings of an earlier review[28] that demonstrated that short-term elevations in daily PM levels lead to a greater absolute risk for CVD-related mortality than for all other causes. Even if similar acute RR elevations (≈1.01) are estimated between cardiovascular and pulmonary mortality, CVDs account for 69% of the increase in absolute mortality rates compared with 28% for pulmonary diseases attributable to short-term PM exposure. Recently, more rigorous modeling techniques have been used in attempts to better estimate pollution-mortality associations while controlling for other time-dependent confounding covariables.[29,30] There have been well over 100 published daily time-series studies reporting small but statistically significant PM-mortality associations that have been the subject of quantitative reviews or meta-analyses.[3,27,31–33] Table 2 summarizes recent multicity analyses and studies published since 2004.

To address concerns about city selection bias, publication bias, and influences of copollutants, several large, multicity, daily time-series studies have been conducted worldwide. One of the largest was the National Morbidity, Mortality, and Air Pollution Study (NMMAPS). Published reports from this study included as few as 20 US cities,[44,45] as many as 100 cities,[46,47] and more recently, data for hundreds of counties (Table 2).[48] The observed relationship between PM exposure and excess mortality remained independent of several gaseous copollutants (NO_2, CO, or SO_2). Recent analyses suggest that O_3 may also independently contribute to cardiopulmonary mortality risk[49,50]; however, coexposures to secondary particle pollutants may be responsible in part for this latter association.[51]

Several studies have also been conducted outside the United States, including the Air Pollution and Health: A European Approach (APHEA and APHEA-2) projects, which examined daily PM-related mortality effects in multiple cities.[36,52] PM air pollution was significantly associated with daily mortality counts for all-cause, cardiovascular, and respiratory mortality (Table 2). Further analyses of the European data suggest that CVD deaths are also associated with exposure to NO_2[53] and CO.[54] A few new time-series studies have also confirmed similar increases in cardiovascular mortality related to short-term PM exposure in China[55–57] and Bangkok, Thailand.[42] Additional multicity studies have been conducted worldwide with analyses of CVD deaths (Table 2).[38–42,58–60] Finally, in a recent analysis that included several Asian

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cities, SO_2, NO_2, O_3, and PM_{10} were all associated with excess cardiovascular mortality.[42]

In an attempt to evaluate the coherence of multicity studies across continents, the Air Pollution and Health: A Combined European and North American Approach (APHENA) study analyzed data from the APHEA, NMMAPS, and Canadian studies.[61] The combined effect on all-cause mortality ranged from 0.2% to 0.6% for a 10-$\mu g/m^3$ elevation in daily ambient PM_{10}, with the largest effects observed in Canada. Among individuals older than 75 years, the effects were greater for cardiovascular mortality than for overall and pulmonary mortality (0.47% to 1.30%). Older age (>75 years) and higher rates of unemployment were related to greater PM mortality risks in both continents. Higher NO_2 levels were associated with larger PM_{10} effects on mortality, particularly in Europe. Finally, there appeared to be no lower-limit threshold below which PM_{10} was not associated with excess mortality across all regions.

Evidence Summary

The overall evidence from time-series analyses conducted worldwide since publication of the first AHA statement[1] confirms the existence of a small, yet consistent association between increased mortality and short-term elevations in PM_{10} and $PM_{2.5}$ approximately equal to a 0.4% to 1.0% increase in daily mortality (and cardiovascular death specifically) due to a 10-$\mu g/m^3$ elevation in $PM_{2.5}$ during the preceding 1 to 5 days (Table 2).

Cohort and Related Studies

Although short-term changes in PM concentrations have deleterious health effects, longer-term exposures may have a more pertinent clinical health effect on cardiovascular morbidity and mortality given that individuals are typically exposed to higher air pollution levels over extended periods of time. An additional source of exposure variability that has been exploited in epidemiological studies is spatial variability, which includes differences in average ambient concentrations over extended periods of time across metropolitan areas or across smaller communities within local areas. Recent emphasis has been on prospective cohort studies that control for individual differences in multiple confounding variables and cardiovascular risk factors. A summary of these studies is presented in Table 3 and Figure 1. These cohort studies generally demonstrate larger overall mortality effects than the results of time-series analyses.

Harvard Six Cities and ACS Studies

Two landmark cohort-based mortality studies, the Harvard Six Cities[62] and the ACS studies,[66] were reported in the mid 1990s and were discussed previously.[1] In both, $PM_{2.5}$ and sulfate particulate pollution were associated with increases in all-cause and cardiopulmonary disease (Table 3). In addition, intensive independent reanalyses[63] corroborated the original findings of both studies and resulted in innovative methodological contributions that demonstrated the robustness of the results to alternative modeling approaches. In both the Harvard Six Cities[62,64] and the ACS[67] studies, PM air pollution–related mortality was substantially higher for cardiovascular- than for pulmonary-related causes.

Since 2004, there have been further analyses of both studies. Laden et al[64] extended the mortality follow-up of the Harvard Six Cities cohort for an additional 8 years. $PM_{2.5}$ associations, similar to those found in the original analysis, were observed for all-cause and CVD mortality (Table 3). Furthermore, reductions in $PM_{2.5}$ concentrations for the extended follow-up period were associated with reduced mortality risk. Further analysis suggested that the health effects of changes in exposure were seen primarily within 2 years.[84] In addition to confirming the earlier mortality relationship, the recent observations suggest that the adverse health effects mediated by longer-term PM air pollution exposure can be estimated reasonably accurately by the previous few years of particle levels.

Extended analyses of the ACS cohort that emphasize efforts to control for the effects of other covariates and risk factors have corroborated the previously reported mortality associations with particulate and sulfur oxide pollution.[68] Elevated mortality risks were most strongly associated with $PM_{2.5}$. Coarse particles ($PM_{10-2.5}$) and gaseous pollutants, except for SO_2, were generally not significantly related to mortality. In another extended analysis,[67] the death certificate classifications of underlying causes of death due to $PM_{2.5}$ exposures were observed to be principally ischemic heart disease, arrhythmias, heart failure, and cardiac arrest. Finally, recent additional analyses attempted to control for the fact that variations in exposure to air pollution across cities or within cities may correlate with socioeconomic or demographic gradients that influence health and susceptibility to environmental exposures.[85,86] When controlled for individual risk factor data, the mortality associations for intrametropolitan $PM_{2.5}$ concentration differences within the Los Angeles, Calif, area were generally larger than those observed in the full cohort across metropolitan areas.[69] However, the results were somewhat sensitive to the inclusion of zip code–level ecological variables, which suggests potential contextual neighborhood confounding. Krewski et al[70] subsequently observed that full adjustments for multiple ecological covariates did not reduce the estimated $PM_{2.5}$-related mortality effect. The association for ischemic heart disease mortality in particular was highly robust across various study areas and modeling strategies and after controlling for both individual and ecological covariates.

An additional recent analysis of the ACS cohort evaluated the health effects of ozone compared with $PM_{2.5}$.[87] The findings reconfirmed the independent cardiovascular mortality increase related to fine-particle exposure. However, after adjustment for $PM_{2.5}$, ozone was associated solely with an elevated risk of death due to respiratory causes; there was no independent risk of ozone exposure on CVD-related mortality. This suggests that the positive findings reported in NMMAPS[50] regarding cardiopulmonary mortality and short-term ozone exposure could be explained at least in part by the enhanced risk of mortality due to lung disease categories.

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Table 3. Summary of Cohort Study Results

Study	Size of Cohort (000s)	Follow-Up Period	Covariates Controlled for	Percent Increases in Mortality (95% CI) Associated With 10 $\mu g/m^3$ $PM_{2.5}$ (or Other When Indicated)			
				All-Cause	Cardiopulmonary	Cardiovascular	Ischemic Heart Disease
Harvard Six Cities, original (Dockery et al[62] 1993)	≈8	1974–1991	Individual (smoking+others)	13 (4.2–23)	18 (6.0–32)	…	…
Harvard Six-Cities, HEI reanalysis, Krewski et al[63] 2004	≈8	1974–1991	Individual (smoking+others)	14 (5.4–23)	19 (6.5–33)	…	…
Harvard Six-Cities, extended, Laden et al[64] 2006	≈8	1974–1998	Individual (smoking+others)	16 (7–26)	…	28 (13–44)	…
Six-Cities Medicare cohort, Eftim et al[65] 2008	≈340	2000–2002	Individual (age, sex)	21 (15–27)	…	…	…
ACS, Original, Pope et al[66] 1995	≈500	1982–1989	Individual (smoking+others)	6.6 (3.5–9.8)	12 (6.7–17)	…	…
ACS, HEI reanalysis, Krewski et al[63] 2004	≈500	1982–1989	Individual (smoking+others) +ecological	7.0 (3.9 10)	12 (7.4–17)	13 (8.1–18)	…
ACS, extended I, Pope et al[67,68] 2002, 2004	≈500	1982–1998	Individual (smoking+others)	6.2 (1.6–11)	9.3 (3.3–16)	12 (8–15)	18 (14–23)
ACS, intrametro Los Angeles, Jerrett et al[69] 2005	≈23	1982–2000	Individual (smoking+others) +ecological	17 (5–30)	12 (−3–30)	…	39 (12–73)
ACS, extended II, Krewski et al[70] 2009	≈500	1982–2000	Individual (smoking+others) +ecological	5.6 (3.5–7.8)	13 (9.5–16)	…	24 (20–29)
ACS, Medicare cohort, Eftim et al[65] 2008	7333	2000–2002	Individual (age, sex)+ecological +COPD	11 (9–13)	…	…	…
US Medicare cohort, east/central/west, Zeger et al[71] 2008	13 200	2000–2005	Individual (age, sex)+ecological +COPD	6.8 (4.9–8.7),* 13 (9.5–17) −1.1 (−3 to 0.8)	…	…	…
Women's Health Initiative, Miller et al[72] 2007	≈66	1994–2002	Individual (smoking+others)	…	…	76 (25–147), 24 (9–41)†	…
Nurses' Health Study, Puett et al[73] 2008	≈66	1992–2002	Individual (smoking+others) ecological	7.0 (−3.0 to 18)‡	…	30 (0–71)‡	…
AHSMOG, males only, McDonnell et al[74] 2000	≈4	1977–1992	Individual (smoking+others)	8.5 (−2.3 to 21)	23 (−3 to 55)	…	…
AHSMOG, females only, Chen et al[75] 2005	≈4	1977–2000	Individual (smoking+others)	…	…	42 (6–90)	…
VA hypertensive male I study, Lipfert et al[76] 2006	≈42	1989–1996	Individual (smoking+others) +ecological	15 (5–26)§	…	…	…
VA hypertensive male II study, Lipfert et al[77] 2006	≈30	1997–2001	Individual (smoking+others) +ecological	6 (−6 to 22)	…	…	…
11 CA county, elderly, Enstrom[78] 2005	≈36	1973–2002	Individual (smoking+others) +ecological	4 (1–7)‖, 1 (−0.6 to 2.6)	…	…	…
French PAARC, Filleul et al[79] 2005	≈14	1974–2000	Individual (smoking+others)	7 (3–10)‡	5 (−2 to 12)‡	…	…
German women, Gehring et al[80] 2006	≈5	1980s, 1990s–2003	Individual smoking and socioeconomic status	12 (−8 to 38)	52 (9–115)	…	…

(*Continued*)

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Table 3. Continued

Study	Size of Cohort (000s)	Follow-Up Period	Covariates Controlled for	Percent Increases in Mortality (95% CI) Associated With 10 $\mu g/m^3$ $PM_{2.5}$ (or Other When Indicated)			
				All-Cause	Cardiopulmonary	Cardiovascular	Ischemic Heart Disease
Oslo, Norway, intrametro, Naess et al[81] 2007	≈144	1992–1998	Individual age, occupational class, education	…	…	10 (5–16),¶ 14 (6–21), 5 (1–8), 3 (0–5)	…
Dutch cohort, Beelen et al[82] 2008	≈121	1987–1996	Individual (smoking+others) +ecological	6 (−3 to 16)	…	4 (−10 to 21)	…
Great Britain, Elliott et al[83] 2007	≈660	1966–1998	Socioeconomic status	1.3 (1.0–1.6)‡#	1.7 (1.3–2.2)‡#	1.2 (0.7–1.7)‡#	

HEI indicates Health Effects Institute; VA, Veterans Affairs; COPD, chronic obstructive pulmonary disease; and CA, California.

*Three estimates are for the East, Central, and West regions of the United States, respectively.

†Any cardiovascular event.

‡Associated with 10 $\mu g/m^3$ British Smoke (BS) or PM_{10}.

§Estimates from the single-pollutant model. Effect estimates were smaller and statistically insignificant in analyses restricted to counties with nitrogen dioxide data. County-level traffic density was a strong predictor of survival, and stronger than $PM_{2.5}$ when included with $PM_{2.5}$ in joint regressions.

||Two estimates are for the follow-up period 1973–1982 and the follow-up period 1983–2002, respectively.

¶Four estimates are for men 51–70 y old, women 51–70 y old, men 71–90 y old, and women 71–90 y old, respectively.

#Using last 0- to 4-year exposure window.

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Additional Cohort Studies

Several additional cohort studies have been published in the past few years (Table 3). Eftim and colleagues[65] studied 2 very large "cohorts" of US Medicare participants who lived in locations included in the Harvard Six Cities and ACS studies. Effects of $PM_{2.5}$ exposure on mortality for the period 2000 to 2002 were estimated after controlling for multiple factors, although not at the individual patient level. For all-cause mortality, the $PM_{2.5}$-mortality associations were larger than those observed in the Harvard Six Cities or ACS cohorts. In an additional analysis of 13.2 million US Medicare participants for the time period 2000 to 2005,[71] $PM_{2.5}$-mortality associations were shown to be similar to those observed in the Harvard Six Cities and ACS studies in the East and Central regions of the United States (and when the data were pooled for the entire United States). However, $PM_{2.5}$ was not associated with mortality in the Western United States or for the oldest age group (>85 years old). These findings generally corroborate the earlier cohort studies and add evidence that aspects of exposure (PM sources or composition) and patient susceptibility might play important roles in determining the health risks.

In a cohort of postmenopausal women without prior CVD from the Women's Health Initiative Observational Study,[72] an association between longer-term $PM_{2.5}$ exposure (median follow-up of 6 years) and cardiovascular events (primary end point) was observed. After adjustment for age and other risk factors, an incremental difference of 10 $\mu g/m^3$ $PM_{2.5}$ was associated with a 24% (95% confidence interval [CI]9% to 41%) increase in all first cardiovascular events (fatal and nonfatal, with a total of 1816 cases). Notably, an incremental difference of 10 $\mu g/m^3$ $PM_{2.5}$ was also associated with a large 76% (95% CI 25% to 147%) increase in fatal cardiovascular events, based on 261 deaths. The risks for both coronary heart disease and strokes were found to be similarly elevated. Interestingly, within-city $PM_{2.5}$ gradients appeared to have larger cardiovascular effects than those between cities, although this difference was not statistically significant. Finally, overweight women (body mass index >24.8 kg/m^2) were at relatively greater cardiovascular risk due to particulate air pollution than leaner women. Noteworthy aspects of this study were improved assessment of the end points by medical record review (rather than by death certificate) and long-term particle exposure estimation. The control for individual-level confounding variables was also superior to that of previous cohort studies.

In another cohort of women, a subset of the Nurses' Health Study from the northeastern United States,[73] an increase of 10 $\mu g/m^3$ modeled estimates of PM_{10} exposures was associated with an approximately 7% to 16% increased risk of all-cause mortality and a 30% to 40% increase in fatal coronary heart disease, depending on the level of adjustment for covariates. This study found that the strongest health risks for all-cause and cardiovascular mortality were seen in association with the average PM_{10} exposure during the previous 24 months before death. Similar to the findings of the Women's Health Initiative, the cardiovascular mortality risk estimates were larger than those of previous cohort studies. In addition, obese women (body mass index >30 kg/m^2) were at greater relative risk, and the increases in mortality (all-cause and cardiovascular) were larger than the effects on nonfatal events. The results were also in accordance with the latest Harvard Six Cities analyses[64] that show that exposure over the most recent preceding 1 to 2 years can accurately estimate the majority of the health risks due to longer-term PM air pollution exposures.

The pollution-mortality association has also been assessed in several other cohort studies in the United States and Europe (Table 3).[76–83] In a recent analysis of the Adventist Health Study of Smog (AHSMOG) cohort with a much

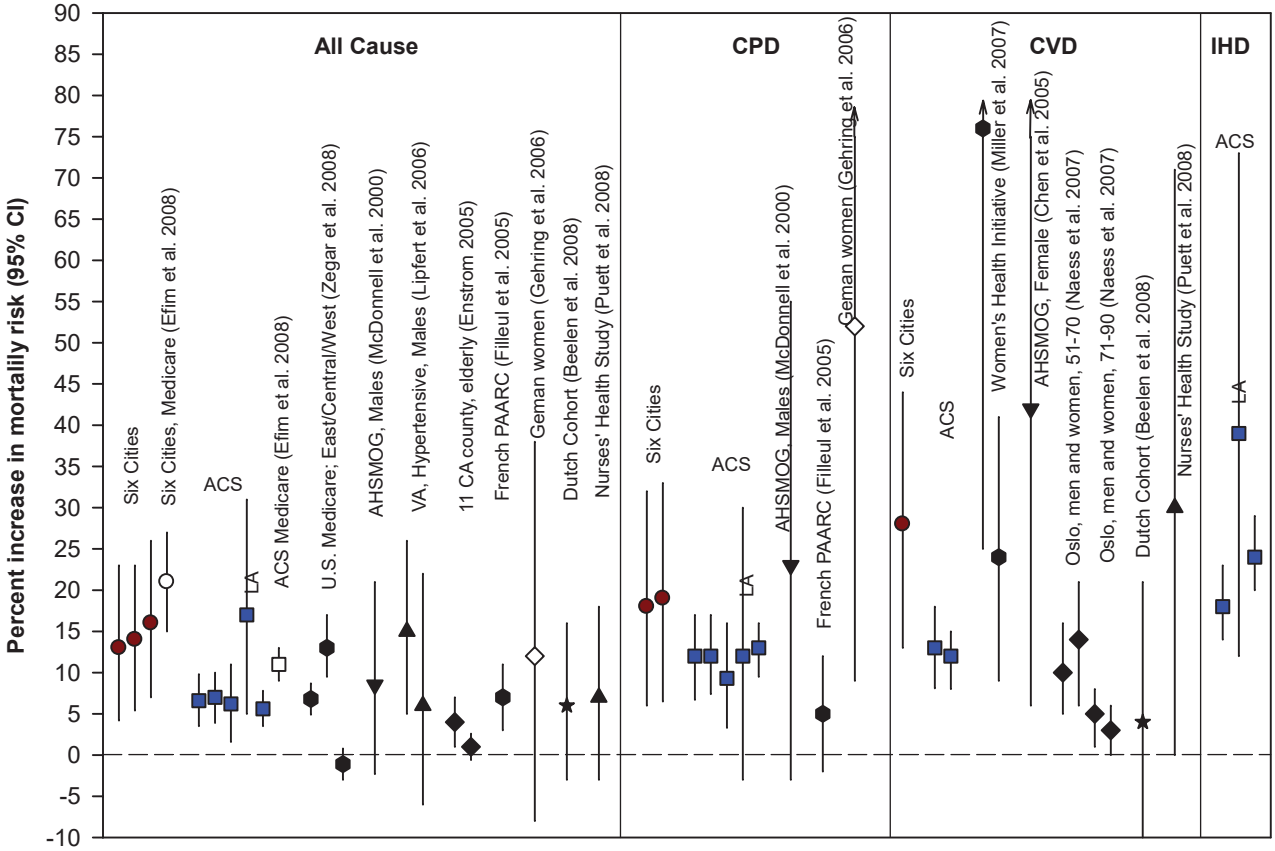


Figure 1. Risk estimates provided by several cohort studies per increment of 10 $\mu g/m^3$ in $PM_{2.5}$ or PM_{10}. CPD indicates cardiopulmonary disease; IHD, ischemic heart disease.

longer follow-up than the original studies,[74,88] fatal coronary heart disease was significantly associated with $PM_{2.5}$ among females but not males.[75] These observations along with the remarkably robust health effects in the Women's Health Initiative Observational Study and Nurses' Health Study suggest that women may be at special risk from PM exposure. The overall cohort study evidence demonstrates that a 10-$\mu g/m^3$ increase in $PM_{2.5}$ exposure is in general positively associated with excess mortality, largely driven by increases in cardiopulmonary or cardiovascular deaths (Figure 1). Independent results from the Women's Health Initiative Study,[72] the US Medicare cohorts,[71] the German women cohort,[80] and the intracity Oslo (Norway) study[81] contribute substantially to this evidence. Although the Dutch cohort,[82] AHSMOG,[74,75] French PAARC (Pollution Atmosphérique et Affections Respiratoires Chroniques [air pollution and chronic respiratory diseases]),[79] Veterans Affairs hypertensive male study,[77] and 11 CA county[78] studies observed increased mortality risks associated with higher $PM_{2.5}$ exposure that were statistically significant in some analyses, the observed health risks were less robust. A finding that is somewhat consistent across the Veterans Affairs hypertensive male study,[77] 11 CA county,[78] Oslo,[81] and US Medicare cohorts[71] is that the $PM_{2.5}$-mortality effect estimates tend to decline with longer periods of follow up or in a substantially older cohort. These studies also often observed elevated mortality risks according to alternative indicators of air pollution exposure, especially metrics of traffic-related exposure.

Evidence Summary

The overall evidence from the cohort studies demonstrates on average an approximate 10% increase in all-cause mortality per 10-$\mu g/m^3$ elevation in long-term average $PM_{2.5}$ exposure. The mortality risk specifically related to CVD appears to be elevated to a similar (or perhaps even greater) extent, ranging from 3% to 76% (Table 3). This broader estimated range in risk compared with the short-term effects observed in time series is due to several recent cohort studies[72,73] that demonstrated larger cardiovascular mortality risks (eg, >30%) than in earlier cohort observations. This may reflect superior aspects of these studies that allowed for a better characterization of the cardiovascular risk of long-term exposure, the fact that these cohorts consisted of only women, or other unclear reasons. Compared with cardiovascular mortality, there is less existing evidence to support an increase in the risk for nonfatal cardiovascular events related to $PM_{2.5}$ exposure among the existing cohort studies, because many of them did not specifically investigate nonfatal outcomes, and several of the more recent studies reported nonsignificant relationships.[72,73]

Natural Experiment and Intervention Studies

Several studies have shown improvements in health outcomes in association with exposures using well-defined natural experiments or interventions, such as abrupt reductions in air pollution[89–91] or changes over a longer period of time.[64,92]

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Table 4. Comparison of Pooled Estimated of Percent Increase in Risk of Hospital Admission for CVD Estimated Across Meta-Analyses and Multicity Studies of Daily Changes in Exposure

	Primary Source	Exposure Increment	% Increase (95% CI)
Cardiac admissions, meta-analysis of 51 estimates	COMEAP[31] 2006	20 $\mu g/m^3$ PM_{10}	1.8 (1.4–1.2)
Cardiac admissions, 8 US cities	Schwartz[96] 1999	20 $\mu g/m^3$ PM_{10}	2.0 (1.5–2.5)
Cardiac admissions, 10 US cities	Zanobetti et al[97] 2000	20 $\mu g/m^3$ PM_{10}	2.6 (2.0–3.0)
Cardiac admissions, 14 US cities	Samet et al[98] 2000	20 $\mu g/m^3$ PM_{10}	2.0 (1.5–2.5)
	Schwartz et al[99] 2003		
Cardiac admissions, 8 European cities	Le Tertre et al[40] 2002	20 $\mu g/m^3$ PM_{10}	1.4 (0.8–2.0)
Cardiovascular admissions, 14 Spanish cities	Ballester et al[100] 2006	20 $\mu g/m^3$ PM_{10}	1.8 (7–3.0)
Cardiovascular admission, 8 French cities	Larrieu et al[101] 2007	20 $\mu g/m^3$ PM_{10}	1.6 (0.4–3.0)
Cardiovascular admissions, 202 US counties	Bell et al[102] 2008	20 $\mu g/m^3$ PM_{10}	0.8 (0.6–1.0)
Medicare national claims history files	Dominici et al[103] 2006	10 $\mu g/m^3$ $PM_{2.5}$	
Ischemic heart disease,			0.44 (0.02–0.86)
Cerebrovascular disease			0.81 (0.30–1.32)
Heart failure			1.28 (0.78–1.78)
Heart rhythm			0.57 (−0.01 to 1.15)

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Small but statistically significant drops in mortality were associated with an 8½-month copper smelter strike that resulted in sharp reductions in sulfate PM and related air pollutants across 4 Southwest states, even after controlling for other factors.[93] Data from US Medicare enrollment files were used to estimate the association between changes in monthly mortality rates for US counties and average $PM_{2.5}$ concentrations for the previous 12 months.[94] $PM_{2.5}$-mortality associations were observed at the national scale but not the local scale, which raises concerns about possible statistical confounding due to unmeasured individual and ecological variables as a cause for any positive findings in this study. However, a recent large study found that reductions in PM air pollution exposure on a local scale (across US counties) over a 2-decade period (1980s and 1990s) were associated with increased life expectancy even after controlling for changes in socioeconomic, demographic, and proxy smoking variables.[95] Indeed, a decrease of 10 $\mu g/m^3$ in the long-term $PM_{2.5}$ concentration was related to an increase in mean life expectancy of 0.61 ± 0.20 years.

Hospitalization Rates

There are many daily time-series or case-crossover studies that have evaluated associations between cardiovascular hospitalizations and short-term changes in air pollution. Because of the great number of publications, all studies (particularly those focusing on nonparticulate air pollutants) cannot be discussed individually. Nevertheless, Table 4 presents a comparison of pooled estimates of percent increase in RR of hospital admission for general cardiac conditions across a previous meta-analysis of 51 published estimates (COMEAP [Committee on the Medical Effects of Air Pollutants]) and results from many selected multicity studies published after 2004. Several studies before 2004 are included in Table 4 only to demonstrate the consistency of effect.

Because of its comparatively large size and importance, the results of a recent analysis of Medicare files in 204 US urban counties with 11.5 million individuals older than 65 years merit discussion. Daily changes in $PM_{2.5}$ levels were associated with a variety of cardiovascular hospital admission subtypes.[103] A 10-$\mu g/m^3$ increase in $PM_{2.5}$ exposure was related to increases in hospitalizations for cerebrovascular disease by 0.81% (95% CI 0.3% to 1.32%), peripheral vascular disease by 0.86% (95% CI −0.06% to 1.79%), ischemic heart disease by 0.44% (95% CI 0.02% to 0.86%), arrhythmias by 0.57% (95% CI −0.01% to 1.15%), and heart failure by 1.28 (95% CI 0.78% to 1.78%). The most rapid effects, which occurred largely on the same day of $PM_{2.5}$ elevation, were seen for cerebrovascular, arrhythmia, and heart failure admissions. Ischemic heart disease events tended to increase to a greater extent 2 days after exposures. A consistent finding was that the cardiovascular effects of pollution were much stronger in the Northeast than in other regions. In fact, there were few significant associations in Western US regions. It was speculated that these differences reflected variations in particle composition (eg, greater sulfate in the East and nitrate components in the West) and pollution sources (eg, power generation in the East and transportation sources in the West). In a follow-up analysis by Peng et al,[104] $PM_{10-2.5}$ levels were not statistically associated with cardiovascular hospitalizations after adjustment for $PM_{2.5}$. This suggests that the smaller particles (ie, $PM_{2.5}$) are principally responsible for the cardiovascular hospitalizations attributed in prior studies to the combination of both fine and coarse particles (ie, PM_{10}). Given the differences between the size fractions, the results imply that particles and their components derived from combustion sources (ie, $PM_{2.5}$) are more harmful to the cardiovascular system than larger coarse particles. Finally, there is some evidence that gaseous pollutants may also instigate hospitalizations. Hospital admissions for cardiovascular causes, particularly ischemic heart disease, were found to rise in relation to the previous-day and same-day level of SO_2, even after adjustment for PM_{10} levels.[105]

Table 5. Comparisons of Estimated Percent Increase in Risk of Ischemic Heart Disease Events due to Concurrent or Recent Daily PM Exposure

Event/Study Area	Primary Source	Exposure Increment	% Increase (95% CI)
MI events–Boston, Mass	Peters et al[110] 2001	10 $\mu g/m^3$ $PM_{2.5}$	20 (5.4–37)
MI, 1st hospitalization–Rome, Italy	D'Ippoliti et al[112] 2003	30 $\mu g/m^3$ TSP	7.1 (1.2–13.1)
MI, emergency hospitalizations–21 US cities	Zanobetti and Schwartz[113] 2005	20 $\mu g/m^3$ PM_{10}	1.3 (0.2–2.4)
Hospital readmissions for MI, angina, dysrhythmia, or heart failure of MI survivors–5 European cities	Von Klot et al[114] 2005	20 $\mu g/m^3$ PM_{10}	4.2 (0.8–8.0)
MI events–Seattle, Wash	Sullivan et al[115] 2005	10 $\mu g/m^3$ $PM_{2.5}$	4.0 (−4.0–14.5)
MI and unstable angina events–Wasatch Front, Utah	Pope et al[13] 2006	10 $\mu g/m^3$ $PM_{2.5}$	4.8 (1.0–6.6)
Tokyo metropolitan area	Murakami et al[109] 2006	TSP >300 $\mu g/m^3$ for 1 h vs reference periods <99 $\mu g/m^3$	40 (0–97)*
Nonfatal MI, Augsburg, Germany	Peters et al[111] 2004	Exposure to traffic 1 h before MI (note: not PM but self-reported traffic exposure)	292 (222–383)
Nonfatal MI, Augsburg, Germany	Peters et al[116] 2005	Ambient UFP, $PM_{2.5}$, and PM_{10} levels	No association with UFP or $PM_{2.5}$ on same day. Positive associations with $PM_{2.5}$ levels on 2 days prior

TSP indicates total suspended particulate matter.
*Adjusted rate ratio for MI deaths.

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Evidence Summary

Excess cardiovascular mortality and increased rates of hospitalizations are similarly associated with day-to-day changes in PM air pollution (Tables 2 and 4). However, significant differences between geographic regions in the risk relationships have been observed, and more investigation is required to explain this heterogeneity.

Specific Cardiovascular Events/Conditions

Ischemic Heart Disease

Among the cohort studies that provided relevant results, the ACS study found a relationship between increased risk for ischemic heart disease death and long-term exposure to elevated $PM_{2.5}$ levels (Table 3).[67,69,106] Indeed, ischemic cardiac events accounted for the largest relative (RR 1.18, 95% CI 1.14 to 1.23) and absolute risk for mortality per 10-$\mu g/m^3$ elevation in $PM_{2.5}$.[67] A survival analysis of US Medicare data for 196 000 survivors of acute MI in 21 cities showed the risk of an adverse post-MI outcome (death, subsequent MI, or first admission for congestive heart failure) was increased with higher exposure to PM_{10}.[107] Data from the Worcester Heart Attack study also found that long-term exposure to traffic-related air pollution was associated with significantly increased risk of acute MI.[108] However, in the Women's Health Initiative[72] and the Nurses' Health Study,[73] only disease categories that included fatal coronary events, but not nonfatal MI alone, were statistically elevated in relation to $PM_{2.5}$. The effect size for cardiovascular mortality was much larger and much more statistically robust than for nonfatal events such as MI in both studies.

Various time-series and case-crossover studies have also reported increased ischemic heart disease hospital admissions associated with short-term elevated concentrations of inhalable and/or fine PM air pollution.[31,40,103] In the US Medicare study, a reduction of $PM_{2.5}$ by 10 $\mu g/m^3$ was estimated to reduce ischemic heart disease admissions in 204 counties by 1523 (95% posterior interval 69 to 2976) cases per year.[103] Several studies have also found positive associations between elevated PM or traffic exposures over a period as brief as a few hours[109–111] or a few days and an elevated risk for MI (Table 5).[13,110,112–115] In general, acute increases in risk for ischemic heart disease events have been observed consistently, even as rapidly as 1 to 2 hours after exposure to elevated PM, in case-crossover analyses.[109–111] Other studies have reported an increased risk for MI shortly after exposure to traffic. Peters et al[111] reported in 691 subjects in Augsburg, Germany, a strong association (odds ratio 2.92, 95% CI 2.22 to 3.83) between onset of MI and traffic exposure within the past hour, although whether this was a result of the air pollution or a combination of other factors (eg, noise and stress) is not certain. Additional analyses did not report an association between recent UFP exposures and MI onset; however, the levels of $PM_{2.5}$ and several gaseous pollutants 2 days earlier were related to MI risk.[116] The lack of relationship between MI and UFPs may be due to the fact that the levels were measured regionally and remote from the localized source and may therefore reflect exposure misclassification. Finally, in the only study in which participating subjects had coronary angiograms performed previously, ischemic cardiac events were found to occur in relation to PM air pollution exposure solely among individuals with obstructive coronary atherosclerosis in at least 1 vessel.[13] This finding suggests the importance of patient susceptibility (eg, the presence of preexisting coronary artery disease) for PM to trigger an acute ischemic event within hours to days after exposure.

Heart Failure

In the ACS cohort study, it appeared that deaths due to arrhythmias, heart failure, and cardiac arrest (RR 1.13, 95% CI 1.05 to 1.21 per 10 $\mu g/m^3$) were also associated with

prolonged exposure to $PM_{2.5}$, although not as strongly as ischemic heart disease mortality,[67] although potential mortality misclassification on death certificates makes the actual cause of death not entirely certain in all circumstances. Heart failure rates or mortality associations were not reported in the other cohort studies.

Daily hospitalizations for heart failure have also been associated with short-term changes in PM exposure.[31] Heart failure associations with PM were observed in a large daily time-series analysis of $PM_{2.5}$ and cardiovascular and respiratory hospitalizations by use of a national database constructed from US Medicare files.[103] A 10-$\mu g/m^3$ increase in concurrent-day $PM_{2.5}$ was associated with a 1.28% (95% CI 0.78% to 1.78%) increase in heart failure admissions, the single largest cause for hospitalization in this cohort. A reduction of $PM_{2.5}$ by 10 $\mu g/m^3$ was estimated to reduce heart failure admissions in 204 counties by 3156 (95% posterior interval 1923 to 4389) cases per year.[103] Another analysis in Medicare recipients in 7 US cities found a 10-$\mu g/m^3$ increase in concurrent-day PM_{10} was associated with a 0.72% (95% CI 0.35% to 1.10%) increase in heart failure admissions.[117] Traffic-related air pollution has also been shown to be significantly associated with increased mortality risk after acute heart failure.[118] Finally, a study from Utah's Wasatch Front area explored longer lagged-exposure periods and found that a 14-day lagged cumulative moving average of 10 $\mu g/m^3$ $PM_{2.5}$ was associated with a 13.1% (95% CI 1.3% to 26.2%) increase in heart failure admissions.[119]

Cerebrovascular Disease

Among the cohort studies that provided pertinent results, the Women's Health Initiative reported significant increases in both nonfatal stroke (hazard ratio 1.28, 95% CI 1.02 to 1.61) and fatal cerebrovascular disease (hazard ratio 1.83, 95% CI 1.11 to 3.00) per 10-$\mu g/m^3$ elevation in prolonged exposure to $PM_{2.5}$.[72] However, no significant association between stroke mortality and PM air pollution was found in the ACS study.[67]

Several studies have also reported small but statistically significant associations between short-term PM exposure and cerebrovascular disease. Daily time-series studies of stroke mortality in Seoul, Korea,[120,121] observed that elevated air pollution (including measures of PM, NO_2, CO, and O_3) was associated with increases in stroke mortality. When analyzed separately by stroke type,[121] the pollution association was associated with ischemic but not hemorrhagic stroke. Risk of stroke mortality was also associated with daily increases in PM_{10} and NO_2 in Shanghai, China.[56] A daily time-series study in Helsinki, Finland,[122] found that $PM_{2.5}$ and CO were associated with stroke mortality in the warm but not the cold seasons. Several studies have also observed increased stroke or cerebrovascular hospital admissions associated with increased exposure to PM or related pollutants.[31,38,40,46,123–125] For example, a study of hospital admissions for Medicare recipients in 9 US cities[125] found that several measures of air pollution (PM_{10}, CO, NO_2, and SO_2) 0 to 2 days before admission were associated with ischemic but not hemorrhagic stroke. Studies of ischemic stroke and transient ischemic attacks based on population-based surveillance have also been conducted in Dijon, France,[126] where O_3 exposure (but not PM_{10}) was associated with ischemic stroke, and in Corpus Christi, Tex,[127] where both $PM_{2.5}$ and O_3 were associated with ischemic strokes and transient ischemic attacks.

Peripheral Arterial and Venous Diseases

There have been only a few studies that have explored a relationship between air pollution and peripheral vascular diseases. Studies using Medicare data for 204 US counties observed nearly statistically significant positive associations between daily changes in measures of PM pollution and hospitalizations for peripheral vascular diseases.[103,104] The ACS cohort found no association between other atherosclerotic and aortic aneurysm deaths and long-term $PM_{2.5}$ exposure.[67]

Recently, a case-control study from the Lombardy region of Italy found a 70% increase in risk of deep vein thrombosis per 10-$\mu g/m^3$ elevation in long-term PM_{10} level.[128] This is the first observation that particulate air pollution can enhance coagulation and thrombosis risk in a manner that adversely affects the venous circulation in addition to the arterial cardiovascular system.

Cardiac Arrhythmias and Arrest

Several studies have observed associations between fine PM and related pollutants and cardiac arrhythmias, often based on data from implanted cardioverter-defibrillators.[129–136] However, no clear pollution-related associations were observed in studies from a relatively clean metropolitan area, Vancouver, British Columbia, Canada,[137,138] or from a relatively large study in Atlanta, Ga.[139] Similarly, pollution-related associations have been observed with cardiac arrest in Rome, Italy,[140] and Indianapolis, Ind,[141] but not in Seattle, Wash.[142,143] The mixed results may reflect different PM compositions due to different sources or variations among the methods used.

Evidence Summary

On the basis of the available epidemiological studies that have reported the associations between PM exposures with specific subsets of cardiovascular outcomes (morbidity, mortality, or hospitalizations), the existing level of overall evidence is strong for an effect of PM on ischemic heart disease, moderate (yet growing) for heart failure and ischemic stroke, and modest or mixed for peripheral vascular and cardiac arrhythmia/arrest (Table 6).

Ambient Air Pollution and Subclinical Pathophysiological Responses in Human Populations

It is likely that many subclinical physiological changes occur in individuals in response to $PM_{2.5}$ exposures that do not become overtly manifest as a cardiovascular event (eg, death or MI). The illustration of these more subtle responses bolsters the plausibility of the observable outcome associations and provides insight into the pathways whereby air

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Table 6. Overall Summary of Epidemiological Evidence of the Cardiovascular Effects of $PM_{2.5}$, Traffic-Related, or Combustion-Related Air Pollution Exposure at Ambient Levels

Health Outcomes	Short-Term Exposure (Days)	Longer-Term Exposure (Months to Years)
Clinical cardiovascular end points from epidemiological studies at ambient pollution concentrations		
Cardiovascular mortality	↑ ↑ ↑	↑ ↑ ↑
Cardiovascular hospitalizations	↑ ↑ ↑	↑
Ischemic heart disease*	↑ ↑ ↑	↑ ↑ ↑
Heart failure*	↑ ↑	↑
Ischemic stroke*	↑ ↑	↑
Vascular diseases	↑	↑†
Cardiac arrhythmia/cardiac arrest	↑	↑
Subclinical cardiovascular end points and/or surrogate measures in human studies		
Surrogate markers of atherosclerosis	N/A	↑
Systemic inflammation	↑ ↑	↑
Systemic oxidative stress	↑	
Endothelial cell activation/ blood coagulation	↑ ↑	↑
Vascular/endothelial dysfunction	↑ ↑	
BP	↑ ↑	
Altered HRV	↑ ↑ ↑	↑
Cardiac ischemia	↑	
Arrhythmias	↑	

The arrows are not indicators of the relative size of the association but represent a qualitative assessment based on the consensus of the writing group of the strength of the epidemiological evidence based on the number and/or quality, as well as the consistency, of the relevant epidemiological studies.

↑ ↑ ↑ Indicates strong overall epidemiological evidence.

↑ ↑ Indicates moderate overall epidemiological evidence.

↑ Indicates some but limited or weak available epidemiological evidence.

Blank indicates lack of evidence.

N/A indicates not applicable.

*Categories include fatal and nonfatal events.

†Deep venous thrombosis only.

pollutants mediate CVDs. The "Biological Mechanisms" section discusses the hypothesized global pathways and reviews the studies related to the fundamental cellular/molecular mechanisms elucidated by controlled human and animal exposures and toxicological/basic science experiments. The following section reviews the recent evidence that ambient exposure to air pollution can mediate potentially harmful subclinical cardiovascular effects. In general, many positive associations are found (Table 6). Numerous complex interactions between variations in the characteristics, sources, and chemistry of the particles, coupled with diversity in time frames, mixtures of exposures, and degrees of individual susceptibility, likely explain some of the disparity among findings.

Systemic Inflammation

There is evidence that under some circumstances, exposure to ambient PM can be associated with elevated circulating proinflammatory biomarkers that are indicative of a systemic response after PM air pollution inhalation that is not limited to the confines of the lung. Early reports found associations with day-to-day variation in acute-phase proteins, such as C-reactive protein (CRP), fibrinogen, or white blood cell counts,[144–147] as reviewed previously.[1] Limited evidence on the association between cumulative PM exposures and fibrinogen levels and counts of platelets and white blood cells was also available.[148]

A number of more recent studies have reported positive associations with short-term ambient PM exposure and day-to-day elevations in inflammatory markers. These include increases in CRP in an elderly population[149] and individuals with coronary atherosclerosis[150]; CRP and fibrinogen in young adults[151] and elderly overweight individuals[152]; and CRP, tumor necrosis factor-α (TNF-α), and interleukin (IL)-1β in children.[153] Recent evidence has also been found for an upregulation of circulating soluble adhesion molecules (eg, intercellular adhesion molecule-1) in 92 Boston, Mass–area individuals with diabetes[154] and 57 male subjects with coronary artery disease in Germany.[150] In a larger analysis of 1003 MI survivors, also in Germany, CRP was not related to PM exposure; however, ambient particle number concentration and PM_{10} were associated with increased IL-6 and fibrinogen, respectively.[155] Short-term levels of in-vehicle $PM_{2.5}$ have also been linked to increases in CRP among healthy highway patrol troopers.[156] In a follow-up analysis, elevations in certain particulate components of traffic pollution (eg, chromium) were associated with increased white blood cell counts and increased IL-6 levels.[157] Short-term changes in ambient PM levels have also been linked to acute (1 to 3 days later) alterations in biomarkers of inflammation, oxidative stress, and platelet activation among elderly adults with coronary artery disease living in retirement communities in Los Angeles, Calif.[158,159] Pollutants associated with primary combustion (eg, elemental and black carbon, primary organic carbon) and UFPs rather than $PM_{2.5}$ appeared to be strongly associated with adverse responses in this population.

Regarding more long-term exposures,[160] a positive association between white blood cell count and estimated long-term 1-year exposure to PM_{10} was reported in the Third National Health and Nutrition Examination Survey. Among 4814 adults in Germany, small increases in annual mean $PM_{2.5}$ (3.9 $\mu g/m^3$) were associated with increases in high-sensitivity CRP by 23.9% and in fibrinogen by 3.9% among men only. Estimated long-term traffic exposure was not related to inflammatory changes in either sex.[161]

Several studies, including some with improved exposure assessment,[162] some that included analyses of large population cohorts,[163,164] and a recent evaluation of long-term annual PM_{10} levels in England,[165] have not found a relationship between particulate exposure and inflammation. It is

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conceivable that differences in the magnitude or character of the inflammatory response will occur because of variations in the particulate chemistry and duration/intensity of exposures. Certain individuals may also be more susceptible. The evidence suggests that subjects with underlying cardiovascular risk factors and the metabolic syndrome may exhibit stronger associations.[152,160,166] Conversely, antiinflammatory medications such as statins may mitigate the actions of ambient particles.[152,155] All together, there is some evidence for a positive association between recent and long-term PM exposure and a systemic proinflammatory response; nevertheless, there is variation in the strength and consistency of changes among the variety of biomarkers and patient populations evaluated (Table 6).

Systemic Oxidative Stress

A state of oxidative stress refers to a condition in which levels of free radicals or reactive oxygen/nitrogen species (eg, O_2^-, H_2O_2, $ONOO^-$) are higher than normal (eg, healthy individuals in whom they are countered by homeostatic processes such as antioxidants) and thus are capable of exerting many adverse biological effects (eg, lipid/protein/deoxyribonucleic acid [DNA] oxidation, initiation of proinflammatory cascades). Although many biomarkers of differing systemic responses are available (eg, lipid or protein oxidation products), oxidative stress may occur at the local cellular/tissue level and not be directly observable by circulating markers. In addition, oxidative stress is often induced by and elicits inflammatory processes. The 2 processes are biologically linked. Therefore, human studies investigating the effect of PM on oxidative stress per se are difficult to perform. Only a few studies have directly investigated the occurrence of systemic oxidative stress in humans in relation to ambient PM exposure. Three studies of young adults conducted in Denmark demonstrated elevations in biomarkers of protein, lipid, or DNA oxidation in relation to PM exposure from traffic sources.[167–169] In a study of 76 young adults from Taipei, Taiwan,[151] the investigators found evidence of increased levels of 8-hydroxy-2′-deoxyguanosine adducts in DNA in relation to short-term elevations in ambient PM. Two studies have also demonstrated increases in plasma homocysteine, evidence that exposure to ambient PM can elevate this circulating mediator of oxidative stress.[170,171] Finally, Romieu et al[172] found that dietary supplementation with omega-3 polyunsaturated fatty acids might be capable of altering the systemic oxidative stress response (reduction in copper/zinc superoxide dismutase and glutathione) induced by air pollutants among residents living in a nursing home in Mexico City, Mexico. Because of the relatively small number of studies, more investigation is required to make firm conclusions and to understand the nature of the systemic oxidative stress response potentially induced by ambient PM (Table 6).

Thrombosis and Coagulation

Early reports indicated that increased plasma viscosity[144] and elevated concentrations of fibrinogen[146] are associated with short-term changes in ambient PM concentrations. More recent evidence was found for an upregulation of circulating von Willebrand factor in 57 male subjects with coronary artery disease in Germany[150] and 92 Boston-area individuals with diabetes.[154] Riediker[157] found that components of in-vehicle $PM_{2.5}$ were also related to increased von Willebrand factor and decreased protein C among highway patrol troopers. In the Atherosclerosis Risk in Communities study, a 12.8-$\mu g/m^3$ elevation in ambient PM_{10} was associated with a 3.9% higher von Willebrand factor level,[173] but only among those with diabetes. There was no linkage between PM_{10} exposure and fibrinogen or white blood cell levels.

Alterations in other markers that indicate changes in thrombosis, fibrinolysis, and global coagulation have also been reported. An immediate elevation in soluble CD40-ligand concentration, possibly reflecting platelet activation, recently was found to be related to ambient UFP and accumulation-mode particle ($PM_{0.1–1.0}$) levels in patients with coronary artery disease.[155] Ambient PM_{10} levels have also been associated with augmented platelet aggregation 24 to 96 hours after exposure among healthy adults.[174] In this study, there were no concomitant observable changes in thrombin generation, CRP, or fibrinogen induced by PM_{10}. Increases in plasminogen activator inhibitor-1 and fibrinogen levels have been noted in healthy subjects,[151] as well as elevated plasminogen activator inhibitor-1 in patients with coronary artery disease only,[175] in association with ambient PM levels in Taipei. Chronic indoor pollution exposure to biomass cooking in rural India has also been associated with elevated circulating markers of platelet activation.[176] Recently, Baccarelli et al[128,177] demonstrated in healthy subjects and among individuals with deep venous thrombosis living in the Lombardy region of Italy that prothrombin time was shortened in relation to recent and long-term ambient PM_{10} concentrations. Nevertheless, some studies found no effects of ambient pollution,[178] nor have significant changes been reported among all the biomarkers or subgroups of individuals investigated.[150,154,170,173] Similar to the study on systemic inflammation, the results related to thrombosis/coagulation are quite variable given the differences in study designs, patients, biomarkers evaluated, and pollutants; however, these adverse effects appear somewhat more consistent among higher-risk individuals (Table 6).

Systemic and Pulmonary Arterial BP

Several studies have reported that higher daily PM levels are related to acute increases in systemic arterial BP (approximately a 1- to 4-mm Hg increase per 10-$\mu g/m^3$ elevation in PM).[179–184] In a small study of patients with severe heart failure,[185] pulmonary artery and right ventricular diastolic BP were found to increase slightly in relation to same-day levels of PM. Chronic exposure to elevated $PM_{2.5}$ was associated with increased levels of circulating endothelin (ET)-1 and elevated mean pulmonary arterial pressure in children living in Mexico City.[186] These results may explain in part the risk for heart failure exacerbations due to PM

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exposure; however, not all studies of systemic arterial BP have been positive.[187–189]

Recently, Dvonch et al[190] demonstrated significant associations between increases in systolic BP and daily elevations in $PM_{2.5}$ across 347 adults living in 3 distinct communities within metropolitan Detroit, Mich. Much larger effects were observed 2 to 5 days after higher $PM_{2.5}$ levels within a specific urban location of southwest Detroit (8.6 mm Hg systolic BP increase per 10-$\mu g/m^3$ $PM_{2.5}$) than throughout the entire region or cohort (3.2 mm Hg). This suggests that specific air pollution sources and components contribute significantly to the potential for PM exposure to raise BP. Interestingly, it was recently reported in a crossover study of 15 healthy individuals that systolic BP was significantly lower (114 versus 121 mm Hg) during a 2-hour walk in Beijing, China, while the subjects were wearing a high-efficiency particulate-filter facemask than when they were not protected.[191] Wearing the facemask was also associated with increased HRV, which suggests that the rapid BP-raising effects of particle inhalation may be mediated through the autonomic nervous system (ANS). In a similar fashion,[192] reducing exposure to particulate pollution from cooking stoves was shown to be associated with lower systolic (3.7 mm Hg, 95% CI −8.1 to 0.6 mm Hg) and diastolic (3.0 mm Hg, 95% CI −5.7 to −0.4 mm Hg) BP among Guatemalan women than among control subjects after an average of 293 days. These findings demonstrate that indoor sources of PM (eg, cooking, biomass) may have important cardiovascular health consequences and that reductions in particulate exposure are capable of lowering BP, and they suggest that chronic exposure to PM air pollution may alter long-term basal BP levels. Even given the rapid variability of BP on a short-term basis and the numerous factors involved in determining individual responses (eg, patient susceptibility, PM composition, and time frames of exposure), overall, it appears that ambient PM can adversely affect systemic hemodynamics, at least under certain circumstances (Table 6).

Vascular Function

In the first ambient PM study related to changes in vascular function, O'Neill et al[193] reported that both endothelium-dependent and -independent vasodilation were blunted in relation to air pollution levels in Boston. The largest changes occurred in association with sulfate and black carbon, suggestive of coal-burning and traffic sources, respectively. Significant adverse responses were observed within 1 day yet were still present and slightly more robust up to 6 days after exposure. Moreover, the adverse responses occurred solely among diabetic individuals and not in patients at risk for diabetes mellitus. Two other studies[184,194] also demonstrated impaired vascular function due to short-term changes in ambient PM among diabetic patients. In the study by Schneider et al,[194] endothelium-dependent vasodilation was blunted during the first day, whereas small-artery compliance was impaired 1 to 3 days after elevated ambient PM levels. Interestingly, higher concentrations of blood myeloperoxidase were related to a greater degree of endothelial dysfunction, which suggests that white blood cell sources of reactive oxygen species (ROS) may be involved.

In healthy adults, very short-term exposure to elevated levels of ambient PM from traffic sources while exercising for 30 minutes near roadways[195] and when resting by bus stops for 2 hours[196] has been related to impaired endothelium-dependent vasodilation. Daily changes in ambient gaseous pollutants (SO_2 and NO_x) in Paris, France, have also been associated with impaired endothelium-dependent vasodilation among nonsmoking men.[197] Finally, indoor particulate air pollution may also be harmful to vascular function. Bräuner and colleagues[198] recently reported that reductions in 48-hour $PM_{2.5}$ levels due to filtering of air in subjects' homes resulted in improved microvascular vascular function among elderly subjects. Nevertheless, changes in short-term ambient PM levels have not been linked with impaired conduit[197] or microvascular[178] endothelial function in all studies. Even when the few negative studies are considered, the overall evidence supports the concept that ambient PM is capable of impairing vascular function, particularly among higher-risk individuals (eg, those with diabetes) and after traffic-related exposure (Table 6).

Atherosclerosis

A few cross-sectional studies have reported an association between measures of atherosclerosis in humans and long-term exposures to ambient air pollution levels. The first study to demonstrate this relationship was an analysis of data from 798 participants in 2 clinical trials conducted in the Los Angeles area. A cross-sectional contrast in exposure of 10 $\mu g/m^3$ $PM_{2.5}$ was associated with an adjusted nonsignificant 4.2% (95% CI −0.2% to 8.9%) increase in common carotid intima-media thickness[199]; however, in certain subgroups of patients, such as women, the effect was much larger (13.8%, 95% CI 4.0% to 24.5%). In a population-based sample of 4494 subjects from Germany,[200] it was found that residential proximity to major roadways was associated with increased coronary artery calcification. A reduction in distance from a major road by half was associated with a 7% (95% CI 0.1% to 14.4%) higher coronary artery calcium score. Proximity to traffic was also related to an increased risk for peripheral artery disease in women but not men.[201] In an analysis of 3 measures of subclinical disease (carotid intima-media thickness, coronary calcium, and ankle-brachial index) among 5172 adults from the Multi-Ethnic Study of Atherosclerosis, only common carotid intima-media thickness was modestly (yet significantly) associated with 20-year exposure to $PM_{2.5}$.[202] In a related study from the same cohort, abdominal aortic calcium was associated with long-term $PM_{2.5}$ exposure, especially for residentially stable participants who resided near a $PM_{2.5}$ monitor.[203] Although it appears that long-term exposure to higher levels of ambient PM might accelerate the progression of atherosclerosis, more investigations are needed (Table 6).

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Heart Rate Variability

Numerous studies have continued to explore associations between daily changes in PM air pollution exposure and alterations (typically reductions) in HRV metrics, putative markers of cardiac autonomic balance.[129,149,156,204–242] Recent observations in the Normative Aging Study cohort have shown strong effect modification of the PM-HRV relationship by obesity and genes that modulate endogenous oxidative stress or xenobiotic metabolism, such as glutathione S-transferase M1, methylenetetrahydrofolate reductase, and the hemochromatosis gene.[207,243,244] Additional findings suggest protective effects of statins, dietary antioxidants, and B vitamins, as well as omega-3 polyunsaturated fatty acids.[205,207,215,243,244] These results suggest that pathways that reduce endogenous oxidative stress have a protective effect that mitigates reductions in HRV due to ambient PM exposure.

However, the overall results are not entirely consistent. Some studies have reported increases in HRV mediated by PM, specifically among younger healthy people and patients with chronic obstructive lung disease.[156,208,216] Nevertheless, the general pattern suggests that PM exposure is associated with increased heart rate and reductions in most indices of HRV among older or susceptible individuals, such as those with obesity and the metabolic syndrome. Typically, time-domain measures (eg, standard deviation of normal RR intervals) and total power are reduced within hours after exposure. Most, but not all, pertinent studies have also found that the largest reduction in power is within the high-frequency domain. In sum, these observations provide some evidence that ambient PM air pollution exposure rapidly reduces HRV, a surrogate marker for a worse cardiovascular prognosis (Table 6). Although studies corroborating changes in autonomic activity by other methods (eg, microneurography or norepinephrine kinetics) have not been performed, the HRV findings are perhaps reflective of the instigation of a generalized cardiovascular autonomic imbalance due to relatively greater parasympathetic than sympathetic nervous system withdrawal.

Cardiac Ischemia and Repolarization Abnormalities

There has been limited direct evidence for the actual induction of cardiac ischemia or repolarization abnormalities in the electrocardiogram (ECG) by exposure to ambient levels of PM.[223,245] Recent follow-up analyses from the initial ULTRA study (Exposure and Risk Assessment for Fine and Ultrafine Particles in Ambient Air)[245] suggested that traffic-related combustion pollutants were most strongly related to the promotion of ST-segment depression among elderly nonsmokers during exercise stress testing.[246] Moreover, even very acute $PM_{2.5}$ exposure within the past 1 or 4 hours has been associated with cardiac ischemia during exercise.[247] New findings support these associations in elderly subjects[248] and in patients with coronary artery disease in Boston.[249] In the latter study, traffic-related PM was most strongly related to the incidence of ST-segment depression during 24-hour Holter monitoring, and the risk for ischemia was greatest within the first month after a cardiac event among patients with diabetes. Overall, there is a modest level of evidence that PM exposure can promote cardiac ischemia in susceptible individuals (Table 6).

Epigenetic Changes

There have been relatively few studies examining gene–air pollution exposure interactions, and most have done so while investigating a small number of loci for genetic polymorphisms. Although some studies have suggested greater air pollution susceptibility with one or another genomic polymorphism,[207,243,244] few have evaluated the potential for epigenetic changes after exposures. Reduced levels of DNA methylation have been linked to aging, oxidative stress, and CVD. Recently, Baccarelli et al[250] have shown among 718 elderly participants in the Normative Aging Study that short-term exposures (over 1 to 7 days) to $PM_{2.5}$ and black carbon are associated with decreased "global" DNA methylation in long interspersed nucleotide elements. It was posited that oxidative stress from air pollution exposure could have interfered with the capacity for methyltransferases to interact with DNA or altered the expression of genes involved in the methylation process. This observed effect of pollution exposure was analogous to changes seen with 3.4 years of aging in the cohort. Additional findings among workers in a furnace steel plant support these observations.[251] Nevertheless, the mechanisms involved and the cardiovascular implications of these preliminary, although provocative, epigenetic changes require more investigation.

Traditional Cardiovascular Risk Factors

In addition to the fact that individuals with traditional risk factors are likely to be at higher risk for cardiovascular events due to PM exposure, air pollutants may also promote the development of these risk factors over a prolonged period of time. Few published studies have investigated this possibility. A report from the Multi-Ethnic Study of Atherosclerosis has demonstrated that residential proximity to major roadways was associated with a higher left ventricular mass index as measured by cardiac magnetic resonance imaging.[252] The degree of increase was analogous to a 5.6-mm Hg increase in systolic BP among the study participants. This suggests that traffic-related exposures may have increased left ventricular mass by chronically elevating systemic arterial BP, a common cause of left ventricular hypertrophy. However, other mechanisms cannot be excluded, such as systemic inflammation and oxidative stress, which could potentially activate neurohormonal pathways (eg, ANS imbalance, renin-angiotensin system) that could directly mediate such a finding. In addition, a recent study of adults older than 30 years of age (n=132 224) participating in the National Health Interview Survey reported a significant association between self-reported hypertension and estimated annual $PM_{2.5}$ exposure using US EPA monitoring data.[253] A 10-$\mu g/m^3$ elevation in $PM_{2.5}$ was associated with an

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adjusted odds ratio of 1.05 (CI 1.00 to 1.10) for the presence of hypertension. The increase in risk was found only among non-Hispanic whites. These studies provide some initial evidence that longer-term PM exposures may augment the risk for developing chronically elevated BP levels or even overt hypertension.

Brook et al[254] have also demonstrated a novel relationship between a metric of long-term traffic exposure (NO_2 level by residence) and the odds of having the diagnosis of diabetes mellitus among patients in 2 respiratory clinics in Ontario, Canada. In women only, the odds ratio of diabetes was 1.04 (95% CI 1.00 to 1.08) for each increase of 1 parts per billion (ppb) of NO_2. Across the interquartile range (4 ppb NO_2), exposures were associated with nearly a 17% increase in odds for diabetes mellitus. The first biological support for this finding comes from a study in Iran that demonstrated that the previous 7-day-long exposure to PM_{10} was independently associated with worse metabolic insulin sensitivity among 374 children 10 to 18 years of age.[255] These findings suggest that the systemic proinflammatory and oxidative responses due to long-term PM air pollution exposure could potentially increase the risk for developing clinically important aspects of the metabolic syndrome, such as hypertension and diabetes mellitus. Further studies in this regard are warranted.

Evidence Summary

Table 6 provides a consensus qualitative synopsis based on the expert opinions of the writing group members of the overall level of existing support, linking each surrogate or intermediate cardiovascular outcome with exposures to PM at ambient concentrations, based solely on the database of observational studies.

Additional Epidemiological Findings and Areas of Continued Research

Responsible Sources and Pollution Constituents

Although PM concentration (mass per cubic meter) has been associated with cardiovascular events in numerous studies, the specific particulate constituents and the sources responsible remain less clear. Despite the fact that it is a difficult undertaking, several epidemiological studies have attempted to identify the culprit components within the PM mixtures. With regard to PM-associated inorganic ions (nitrate and sulfate), it has been suggested that the overall toxicological data do not clearly implicate these compounds as responsible for mediating the cardiovascular health effects of $PM_{2.5}$.[256] Nevertheless, sulfate particles have been associated with cardiopulmonary mortality in the ACS and Harvard Six Cities studies.[62,68] A recent time-series analysis among 25 US cities found that cardiovascular risk was increased when PM mass contained a higher proportion of sulfate, as well as some metals (aluminum, arsenic, silicon, and nickel).[257] It is possible that these positive findings represent sulfate serving as a marker for an effect mediated by a toxic PM mixture derived from commonly associated sources (eg, coal combustion). Nevertheless, a direct role for particle sulfate in causing cardiovascular events cannot be excluded entirely.[256]

In California, short-term exposures to several different PM constituents that likely reflect combustion-derived particulates, including organic and elemental carbon and nitrates, were most strongly associated with higher cardiovascular mortality.[258] Certain metals (zinc, titanium, potassium, and iron) and sulfate levels in the winter months were also positively related. Similarly, ambient levels of organic and elemental carbon have been most strongly linked among PM constituents with hospitalizations for CVDs in multipollutant models in a study among 119 US cities.[259] Finally, $PM_{2.5}$ composed of higher levels of elemental carbon, along with the metals nickel and vanadium,[48] has also been linked with greater risks for cardiovascular hospitalizations.[260] These results support that the chemistry or composition of the $PM_{2.5}$ (eg, organic/elemental carbon and certain metals) along with the responsible source from which these mixtures are derived (eg, fresh combustion, traffic) may play important roles in determining the risk for cardiovascular events. However, the extent to which these constituents mediate specific responses, alone or together, and their importance beyond the concentration of $PM_{2.5}$ mass alone represent an area of active research that requires more investigation to reach firm conclusions.

Many experiments have demonstrated the especially toxic properties and strong oxidizing potential of the smallest particle sizes (eg, UFP) and of the specific chemical species typically rich within this size fraction (eg, transition metals, organic compounds, and semiquinones).[261] Although some epidemiological evidence suggests that exposure to ultrafine compounds[17] may be associated with higher cardiovascular risk (eg, an elevation of UFP count by 9748/cm^3 has been associated with an increase in cardiovascular mortality of approximately 3% within 4 days in Erfurt, Germany[262]) and adverse responses,[158,159] there have been few such studies because they are challenging to conduct, for numerous reasons. Moreover, there are few UFP monitors, and the levels measured at regional sites may not accurately reflect an individual person's exposure because of marked spatial heterogeneity, because the concentrations are dominated by local point sources of fresh combustion (eg, roadways). This could help explain some of the previously negative study findings.[116]

Similarly, coarse particulates between 0.25 and 1.0 μm in diameter may affect the cardiovascular system,[221,264,265] and although the available data related to hard events and cardiovascular mortality have suggested a relationship,[265,266] recent findings have been less consistent.[104] In the most recent time-series analysis of 112 US cities, coarse PM was independently associated with elevated all-cause, stroke, and pulmonary, but not cardiovascular, mortality after controlling for $PM_{2.5}$.[43] Coarse PM was also not associated with either fatal or nonfatal cardiovascular events after controlling for $PM_{2.5}$ levels in the Nurses' Health Study[267] or the Women's Health Initiative cohort analyses.[72] Additional research is required to establish whether there are independent health effects of the other

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particulate size fractions beyond those posed by fine particles. On the other hand, $PM_{2.5}$ mass concentration is the metric most consistently associated with cardiovascular morbidity and mortality. It remains to be determined whether this reflects limitations of available data, the long-lived and regionally homogenous atmospheric nature of $PM_{2.5}$, that few studies have investigated the independent effects of the other sizes, difficulties in performing epidemiology studies with adequate UFP exposure estimates, or that specific constituents within the fine PM fraction (or another unidentified agent correlated with that fraction) are actually responsible for causing cardiovascular events. Although particles <0.1 μm (ie, UFPs) do make up a small fraction of $PM_{2.5}$ mass, the correlation between UFP particle number and total $PM_{2.5}$ mass concentration is often weak. Because of their minute size, UFPs make up only a small portion of the total $PM_{2.5}$ mass, even though they represent the largest actual number of particles within fine PM. They also have the highest surface area and a differing surface chemistry. Therefore, changes in the underlying UFP concentration do not likely account for or explain the linkages between $PM_{2.5}$ mass concentration and cardiovascular events observed in large multicity studies. The overall epidemiological evidence thus indicates that fine PM poses an independent cardiovascular risk and that any putative effects of these other size fractions cannot fully explain the observed $PM_{2.5}$–cardiovascular morbidity/mortality relationship.

On the other hand, there is mounting evidence for a distinctive role played by motor vehicle traffic–related exposures in elevating cardiovascular risk.[108,111,268,269] Lipfert et al[76,77] interpreted the results of their analysis of the Veterans Affairs hypertensive male cohort as suggesting that traffic density was a more "significant and robust predictor of survival in this cohort" than $PM_{2.5}$. Analyses of the Oslo,[81] Dutch,[82] AHSMOG,[74,75,88] French PAARC,[79] and German women cohorts[80] and related studies from areas in the United Kingdom,[270] Canada,[271] Norway,[272] and Rome[273] found that measures that often indicate traffic-related exposure (NO_2, NO_x, traffic density, and living near major roads) were also associated with increased mortality. Long-term 5-year average traffic-generated air pollution exposure has been associated with an increased risk of fatal MI (odds ratio 1.23, 95% CI 1.15 to 1.32 per 31-$\mu g/m^3$ increase in NO_2) but not nonfatal MI in Stockholm County, Sweden.[274] The results mirror the results of several cohort studies[72,73] that found that air pollution exposures appeared to be more strongly linked with cardiovascular mortality than nonfatal events. Recently, an analysis from a cohort in the Netherlands demonstrated that several metrics of traffic-related air pollution exposure remained significantly associated with increased risk for cardiovascular events even after adjustment for higher levels of traffic noise.[275]

The effect of long-term traffic-related exposure on incidence of fatal and nonfatal coronary heart disease was recently assessed after adjustment for background air pollutants and cardiovascular risk factors in 13 309 adults in the Atherosclerosis Risk in Communities study.[276] Interestingly, background chronic ambient $PM_{2.5}$ concentrations were not related to the interpolated traffic exposure levels or to heart disease outcomes, which supports the highly localized nature of traffic sources of exposure. After 13 years of follow-up in 4 US communities, individuals residing within the highest quartile of traffic density had a relative risk of 1.32 (95% CI 1.06 to 1.65) for fatal and nonfatal heart disease events. Despite multiple statistical adjustments, the investigators also acknowledged the possibility for residual confounding as a potential source of bias. The specific traffic-related pollution components, such as UFP or gaseous-phase chemicals (eg, SVOCs), that are responsible for the positive findings among these studies remain unknown. The close proximity to roadways within these epidemiological studies (eg, 400 m) required to observe an association with elevated cardiovascular risk, however, matches the atmospheric fate of these shorter-lived pollutants. The findings may thus suggest the existence of cardiovascular health effects mediated by specific air pollutants rather than $PM_{2.5}$ per se. There is room for improvement in assessment of traffic exposures in epidemiological research, and better approaches are now being incorporated into research projects, such as accounting for associated factors (eg, noise or spatial autocorrelation with socioeconomic status).[275,277]

Geographic differences in cardiovascular risk due to PM have also been observed across US regions, with more consistent or stronger effects observed in Eastern versus Western states.[71,103,257] Differences between North American and European cities have also been reported.[61] PM exposures are typically, but not always,[258] associated with larger effects during warmer months (spring through fall) than in the winter.[45,103,257] Variations in pollution characteristics (eg, sulfate), time spent outdoors, air conditioning usage and particle penetration indoors, ambient temperature and meteorology, and mobile (eg, diesel) or stationary (eg, coal combustion) sources of exposure may help explain these differences. Finally, variations in the cardiovascular risk posed by PM may also occur because of heterogeneity in the metric of exposure, such as personal versus background regional,[25] indoor versus outdoor sources, and differences in intracity versus intercity gradients.[69] A better understanding of the responsible constituents and sources is important and could potentially lead to more targeted and effective regulations. On the other hand, finding continued evidence that the adverse cardiovascular health effects cannot be linked conclusively to a particular or specific chemical species or source of pollution but rather that they occur in response to a variety of exposure types or mixtures would support the present-day policy of reducing exposure to overall fine particulate mass to achieve public health benefits.

Time Course and Concentration-Response Relationships

Many studies have demonstrated that PM air pollution exposure does not simply advance the mortality by a few days of critically ill individuals who would have otherwise died (eg, mortality displacement or "harvesting").[278,279] There also appears to be a monotonic (eg, linear or log-linear) concentration-response relationship between $PM_{2.5}$ and mor-

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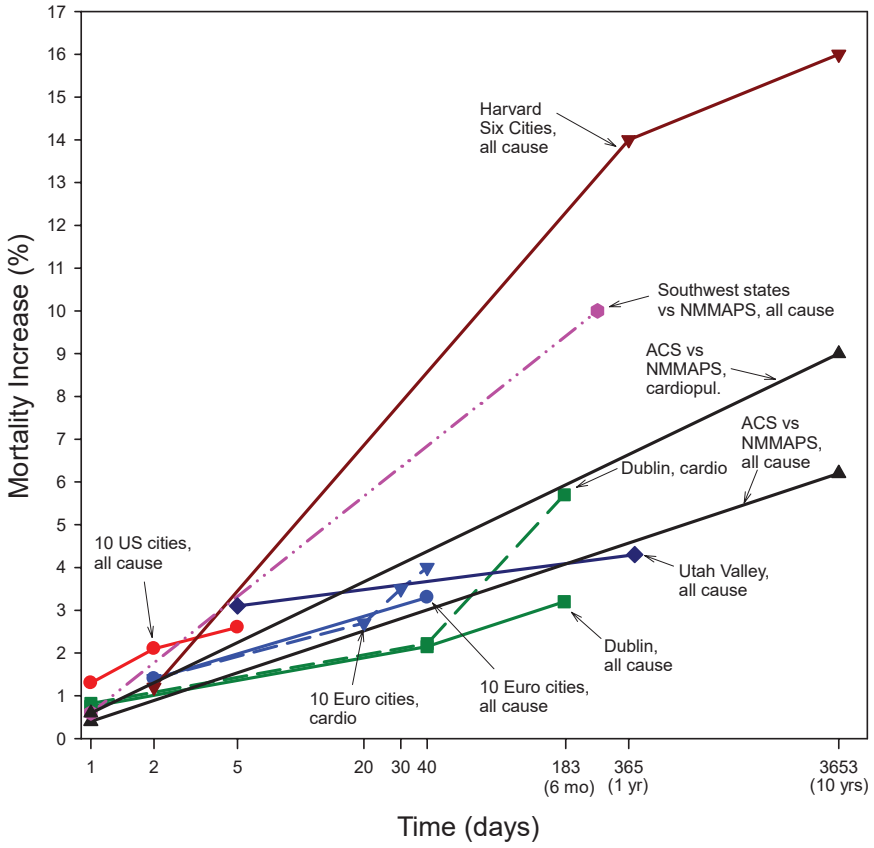


Figure 2. Comparison of estimates of percent change in mortality risk associated with an increment of 10 $\mu g/m^3$ in $PM_{2.5}$ or 20 $\mu g/m^3$ of PM_{10} or British Smoke (BS) for different time scales of exposure (log scale of approximate number of days, updated and adapted from Pope[281a]). Euro indicates European; cardio, cardiovascular disease; and cardiopul, cardiopulmonary.

tality risk observed in cohort studies that extends below present-day regulations of 15 $\mu g/m^3$ for mean annual levels, without a discernable "safe" threshold.[67,70,84] Cardiovascular risk due to particle exposure was also shown to extend below 15 $\mu g/m^3$ in the recent analysis of the Women's Health Initiative Observational Study.[72] This monotonic association supports the idea that any reduction in particulate pollution will translate into health benefits within a population of people, each with their own individual level of susceptibility. It also suggests that a larger decrease in $PM_{2.5}$ exposures will produce a greater reduction in mortality. Finally, a recent analysis of the literature provided important new insights into the nature of the PM exposure-response relationship.[280] The risk for cardiovascular mortality was shown to increase in a linear fashion across a logarithmically increasing dosage of inhaled fine-particle levels that ranged from ambient PM air pollution (≈0.2 mg/d), through secondhand smoke (≈1 mg/d), to active smoking (200 mg/d). This means that the exposure response is extremely steep at very low PM levels (ie, ambient air pollution) and flattens out at higher concentrations (ie, active smoking). This may help explain the seemingly incongruent and comparatively very high degree of cardiovascular risk posed by the much lower levels of PM exposure from ambient pollution and secondhand smoke versus the much higher doses due to active smoking. Thus, the cardiovascular system may be extremely sensitive to very low levels of PM inhalation as encountered with ambient pollution.

At present, the underlying nature and full scope of the temporal-risk relationship posed by longer-term PM exposures remain uncertain.[2,281] The writing group members did concur that the available epidemiological studies demonstrate larger cardiovascular risks posed by more prolonged exposures to higher PM levels than observed over only a few days (Figure 2). Cohort studies using Cox regression survival analyses (over months to years) are capable of evaluating a more complete portion of the temporal-risk relationship than time-series analyses over only a few days that use Poisson regression. However, given the lack of complete information, no conclusions could be drawn on the full magnitude of the augmented risk posed by chronic exposures, the time window (a few months versus decades) required to exhibit this enhanced risk, the underlying biological causes, the extent to which statistical differences between study types explain the variations in risk, and whether clinically relevant chronic CVDs are precipitated by chronic exposures. Some writing group members believe it is important to differentiate as 2 distinct issues the potentially greater effect of long-term exposures on increasing the risk for acute events (eg, cardiovascular mortality) compared with the putative effect on initiating or accelerating the development of chronic CVD processes per se (eg, coronary atherosclerosis). As such, it is possible that the greater risks observed in cohort studies could be capturing the fact that repetitive exposures over months or years augment the risk for sudden cardiovascular events in susceptible people, without actually worsening an underlying "chronic" disease process.

On the one hand, the available studies demonstrate that the majority of the larger risk-effect sizes posed by longer-term versus short-term exposures appear to be manifested within

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only 1 to 2 years of follow-up. Extending the duration of follow-up increases cardiovascular risk, but to a progressively smaller degree over time (Figure 2). The discrepancy in the effect sizes among study types (eg, cohort versus time-series studies) could also reflect differences in statistical methodologies or population susceptibilities.[282–284] Recent attempts to investigate this matter[64,84] suggest that the risk for acute events associated with chronic exposures may be reasonably well estimated by only the most proximal 1 to 2 years of PM levels. The most recent time frames of exposure also explain a substantial portion of the excess cardiovascular risk observed in several cohort studies.[70,72,73,83] These findings bolster the argument that relatively rapid and pliable (and potentially reversible) biological responses, such as the instigation of plaque instability or the enhanced thrombotic potential caused by PM-mediated inflammation or endothelial dysfunction (which can occur and abate over only a few weeks to months), could explain the biology responsible for this greater relative risk.

On the other hand, cogent alternative arguments can be made to explain the differences in relative risk between the cohort and time-series studies. The likely high correlation of a recent year's exposure levels with exposures over many years, as well as the uniform rank ordering of exposure severity over time among cities, can explain why only a short period of PM exposure assessment is required to understand the risk of longer-term exposures. In addition, no studies have evaluated the potential risks of exposure over decades or a lifetime. PM augments the ability of traditional risk factors to accelerate the development of atherosclerosis in experimental settings. As such, it is also plausible that long-term exposures may enhance cardiovascular risk to an even greater extent by increasing an individual's susceptibility for future cardiovascular events or acute exposures. In addition, the full extent of this possibility may not be illustrated by the limited follow-up period (4 to 5 years) of the majority of cohort studies. The writing group thus agreed that this important issue requires more investigation.

It is also possible that these 2 explanations are not mutually exclusive. Furthermore, it cannot be concluded from available information that a long period of time is required for reductions in PM levels to translate into a decrease in cardiovascular risk. On the contrary, reductions in secondhand smoke[285] and PM air pollution levels[64,84,90,95] appear to produce fairly rapid decreases in cardiovascular event rates, within a few months to years.[284] At present, the available data do not allow for firm conclusions regarding the underlying biology and the full extent of the potentially nonuniform PM exposure–to–cardiovascular risk temporal relationship.

Susceptibility to Air Pollution Exposure

Susceptibility refers to a heightened risk for a particular cardiovascular end point or event to occur compared with the general population at the same concentration of PM exposure. Typically, this is indicative of an underlying medical condition (eg, diabetes) or personal characteristic (eg, old age) that causes this enhanced risk. This is in contrast to the term "vulnerability," which refers to a population of individuals at greater risk for more frequent or high levels of exposures.

Earlier studies reviewed in the first AHA scientific statement[1] suggested that susceptible populations include the elderly; individuals with diabetes; patients with preexisting coronary heart disease, chronic lung disease, or heart failure; and individuals with low education or socioeconomic status. In the ACS study, current and previous smokers appeared to be at the same or greater degree of risk.[67] Among more recent studies, the Women's Health Initiative also reported positive findings among active smokers and an elevated risk for cardiovascular mortality induced by $PM_{2.5}$.[72] Conversely, current smokers were found to be at no increased risk for cardiovascular mortality in response to $PM_{2.5}$ exposure in the Nurses' Health Study.[73] Thus, the effect modification of smoking status requires more investigation. The APHENA study of European and North American cities recently confirmed that elderly and unemployed individuals are at higher risk of short-term PM exposure.[61] In a multicity time-series study in Asia, women, the elderly, and individuals with lower education and socioeconomic status were also shown to be at elevated risk.[286] A few additional studies have reported some evidence of susceptibility to short-term PM exposures among older individuals, people with diabetes, and those with a lower level of education.[287–289] Finally, a recent study illustrated that present-day levels of $PM_{2.5}$ likely increase the risk for a cardiac event within a few days of exposure principally (or even solely) among individuals with preexisting significant coronary artery disease, even if they are seemingly healthy (eg, without anginal symptoms). Patients without obstructive lesions on heart catheterization were not at any risk for $PM_{2.5}$-induced myocardial events over the short term.[13] This is not surprising, because most acute cardiovascular events occur among individuals with underlying vulnerable substrate (eg, unstable plaques) and not in individuals with normal coronary arteries.

Obesity has been newly recognized as a possible susceptibility factor. Two cohort studies have shown that a greater body mass index enhances the susceptibility for PM-induced cardiovascular mortality, at least among women.[72,73] Although individuals with diabetes showed a trend toward greater risk in the Women's Health Initiative,[72] hypertension, high cholesterol, smoking, elderly age, education, and income did not alter the risk association. Overall, there appears to be little effect modification by race, hypercholesterolemia, or BP among the studies. Finally, sex may also be a risk-effect modifier. The particularly robust risk estimates of the 2 cohort studies that included only women,[72,73] the fact that PM increased cardiovascular risk in female but not male participants of the AHSMOG study,[75] and the multicity time-series findings in Asia[286] suggest that women may be at greater risk for cardiovascular mortality related to PM. Further studies are needed to clarify whether obese individuals and women are indeed susceptible populations.

Biological Mechanisms

There has been substantial improvement in our understanding of the biological mechanisms involved in PM-mediated

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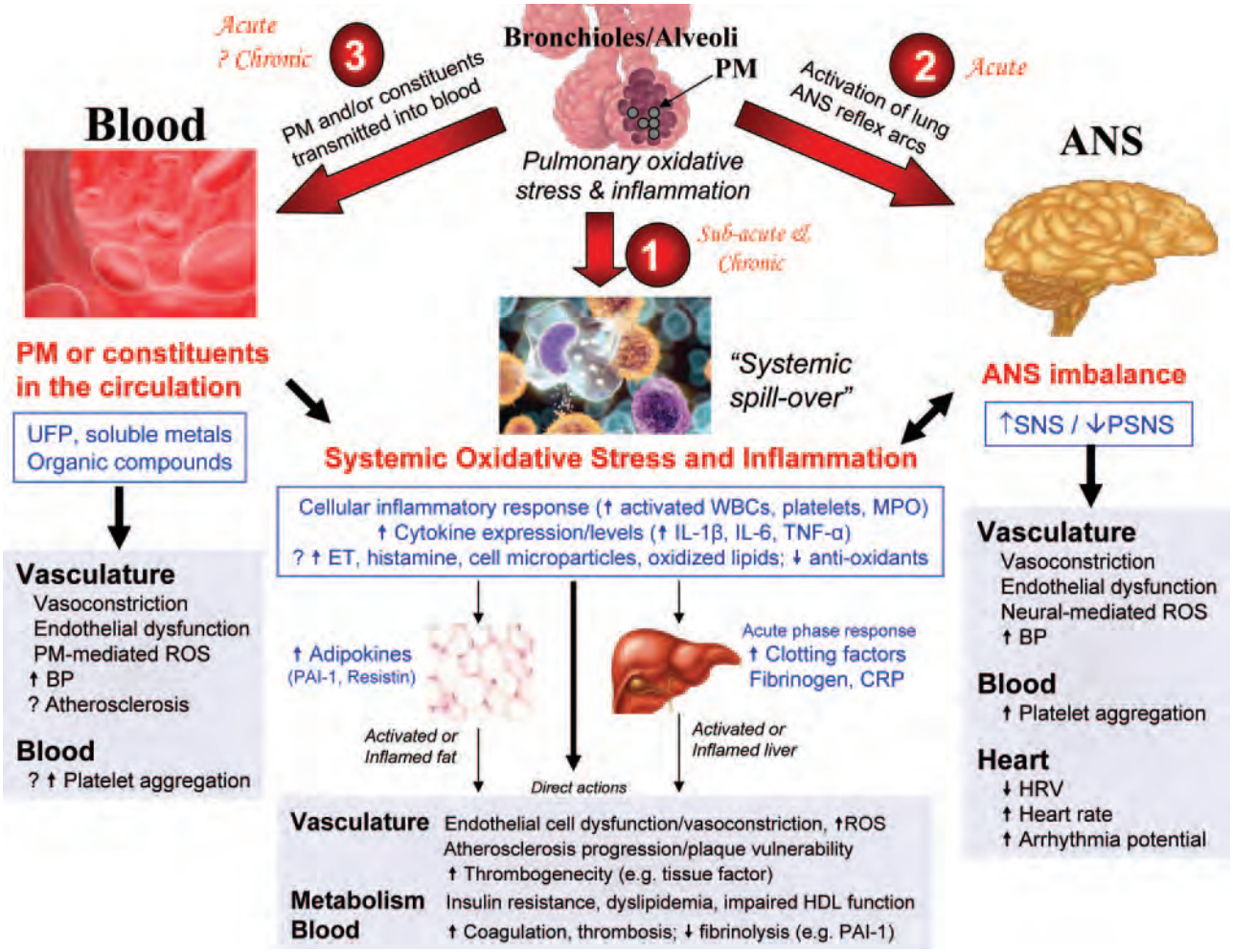


Figure 3. Biological pathways linking PM exposure with CVDs. The 3 generalized intermediary pathways and the subsequent specific biological responses that could be capable of instigating cardiovascular events are shown. MPO indicates myeloperoxidase; PAI, plasminogen activator inhibitor; PSNS, parasympathetic nervous system; SNS, sympathetic nervous system; and WBCs, white blood cells. A question mark (?) indicates a pathway/mechanism with weak or mixed evidence or a mechanism of likely yet primarily theoretical existence based on the literature.

cardiovascular effects. Studies before 2004 were reviewed previously,[1] and only some are again discussed here for contextual background. A number of new experiments have demonstrated very rapid effects of air pollution, such as vascular dysfunction, which argues for the existence of pathways that convey signals systemically within hours of PM inhalation. On the other hand, there is also support for chronic biological effects, such as the promotion of atherosclerosis. At the molecular level, persuasive evidence supports an integral role for ROS-dependent pathways at multiple stages, such as in the instigation of pulmonary oxidative stress, systemic proinflammatory responses, vascular dysfunction, and atherosclerosis. In sum, new studies continue to support the idea that inhalation of PM can instigate extrapulmonary effects on the cardiovascular system by 3 general "intermediary" pathways. These include pathway 1, the release of proinflammatory mediators (eg, cytokines, activated immune cells, or platelets) or vasculoactive molecules (eg, ET, possibly histamine, or microparticles) from lung-based cells; pathway 2, perturbation of systemic ANS balance or heart rhythm by particle interactions with lung receptors or nerves; and pathway 3, potentially the translocation of PM (ie, UFPs) or particle constituents (organic compounds, metals) into the systemic circulation (Figure 3).

Exposure Considerations

Animal and human exposure studies are discussed separately and apart from the effect of ambient PM because their methodologies and clinical relevancies vary widely. Controlled exposure studies involve exposing a subject to various size fractions of PM within a chamber connected to ambient air (concentrated or nonconcentrated) or a source of aerosolized particles. Virtual impactor systems that deliver concentrated ambient particles (CAPs) from "real-world" ambient air are a commonly used approach for mimicking exposures to higher levels of ambient particles without requiring invasive methods or the generation of artificial particles.[3] Both a strength and limitation, however, is that CAPs can vary considerably from day to day in composition. Additionally, only certain particle size ranges are typically concentrated (eg, PM from 0.1 to 2.5 μm in the fine-CAP system), whereas

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ambient air contains a mixture of particle sizes, volatile organics, and gases that are not concentrated (and can be lowered). Potential interactions between PM and gaseous copollutants on health end points are therefore excluded, unless the latter are reintroduced in an artificial fashion. Other methods of controlled-inhalation exposures include diesel engine exhaust (diluted and aged mixtures of high numbers of fresh combustion UFPs with vapor-phase components), roadside aerosols, and wood-burning sources. Regarding animal exposures, intratracheal instillation methods may sometimes be required because of the limited availability of inhalation exposure systems. Unfortunately, particle size and surface characteristics—mostly retained in inhalation systems with fresh sources of pollution and which may be important in influencing biological effects—are likely significantly altered in instillation systems or by methods that use previously collected particulate. However, the use of carefully modeled exposures (eg, deposition calculation) and the recognition that areas of "hot spots" containing markedly higher PM levels within the lung may occur even during normal inhalation make the results of these experiments potentially relevant.[2] Further detailed discussions of exposure considerations are reviewed elsewhere.[290]

The protocol details vary considerably among the studies. Many aspects of exposure, including the duration, concentration, PM size ranges and composition, and gaseous copollutants, are important to consider. A wide variety of outcomes may be anticipated depending on the biological pathways evoked by differing exposures. Moreover, there are multiple determinants of the subsequent physiological responses, including the time frames of investigation, preexisting susceptibility, animal models, and the details of the outcomes investigated. All of these factors may explain some of the heterogeneity in the reported study results and must be taken into consideration when interpreting the findings.

Animal Exposure and Toxicological Studies

Studies that investigate the effects of exposure on susceptible animals (eg, those with preexisting cardiovascular or metabolic abnormalities) may be preferable in many circumstances because of the increasing recognition that the pathways underlying the biological effects of PM overlap (ie, modify and/or enhance) those of conventional cardiovascular risk factors. Such factors (eg, hypertension or atherosclerosis) may also be necessary or at least responsible for the evocation of a more readily observable or robust response. For example, in the context of systemic oxidative stress or inflammation, the cellular machinery for the generation of excess ROS and proinflammatory responses (eg, adhesion molecule and cytokine expression) is already primed or operational in susceptible animals.

Pulmonary Oxidative Stress and Inflammation

The molecular events responsible for triggering pulmonary oxidative stress and inflammation, along with the interactions between lung and immune cells, the inhaled PM, and the protective secretions (eg, surfactant, proteins, and antioxidants), are highly complex,[4–6] as reviewed in detail elsewhere.[290a,290b,414] In brief, size, charge, solubility, aggregation, ROS-producing potential, and chemistry play roles in determining the responses. These include the particle fate (eg, lung clearance versus retention rates), the nature of the PM-cell interactions (eg, immune versus lung cell uptake, host cell responses, and intracellular sequestration/location), and the dose (likely typically a small percentage of inhaled PM) and pathways of potential systemic transmission of PM or its constituents, such as in the circulation [free, intracellular within circulating cells, (lipo)protein-bound] or via lymphatic spread.[4,5,290a,290b] Because of their nano-scale size, UFPs may directly enter multiple lung cell types via nonphagocytic pathways and adversely affect organelles, such as mitochondria.[6,290a,290b] Larger unopsonized fine particles are more typically taken up by phagocytes through interactions with innate immunity receptors such as MARCO (macrophage receptor with collagenous structure) or other scavenger receptors.[5,290a,290b] This may in fact be a protective mechanism that sometimes prevents harmful lung inflammation. Certain particle compounds may directly generate ROS in vivo because of their surface chemistry (eg, metals, organic compounds, and semiquinones) or after bioactivation by cytochrome P450 systems (eg, polycyclic aromatic hydrocarbon conversion to quinones).[6,290a,290b] A particle surface or anions present on otherwise more inert particles may disrupt iron homeostasis in the lung and thereby also generate ROS via Fenton reactions.[291] Other PM constituents may do so indirectly by the upregulation of endogenous cellular sources (eg, nicotinamide adenine dinucleotide phosphate [NADPH]) oxidase)[292,293] or by perturbing organelle function (eg, mitochondria) by taken-up PM components.[261] Particle stimulation of irritant and afferent ANS fibers may also play a role in local and systemic oxidative stress formation.[294] Given the rich antioxidant defenses in the lung fluid, secondarily generated oxidization products of endogenous molecules (eg, oxidized phospholipids, proteins) or a reduction in endogenous antioxidants per se may be responsible at least in part for the state of oxidative stress in the lungs (along with instigating the subsequent cellular responses) rather than ROS derived directly from PM and its constituents.

Subsequent to oxidative stress, antioxidant and phase II defenses may be activated (eg, inducible nitric oxide synthase, glutathione) via transcription factor Nrf2-dependent pathways.[261] When inadequate, pathological oxidative stress can initiate a variety of pulmonary inflammatory responses. For example, ROS in the lungs has been shown to augment the signal transduction of membrane ligand (eg, epidermal growth factor by disrupting phosphatases) or pattern-recognition receptors (eg, toll-like receptors [TLR])[295–299] and/or stimulate intracellular pathways (eg, mitogen-activated protein kinases) that lead to the activation of proinflammatory transcription factors (eg, nuclear factor-$\kappa\beta$) that upregulate expression of a variety of cytokines and chemokines.[261] Alteration in lung cell redox status may itself stimulate nuclear factor-$\kappa\beta$. Biological components within coarse PM could also directly trigger inflammation (eg, nuclear factor-$\kappa\beta$ pathways) by binding to TLR2 or TLR4 receptors or other innate immune pattern-recognition receptors.[297] It is also possible that other components of metal-rich

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PM could instigate inflammatory pathways via TLR activation directly or via the oxidation of endogenous biological compounds that then serve as TLR ligands.[300] Finally, there is some evidence that PM can activate inflammatory mitogen-activated protein kinase signaling by angiotensin II receptor–dependent pathways.[295] These inflammatory responses can also exacerbate the initial oxidative stress [eg, via upregulation of cellular NAD(P)H oxidase] and thus initiate a positive-feedback cycle.

Available studies support important contributions to pulmonary inflammation from innate immune cells such as neutrophils and macrophages (TNF-α, IL-6), as well as from the adaptive immune system, such as T cells (IL-1, IL-4, IL-6, and IL-10). Although the dominant source of cytokines likely represents the alveolar macrophages and lung epithelial cells, the role of other innate and adaptive immune cells cannot be ruled out.[299,301,302] Recently, myeloperoxidase activity was shown to increase after PM exposure in the same time course of appearance of cellular inflammation (primarily neutrophils) in the lung.[303] Gaseous components such as ozone may also amplify the toxicity of PM.[304]

Systemic Inflammation

In the context of examining the cardiovascular effects of air pollution, it is important to consider the inflammatory mediators that are released from lung cells after contact with PM, because some could conceivably spill over to the general circulation or increase liver production of acute-phase proteins (eg, CRP, fibrinogen). An increase in circulating proinflammatory mediators (eg, activated immune cells, cytokines) could thus serve as a pathway to instigate adverse effects on the heart and vasculature. Numerous experiments have demonstrated increased cellular and inflammatory cytokine content, such as IL-6, IL-1β, TNF-α, interferon-γ, and IL-8, of bronchial fluid and sometimes in circulating blood after acute exposure to a variety of pollutants.[292,305–311]

Critical roles for the elevations in systemic and pulmonary levels of IL-6 and TNF-α have been observed after PM exposure, typically coincident with pulmonary inflammation.[292,302,306,309,311–314] There is at least some evidence that the degree of pulmonary inflammation and systemic inflammation (IL-6) correlates with the elevation of systemic cytokines and systemic vascular dysfunction.[314] In a 4-week inhalation exposure to freshly generated diesel exhaust, IL-6 knockout mice did not demonstrate increased cellular inflammation or TNF-α in bronchial fluid, which implies a role for IL-6.[315] Consistent with these findings, acute intratracheal exposure to PM_{10} resulted in an increase in IL-6, TNF-α, and interferon-γ in the bronchial fluid.[316] However, in this study, IL-$6^{-/-}$ mice showed roughly the same levels of TNF-α in bronchial fluid as wild-type mice, although interferon-γ was decreased to control values.[316] The results also suggested that lung macrophages play an important role, because depletion of these cells abolished the increases in some of the cytokines and systemic cardiovascular responses. Although our understanding of the source of IL-6 and TNF-α and their involvement in the systemic inflammatory response after PM exposure remains incomplete, these and other experiments appear to suggest that at least with PM_{10} particles, alveolar macrophages play a dominant role.[309,314,316]

Among remaining uncertainties, the upstream signaling pathway responsible for the recognition of PM components that in turn produce the systemic inflammation has not been fully elucidated[317]; however, there is some evidence with other particulates and experimental models of lung injury that ROS generated by NADPH oxidase or pattern-recognition receptors may modulate some of these responses.[292,299,318] NADPH-oxidase knockout mice demonstrated significantly lower IL-6 and macrophage inflammatory protein-2 responses to collected PM than wild-type mice.[292] Extrapulmonary sources may also be involved in promulgating the systemic inflammation. $PM_{2.5}$ exposure in a model of diet-induced obesity in C57Bl/6 mice for a duration of 24 weeks resulted in elevations in TNF-α and IL-6. In addition, there were increases in circulating adipokines, such as resistin and plasminogen activator inhibitor-1.[319] The elevation in cytokines, thought to be derived from adipose sources, in addition to findings of adipose inflammation in that study, raises the possibility of additional systemic nonpulmonary sources of such cytokines.

Systemic Oxidative Stress

Numerous in vitro studies have demonstrated activation of ROS-generating pathways by PM incubation, such as NADPH oxidases, mitochondrial sources, cytochrome P450 enzymes, and endothelial nitric oxide synthase in cultured cells or in pulmonary and vascular tissue.[293,311,320–329] Similar to inflammation, the oxidative stress after PM inhalation may not always stay confined within the lungs.[330] The sources of excess ROS within cardiovascular tissue may include circulating immune cells or cytokines, depletion of defense mechanisms (eg, impaired high-density lipoprotein function), oxidation of lipoproteins or other plasma constituents,[331] activation of ANS pathways,[294] or circulating PM constituents (eg, soluble metals, organic compounds) reaching the vasculature.[261] Activation of ROS-dependent pathways modulates diverse responses with far-reaching consequences, including vascular inflammation/activation, atherosclerosis, impaired basal vasomotor balance, enhanced coagulation/thrombosis, and platelet activation.[290b]

Recent experiments have indeed confirmed the existence of footprints or markers of oxidative stress within the cardiovascular system in the in vivo context. Acute-exposure studies[332] have shown a relationship between the vascular dysfunction in spinotrapezius microvessels and the release of myeloperoxidase from leukocytes into the vasculature within only hours after the pulmonary instillation of PM.[332] Interestingly, an insoluble particle (TiO_2) induced very similar effects. More long-term studies[333] have demonstrated that 10 weeks of exposure to $PM_{2.5}$ increased superoxide production in response to angiotensin II and resulted in upregulation of NAD(P)H oxidase subunits and depletion of tetrahydrobiopterin in the vasculature. These effects had functional consequences in terms of increases in systemic vascular resistance and BP. In another investigation that involved apolipoprotein E–deficient (ApoE$^{-/-}$) fed a high-fat diet, chronic exposure

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to $PM_{2.5}$ exacerbated vascular oxidant stress and promoted atherosclerosis progression.[334] The proatherogenic effects of ambient UFPs[331] versus $PM_{2.5}$ in genetically susceptible $ApoE^{-/-}$ mice in a mobile facility close to a Los Angeles freeway have also been compared. Exposure to UFPs resulted in an inhibition of the antiinflammatory capacity of plasma high-density lipoprotein and greater systemic oxidative stress, as evidenced by increased hepatic malondialdehyde and upregulation of Nrf2-regulated antioxidant genes.[331]

Other experiments[294] have suggested that ANS imbalance may play an important role in PM-induced cardiac oxidative stress. Pharmacological inhibition of the ANS could significantly reduce chemiluminescence in the heart after exposure.[303] More recently, an upstream modulator, the transient receptor potential vanilloid receptor-1, within the lung was identified as central to the inhaled CAP-mediated induction of cardiac chemiluminescence.[335] In these studies, capsazepine was able to abrogate ECG alterations in rats during the 5-hour exposure, which suggests that neural ANS pathways are crucial.

Thrombosis and Coagulation

Earlier studies using intratracheal instillation of high concentrations of diesel exhaust particles demonstrated the induction of lung inflammation, platelet activation, and increased peripheral vascular thrombosis in both arteries and veins after photochemical injury.[336,337] Thrombosis susceptibility was ascribed to direct passage of the instilled UFPs in the blood, because large polystyrene particles unlikely to cross the lung-blood barrier did not increase peripheral thrombosis. In a subsequent study, a persistent increase in thrombosis susceptibility to diesel exhaust particles was shown after 24 hours, an effect that was mitigated by pretreatment with sodium cromoglycate, which indicates that this response was secondary to histamine release from basophil degranulation.[338] These same effects, however, were mimicked by 400-nm polystyrene particles with a low likelihood of transgressing the pulmonary barrier, which implicates pulmonary release of histamine as a mediator of thrombosis at the later time point. Because histamine was increased in the plasma at 6 and 24 hours after exposure, and diphenhydramine mitigated diesel PM–induced thrombosis at later time points but not at 1 hour, it was hypothesized that additional direct effects of PM constituents reaching the circulation may be responsible for the earliest prothrombotic effects.[339] No increase in circulating von Willebrand factor was observed after instillation of both particles. Finally, pulmonary instillation of carbon nanotubes produced neutrophil lung influx 24 hours later. Circulating platelet-leukocyte conjugates were elevated 6 hours after exposure, whereas procoagulant microvesicular tissue factor activity and peripheral thrombotic potential were increased 24 hours later. Inhibition of P-selectin abrogated these responses, which demonstrates that rapid activation of circulating platelets by the pulmonary deposition of PM plays a vital role.[340] This series of studies suggests that release of lung cell–derived mediators (eg, histamine) after several hours along with the more rapid activation of circulating platelets by lung inflammation via P-selectin–dependent processes may mediate distant system prothrombotic effects without necessarily inducing systemic endothelial damage.

In a study using C57BL/6J mice, intratracheal PM_{10} particles rich in transition metals decreased bleeding, prothrombin, and activated partial thromboplastin times and enhanced the levels of several coagulation factors as well as thrombosis times in response to experimental $FeCl_3$ injury.[316] This prothrombotic effect was mitigated in IL-$6^{-/-}$ and macrophage-depleted mice, which suggests that IL-6, lung macrophages, and pulmonary inflammation are necessary initial steps. It is possible, however, that coarse-particle components (eg, endotoxin) could have been important mechanistically via TLR activation. The effect of fine PM or UFPs per se requires more investigation. Chronic ambient exposure to $PM_{2.5}$ has also been shown to increase tissue factor expression in macrophages and smooth muscle cells in atherosclerotic lesions. Complementary in vitro studies with cultured human smooth muscle cells and monocytes demonstrate dose-dependent increases in tissue factor in response to collected ambient particles.[341] Other findings also support potential procoagulant and thrombotic effects of PM.[342,343] These collective studies suggest that both short- and long-term PM inhalation can enhance thrombotic and coagulation tendencies, potentially via increases in circulating histamine and inflammatory cytokines and/or activated white cells and platelets. The plausibility of these pathways is supported by the well-recognized cross talk between inflammation and thrombosis.[344] Potential additional roles for UFPs or soluble constituents that reach the circulation and directly enhance platelet aggregation or systemic oxidative stress (thus activating the endothelium and blunting platelet-derived nitric oxide) require more investigation.

Systemic and Pulmonary Hypertension

Early animal studies suggested small or inconsistent effects of PM on BP,[345–347] sometimes dependent on the season[348] of exposures. A potential explanation may be variations in experimental protocols, including differences in the delivery, duration, and composition of exposure and the methods used to measure BP. Moreover, PM by itself may represent a relatively weak stimulus but may act more robustly in concert with other predisposing factors to affect BP. Sun et al[333] recently demonstrated a significant interactive effect of fine-CAP exposure with the vasoconstrictor angiotensin II in rats. Preexposure to $PM_{2.5}$ for a 10-week period resulted in enhancement of its prohypertensive response measured continuously by intra-arterial radiotelemetry. The exaggerated BP elevation was accompanied by endothelial dysfunction, including blunted endothelium-dependent vasodilation and enhanced vasoconstrictor reactivity, along with upregulation of NAPDH oxidase and Rho-kinase–signaling pathways. In vitro exposure to UFPs and $PM_{2.5}$ was also associated with an increase in Rho-kinase activity, phosphorylation of myosin light chain, and myosin phosphatase target subunit. Pretreatment with the nonspecific antioxidant *N*-acetylcysteine and Rho-kinase inhibitors prevented these responses, which suggests an ROS-mediated mechanism for particle-mediated effects on vascular smooth muscle constriction. Further

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studies corroborated the role of exaggerated Rho-kinase pathway activity in potentiating the hypertensive response to angiotensin II in mice exposed to $PM_{2.5}$.[349] Moreover, particle exposure augmented angiotensin-mediated cardiac hypertrophy and collagen deposition. Blockade of Rho-kinase abolished these effects. These responses suggest that chronic $PM_{2.5}$ exposure disrupts normal vascular homeostasis and vasoactive mediator balance through ROS-dependent mechanisms in a manner that sensitizes the vessel toward vasoconstrictors. Activation of RhoA/Rho-kinase signaling pathways appears to play an important mechanistic role.

In conscious canines with implanted BP catheters, systemic arterial BP increased and baroreceptor sensitivity was rapidly altered over a few hours during CAP exposure.[350] Interestingly, α-adrenergic antagonism abrogated the responses. The findings support a mechanistic role for acute activation of the sympathetic nervous system by inhaled particles. In a study with Wistar-Kyoto male rats, CAP exposure for 4 days upregulated ET-A receptor expression in the heart. This alteration was also weakly correlated with an increase in BP, which suggests a role for enhance ET activity.[351] PM has also been demonstrated to alter the release of ET-1 and ET-3 from the lungs.[352] Elevation in pulmonary vascular resistance and pulmonary arterial pressure, which suggests constriction of the pulmonary vessels, has also been demonstrated in response to respirable carbon black particles.[353] Recently, ultrafine carbon particles were shown to increase BP in spontaneously hypertensive rats 1 to 3 days after a 24-hour exposure.[354] This response occurred concomitant with increased ET-1 messenger ribonucleic acid levels in lung tissue and small elevations in plasma renin concentration and angiotensin I and II in the systemic circulation. These findings further support the idea that ET may play a role in cardiovascular responses to PM exposure and suggest that activation of the renin-angiotensin system may also be involved. It is not clear whether the elevated circulating ET levels reflect increased release from the lungs and whether this mediates a systemic vasoconstrictor response. Alternatively, the increase may be more indicative of enhanced vascular tissue activity of these systems. Longer-term exposures of carbon black for 4 weeks in Sprague-Dawley rats has also been shown to significantly increase systolic BP concomitant with increases in serum levels of IL-6 and CRP.[355]

Finally, in vitro exposure to soluble and insoluble components of UFPs induces constriction in isolated pulmonary arterial rings and activates intracellular signaling pathways such as phosphorylation of extracellular signal–regulated kinase-1/2 and p38 mitogen-activated protein kinase in pulmonary endothelial cells. These effects were antagonized by losartan, and several metal components (copper and zinc) could replicate the responses.[295] This suggests a possible role for activation of angiotensin II receptor pathways relevant for the maintenance of vasomotor tone and smooth muscle constriction after inhalation of metal constituents within PM.

In sum, the studies demonstrate that long-term PM exposures over a period of weeks are capable of enhancing vasoconstrictive responsiveness of the vasculature (eg, increased Rho-kinase activity and reduced nitric oxide bioavailability) by inflammatory and ROS-dependent cell-signaling pathways. Shorter-term exposures over several hours to days may lead to vasoconstriction and increased pulmonary and systemic BP by pathways dependent on enhanced ET or angiotensin II signaling. Lung cells may release ET into the systemic circulation and thus increase its systemic activity, or the vascular ET system may be relatively upregulated because of increased ROS or reduced nitric oxide. Activation of the renin-angiotensin system may also occur because of systemic oxidative stress or inflammation or as a consequence of ANS imbalance. The very acute increase in BP that occurs concomitant with the inhalation of particles or within only minutes to hours after exposure appears to be mediated by autonomic imbalance that favors a relative activation of the sympathetic nervous system. No study has evaluated the effect of air pollution on renal sodium handling or long-term pressure natriuresis mechanisms, which are fundamental to the generation of chronic hypertension.

Vascular Dysfunction and Atherosclerosis

Many early experiments demonstrated the capacity of PM constituents to blunt nitric oxide–dependent dilation and enhance vasoconstrictor tone in ex vivo vascular studies because of excess ROS formation.[1] The first in vivo experiment demonstrated the proatherosclerotic actions of intratracheal PM_{10} instillation.[356] More recently, the pulmonary instillation of several different PM types was shown to rapidly impair microvascular endothelium-dependent vasodilation within days, likely by proinflammatory or ROS-dependent mechanisms (eg, myeloperoxidase).[332] Several animal studies have now demonstrated that long-term exposure to ambient $PM_{2.5}$, by use of ambient-exposure facilities without direct pulmonary instillation, not only causes endothelial dysfunction but also accelerates the progression of atherosclerosis. Sun et al[334] demonstrated that exposure of atherosclerosis-prone $ApoE^{-/-}$ mice to environmentally relevant levels of CAP, derived from regional northeastern $PM_{2.5}$, for 6 months in conjunction with a high-fat chow diet potentiated plaque development and heightened vascular inflammation (CD68+ macrophage infiltration and inducible nitric oxide synthase expression) and oxidant stress. The atherosclerotic plaque progression was also accompanied by alterations in vasomotor tone, including decreased endothelium-dependent vasodilation and heightened vasoconstriction to adrenergic stimuli. Importantly, the normalized average $PM_{2.5}$ concentration over the entire period was 15.2 $\mu g/m^3$, which approximates the annual NAAQS. Similar findings were reported in other chronic CAP exposures that involved an $ApoE^{-/-}$ model.[357] However, exposures to a double-knockout model of ApoE-deficient and low-density lipoprotein receptor–deficient mice increased plaque cellularity, reflective of inflammation, but did not enhance plaque burden. It is possible that the atherosclerotic severity of this phenotype precluded the observation of more subtle effects of CAP exposures.

Intratracheal instillation of UFP can acutely impair aortic endothelium-dependent vasodilation.[358] Moreover, repeated 10-week-long endotracheal dispersion of UFP carbon black increased atherosclerosis in low-density lipoprotein receptor–

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knockout mice.[359] This occurred without evidence of systemic translocation of particles into the cardiovascular tissues. UFP inhalation by use of exposure facilities has also recently been shown to augment atherosclerosis, perhaps to a greater degree than $PM_{2.5}$. When investigating the effects of different PM size fractions, Araujo et al[331] compared the proatherogenic potential of exposure over 40 days to ambient particles <0.18 μm versus $PM_{2.5}$ in $ApoE^{-/-}$ mice. UFPs caused more adverse cardiovascular responses (eg, systemic oxidative stress, impaired high-density lipoprotein function) and greater potency in accelerating atherosclerotic lesion formation, although $PM_{2.5}$ did demonstrate qualitatively similar effects. Recent studies have also demonstrated that PM exposure likely promulgates systemic atherosclerosis by mechanisms that overlap those of other conventional cardiovascular risk factors.[360] Intratracheal instillation of PM_{10} particles caused a rapid impairment in endothelium-dependent vasodilation, stimulation of bone marrow–derived cells, and increased migration of monocytes into atherosclerotic plaques.[361,362] Systemic inflammation (IL-6) was also related to the degree of endothelial dysfunction.[314] Finally, the most compelling evidence for rapid impairment in nitric oxide bioavailability being directly involved in the origin of PM-induced endothelial dysfunction was demonstrated recently. Both fine-PM and UFM inhalation for only a few hours in normal rats blunted agonist-stimulated nitric oxide production within the microvasculature, measured by direct electrochemical sensors, concomitant with an observed impairment in vasomotor relaxation. Inhibition of myeloperoxidase or NADP(H) oxidase partially restored normal nitric oxide bioavailability and endothelial function, which suggests a role of activation of these endogenous radical-generating enzymes in this biological response.[363]

Potentially relevant adverse vascular effects of nonparticulate PM components should not be discounted. There may also exist some synergy between vapor phase, gas, and particle constituents in relation to instigation of cardiovascular responses. Recently,[364] it was demonstrated in $apoE^{-/-}$ mice that whole gasoline engine exhaust over 1 or 7 days increased vascular messenger ribonucleic acid expression of matrix metalloproteinase (MMP)-2 and MMP-9. Levels of ET-1 and ROS were similarly increased. The vascular ROS and MMP-2 elevations were attenuated by tempol. Endothelial receptor antagonism ameliorated the vascular expression of MMP-2, MMP-9, and ROS. In separate experiments, diesel exhaust exposure to rats for 5 hours augmented ET-induced vasoconstriction, potentially via a blunting of ET-B–induced nitric oxide release.[365] The findings suggest that exposure to a fresh mixture of PM, gases, and vapors may play a role in rapidly triggering atherosclerotic plaque vulnerability via ROS and ET-dependent upregulation of MMP levels.

Some studies suggest that predisposed animals may be more susceptible to air pollution–mediated vascular dysfunction. Diesel exhaust particles delivered by intraperitoneal injection impaired nitric oxide–dependent vasodilation only in $apoE^{-/-}$ mice with atherosclerosis and not in healthy control animals.[366] Aortas from prediabetic rats were found to be more susceptible to repeated exposures to oil combustion particles in causing noradrenergic-mediated constriction and impaired endothelium-dependent vasodilation.[367]

Taken together, the available studies suggest that short- and long-term particle exposures (including PM_{10}, $PM_{2.5}$, and UFP) can impair conduit and resistance arterial endothelium-dependent vasodilation. Chronic exposures have been shown to be capable of promoting atherosclerosis progression and enhancing plaque vulnerability. The underlying mechanisms likely involve vascular sequelae of systemic inflammation (due to interactions with innate immune cells and cytokines) or exaggerated oxidative stress pathways. Excess vascular ROS and inflammation will impair endogenous vasodilator bioavailability (eg, nitric oxide), enhance vasoconstrictor tone (eg, ET), and chronically activate multiple intracellular pathways that promote atherosclerosis.[368–370]

Heart Rate Variability

Some of the earliest indications of systemic effects of PM came from ECG studies in rats.[371] In general, reductions in several measures of HRV have been shown.[372–376] Most of the recent research has focused on exploring the roles of susceptibility and exposure characteristics. Decreases in heart rate and HRV indices have been reported to be pronounced in senescent mice, which indicates that aging may be a susceptibility factor.[353] Using an anesthetized model of postinfarction myocardium sensitivity, Wellenius and colleagues[377] did not demonstrate an effect of 1 hour of CAP exposure on heart rate or spontaneous ventricular arrhythmias. In contrast, in a post-MI heart failure model in Sprague-Dawley rats, diesel exhaust emissions reduced HRV in both healthy and heart failure groups and increased the incidence of premature ventricular contractions. Studies in mice have also indicated a potential role for transition metals and nickel in HRV alterations[376] and provide initial clues on the PM components that could influence autonomic tone.[48]

Some beginning insight into the neural pathways involved has been reported recently. PM-induced ECG changes in rats were shown to be prevented by inhibiting the transient receptor potential vanilloid receptor in the lungs. This suggests that the relevant neural mechanism that leads to alterations in HRV or heart rhythm may be induced by activation of receptor-mediated autonomic reflexes in the lung.[335] Circulating particle constituents or inflammatory mediators interacting with myocardial ion channels or electrophysiology did not appear to be a pertinent mechanism, at least in these studies.[335] However, it is unknown whether similar mechanisms can account for the HRV changes observed in humans, and a more detailed understanding of the anatomic pathways involved is required. Finally, it remains unclear whether the changes in cardiac HRV are actually caused by or merely illustrate an underlying alteration in ANS balance. Experiments that clearly define the direct contribution of sympathetic and parasympathetic nervous system activities (eg, microneurography, norepinephrine spillover rates, or autonomic receptor or ganglionic blockade) are needed.

MI and Arrhythmia

PM exposure can increase experimental infarct size and potentiate myocardial ischemia and arrhythmias in experi-

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mental MI models. Relatively high concentrations of intratracheal UFP instillation induced pulmonary inflammation and doubled MI size in mice.[358] Conscious dogs exposed to fine CAP for several days experienced greater ST-segment changes during transient coronary artery occlusion.[378] These studies suggested that particulate-related changes in myocardial blood flow may be responsible, a hypothesis recently supported by experiments in chronically instrumented dogs exposed to fine CAP before transient occlusion of the left anterior descending artery. PM exposure was associated with a small but significant decrease in total myocardial flow, especially in the ischemic zone, and increases in coronary vascular resistance without an alteration in rate-pressure product.[379] The abnormalities were inversely related to PM mass, particle number, and black carbon concentration.

Exposure to residual oil fly ash increases arrhythmia frequency in rats with preexisting premature ventricular complexes, which suggests that PM sensitizes ischemic myocardium to abnormal automaticity[372]; however, CAP had no effect in rats.[380] Nevertheless, the data suggest that PM exposure may potentially be capable increasing the sensitivity of the myocardium to ischemia, likely by impairing myocardial blood flow and perfusion. In theory, this could play a role in enhancing the propensity for ventricular arrhythmias.

Insulin Resistance

Recently, Sun et al[319] exposed C57BL/6 mice fed high-fat chow to fine CAP or filtered air for 24 weeks. Mice exposed to $PM_{2.5}$ exhibited marked worsening of whole-body insulin resistance, systemic inflammation (increased IL-6 and TNF-α), and higher levels of adipokines, such as resistin and plasminogen activator inhibitor-1. $PM_{2.5}$ increased visceral adiposity and inflammation ($F4/80^+$ cells), with stromal vascular cells expressing higher TNF-α and IL-6 and lower IL-10 levels. Exposure also induced insulin-signaling abnormalities and reduced phosphorylation of Akt and endothelial nitric oxide synthase in aortic tissue, accompanied by abnormalities in vascular relaxation to insulin. Additionally, there was evidence that $PM_{2.5}$ exaggerated adhesion of monocytes in mesenteric microvessels, culminating in accumulation in visceral adipose. These intriguing findings suggest that longer-term exposure to PM air pollution may promote the chronic development of insulin resistance, obesity, and the metabolic syndrome.

Controlled-Exposure Studies in Humans

Several new human exposure studies have been published, a few of which have even included patients with CVD or risk factors. Similar to the animal studies, large variations among the exposure protocols, measured outcomes, and subject susceptibilities likely explain much of the differences among findings and must be considered when interpreting the results.

Systemic Inflammation

Controlled human exposure studies have measured the effects on circulating inflammatory markers such as CRP, IL-6, and TNF-α. In many of these single-episode short-term exposures, no overt changes in plasma cytokine levels were observed after CAP[381–383] or diesel exhaust.[345,384–386] Similarly, CRP levels have not consistently been found to increase in the time frame and context of most of these studies.[313,384–386]

However, there have also been some positive findings. Increases in IL-6[313] and TNF-α 24 hours after exposure to diesel exhaust in healthy adults have been reported. High levels of ambient particles can stimulate the bone marrow to enhance the release of neutrophils, band cells, and monocytes into the circulation, which causes a cellular inflammatory response.[387,388] Some controlled-exposure studies corroborate the existence of a cellular proinflammatory response that manifests as increases in circulating white blood cell or immune cell counts. In 1 study, increased peripheral basophils in healthy older adults were noted 4 hours after a 2-hour exposure to fine CAP.[389] In a similar study, increased white blood cell counts were observed in healthy young adults 12 hours after exposure.[381] Recently, investigators observed an increased in total white blood cell and neutrophil levels immediately after a 2-hour exposure to CAP in downtown Toronto, Ontario, Canada.[390] Conversely, decreases in blood monocytes, basophils, eosinophils, and CD54 and CD18 adhesion molecule expression on monocytes after exposure to ultrafine carbon (10 to 50 $\mu g/m^3$) among exercising asthmatic individuals and healthy adults have also been reported.[391] The authors suggested in the latter study that these results may represent the sequestration of these cells in tissue compartments such as the lung or vasculature, where there may be selective expression of the corresponding receptors for these ligands.[362] However, other recent human clinical studies have found no association between peripheral blood cell counts and exposure to fine PM or UFPs such as zinc oxide,[392] ultrafine carbon,[393] or diesel exhaust.[313,384,385]

More subtle, yet physiologically relevant or functional proinflammatory changes may be overlooked by the measurement of circulating cytokines or cell counts alone in human studies. Peretz et al[394] recently evaluated gene expression using an expression array in monocytes after 2 hours of exposure to diesel exhaust. Although initially a small study, 10 genes involved in the inflammatory response were modulated in response to exposure (8 upregulated, 2 downregulated). These findings will need to be reproduced in larger studies and raise the possibility that functional changes in inflammatory cells may occur without discernible changes in their levels in the peripheral circulation.[394]

In sum, the findings from controlled human exposures do not demonstrate a robust inflammatory response; however, they have been limited by the fact that they are, by necessity, of short duration and relatively low concentration. Additionally, the results do not preclude an effect of higher exposures, the presence of more subtle responses, or alterations in other cellular inflammatory pathways not measurable by circulating markers.

Systemic Oxidative Stress

The demonstration of systemic oxidative stress is difficult in human studies. Nonetheless, a few studies have reported positive findings. These include an increase in urinary excre-

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tion of free 8-iso-prostaglandin-2α among healthy adults after a 4-hour exposure to concentrated wood smoke[395] and an increase in plasma antioxidant capacity 24 hours after a 1-hour exposure to diesel exhaust in a group of healthy volunteers.[313] The investigators speculated that systemic oxidative stress after exposure may have been responsible for this upregulation in antioxidant defense.[313] Other investigators[394] have observed significant differences in expression of genes involved in oxidative stress pathways due to diesel exhaust exposure. Bräuner et al[167] recently investigated the effect of ultrafine traffic particles on oxidative stress–induced damage to DNA in healthy young adults exposed to low concentrations of ambient urban particles ($PM_{2.5}$ and $PM_{10-2.5}$ mass of 9.7 and 12.6 $\mu g/m^3$, respectively) in an exposure chamber above a busy road with high traffic density. The authors observed increased levels of DNA strand breaks and formamidopyrimidine-DNA glycosylase sites in monocytes after exposure to PM but no changes in the DNA repair enzyme 7,8-dihydro-8-oxoguanine-DNA glycosylase. Similar to their previous findings with ambient levels,[168] the results suggest that short-term exposure to UFPs may result in damage to DNA. This may occur through oxidative stress pathways, although there was no increase in messenger ribonucleic acid levels in heme oxygenase-1, a gene known to be regulated by Nrf2, a transcription factor regulated by oxidative stress.[396] Moreover, more recent observations by the same investigators failed to demonstrate significant biomarker signals for lipid or protein oxidative damage after similar near-roadway exposures.[178] Although not entirely consistent, the available studies demonstrate that acute exposure to PM, perhaps even at ambient levels, may be capable of inducing acute systemic oxidative stress in human subjects under certain circumstances. The assays used to assess the footprint of systemic "oxidative stress" or damage may also play a significant role in the results.

Thrombosis and Coagulation

Several new studies of controlled human exposure have evaluated the effects of PM on hemostatic markers (eg, factor VII, fibrinogen, platelet count, D-dimer, and von Willebrand factor). Although some of these studies have not observed changes after acute exposures,[392] others have reported increases in fibrinogen levels at 8 to 24 hours after exposure to CAP.[381,397] Mills and colleagues[384,385] recently demonstrated a significant effect of diesel exhaust on fibrinolytic function in response to intermittent exercise both in healthy men and in men with coronary heart disease. In both groups of volunteers, bradykinin-induced release of tissue plasminogen activator was observed to decrease compared with filtered air at 6 hours after exposure to diesel exhaust. These perturbations in tissue plasminogen activator release did not persist 24 hours after exposure.[313] In a randomized, controlled crossover study involving "at-risk" metabolic syndrome patients, no changes in plasminogen activator inhibitor-1 were noted over a 24-hour duration; paradoxically, a decrease in von Willebrand factor was noted in this study.[398] In a similar experiment conducted in healthy adults, diesel exhaust had no effect on D-dimer, von Willebrand factor, CRP, or platelet counts compared with filtered air up to 22 hours after exposure.[386] Other investigators[395] recently evaluated the effect of wood smoke on markers of coagulation, inflammation, and lipid peroxidation in young healthy subjects. Serum amyloid A and the ratio of factor VIII to von Willebrand factor, an indicator of an increased risk of venous thromboembolism, were increased at 4 hours after exposure.[395] Samet et al[383] reported an association between various coagulation markers and exposure to ultrafine, fine, and thoracic coarse CAP among healthy young adults. Although exposure to coarse CAP did not result in significant changes in hemostatic variables, the overall trend suggested a prothrombotic effect. Exposure to UFPs increased D-dimer levels, whereas fine-CAP effects tended to increase fibrinogen, similar to previously reported findings.[381]

The measurement of blood levels of coagulation factors or biomarkers of thrombosis could potentially miss a relevant biological effect at the vascular wall. Recently, ex vivo thrombus formation was assessed by use of the Badimon chamber after controlled exposures to dilute diesel exhaust in healthy volunteers.[399] This protocol measures thrombus formation in native (nonanticoagulated) whole blood triggered by exposure to a physiologically relevant substrate, under flow conditions that mimic those found in diseased coronary arteries. It may therefore provide a superior estimate of actual in vivo conditions related to thrombosis potential. Interestingly, dilute diesel exhaust exposure increased thrombus formation within 2 hours, in association with increased platelet activation (ie, increased circulating platelet-monocyte aggregates and soluble CD40 ligand). Taken together, these new studies have provided additional evidence that short-term exposure to PM at near-ambient levels may have small yet potentially significant effects on hemostasis in humans. Whether direct interactions of circulating PM constituents with platelets, activation of platelets due to lung inflammation or secondary to elevated systemic cytokine levels, or an increase in procoagulant factors (eg, fibrinogen) as an acute-phase response to inflammation (or a combination of these pathways) is responsible warrants attention in future studies.

Arterial BP

Although several studies have evaluated the BP response to acute exposures, many inconsistencies in results have been reported.[400] This must be considered in the context that BP was not the primary outcome of interest in most studies, nor was it typically assessed with adequate sophistication. In one of the earliest studies, $PM_{2.5}$ increased systolic BP in healthy subjects but decreased it in asthmatic individuals.[401] Three other controlled studies did not report changes among healthy adults.[345,402,403] However, in a more detailed reanalysis of the changes in BP during the actual period of exposure to CAP plus ozone, Urch et al[404] found a significant increase in diastolic BP of 6 mm Hg. The magnitude of response was associated with the concentration of organic carbon within $PM_{2.5}$.[405] Recent follow-up studies redemonstrated an acute prohypertensive response during the inhalation of CAP in 2 separate cities.[390] The $PM_{2.5}$ mass during exposure and decreases in several HRV metrics were associated with the

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magnitude of the short-lived diastolic BP elevation. This suggested that the most plausible mechanism for this acute response was CAP-induced ANS imbalance that favored sympathetic over parasympathetic cardiovascular tone. Whether this reaction occurred because of a generalized stress response, as a consequence of specific soluble PM constituents directly altering central nervous system activity, or via altered ANS reflex arcs due to the interaction of inhaled particles with lung receptors/nerve endings remains to be elucidated.

The effect of inhaled particulates on BP has also been investigated in several other recent controlled human exposure studies. Two new studies assessed BP changes after a 1-hour exposure to diesel exhaust. Mills et al[384] found a 6-mm Hg increase in diastolic BP 2 hours after exposure, which was of marginal statistical significance ($P=0.08$); however, this trend did not persist for 24 hours,[384] nor was it found among patients with coronary artery disease.[385] The available data to date suggest that short-term exposure to $PM_{2.5}$ or diesel exhaust is capable in certain circumstances of rapidly raising BP. The most consistent and largest effects were seen concomitant with the inhalation of particles. Thus far, the most likely mechanism for such rapid hemodynamic responses appears to be ANS imbalance. However, it is possible that reductions in nitric oxide bioavailability that modulate basal arterial tone toward vasoconstriction or increases in ET among other hemodynamically active molecules (eg, angiotensin II) also play a role in some circumstances.

Vascular Dysfunction

The first controlled human exposure study related to vascular function reported that CAP plus ozone exposure caused acute conduit arterial vasoconstriction in healthy adults.[1] Endothelium-dependent and -independent vasodilation remained intact. Recent follow-up experiments determined that $PM_{2.5}$, not ozone, was responsible for the adverse vascular effects. However, in these subsequent and larger experiments, fine-CAP exposure did prove capable of diminishing conduit artery endothelium-dependent vasodilation 24 hours (but not immediately) after exposure.[390] Postexposure $PM_{2.5}$ mass and TNF-α level were both associated with the degree of endothelial dysfunction, which suggests that systemic inflammation induced by higher levels of particles was likely responsible. Finally, the CAP-induced endothelial dysfunction occurred during exposures in Toronto, Canada, but not Ann Arbor, Mich, which suggests that the composition of the particles is probably an important determinant of the vascular responses.

An acute alteration in vascular function/tone after short-term controlled PM air pollution exposure was corroborated recently.[406] In 27 adults (10 healthy adults and 17 with the metabolic syndrome), a 2-hour exposure to dilute diesel exhaust caused a dose-dependent constriction of the brachial artery and elevation in plasma ET level without impairing endothelium-dependent vasodilation. Contrary to the hypothesis that metabolic syndrome patients would show greater effects, vasoconstriction was greater in magnitude among the healthy participants. In an additional study, 2-hour exposure to UFPs composed of elemental carbon impaired peak forearm blood flow response to ischemia 3.5 hours later. There were no other vascular changes or alterations at other time points. BP was also not affected.[407]

Several recent studies have also shown that dilute diesel exhaust can impair peripheral resistance vessel responses to acetylcholine, bradykinin, and nitroprusside 6 hours after exposure.[384] The blunted responses to acetylcholine persisted for 24 hours in healthy adults.[313] In contrast, bradykinin and sodium nitroprusside–mediated vasodilation and bradykinin-induced acute plasma tissue plasminogen activator release were not altered 24 hours later. In subsequent studies, patients with stable coronary artery disease exposed to dilute diesel exhaust for 1 hour during intermittent exercise demonstrated reduced bradykinin-mediated tissue plasminogen activator release; however, microvascular endothelial function was not impaired.[385] This may be related to some degree of preexisting endothelial dysfunction in these patients. However, exercise-induced ST-segment depression and ischemic burden were significantly greater during diesel compared with filtered air exposure. These important findings experimentally highlight that PM air pollution exposure can trigger, or augment existing, myocardial ischemia extremely rapidly (in fact, concomitant with exposure). Reduced coronary flow reserve (that was not observed or resolved at the time of the postexposure brachial artery studies) due to rapid alterations in coronary microvascular function may have contributed to the acute myocardial ischemia. Alternatively, acute ANS imbalance induced by diesel exhaust inhalation may have acutely altered coronary tone and impaired myocardial perfusion.

In a study that exposed healthy young adults to 100 $\mu g/m^3$ of diesel exhaust for 2 hours,[364] it was recently demonstrated that this air pollution mixture acutely raised plasma ET-1 and MMP-9 expression and activity within 30 minutes. These results corroborate the animal data that even short-term exposures can rapidly alter factors, such as MMP activity, that are mechanistically linked with causing atherosclerotic plaque disruption (and thus acute MI). The increase in ET levels also corroborates previous studies[406] that showed that diesel exhaust can acutely affect important endogenous regulators of vasomotor tone.

Controlled air pollution exposures have not always been shown to impair endothelial function or vasomotor tone. Despite an increase in exhaled 8-isoprostane concentrations that suggested pulmonary oxidative stress, fine CAP did not affect brachial flow–mediated dilation or basal diameter in northern Scotland exposures.[382] However, the $PM_{2.5}$ consisted of relatively inert ambient sea-salt particles and was extremely low in combustion-derived sources. This is in contrast to the particle chemistry in the investigators' previous diesel exposure studies that showed positive findings.[408,409] Moreover, 24-hour exposure to ambient pollution shunted into a chamber next to a busy street did not impair microvascular endothelial function in 29 healthy subjects, as assessed by digital tonometry.[178] This exposure to near-roadway ambient air, which consisted of ambient UFP and $PM_{2.5}$, did not alter biomarkers of inflammation, hemostasis,

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or protein and lipid oxidation. The authors speculated that the relatively low concentrations of UFP numbers and PM mass or the young, healthy status of the subjects could explain the null findings. Taken together, these studies suggest that brief PM exposure can trigger conduit arterial vasoconstriction, possibly in relation to increased ET activity or augmented sympathetic ANS tone. Under certain circumstances, conduit and resistance arteriole endothelium-dependent vasodilation can also be impaired within a few hours. This abnormality is more likely due to reduced nitric oxide bioavailability as a consequence of systemic proinflammatory and oxidative responses; however, alternative mechanisms and endogenous vasoactive pathways have not been fully explored. It is also apparent that the composition, source, and concentration of pollution, along with the susceptibility of the human subjects, play important roles in determining the vascular effects of acute air pollution exposure.

Heart Rate Variability

The results of several new controlled human exposure studies provide limited evidence to suggest that acute exposure to near-ambient levels of PM may be associated with small changes in HRV. There are at least 4 studies to support this. In the first study, healthy elderly individuals experienced significant decreases in HRV immediately after exposure.[233] Some of these changes persisted for at least 24 hours. Gong et al[410] studied healthy and asthmatic adults exposed to coarse CAPs with intermittent exercise. HRV was not affected immediately after the exposure but decreased in both groups at 4 and 22 hours after the end of the exposure; greater responses were observed in nonasthmatic individuals.[410] In another study, healthy elderly subjects and patients with chronic obstructive pulmonary disease were exposed to approximately 200 $\mu g/m^3$ CAP and filtered air for 2 hours with intermittent mild exercise. HRV over multihour intervals was lower after CAP than after filtered air in healthy elderly subjects but not in subjects with lung disease. A significant negative effect of CAP on ectopic heartbeats during or after CAP exposure relative to filtered air was noted in the healthy subjects, whereas the group with pulmonary disease experienced an improvement during or after CAP relative to filtered air.[389] Other investigators recently compared the effects of 2-hour exposures with intermittent exercise to ultrafine (average concentration 47 $\mu g/m^3$), fine (average concentration 120 $\mu g/m^3$), and coarse (average concentration 89 $\mu g/m^3$) CAP among healthy subjects.[383] In both the ultrafine and coarse studies, a crossover design was used in which each subject was exposed to both PM and filtered air. In the case of the fine-PM study, subjects did not serve as their own control but were exposed to either PM or filtered air. Thoracic coarse fraction CAP produced a statistically significant decrease in the standard deviation of normal-to-normal heart rate 20 hours after exposure compared with filtered air. No statistically significant effects on HRV were observed after exposure to UFPs as measured during controlled 5-minute intervals. However, the authors did observe a significant decrease in the standard deviation of normal-to-normal heart rate after exposure to UFPs based on an analysis of the 24-hour measurements. No differences were reported in HRV with fine-PM exposures. Although some controlled-exposure studies have reported either no acute changes[390] or, on occasion, increases in HRV metrics in subsets of individuals,[208,393,401] these studies generally demonstrate that acute PM exposure is capable of reducing HRV. More consistent reductions have been found among older adults (compared with younger subjects or those with lung diseases, who show mixed responses) and perhaps with exposures to larger particles.[233,389] Whether pulmonary ANS reflex arcs are activated by the deposition of PM within the lung or whether other pathways are responsible for these physiological changes in human exposure studies requires more investigation.

Table 7. Summary of Level of Evidence Supporting Global Biological Pathways and Specific Mechanisms Whereby $PM_{2.5}$, Traffic-Related, or Combustion-Related Air Pollution Exposure Can Affect the Cardiovascular System

	Animal Studies	Human Studies
General "intermediary" pathways whereby PM inhalation can instigate extrapulmonary effects on the cardiovascular system		
Pathway 1: Instigation of systemic proinflammatory responses	↑ ↑ ↑	↑ ↑ ↑
Pathway 2: Alterations in systemic ANS balance/activity	↑	↑ ↑
Pathway 3: PM and/or associated constituents directly reaching the systemic circulation	↑	↑
Specific biological mechanisms directly responsible for triggering cardiovascular events		
Vascular dysfunction or vasoconstriction	↑ ↑ ↑	↑ ↑
Enhanced thrombosis or coagulation potential	↑ ↑	↑ ↑
Elevated arterial BP	↑ ↑	↑ ↑
Enhanced atherosclerosis or plaque vulnerability	↑ ↑	↑
Arrhythmias	↑	↑

The arrows are not indicators of the relative size of the association but represent a qualitative assessment based on the consensus of the writing group of the strength of the mechanistic evidence based on the number and/or quality, as well as the consistency, of the relevant studies.

↑ ↑ ↑ Indicates strong overall mechanistic evidence.

↑ ↑ Indicates moderate overall mechanistic evidence.

↑ Indicates some but limited or weak available mechanistic evidence.

Blank indicates lack of evidence.

Evidence Summary and Contextual Framework for Biological Mechanisms

Table 7 provides an outline of the level of evidence supporting the generalized intermediary pathways and specific mechanisms whereby PM exposures can be capable of eliciting

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cardiovascular events. At the molecular level, oxidative stress as a critically important cause and consequence of PM-mediated cardiovascular effects has a sound experimental basis.[261,290b,294,319,333,334,345–349,351,361–364,411] At the integrated physiological level, the collective body of evidence continues to support the existence of 3 general pathways (Figure 3). Some of these responses, such as systemic inflammation (via pathway 1), likely require antecedent pulmonary oxidative stress or inflammation in order to be initiated. Others, including ANS imbalance (via pathway 2) and PM or its constituents reaching the systemic circulation (via pathway 3), may not. Although PM-associated metals[412] and certain UFPs[261,413–415] might be capable of translocating into the blood stream, some studies have been negative in this regard.[355,416] Many issues related to this pathway are controversial and require resolution.[416] These include the relevance of the dosages delivered to cardiovascular organs, the consequences of particle constituent modifications after interactions with lung tissue/fluids and plasma components, the means of transport within the circulation (eg, protein bound or within cells),[417] and the time course and ultimate sites of PM sequestration. It is also possible that increases in some vasoactive mediators or molecules with adverse effects on cardiovascular tissue, such as ET-1,[351–354] may occur in the lung and systemic circulation without the need for antecedent lung inflammation. Moreover, the 3 general pathways represent a simplification of complicated biological processes. They may not be mutually exclusive, may overlap temporally, and likely exhibit synergies in causing manifest cardiovascular disease events. Many of the biological pathways are also known to exhibit mutual interactions (eg, inflammation with thrombosis/coagulation and with autonomic function). The pathways are also likely to be principally active at differing time points (eg, more rapid cardiovascular effects of autonomic imbalance than systemic inflammation) and likely vary in importance in relation to different durations of exposure and in causing different cardiovascular sequelae. The chemical characteristics and sizes of inhaled PM may also determine the pathways activated. As opposed to UFPs or some particulate components or chemicals, larger fine and coarse PM are not likely transported into the circulation to any large degree and therefore are more apt to require intermediary pathways to cause extrapulmonary effects. It may also be that surface-bound components may be delivered into the circulation, whereas larger particles themselves serve as a means to deliver the responsible constituent into the pulmonary tree.

The hyperacute physiological responses that occur minutes to hours after PM inhalation are likely mediated principally via pathways 2 and 3. These include ANS-mediated changes (eg, elevated BP, arrhythmias, and vasoconstriction), along with direct effects of circulating PM constituents on platelets (eg, procoagulant and thrombotic changes) and the endothelium (eg, oxidative stress and vasoconstriction). These responses are liable to be the dominant mechanisms responsible for the actual triggering of acute cardiovascular events. Clinically meaningful effects undoubtedly become manifest only in the context of a susceptible patient, typified by the individual with "vulnerable plaque" in the case of acute coronary syndromes or strokes, "vulnerable myocardium" in the context of arrhythmias, or the "vulnerable circulation" in the context of a heart failure patient at risk for circulatory overload. On the other hand, the biological consequences of systemic inflammation, such as activated white cells and elevated cytokines (via pathway 1), typically require longer periods. Their penultimate effect is the induction of a chronic underlying vulnerable milieu that leads to atherosclerotic plaque vulnerability, enhanced coagulation/thrombotic and arrhythmia potential, and impaired basal vasomotor balance. These actions thereby predispose individuals for future cardiovascular events, particularly when they occur in conjunction with traditional risk factors or prompt susceptibility to the acute biological actions (via pathways 2 and 3) of later air pollution exposures.

This hypothetical segregation of the biological effects of PM exposure as acute or chronic and into the broad pathways is artificial. It is useful in the broad context of understanding potential pathways; however, there is no doubt a large degree of overlap among the mechanisms and the timing of physiological responses. This is most aptly conveyed as the influence of "acute on chronic" actions of exposure. For example, the activation of circulating platelets by the pulmonary deposition of particles or lung inflammation (eg, by P-selectin–dependent pathways, histamine, or IL-6) could occur within hours and more rapidly than typical of the other consequences of inflammation (eg, progression of atherosclerosis). In the presence of a vulnerable or eroded coronary plaque due to long-term air pollution exposure, this sudden prothrombotic tendency could instigate an acute ischemic event (alone or in conjunction with other effects of short-term PM exposure via pathways 2 and 3). Furthermore, the epidemiological cohort studies demonstrate a larger relative risk for increased cardiovascular-related mortality than for morbidity.[72,73,227,274] If this is a true biological response and not simply a statistical phenomenon or a shortcoming of the available data, it not only suggests that exposures are capable of triggering acute cardiovascular events but that PM air pollution may also exaggerate their severity even if they would have otherwise occurred for reasons unrelated to air pollution. Therefore, exposure to PM could also be responsible for promoting fatal over nonfatal events.

Conclusions and Recommendations

A wide array of new studies that range from epidemiology to molecular and toxicological experiments have provided additional persuasive evidence that present-day levels of air pollutants contribute to cardiovascular morbidity and mortality. Although not unexpected given the numerous and heterogeneous nature of the published studies, all findings related to every single cardiovascular end point have not been consistent. However, the overall weight of scientific evidence now supports several new conclusions since the 2004 statement. These consensus points are given below by the AHA writing group after considering the strength, consistency, and coherence of the epidemiological findings, as well as in the context of evaluating the extent of the studies that provided related mechanistic support.

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- The preponderance of findings indicate that short-term exposure to $PM_{2.5}$ over a period of a few hours to weeks can trigger CVD-related mortality and nonfatal events, including myocardial ischemia and MIs, heart failure, arrhythmias, and strokes.
- The increase in risk for acute $PM_{2.5}$-associated cardiovascular morbidity and mortality is principally among susceptible, but not necessarily critically ill, individuals. Several studies suggest that susceptible individuals at greater risk may include the elderly, patients with preexisting coronary artery disease, and perhaps those with diabetes. Recent data suggest that women and obese individuals might also be at higher risk.
- Most studies support the idea that longer-term $PM_{2.5}$ exposures increase the risk for cardiovascular mortality to an even greater extent than short-term exposures. Because most studies have focused on mortality data, the effect of long-term exposures on nonfatal cardiovascular events is less consistent and requires more investigation.
- The $PM_{2.5}$ concentration–cardiovascular risk relationships for both short- and long-term exposures appear to be monotonic, extending below 15 $\mu g/m^3$ (the 2006 annual NAAQS level) without a discernable "safe" threshold.
- Long-term exposure to elevated concentrations of ambient $PM_{2.5}$ at levels encountered in the present-day environment (ie, any increase by 10 $\mu g/m^3$) reduces life expectancy within a population probably by several months to a few years. Given that $PM_{2.5}$ is most strongly associated with cardiovascular deaths in the cohort studies, the reduced life expectancy is most likely predominantly due to excess cardiovascular mortality.
- The available studies are suggestive that reductions in PM levels decrease cardiovascular mortality within a time frame as short as a few years.
- Many potential biological mechanisms exist whereby PM exposure could exacerbate existing CVDs and trigger acute cardiovascular events (over the short term) and instigate or accelerate chronic CVDs (over the long run). Experimental support is increasingly strong for several mechanisms, which lends biological plausibility for the epidemiological findings.
- The existing evidence suggests that PM air pollution is capable of augmenting the development and progression of atherosclerosis. There is some support for a potential effect on several other chronic CVDs, including hypertension, heart failure, and diabetes.
- Most recent studies support the conclusion that the overall absolute risk for mortality due to PM exposure is greater for cardiovascular than pulmonary diseases after both short- and long-term exposures.

There are several additional areas worthy of highlighting in which the study results are reasonably consistent but in which the writing group believed further research was required to formulate firm conclusions.

- Although there is only limited epidemiological evidence directly linking UFPs with cardiovascular health problems,[262] the toxicological and experimental exposure evidence is suggestive that this size fraction may pose a particularly high risk to the cardiovascular system. The likelihood of health effects and the causal pathways mediated specifically by UFP exposure have been debated among experts recently.[418] Future research may help to more fully elucidate whether particles within the ultrafine size range (0.001 to 0.1 μm) and/or their constituents are more harmful to the cardiovascular system or pose a relatively greater cardiovascular risk than particles between 0.1 and 2.5 μm in diameter.
- Similarly, many studies have found a strong association between metrics of traffic-related air pollution exposure and elevated cardiovascular risk. Whether this represents the harmful effects of UFPs or diesel exhaust particulates, major components of the traffic mixture, or other pollution components is unclear. Diesel and UFPs possess toxic properties that instigate harmful biological responses in experimental models. However, the particle size fraction(s) and roles played by other copollutants (gases, VOCs, SVOCs) within the traffic-related mixture have not been fully elucidated. Nevertheless, traffic-related pollution as a whole appears to be a specific source associated with cardiovascular risk. It likely poses a major public health burden, regardless of a putative higher toxicity, because of the commonness of exposure in modern society (eg, accounting for ≈60% of daily UFP exposure; http://www.catf.us/projects/diesel/).
- The importance of other specific sources, regional differences in pollution composition, and other specific constituents remains less clear. However, toxicological studies have identified several transition metals (eg, iron, vanadium, nickel, copper, and zinc), organic carbon species, semiquinones, and endotoxin as specific PM-related components capable of prompting oxidative stress and inflammation and thus likely imparting biological harm. Some source-apportionment studies also demonstrate that attention should be given to these compounds as being among the most likely mediators of clinical CVD. More studies are required in this regard to clarify this issue and to better define these and other potentially responsible constituents and sources.
- Although the focus of the present statement is on PM, we recognize that other air pollutants may also pose cardiovascular risk alone or in conjunction with fine-particle exposure. In this context, we believe additional research is necessary to make firm conclusions regarding the independent cardiovascular risks posed by several gaseous pollutants (eg, ozone and NO_2). Although ozone has been linked to increased cardiopulmonary mortality,[50] strokes,[126] and MIs[419] in some short-term studies, long-term exposure was not associated with cardiovascular mortality after accounting for PM in a recent analysis.[87] The recent finding that small changes in low levels of ambient carbon monoxide concentrations are related to cardiovascular hospitalizations also merits further exploration.[420]
- Several secondary aerosols (eg, nitrate and sulfate) are often associated with cardiovascular mortality; however, whether these compounds are directly harmful or are surrogate markers of toxic sources of exposure requires

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more investigation. Similarly, the current literature regarding the independent cardiovascular risks posed by coarse particles is mixed, with most recent findings not supporting an association after accounting for the effects of $PM_{2.5}$.[43,72,104]

- Several recent cohort studies and intermediate end-point experiments suggest that obese individuals (and/or those with the metabolic syndrome) may be a susceptible population at greater risk for cardiovascular events due to $PM_{2.5}$ exposure. This is a tremendously important public health issue to corroborate because of the enormous and growing prevalence of obesity worldwide.

This updated review by the AHA writing group corroborates and strengthens the conclusions of the initial scientific statement. In this context, we agree with the concept and continue to support measures based on scientific evidence, such as the US EPA NAAQS, that seek to control PM levels to protect the public health. Because the evidence reviewed supports that there is no safe threshold, it appears that public health benefits would accrue from lowering $PM_{2.5}$ concentrations even below present-day annual (15 $\mu g/m^3$) and 24-hour (35 $\mu g/m^3$) NAAQS, if feasible, to optimally protect the most susceptible populations. Evaluations of the effectiveness of such efforts would be warranted as well. Within the framework of attempting to establish causality between associated variables in epidemiological studies, there are several generally accepted "aspects" that have been evaluated (the following phrases in italics per the Bradford Hill criteria)[421]: With regard to cardiovascular mortality and $PM_{2.5}$ exposure, there is a *consistent association* that satisfies both a *temporal and exposure-response relationship*. There is *coherence of findings* among several fields of science, including toxicology, human and animal exposures, and different types of epidemiological studies and time frames of exposure. Rigorous experiments demonstrate multiple *plausible biological mechanisms*. Finally, natural experiments have confirmed that a change (ie, reduction) in exposure produces a change (ie, decrease) in cardiovascular mortality. In this case, *specificity of outcomes* and *strength of the observation* are less pertinent, because PM exposure could be capable of causing multiple different types of events (eg, MIs, arrhythmias, and heart failure exacerbations), and the overall cardiovascular mortality relative risk posed for any single individual is expected to be small. Nevertheless, given the ubiquity of exposure, the overall public health consequences can be substantial and observable in population- or large cohort–based studies.

It is the opinion of the writing group that the overall evidence is consistent with a causal relationship between $PM_{2.5}$ exposure and cardiovascular morbidity and mortality. This body of evidence has grown and has been strengthened substantially since publication of the first AHA scientific statement.[1] At present, no credible alternative explanation exists. These conclusions of our independent review are broadly similar to those found in the EPA's Integrated Science Assessment for Particulate Matter final report (http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546). In summary, the AHA writing group deems that $PM_{2.5}$ exposure is a "modifiable factor contributing to cardiovascular morbidity and mortality."

Clinical Recommendations

Several precautionary recommendations can be made for healthcare providers who interact with individuals who are at risk for CVDs. Although they have not been clinically tested or proven to reduce mortality, they are practical and feasible measures that may help to reduce exposures to air pollution and therefore potentially lower the associated cardiovascular risk. Moreover, a recent observational study found that patient awareness of air quality indices and media alerts along with health professional advice can significantly affect reported changes in outdoor activity to avoid exposure to air pollution.[422]

- Evidence-based appropriate treatment of the traditional cardiovascular risk factors should be emphasized. This may also lessen the susceptibility of patients to air pollution exposures.
- All patients with CVD should be educated about the cardiovascular risks posed by air pollution.
- Consideration should also be given to educating patients without CVD but who are at high risk (eg, the elderly, individuals with the metabolic syndrome or multiple risk factors, and those with diabetes).
- Part of patient education should include the provision of information regarding the available sources (local and national newspapers [*USA Today*], EPA World Wide Web site [http://airnow.gov/], and The Weather Channel and its World Wide Web site [http://www.weather.com/]) that provide a daily EPA Air Quality Index.
- On the basis of the forecast Air Quality Index, prudent recommendations for reducing exposure and limiting activity should be provided based on the patient's level of risk. A list of such recommendations is provided on the EPA World Wide Web site (http://airnow.gov/). For example, when the Air Quality Index for PM is "unhealthy" (151 to 200), then the recommendations are as follows: "People with heart or lung disease, older adults, and children should avoid prolonged or heavy exertion. Everyone else should reduce prolonged or heavy exertion." The action recommendations are as follows: "You can reduce your exposure to particles by 1) planning strenuous activity when particle levels are forecast to be lower, 2) reducing the amount of time spent at vigorous activity, or 3) choosing a less strenuous activity (eg, going for a walk instead of a jog). When particle levels are high outdoors, they also can be high indoors. Certain filters and room air cleaners are available that can help reduce particles indoors."
- Practical recommendations to reduce air pollution exposure should be given to at-risk patients. Although unproven to reduce cardiovascular events, there are a number of prudent and feasible measures, including reducing optional or unnecessary exposures. Additional measures could include eliminating or reducing nonmandatory travel to highly polluted regions and avoiding exposures or outdoor activities (eg, exercising, commut-

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ing) during highly polluted times (eg, rush hours) or in proximity to major sources of pollution (eg, roadways, industrial sources). Choosing to exercise indoors with windows closed and using efficient air conditioning and filtering systems may be prudent for certain high-risk patients, particularly during peak pollution periods. Indeed, not only can central air conditioners reduce the indoor exposure level to PM from outdoor sources, there is some evidence that they might reduce the risk for cardiovascular hospitalizations associated with higher ambient pollution levels.[423] If travel/commutes cannot be avoided, maintaining optimal car filter systems, driving with windows closed, and recycling inside vehicle air may help reduce PM exposures (http://www.catf.us/projects/diesel/).[424,425]

However, at present, no specific recommendations regarding the appropriateness of undertaking more aggressive measures, even those shown to provide some benefits in a few studies (eg, wearing facemasks, installing PM filters in households), can be made based on the limited evidence. Similarly, although measures that decrease long-term PM exposures may produce even greater cardiovascular health benefits than the provided recommendations that focus on reducing short-term exposures, no specific recommendations (eg, moving to less polluted regions) can be prudently made at this time given the limited evidence. We acknowledge that occupational and indoor sources along with secondhand tobacco smoke are additional significant sources of personal PM exposures that should be avoided or reduced as much as possible. Finally, in developing nations, reducing exposure to indoor cooking sources of PM and air pollution from biomass combustion is a major issue of concern.[426] Additional suggestions are available on the EPA World Wide Web site.

Finally, although the existing evidence supports a causal relationship between $PM_{2.5}$ and cardiovascular mortality, we acknowledge the importance of continued research in areas of controversy and uncertainty to further understand the full nature of this issue. Although numerous insights have greatly enhanced our understanding of the PM-cardiovascular relationship since the first AHA statement was published,[1] the following list represents broad strategic avenues for future investigation:

Mechanistic Studies

- Better describe the physiological relevance in humans and the fundamental details of the mechanisms underlying the intermediate general mediating pathways (ie, PM or constituent transport into the circulation versus effects of inflammatory cytokines or activated immune cells versus ANS imbalance or other pathways) through which PM inhalation might mediate cardiovascular effects remote from the site of pulmonary deposition.
- Understand the clinical significance and relative importance of the observed biological responses (eg, vascular dysfunction, thrombosis, arrhythmia, ANS imbalance) in relation to the various causes of PM-mediated cardiovascular morbidity and mortality.
- Examine the efficacy of preventive measures (eg, patient education) and treatment modalities (eg, statins, antioxidants, fish oil, treatment of traditional risk factors, and reducing exposures by engineering controls, including filtration, personal protection via facemasks, or behavior modification) on cardiovascular health outcomes.
- Investigate the interaction between preexisting traditional cardiovascular risk factors (eg, diabetes, hypertension) and PM exposure, as well as the potential of air pollutants to exacerbate or worsen these risk factors. Determine the extent to which treatment of such factors (eg, with statins, aspirin, or angiotensin-converting enzyme inhibitors), especially among patients with known CVD, may modify the risk associated with PM exposure.
- Describe the biological effects of acute on top of chronic exposures (eg, synergistic effects versus reduced susceptibility to acute exposures due to augmented protective mechanisms).
- Determine the ability of long-term exposure to precipitate the development of chronic diseases, including clinically relevant atherosclerosis, hypertension, diabetes, and other vascular, metabolic, renal, or neurological diseases.

Epidemiological and Exposure Studies

- Expand our knowledge related to the "responsible" PM pollution constituents (eg, metals, organic compounds, semiquinones, endotoxin, and VOC and SVOC compounds), size fractions (eg, UFPs), sources (eg, traffic, power generation, and biomass combustion), and mixtures of pollutants.
- Investigate the cardiovascular health implications and importance of regional and intracity differences in composition and combinations of pollutants.
- Better understand the effects of mixtures of ambient pollutants (ie, potential synergism between PM and gaseous or vapor-phase pollutants such as ozone).
- Investigate the feasibility and utility of quantifying risk coefficients (concentration-response functions) according to PM source or relevant indices of pollutant mixtures, as a function of susceptibility (eg, age, preexisting disease), for reliable application in integrated, multipollutant risk assessments.
- Investigate the relative importance of various time frames of exposure in relation to PM causing cardiovascular events, including the relevance of epochs not well described, such as ultra-acute peak PM excursions (eg, 1 to 2 hours) and exposures of intermediate duration (eg, 1 to 12 months).
- Better document the time course and specific cardiovascular health benefits induced by reductions in PM.
- Better define susceptible individuals or vulnerable populations.
- Determine whether any "safe" PM threshold concentration exists that eliminates both acute and chronic cardiovascular effects in healthy and susceptible individuals and at a population level.

Acknowledgments

We would like to thank Robert Bard Consulting for reviewing and editing the manuscript and Tom Dann from Environment Canada and Joseph Pinto from the US EPA for assistance in the preparation of Table 1.

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Disclosures

Writing Group Disclosures

Writing Group Member	Employment	Research Grant	Other Research Support	Speakers' Bureau/ Honoraria	Expert Witness	Ownership Interest	Consultant/ Advisory Board	Other
Robert D. Brook	University of Michigan	Electric Power Research Institute†; EPA†; Harvard University, School of Public Health†; NIEHS†; Pfizer†	None	None	None	None	None	None
Aruni Bhatnagar	University of Louisville	PI on NIH study "Cardiovascular toxicity of environmental aldehydes"†	None	None	None	None	None	None
Jeffrey R. Brook	University of Toronto, Environment Canada	None	None	None	None	None	None	None
Ana V. Diez-Roux	University of Michigan	EPA†; 1st EPA STAR grant to study the effects of long-term PM exposures on subclinical atherosclerosis and inflammatory markers in MESA; #2 is a subcontract to the University of Washington to participate in a long-term study of air pollution and progression of atherosclerosis, also in MESA	None	None	None	None	None	None
Fernando Holguin	Centers for Disease Control and Prevention/Emory University	American Lung Association*; NIH*; Pan-American Health Organization in conjunction with EPA*	Emory University*	None	None	None	None	None
Yuling Hong	American Heart Association‡	None	None	None	None	None	None	None
Joel D. Kaufman	University of Washington	Health Effects Institute*; NIH/NIEHS*; US EPA*; NIEHS Discovery Center Study focused on air pollution and CVD†	None	California Air Resources Board*	None	None	None	None
Russell V. Luepker	University of Minnesota	None	None	None	None	None	None	None
Murray A. Mittleman	Beth Israel Deaconess Medical Center/Harvard University	PI on a component of an NIH/NIEHS program project grant evaluating the effects of ambient air pollution on CVD†	None	None	None	None	None	None
Annette Peters	Helmholtz Zentrum Munchen (German Research Institute for Environmental Health)	Co-PI on the Rochester Particle Center funded through the EPA†; European Union†	None	None	None	None	None	None
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Sanjay Rajagopalan	Ohio State University	None	None	Takeda*	None	None	None	None
David Siscovick	University of Washington	MESA AIR (ancillary study to MESA) funded by EPA†; NIEHS Discovery Center Study focused on air pollution and CVD†; NIH†	None	None	None	None	None	None
Sidney C. Smith, Jr	University of North Carolina	None	None	None	None	None	None	None
Laurie Whitsel	American Heart Association	None	None	None	None	None	None	None

This table represents the relationships of writing group members that may be perceived as actual or reasonably perceived conflicts of interest as reported on the Disclosure Questionnaire, which all members of the writing group are required to complete and submit. A relationship is considered to be "significant" if (1) the person receives $10 000 or more during any 12-month period, or 5% or more of the person's gross income; or (2) the person owns 5% or more of the voting stock or share of the entity, or owns $10 000 or more of the fair market value of the entity. A relationship is considered to be "modest" if it is less than "significant" under the preceding definition.

*Modest.

†Significant.

‡Dr Hong is currently with the Centers for Disease Control and Prevention, Atlanta, Ga.

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Reviewer Disclosures

Reviewer	Employment	Research Grant	Other Research Support	Speakers' Bureau/Honoraria	Expert Witness	Ownership Interest	Consultant/Advisory Board	Other
Michael Brauer	University of British Columbia	Health Canada†; British Columbia Lung Association†	None	None	None	None	MESA-Air Study (US EPA, University of Washington) External Scientific Advisory Committee*; British Columbia Lung Association, Air Quality and Health Steering Committee*	None
Doug Dockery	Harvard University	National Institute of Environmental Health Sciences†; Health Effects Institute†	None	None	None	None	Science Advisory Board to MESA Air Study, University of Washington*	None
Mark Frampton	University of Rochester	National Institutes of Health†; American Petroleum Institute†; US EPA†	None	None	None	None	Health Effects Institute*	None
Jonathan M. Samet	University of Southern California	None	None	None	None	None	None	None

This table represents the relationships of reviewers that may be perceived as actual or reasonably perceived conflicts of interest as reported on the Disclosure Questionnaire, which all reviewers are required to complete and submit. A relationship is considered to be "significant" if (1) the person receives $10 000 or more during any 12-month period, or 5% or more of the person's gross income; or (2) the person owns 5% or more of the voting stock or share of the entity, or owns $10 000 or more of the fair market value of the entity. A relationship is considered to be "modest" if it is less than "significant" under the preceding definition.

*Modest.

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Circulation

American Heart Association

Particulate Matter Air Pollution and Cardiovascular Disease: An Update to the Scientific Statement From the American Heart Association

Robert D. Brook, Sanjay Rajagopalan, C. Arden Pope III, Jeffrey R. Brook, Aruni Bhatnagar, Ana V. Diez-Roux, Fernando Holguin, Yuling Hong, Russell V. Luepker, Murray A. Mittleman, Annette Peters, David Siscovick, Sidney C. Smith, Jr, Laurie Whitsel and Joel D. Kaufman on behalf of the American Heart Association Council on Epidemiology and Prevention, Council on the Kidney in Cardiovascular Disease, and Council on Nutrition, Physical Activity and Metabolism

Circulation. 2010;121:2331-2378; originally published online May 10, 2010;
doi: 10.1161/CIR.0b013e3181dbece1
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
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Roadway Proximity and Risk of Sudden Cardiac Death in Women

Jaime E. Hart, ScD; Stephanie E. Chiuve, ScD; Francine Laden, ScD; Christine M. Albert, MD

Background—Sudden cardiac death (SCD) is a major source of mortality and is the first manifestation of heart disease for the majority of cases. Thus, there is a definite need to identify risk factors for SCD that can be modified at the population level. Exposure to traffic, measured by residential roadway proximity, has been shown to be associated with an increased risk of cardiovascular disease. Our objective was to determine whether roadway proximity was associated with an increased risk of SCD and to compare that risk with the risk of other coronary heart disease outcomes.

Methods and Results—A total of 523 cases of SCD were identified over 26 years of follow-up among 107 130 members of the prospective Nurses' Health Study. We calculated residential distance to roadways at all residential addresses from 1986 to 2012. In age- and race-adjusted models, women living within 50 m of a major roadway had an elevated risk of SCD (hazard ratio=1.56; 95% confidence interval, 1.18–2.05). The association was attenuated but still statistically significant after controlling for potential confounders and mediators (hazard ratio=1.38; 95% confidence interval, 1.04–1.82). The equivalent adjusted hazard ratios for nonfatal myocardial infarction and fatal coronary heart disease were 1.08 (95% confidence interval, 0.96–1.23) and 1.24 (95% confidence interval, 1.03–1.50), respectively.

Conclusions—Among this sample of middle-aged and older women, roadway proximity was associated with elevated and statistically significant risks of SCD and fatal coronary heart disease, even after controlling for other cardiovascular risk factors. **(*Circulation*. 2014;130:1474-1482.)**

Key Words: air pollutants ■ air pollution ■ coronary disease ■ death, sudden

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Sudden cardiac death (SCD) accounts for ≈180 000 to 400 000 deaths in the United States each year.[1] SCD is responsible for more than half of the cardiovascular deaths and 15% to 20% of total deaths each year and is the first manifestation of heart disease for a large proportion of victims,[2] especially women.[3] Therefore, there is a need to identify risk factors that can be modified on a population level to broadly affect SCD risk.

Clinical Perspective on p 1482

Long-term exposures associated with traffic such as air pollution and noise have been associated with increased mortality from coronary heart disease (CHD),[4–7] and associations with fatal CHD have typically been stronger than for nonfatal events.[8,9] Short-term exposure to air pollution or traffic has also been associated with ventricular arrhythmias in patients with implantable cardioverter-defibrillators[10] and with elevations in the risk of out-of-hospital cardiac arrest in most but not all studies.[11–19] Therefore, long-term exposure to traffic may be associated with SCD, both through the development of underlying atherosclerosis and by influencing myocardial vulnerability to lethal ventricular arrhythmias.[20]

Previous studies, including our own, have observed modest elevations in incident CHD (combined nonfatal and fatal) among individuals who live closer to major roadways;[21–24] but the impact of this exposure on SCD risk is unknown. Our present objective was to determine whether exposure to traffic, measured by roadway proximity, leads to an increased risk of SCD in women, in whom CHD has been demonstrated to underlie a lower percentage of SCDs than in men.[25,26] We also sought to compare risk estimates for SCD with those for nonfatal and fatal CHD outcomes in this cohort.

Methods

Study Population

The Nurses' Health Study (NHS) is a prospective cohort study that began in 1976 with 121 701 married female registered nurses, 30 to 55 years old, who completed a mailed questionnaire and provided implied informed consent. At the study inception, the nurses resided in 11 states (California, Connecticut, Florida, Massachusetts,

Received April 10, 2014; accepted August 21, 2014.

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Guest Editor for this article was Matthew A. Allison, MD.

The online-only Data Supplement is available with this article at http://circ.ahajournals.org/lookup/suppl/doi:10.1161/CIRCULATIONAHA.114.011489/-/DC1.

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Maryland, Michigan, New Jersey, New York, Ohio, Pennsylvania, and Texas); however, because of residential mobility, there is now at least 1 cohort member in all 50 states. Follow-up questionnaires, with response rates >90%, are mailed every 2 years to update information on risk factors and the occurrence of major illnesses. These questionnaires also provide updated information on residential address. Women were included in the present study if they were still responding to questionnaires and had at least 1 home address in 1986 to 2012 that was geocoded to the street-segment level (so that roadway proximity could be calculated). Women were excluded if they had cancer (other than nonmelanoma skin cancer) or cardiovascular disease or had died before baseline. The study protocol was approved by the Institutional Review Board of Brigham and Women's Hospital.

Outcome Assessment

On all questionnaires, we inquire about the occurrence of physician-diagnosed CHD events, and deaths are identified by reports from next-of-kin or postal authorities or by searches of the National Death Index. Details on the method of classifying SCD in this cohort have been published previously.[3] Briefly, SCDs were confirmed by physician review of medical records and next-of-kin reports on the circumstances surrounding the death if not adequately documented in the medical record. Cardiac deaths were considered sudden if the death or cardiac arrest occurred within 1 hour of the onset of symptoms. To increase specificity for arrhythmic death, we also required that there be no evidence of circulatory collapse or a neurological event before the disappearance of the pulse.[27] Unwitnessed deaths or deaths that occurred during sleep in which the participant was documented to be symptom free within the preceding 24 hours were considered probable SCDs if an autopsy or circumstances suggested that the death could have been arrhythmic.[28]

Cases of definite fatal CHD (*International Classification of Disease, Eighth and Ninth Revision* codes 410–412:, *International Classification of Disease, 10th Revision* codes I21–I22) were confirmed by hospital records or autopsy or if CHD was listed as the underlying and most plausible cause of death on the death certificate and there was prior evidence of CHD. Probable fatal CHD events include deaths for which medical records surrounding the death were not available but CHD was the underlying cause on the death certificate or a search of the National Death Index or a family member provided supporting information. Given the relatively low prevalence of CHD in female sudden cardiac death and arrest victims,[25,26,29,30] SCD cases not fulfilling the above definition or cases in which another primary underlying cause of death was identified by history or autopsy were not included as fatal CHD events.

Nonfatal myocardial infarction (MI) was classified as definite if the World Health Organization criteria were met, specifically symptoms and either ECG-detected changes or elevated cardiac enzyme concentrations. Cases of nonfatal MIs were designated as probable if an interview or letter confirming hospitalization was obtained and medical records were unavailable.

Roadway Proximity

We calculated roadway proximity at each mailing address from 1986 on as a proxy for traffic exposure. Distance (in meters) was determined with the Geographical Information System software (ArcGIS 10.2, ESRI, Redlands, CA). ESRI StreetMap Pro 2007 road segments were selected to include the 3 largest US Census Feature Class Codes: A1, primary roads, typically interstate highways, with limited access, division between the opposing directions of traffic, and defined exits; A2, primary major, noninterstate highways and major roads without access restrictions; or A3, smaller, secondary roads, usually with >2 lanes). On the basis of the distributions in the cohort and exposure studies showing exponential decays in exposures with decreasing roadway proximity,[31] we created distance categories of 0 to 49, 50 to 199, 200 to 499, and ≥500 m. In sensitivity analyses, we also examined continuous measures and other cut points to determine the robustness of results to our a priori choices.

Potential Confounders

Information on potential confounders is available every 2 years (4 years for diet) from the follow-up questionnaires and can be used to assign updated covariate values. We included a number of risk factors for SCD and/or CHD as possible confounders: age (in months), race (white, black, other, or multiple races), calendar year, physical activity (hours per week), body mass index (kilograms per meter squared), alcohol consumption (grams per day), menopausal status (premenopausal, postmenopausal, or unknown/dubious), and hormone use (never, current, or former), family history of MI (none, at age <60 years, or at age ≥60 years), and incidence of diabetes mellitus or cancer. We used lifetime smoking history to calculate pack-years and to determine smoking status (current, former, or never). Diet was assessed by calculating a score using the 2010 Alternate Healthy Eating Index.[32] This score includes a number of components including higher intakes of vegetables, fruit, nuts, soy and cereal fiber, moderate alcohol consumption, low intake of red and processed meats, high ratios of polyunsaturated to saturated fat; low intake of *trans* fat; and multivitamin use of ≥5 years We also adjusted for aspirin, vitamin E, and multivitamin use. Information on secondhand smoke exposure (during childhood, at home, and at work) was collected on the 1982 questionnaire. To control for regional differences in traffic and disease risk, we controlled for Census region (Northeast, Midwest, West, and South). To control for area-level socioeconomic status, we included Census tract–level median income and house value. In sensitivity analyses, we additionally adjusted for incident comorbidities that may be mediators of the association between traffic exposure and SCD (high blood pressure, hypercholesterolemia, stroke, or CHD) or CHD (high blood pressure, hypercholesterolemia, or stroke).

Statistical Methods

Separate analyses were performed for each outcome. Person-months of follow-up time were calculated from June 1986 until the end of available follow-up (December 2012 for SCD, May 2010 for nonfatal MI and fatal CHD), death, or loss to follow-up. We did not censor person-time at the incidence of nonfatal MI for the fatal outcomes. Time-varying Cox proportional hazards models were used to assess the relationship of each outcome with roadway proximity. Hazard ratios (HRs) and 95% confidence intervals (CIs) were calculated for each category of roadway proximity compared with the farthest category (≥500 m). We examined the linearity of the continuous associations 0 to 499 m (compared with ≥500 m) using cubic splines.[33] The data set was converted to an Anderson-Gill data structure with a record for each 2-year time period, including person-time, the exposure during that time period, whether the person was censored during the interval, and covariate information. All models were based on a biennial time scale and were stratified by age in months and time period. The proportional hazard assumption was verified for all analyses by including interaction terms for age and time period and performing a likelihood ratio test comparing models with and without the interaction terms. The percent of the roadway proximity–outcome association explained by the potential mediators was calculated as follows: $[(HR_{\text{multivariable model}} - HR_{\text{multivariable and mediator model}})/(HR_{\text{multivariable model}} - 1)] \times 100\%$.[34] In sensitivity analyses, we considered models restricted to definite cases of each outcome to determine the impact of stricter case definitions on our conclusions. To examine possible effect modification by race (white versus other) and smoking status (never versus ever and current versus former/never), we calculated stratum-specific effect estimates and examined the statistical significance of effect modification using likelihood ratio tests. Using publically available software,[35] we also estimated the population-attributable risk associated with living <500 m from A1 to A3 roadways. An α level of 0.05 was used to determine statistical significance.

Results

Characteristics of the study sample (n=107 130) over the full period of follow-up are presented in Table 1 for the whole cohort and by roadway proximity category. The women were

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Table 1. Selected Characteristics of 107 130 NHS Participants During the Full Follow-Up (1986–2012) for the Full Analytic Cohort and by Residential Proximity to A1 to A3 Roads

Characteristics	All	Residential Proximity to Nearest A1–A3 Road, m			
		0–49	50–199	200–499	≥500
Age, y	64.3 (10.0)	64.8 (10.1)	64.3 (10.0)	64.1 (10.0)	64.1 (10.0)
Body mass index, kg/m^2	26.3 (5.3)	26.5 (5.3)	26.3 (5.3)	26.2 (5.2)	26.3 (5.2)
Alternative Healthy Eating Index	49.6 (11.0)	49.3 (10.9)	49.5 (10.9)	49.6 (11.0)	49.8 (11.0)
Census tract median income, $1000	65.4 (25.1)	64.1 (26.4)	64.8 (25.6)	65.9 (24.7)	66.1 (24.1)
Census tract median home value, $10 000	17.7 (13.1)	17.9 (14.5)	18.3 (14.0)	17.8 (12.8)	16.9 (11.3)
Race, %					
White	94	93	93	93	95
Black	2	2	2	2	1
Other/multiple	5	5	5	5	4
Smoking status, %					
Never	44	44	43	43	45
Former	42	41	42	42	42
Current	11	11	11	11	10
Secondhand smoke during childhood, %					
None	26	25	26	25	26
From mother	4	4	4	4	4
From father	35	35	34	34	35
From both parents	15	15	15	15	16
Missing	21	21	21	21	20
Home secondhand smoke, %					
None	34	33	33	34	35
Occasional	19	19	19	19	19
Regular	17	18	18	18	16
Missing	30	30	30	30	29
Occupational secondhand smoke, %					
None	15	15	15	16	16
Occasional	30	29	30	31	31
Regular	23	24	23	22	22
Missing/not working	32	32	32	31	31
Menopause status, %					
Premenopausal	9	9	9	9	9
Postmenopausal	86	86	86	86	86
Dubious	4	4	4	4	4
Postmenopausal hormone use, %					
Never	22	24	23	22	21
Former	28	27	27	28	31
Current	25	23	24	25	26
N/A or missing	25	26	26	25	23
Aspirin use, %					
<1 times/wk	57	56	55	56	59
1–6 times/wk	18	17	18	18	17
≥7 times/wk	10	10	10	10	10
Parental history of MI, %					
None	74	74	74	74	74
Before 60 y of age	12	12	12	12	12
After 60 y of age	15	14	15	15	14

(*Continued*)

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Table 1. Continued

Characteristics	All	Residential Proximity to Nearest A1–A3 Road, m			
		0–49	50–199	200–499	≥500
Alcohol consumption, %					
0 g/d	37	38	37	36	37
0.1–4.9 g/d	27	26	27	27	27
5.0–14.9 g/d	17	16	17	17	17
≥15.0 g/d	10	9	10	10	10
Physical activity, %					
0 h/wk	22	23	22	22	20
0.1–1.9 h/wk	36	35	36	36	36
2–3.9 h/wk	17	16	17	17	18
≥4 h/wk	20	19	19	20	21
Other diagnoses during follow-up, %					
Diabetes mellitus	8	9	9	8	8
High cholesterol	51	50	50	50	52
High blood pressure	44	45	45	44	44
Stroke	2	2	2	2	2
Coronary heart disease	6	7	6	6	6
Region of residence, %					
Northeast	50	59	54	47	44
Midwest	18	16	15	18	21
West	14	12	17	16	12
South	18	13	14	19	23

Values are mean (SD) when appropriate and, except for age, are standardized to the age distribution of the study population. Note that participants may be in multiple exposure categories during the study follow-up. MI indicates myocardial infarction; and NHS, Nurses' Health Study.

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64.3 years old on average with an average body mass index of 26.3 kg/m^2 and were mostly white (94%), postmenopausal (86%), and never (44%) or former (42%) smokers. Most (58%) exercised <2 h/wk. Overall, there was little difference in these characteristics across the different categories of roadway proximity except for region; women in the Northeast tended to live closer to roadways than women in other regions.

Roadway Proximity and SCD

During the 26 years of follow-up, a total of 523 cases (328 definite, 195 probable) of SCD were observed. The associations of roadway proximity with SCD are presented in Table 2. In basic models adjusted for age, race, and calendar time, women living within 50 m of a roadway had a higher risk of SCD (HR, 1.56; 95% CI, 1.18–2.05) compared with women living farther away (≥500 m). The dose-response relationship between roadway proximity and SCD risk was linear as determined by cubic splines, and each 100 m closer to roadways was associated with an 8% increased risk for SCD (95% CI, 3–14). In multivariable models controlling for potential confounders, HRs were attenuated but remained statistically significant in both the categorical (HR, 1.40; 95% CI, 1.06–1.85 for <50 versus 500 m) and continuous (HR, 1.06; 95% CI, 1.01–1.12 per 100 m) analyses. Additional adjustment for incident comorbidities, including incident CHD, potentially on the causal pathway had little effect on the HRs (4.3% mediation). In sensitivity analyses excluding probable SCDs or nonwhites, the magnitude of the associations was similar (multivariable HR, 1.33, 95% CI, 0.94–1.89; and multivariable HR, 1.32, 95% CI, 0.99–1.76 for <50 versus 500 m). These associations also did not significantly differ by region of residence, race, or smoking status; however, the HR associated with living <50 versus 500 m from a roadway was higher among ever smokers (HR, 1.56; 95% CI, 1.08–2.23) compared with nonsmokers (HR, 1.22; 95% CI, 0.80–1.97; Table I in the online-only Data Supplement).

Roadway Proximity and Nonfatal MI and Fatal CHD

During 24 years of follow-up, 2731 cases (1813 definite, 918 probable) of nonfatal MI and 1159 cases (794 definite, 365 probable) of fatal CHD were identified. The associations with roadway proximity and each outcome are shown in Table 3. In multivariable models, the risk of fatal CHD (HR, 1.24; 95% CI, 1.03–1.49) was statistically significantly higher among women living within 50 m of an A1 to A3 road compared with women living ≥500 m away, and the HR for each additional 100 m closer in proximity was 1.04 (95% CI, 1.00–1.07). This association was slightly attenuated when fatal CHD events also considered SCDs (n=152) were excluded from the end point (multivariable HR, 1.21, 95% CI, 0.99–1.48 for <50 versus 500 m; and multivariable HR, 1.03, 95% CI, 0.99–1.07

Table 2. HRs (95% CIs) for the Association of Risk of SCD (1986–2012) With Residential Proximity to A1 to A3 Roads Among Participants (n=107 130)

Distance, m	Cases, n	Person-Years	Basic*	Multivariable†	Multivariable‡
0–49	103	354 901	1.56 (1.18–2.05)	1.40 (1.06–1.85)	1.38 (1.04–1.82)
50–199	150	661 072	1.27 (0.98–1.63)	1.19 (0.92–1.53)	1.17 (0.91–1.51)
200–499	169	770 257	1.26 (0.98–1.61)	1.20 (0.94–1.54)	1.20 (0.93–1.53)
≥500	101	594 129	Reference	Reference	Reference
Linear (per 100 m closer)§	523	2 380 358	1.08 (1.03–1.14)	1.06 (1.01–1.12)	1.06 (1.01–1.11)

Note that n, person-years, and number of cases apply for all models. CI indicates confidence interval; HR, hazard ratio; NHS, Nurses' Health Study; and SCD, sudden cardiac death.

*Models adjusted for age, race, and calendar time.

†Models additionally adjusted for smoking status; secondhand smoke exposure during childhood, at home, and at work; body mass index; menopausal status and postmenopausal hormone use; the Alternative Healthy Eating Index; alcohol consumption; physical activity; family history of myocardial infarction; aspirin, multivitamin, and vitamin E use; region of residence; Census tract median home value and median income; and incidence of diabetes mellitus or cancer.

‡Models additionally adjusted for comorbidities: incidence of high cholesterol, high blood pressure, stroke, or coronary heart disease.

§Linear models for distances of 0 to 499 m compared with addresses ≥500 m away.

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per 100 m). Risks of nonfatal MI were more modest in magnitude and were not statistically significant in multivariable models. Similar to our results for SCD, results for fatal CHD and nonfatal MI were essentially unchanged when additionally adjusted for incidence of other comorbidities that might be in the causal pathway (0.1% and 0.2% mediation for nonfatal MI and fatal CHD, respectively), when other categorical cut points were considered, and in models excluding probable events or nonwhites (data not shown). There was also no evidence of effect modification by race or region of residence (data not shown) or smoking status (Table II in the online-only Data Supplement).

Population-Attributable Risks

Over the course of the study, 75% of the total person-years observed were spent at residences within 499 m of an A1 to A3 roadway. The multivariable adjusted HRs for the categorical variable (0–49, 50–199, and 200–499 versus ≥500 m) translate into population-attributable risks of 17.9% (95% CI, 0.1–34.7), 11.6% (95% CI, −1.1 to 23.9), and 6.8% (95% CI, −1.4 to 14.9) for SCD, fatal CHD, and nonfatal MI, respectively, in this sample of women.

Discussion

Among this sample of middle-aged and older women, roadway proximity was associated with an elevation in the risk of SCD. Even after adjustment for potential confounders and mediators, women who lived within 50 m of a major roadway had a 38% higher hazard (95% CI, 1.04–1.82) of experiencing SCD compared with women living ≥500 m away. The association was linear, and each 100 m closer to a major roadway was associated with a 6% elevation in

Table 3. HRs (95% CIs) for Associations of the Risk of Nonfatal MI and Fatal CHD (1986–2010) With Residential Proximity to A1 to A3 Roads Among NHS Participants (n=107 130)

Outcome	Distance, m	Cases, n	Person-Years	Basic*	Multivariable†	Multivariable‡
Nonfatal MI	0–49	445	326 705	1.14 (1.00–1.29)	1.08 (0.96–1.23)	1.08 (0.96–1.23)
	50–199	819	611 508	1.13 (1.02–1.26)	1.09 (0.98–1.22)	1.09 (0.98–1.21)
	200–499	861	711 732	1.05 (0.95–1.17)	1.03 (0.92–1.14)	1.03 (0.92–1.14)
	≥500	606	541 065	Reference	Reference	Reference
	Linear (per 100 m)§	2731	2 191 010	1.03 (1.01–1.05)	1.02 (1.00–1.04)	1.02 (1.00–1.04)
Fatal CHD	0–49	228	331 321	1.41 (1.17–1.70)	1.24 (1.03–1.49)	1.24 (1.03–1.50)
	50–199	341	619 706	1.18 (1.00–1.40)	1.07 (0.90–1.27)	1.07 (0.90–1.27)
	200–499	362	720 015	1.12 (0.95–1.33)	1.06 (0.90–1.25)	1.07 (0.90–1.26)
	≥500	228	547 634	Reference	Reference	Reference
	Linear (per 100 m)§	1159	2 218 407	1.07 (1.03–1.10)	1.04 (1.00–1.07)	1.04 (1.00–1.07)

Note that n, person-years, and number of cases apply for all models. CHD indicates coronary heart disease; CI, confidence interval; HR, hazard ratio; MI, myocardial infarction; and NHS, Nurses' Health Study.

*Models adjusted for age, race, and calendar time.

†Models additionally adjusted for smoking status; secondhand smoke exposure during childhood, at home, and at work; body mass index; menopausal status and postmenopausal hormone use; the Alternative Healthy Eating Index; alcohol consumption; physical activity; family history of myocardial infarction; aspirin, multivitamin, and vitamin E use; region of residence; Census tract median home value and median income; and incidence of diabetes mellitus or cancer.

‡Models additionally adjusted for comorbidities: incidence of high cholesterol, high blood pressure, or stroke.

§Linear models for distances 0 to 499 m compared with addresses ≥500 m away.

the HR (95% CI, 1–11). Proximity to a major roadway was also statistically significantly associated with fatal CHD but to a lesser magnitude. These results suggest that traffic exposure, as measured by roadway proximity, may increase the risk of death resulting from CHD and may increase the propensity for fatal ventricular arrhythmias. If the observed relationships are causal, these results suggest that roadway exposures may underlie 17.9%, 11.6%, and 6.8% of SCDs, fatal CHDs, and nonfatal MIs, respectively, in this population. For the end point of SCD, these population-attributable risks are comparable to or greater than the contributions made by smoking, diet, and obesity in this population.[36]

To the best of our knowledge, this is the first study to examine the impact of residential roadway proximity on the risk of SCD. However, a few case-crossover studies have examined the impact of short-term traffic-related air pollution exposures (most often fine particulate matter [$PM_{2.5}$], carbon monoxide, or oxides of nitrogen), and risk of out-of-hospital cardiac arrests. As summarized in a recent review,[37] the majority have used administrative databases to identify cases and local air pollution monitoring networks to assign pollution measures for a variety of pollutants on the day of the event and a varying number of previous days. In studies based in Rome, Italy,[13] Melbourne, Australia,[11] Helsinki, Finland,[16] Stockholm, Sweden,[38] Indianapolis, IN,[15] New York, NY,[17] and Houston, TX,[12] elevated risks were observed with increased levels of particulate matter or other pollutants on the day of or up to 3 days preceding the cardiac arrest. However, in studies from Washington State[14,18] and Copenhagen, Denmark,[19] consistent associations were not found between levels of particulate matter measured in the days before out-of-hospital cardiac arrest compared with control days from the same month. Although it is not possible to directly compare these studies with ours, the preponderance of evidence suggests that short-term exposures to traffic-related pollutants are associated with acute increases in risk of out-of-hospital cardiac arrests.

In terms of mechanisms underlying these associations, there is a growing body of literature supporting an association between short-term (hourly, daily) exposures to air pollution, especially those from traffic sources, and ventricular arrhythmias.[10] The majority of these studies have been conducted in selected high-risk populations of patients with implanted cardiac defibrillators in whom the events can be identified with fine temporal resolution. In the first such study, based in the Boston, MA, area, recent exposures to NO_2 were associated with an increased risk of arrhythmias, and multiple events were associated with a number of other traffic-related exposures.[39] A second study in the same geographic area observed a positive linear association between $PM_{2.5}$ and the risk of arrhythmias.[40] Similar findings with different measures of air pollution have been observed in studies from St. Louis, MO, Gothenburg, Germany, and Stockholm, Sweden, but not in studies of patients in Vancouver, BC, Canada, and Atlanta, GA.[10] Because fatal ventricular arrhythmias underlie a large proportion of SCD and thus contribute to fatal CHD deaths, these data provide a potential biological mechanism underlying at least part of our observed association between traffic-related exposures and SCD and fatal CHD.

Our data suggest that there may also be a more general association between roadway proximity and fatal CHD events that may not be entirely explained by effects on SCD. Short-term exposure to traffic has been associated with transiently increased risks of nonfatal MI,[41] and long-term exposure to traffic or roadways has been associated with higher risks of fatal and nonfatal CHD events.[21–23] In the Atherosclerosis Risk in Communities (ARIC) study, living within 300 m of a major road was associated with a 12% increased risk of CHD in a population of ≈13 000 middle-aged men and women, with stronger risks for those living near roads with higher traffic density.[21] In a case-control study in Massachusetts, each interquartile-range increase in traffic density was associated with a 4% (95% CI, 2–7) increased risk of acute MI.[23] Our previous analyses in the NHS found that women living at residences consistently close to traffic over follow-up were at a higher risk for incident total CHD (HR, 1.11; 95% CI, 1.01–1.21) than women who live consistently at addresses farther away.[22] Although these studies did not specifically compare associations for fatal and nonfatal events, other studies from Stockholm and Rome examining long-term exposures to traffic-related air pollution have demonstrated stronger associations with fatal MI end points and out-of-hospital deaths compared with nonfatal events,[42,43] consistent with our results.

It is important to note that although there was minimal overlap between SCD and fatal CHD events, some degree of undetected overlap between SCD and fatal CHD events undoubtedly exists and is unavoidable in this epidemiological study. In prior studies,[25,26,29] CHD is detected at autopsy or on extensive clinical evaluation in slightly fewer than half of women who suffer a sudden cardiac arrest/SCD.[25,26,29,30] In our study, only 30% of SCDs were found to have evidence for CHD before or at the time of death; thus, it is probable that undetected CHD underlies a proportion of the remaining SCDs. Therefore, despite controlling for known CHD in our models, residual confounding by undetected CHD could account for part of the association with SCD. Conversely, the strict but standard[28] definition of SCD used in our study relies on the patient having been observed within the 24 hours before death, and it is probable that some of the fatal CHD events that occurred suddenly may not have been characterized as SCD, either because the deaths were unwitnessed for >24 hours or because details on the circumstances of the death were not available. Therefore, undetected SCDs may underlie some of the residual association between roadway proximity and fatal CHD.

A number of potential biological mechanisms are associated with residential proximity to roadways that could predispose patients to both SCD and fatal CHD apart from acute triggering of ventricular arrhythmias.[44] The primary comorbidities we examined as mediators (high cholesterol and high blood pressure) had little effect on our observed associations, as determined by the percent mediation, suggesting that the effects of roadway proximity on SCD and fatal CHD may be working through other mechanisms. Traffic-related air pollution has also been associated with

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elevations in systemic inflammation, oxidative stress, heart failure, and alterations in autonomic function and heart rate variability.[44] Residential proximity to major roadways has been directly associated with higher left ventricular mass index[45] and severity of atherosclerosis as measured by coronary calcification.[46] Additionally, traffic noise has been linked to a number of these underlying mechanisms, including heart rate, cardiac output, and oxidative stress, suggesting that traffic exposures may act on cardiovascular disease through a number of underlying biological mechanisms.[47]

This study has several limitations. Our measure of exposure, roadway proximity, is a poor proxy for true traffic exposures such as noise or pollution levels, and it does not provide us with information on temporal changes in exposures that may be associated with triggering of events. These limitations are expected to lead to nondifferential misclassifications of exposure, which would bias our results toward the null. It does have the advantage, however, of allowing us to assess the combined impact of all aspects of near-roadway exposure simultaneously. Additionally, only 15% of the person-time in the cohort was spent at addresses within 50 m of an A1 to A3 roadway, limiting our ability to detect statistically significant effects at the highest exposure levels. Our assumption of similar exposures from all roadways within a given roadway classification is another limitation of our study because time-varying information on traffic volume during our follow-up period is not widely available for the entire contiguous United States for the study period. We also lack information on the temporal and seasonal trends in traffic. This inability to differentiate roads and time periods with higher exposure levels likely leads to nondifferential exposure errors, which would lessen our ability to detect statistically significant effects. Similarly, we do not have information on the amount of time each participant spends at her home or on characteristics of each home such as age, ventilation rate, soundproofing, and orientation relative to prevailing winds and to the roadways. All of these factors would also lead to exposure misclassification and likely partially explain our wide CIs.

As with any observational study, exposures and comorbidities may be incompletely or imperfectly measured, resulting in residual confounding or an inability to adequately detect effect mediation by comorbidities. However, validation studies have suggested that the nurses accurately report many of the CHD risk factors and comorbidity risk factors examined in this study.[48] We also do not have information on medication use just before death (such as QT-prolonging agents), which may mediate our observed associations with SCD. Finally, although women in this cohort live in all portions of the contiguous United States and we did not observe evidence for effect modification by race, the latter analyses were limited by small numbers of nonwhite participants. The participants are also mostly middle-aged to elderly and of middle- to upper-class socioeconomic status. Therefore, it is possible that the results in this population are not generalizable to other races or populations with differing levels of susceptibility to the effects of roadway proximity or differing patterns of exposure.

This large prospective study also has major strengths. Information on residential address and roadway proximity over a 26-year period was available, allowing us to look at the long-term effects of roadway proximity on the risk of SCD over a long time scale, as opposed to the daily or weekly exposures commonly examined. Additionally, the large number of well-validated cases of SCD, nonfatal MI, and fatal CHD allowed us to look at relatively fine-scale changes in exposure with tight control for a number of time-varying risk factors. This wealth of outcome data also provided us with an opportunity to compare the impacts of traffic exposure for a number of outcomes. Finally, the availability of a host of time-varying data on other potential risk factors for our outcomes allowed us to examine the impacts of roadway proximity independently of diet, personal characteristics, socioeconomic status, and other comorbidities.

Conclusions

Living near a major roadway was associated with a significant increase in SCD risk in this sample of US middle-aged women. Although the risk elevations are modest, given the ubiquitous nature of the exposure, the population-attributable risk is significant and comparable to that observed for other major SCD risk factors.[36] In the United States, the US Environmental Protection Agency estimated that 35 million people lived within 300 feet of a major road in 2009,[49] and a growing number of individuals live in close proximity to major roads worldwide. Therefore, exposures related to traffic such as air pollution and noise are widely prevalent and potentially modifiable population-level risk factors for SCD. Because the majority of SCDs occur in individuals considered to be at low risk within the general population, modification of population-level exposures that elevate SCD risk represents an important component of a comprehensive strategy to reduce the burden of SCD in the population.

Acknowledgments

We thank the participants and staff of the NHS for their valuable contributions.

Sources of Funding

This work was funded by National Institutes of Health grants R01 ES017017, P01 CA87969, and R01 HL034594; American Heart Association Science Development grant 13SDG14580030; and American Heart Association Established Investigator Award to Dr Albert.

Disclosures

None.

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CLINICAL PERSPECTIVE

Sudden cardiac death (SCD) is a major source of mortality and is the first manifestation of heart disease for the majority of cases. Therefore, modifiable, population-level risk factors for primary prevention are important to identify. Exposure to traffic, measured by residential roadway proximity, is commonly used as a proxy for exposures to air pollution and traffic noise, both of which have been associated with an increased risk of cardiovascular disease, as well as underlying biological mechanisms related to SCD risk. In the present study, we assess the risk of incident SCD, nonfatal myocardial infarction, and fatal coronary heart disease associated with roadway proximity among participants of the Nurses' Health Study, a prospective cohort study. We found that women living closer to large roadways were at an increased risk of SCD and fatal coronary heart disease compared with women living farther away. Although risk elevations are modest, we found that the population-attributable risk for SCD was comparable with that observed for other major SCD risk factors such as smoking, diet, and obesity. These results need to be confirmed in other populations but suggest that exposures to traffic may be an important unidentified risk factor for SCD.

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Roadway Proximity and Risk of Sudden Cardiac Death in Women

Jaime E. Hart, Stephanie E. Chiuve, Francine Laden and Christine M. Albert

Circulation. 2014;130:1474-1482; originally published online October 13, 2014;
doi: 10.1161/CIRCULATIONAHA.114.011489
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

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SUPPLEMENTAL MATERIAL

Supplemental Table 1: Hazard ratios (HRs) and 95 % confidence intervals (95% CI) for the multivariable and mediator adjusted association of risk of sudden cardiac death 1986-2012 with residential proximity to A1-A3 roads among Nurses' Health Study participants by active smoking status

	Never Smokers			Ever Smokers		
Distance (m)	Cases	Person-Years	HR (95%CI)*	Cases	Person-Years	HR (95%CI)*
0-49	33	153,559	1.22 (0.80-1.97)	67	186,407	1.56 (1.08-2.23)
50-199	57	282,979	1.22 (0.80-1.87)	89	352,552	1.17 (0.84-1.65)
200-499	60	329,767	1.25 (0.82-1.89)	105	412,495	1.23 (0.89-1.70)
500+	39	265,689	reference	58	310,025	reference
Linear (per 100m closer) §	189	1,031,994	1.06 (0.97-1.15)	319	1,261,479	1.07 (1.00-1.14)
p-for-interaction				0.88		

* Models adjusted for age, race, and calendar time, secondhand smoke exposure during childhood, at home, and at work, BMI, menopausal status and postmenopausal hormone use, the Alternative Healthy Eating Index, alcohol consumption, physical activity, family history of MI, aspirin, multivitamin, and vitamin E use, region of residence, and Census tract median home value and median income, incidence of diabetes or cancer, high cholesterol, high blood pressure, stroke, or coronary heart disease

§ Linear models for distances 0-499m, compared to addresses 500+m away

Supplemental Table 2: Hazard ratios (HRs) and 95 % confidence intervals (95% CI) for the multivariable and mediator adjusted associations of the risk of nonfatal myocardial infarction (MI) and fatal coronary heart disease (CHD) 1986-2010 with residential proximity to A1-A3 roads among Nurses' Health Study participants by active smoking status

		Never Smokers			Ever Smokers		
Outcome	Distance (m)	Cases	Person-Years	HR (95%CI)*	Cases	Person-Years	HR (95%CI)*
Nonfatal MI	0-49	108	141,168	1.06 (0.84-1.20)	162	171,856	1.10 (0.94-1.28)
	50-199	102	261,862	1.00 (0.84-1.20)	166	326,017	1.13 (0.99-1.29)
	200-499	89	304,673	0.94 (0.78-1.12)	150	381,281	1.08 (0.95-1.23)
	500+	92	241,918	reference	131	282,346	reference
	Linear (per 100m) §	911	949,621	1.01 (0.98-1.05)	1,762	1,161,499	1.02 (0.99-1.05)
	p-for-interaction				0.89		
Fatal CHD	0-49	47	244,065	1.21 (0.85-1.72)	145	174,848	1.37 (0.87-1.35)
	50-199	43	307,267	1.21 (0.89-1.65)	201	331,579	1.09 (0.87-1.36)
	200-499	42	264,344	1.37 (1.01-1.85)	200	386,787	0.96 (0.77-1.21)
	500+	28	142,672	reference	132	286,390	reference
	Linear (per 100m) §	379	958,349	1.03 (0.97-1.09)	678	1,179,603	1.07 (1.02-1.11)
	p-for-interaction				0.52		

* Models adjusted for age, race, calendar time, secondhand smoke exposure during childhood, at home, and at work, BMI, menopausal status and postmenopausal hormone use, the Alternative Healthy Eating Index, alcohol consumption, physical activity, family history of MI, aspirin, multivitamin, and vitamin E use, region of residence, and Census tract median home value and median income, and incidence of diabetes, cancer, high cholesterol, high blood pressure, or stroke

§ Linear models for distances 0-499m, compared to addresses 500+m away

ORIGINAL ARTICLE

Long-Term Effects of Traffic Particles on Lung Function Decline in the Elderly

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Abstract

Rationale: Few studies have been performed on air pollution effects on lung function in the elderly, a vulnerable population with low reserve capacity, and even fewer have looked at changes in the rate of lung function decline.

Objectives: We evaluated the effect of long-term exposure to black carbon on levels and rates of decline in lung function in the elderly.

Methods: FVC and FEV_1 were measured one to six times during the period 1995–2011 in 858 men participating in the Normative Aging Study. Exposure to black carbon, a tracer of traffic emissions, was estimated by a spatiotemporal land use regression model. We investigated the effects of moving averages of black carbon of 1–5 years before the lung function measurement using linear mixed models.

Measurements and Main Results: A 0.5 $\mu g/m^3$ increase in long-term exposure to black carbon was associated with an additional rate of decline in FVC and FEV_1 of between 0.5% and 0.9% per year, respectively, depending on the averaging time. In addition, black carbon exposure before the baseline visit was associated with lower levels of both FVC and FEV_1, with effect estimates increasing up to 6–7% with a 5-year average exposure.

Conclusions: Our results support adverse effects of long-term exposure to traffic particles on lung function level and rate of decline in the elderly and suggest that functionally significant differences in health and risk of disability occur below the annual Environmental Protection Agency National Air Quality Standards.

Keywords: air pollution; black carbon; FEV_1

Short- and long-term effects of air pollutant exposures on lung function have been studied in children and adults (1–4). Although warranted (5), there are fewer studies in the elderly, a sensitive population, and even fewer looking at changes in the rate of decline in lung function. By 2030, people older than 65 years will represent 19% of the US population (http://www.aoa.gov/aoaroot/aging_statistics/index.aspx). Changes in the lung structure and function during aging alter remodeling phenomenon and respiratory mechanics, which makes the elderly more susceptible to environmental stressors, such as air pollutants. Lung function and accelerated lung function decline are known predictors of mortality

(Received in original form February 24, 2014; accepted in final form July 9, 2014)

Supported by the US Environmental Protection Agency grants R832416 and RD 83479801, by the National Institute of Environmental Health Sciences grants ES015172-01 and ES000002, and by a VA Research Career Scientist award (D.S.). The VA Normative Aging Study is supported by the Cooperative Studies Program/Epidemiology Research and Information Center of the US Department of Veterans Affairs and is a component of the Massachusetts Veterans Epidemiology Research and Information Center, Boston, Massachusetts.

Author Contributions: J.L. contributed to the concept and design, data analysis, and wrote the manuscript. B.C. and P.K. participated in data analysis and manuscript review. A.A.L. participated in concept and design, and manuscript editing. D.S. and P.S.V. participated in concept and design, acquisition of data, and manuscript editing. J.S. contributed to the concept and design, data analysis, funding support, and wrote the manuscript.

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This article has an online supplement, which is accessible from this issue's table of contents at www.atsjournals.org

Am J Respir Crit Care Med Vol 190, Iss 5, pp 542–548, Sep 1, 2014
Copyright © 2014 by the American Thoracic Society
Originally Published in Press as DOI: 10.1164/rccm.201402-0350OC on July 16, 2014
Internet address: www.atsjournals.org

At a Glance Commentary

Scientific Knowledge on the Subject: Although there is compelling evidence that short- and long-term ambient air pollution exposure adversely affect lung function in children and young adults, altered respiratory mechanics in the elderly may put them at increased risk for experiencing toxicologic effects of air pollutants. Few studies have been performed in this increasing and vulnerable population with low reserve capacity, and even fewer have looked at changes in the rate of decline in lung function.

What This Study Adds to the Field: We report robust results indicating lower lung function level and accelerated lung function decline in the elderly after long-term exposure to black carbon. Our findings suggest that levels of particles related to traffic, although within the Environmental Protection Agency annual air quality standards, may contribute to the significant differences in the rate of lung function decline.

risk (6), as is air pollution, especially particles. The mortality risk of particle exposures is greater in the elderly, and is much larger for chronic than for acute exposures. Hence, understanding how long-term air pollution exposure impacts lung function in the elderly is critical in determining whether this is a possible pathway for the mortality and morbidity associated with air pollution.

The use of fixed monitoring to assess exposures to air pollution is being replaced by the use of geocoded exposure to people's residences. These modeled exposures may be based on land use regression (7–9), dispersion models (10), kriging (11), and satellite remote sensing (12, 13). These allow the characterization of exposure contrasts within cities, offer reduced exposure error, and hence provide more precise and less biased estimates. These improvements are particularly important in the elderly, who no longer work and spend most of the time at home.

Adverse effects of short- to medium-term (4–28 days) exposure to black carbon (BC), carbon monoxide, nitrogen dioxide, and particulate matter less than 2.5 μm ($PM_{2.5}$) on FVC and FEV_1 have been reported in the Normative Aging Study (14), a population of elderly subjects followed since the 1960s. BC is a traffic-related particulate pollutant and has been used as a surrogate of exposures to traffic-related particles in general, weighted toward diesel particles. We here examined the effect of long-term averaged BC on long-term levels and rates of decline in lung function in that same cohort.

Methods

More details on the study design, BC exposure, and statistical analysis can be found in the online supplement.

Study Population and Pulmonary Health

Our study included 858 elderly men living in the Boston area, enrolled in the Normative Aging Study cohort (15), who returned for examinations every 3–5 years between 1995 and 2011. During these examinations, height, weight, and medication use (sympathomimetic α and β, anticholinergics) were assessed. Pulmonary disorders confirmed by a physician (asthma, chronic bronchitis, emphysema) and smoking history were collected through the American Thoracic Society questionnaire. FVC and FEV_1 were assessed by spirometric tests performed following the American Thoracic Society guidelines. Methacholine challenge tests were also conducted, as previously reported (14). Participants provided written informed consent and the study was approved by the institutional review boards of all participating institutions.

BC Exposure

We have developed a spatiotemporal land use regression model for traffic particles based on BC in the greater Boston metropolitan area (9). This model for BC has been updated and revised to include data from 148 monitoring stations recording BC levels at some point between October 1995 and August 2011. Daily predictions at the geocoded address of each participant were used to create moving averages of 1–5 years before each examination. Other pollutants were not examined, because we did not have land use regression models for them.

Statistical Analysis

We used separate linear mixed models for each lung function measurement:

$$\begin{aligned}\text{Log}(\text{FVC or } FEV_1)_{it} &= \beta_0 + u_i + \beta_1\ \text{age_baseline}_i + \beta_2\ \Delta\text{age}_{it} \\ &\quad + \beta_3\ \text{black carbon}_{it} + \beta_4\ \text{black carbon}_{it} \\ &\quad \times \Delta\text{age}_{it} + \beta_p Z_{pit} + \varepsilon_{it}, \qquad (1)\end{aligned}$$

where u_i is the random intercept for participant i; age_baseline is the participants age at the time of the first visit; BC is the average BC concentration at the home address of the participants for the preceding 365 days before the visit t, 730 days, and so forth; and Δage is a time trend term expressed in days since the baseline visit. Hence, in this model β_3 measures the cross-sectional effect of BC and β_4 measures the effect of BC on the rate of decline in lung function. Because BC exposures were centered on the mean (i.e., 0.5 $\mu g/m^3$), β_2 is the slope of lung function decline for participants with average exposure. Z represents the *P* covariates controlled for in the model.

All analyses were conducted controlling for a core set of covariates chosen based on biologic knowledge: race, height, weight, education level, smoking status, pack-years, and season. We then examined sensitivity to further control, specifically for asthma, emphysema, chronic bronchitis, methacholine responsiveness, and medication use (level 2); then for coronary heart disease, stroke, hypertension, and diabetes (level 3); and then for BC averaged over the previous week (level 4). We finally tested whether the BC–lung function decline association was stronger in participants older than 65 years versus less than or equal to 65 years, in participants with baseline FEV_1/FVC less than 0.7, and in ever versus never smokers.

Results

Of the 858 men, 24% had one visit, 23% had two visits, 18% had three visits, and 35% had four to six visits. Table 1 shows the characteristics of the participants at the first visit. At the first visit, 75% of the men were older than 68 years. Only 5% of the

Table 1. Characteristics of the 858 Men Participating in 2,410 Visits in the Context of the Normative Aging Study, 1995–2011

	Statistics
Participant characteristics at first visit	
Age, mean ± SD, yr	69.9 ± 7.2
Race, n (%)	
Black	18 (2.1)
White	840 (97.9)
Height, mean ± SD, cm	173.6 ± 6.6
Weight, mean ± SD, kg	84.6 ± 13.7
Education, n (%)	
<12 yr	41 (4.8)
12 yr	213 (24.8)
13–15 yr	265 (30.9)
>15 yr	339 (39.5)
Smoking status, n (%)	
Never	241 (28.1)
Current	46 (5.4)
Former	571 (66.5)
Pack-years,* mean ± SD	22.6 ± 28.6
Asthma, n (%)	50 (5.8)
Chronic bronchitis, n (%)	61 (7.1)
Emphysema, n (%)	29 (3.4)
Methacholine responsiveness, n (%)	87 (10.1)
Missing	138 (16.0)
Corticosteroids, n (%)	30 (3.5)
Sympathomimetic (α, β), n (%)	83 (9.7)
Anticholinergic, n (%)	11 (1.3)
Coronary heart disease, n (%)	237 (27.6)
Stroke, n (%)	46 (5.4)
Hypertension, n (%)	595 (69.3)
Diabetes, n (%)	88 (10.3)
FVC, mean ± SD, L	3.4 ± 0.7
FEV_1, mean ± SD, L	2.5 ± 0.6
Visit characteristics	
Season, n (%)	
Spring (March–May)	590 (24.5)
Summer (June–August)	637 (26.4)
Fall (September–November)	716 (29.7)
Winter (December–February)	467 (19.4)

*Among current or former smokers.

subjects had less than a high school education, and 70% had at least some college education. Only 5% were active smokers at the time of the first visit, although most of the participants were former smokers.

The 5th to 95th percentile ranges of the long-term BC exposure distribution were 0.9 or 0.8 $\mu g/m^3$ (vs. mean of 0.6), demonstrating the considerable variation in traffic particle exposure across the greater Boston area (Table 2).

Table 3 shows the results of the primary analysis. For each increment of 0.5 $\mu g/m^3$ in long-term BC exposure, we found an additional rate of decline in FVC of between 0.5% and 0.9% per year, depending on the averaging time, and an additional decline of FEV_1 of 0.5% per year, except for the 5-year average, where the decline was 0.8% per year. In addition, BC exposure before the baseline visit was associated with lower baseline levels of both FVC and FEV_1, with effect estimates increasing with averaging time. For the 5-year average before the baseline visit, FEV_1 was 6.7% (95% confidence interval [CI], 9.1–4.4%) lower for each increment of 0.5 $\mu g/m^3$. For FVC, the effect was −5.6% (95% CI, −7.5% to −3.6%). Figure 1 illustrates the expected lung function over time by exposure given this model.

Results were consistent when we further adjusted for asthma, emphysema, chronic bronchitis, methacholine responsiveness, medications, chronic heart disease, stroke, hypertension, and diabetes (Table 4). Spearman correlation between 1-year and 1-week BC exposure was 0.77. When we further adjusted for short-term exposure to BC, the cross-sectional effects of long-term exposure to BC were weaker, but the longitudinal effects were consistent. The effects of BC exposures were the same for participants younger and older than 65 years, and for persons with baseline FEV_1/FVC ratios above and below 0.7. When we compared the effect of BC on the rate of decline in lung function among never versus ever smokers, there was a suggestion of a higher effect on never smokers for FVC and a significant interaction for FEV_1. For a 0.5 $\mu g/m^3$ increase in the 5-year average BC exposure, the increased rate of FEV_1 decline was −1.5% per year in never smokers (95% CI, −2.2% to −0.8%) versus

Table 2. Black Carbon ($\mu g/m^3$) Exposure before Lung Function Assessment for 2,410 Visits Undergone by 858 Men Participating in the Normative Aging Study, 1995–2011

Exposure Window	Statistics			
	Number of Observations	Mean ± SD	5th, 95th Percentiles	Interquartile Range
1 wk	2,392	0.6 ± 0.4	0.2, 1.4	0.42
1 yr	2,410	0.7 ± 0.3	0.3, 1.2	0.39
2 yr	2,175	0.6 ± 0.3	0.3, 1.2	0.37
3 yr	1,943	0.6 ± 0.3	0.3, 1.1	0.37
4 yr	1,720	0.6 ± 0.3	0.3, 1.1	0.35
5 yr	1,508	0.6 ± 0.3	0.3, 1.1	0.34

Table 3. Longitudinal Association* between Chronic Black Carbon Exposure and Lung Function for 2,410 Visits Undergone by 858 Men Participating in the Normative Aging Study, 1995–2011

Outcome†	Number of Observations	Black Carbon Effect			
		Cross-Sectional		On Rate of Lung Function Decline	
		β (%)	95% CI	β (%)	95% CI
FVC					
1 yr	2,410	−1.0	−2.1 to 0.1	**−0.9**	**−1.1 to −0.7**
2 yr	2,175	**−1.4**	**−2.8 to −0.01**	**−0.8**	**−1.0 to −0.5**
3 yr	1,943	**−3.1**	**−4.7 to −1.5**	**−0.7**	**−0.9 to −0.4**
4 yr	1,720	**−4.3**	**−6.1 to −2.5**	**−0.5**	**−0.8 to −0.2**
5 yr	1,508	**−5.6**	**−7.5 to −3.6**	**−0.7**	**−1.1 to −0.4**
FEV_1					
1 yr	2,410	**−1.3**	**−2.6 to −0.1**	**−0.5**	**−0.7 to −0.3**
2 yr	2,175	**−1.9**	**−3.5 to −0.2**	**−0.5**	**−0.7 to −0.2**
3 yr	1,943	**−3.7**	**−5.6 to −1.7**	**−0.5**	**−0.8 to −0.2**
4 yr	1,720	**−5.2**	**−7.3 to −3.1**	**−0.5**	**−0.9 to −0.2**
5 yr	1,508	**−6.7**	**−9.1 to −4.4**	**−0.8**	**−1.2 to −0.4**

Definition of abbreviation: CI = confidence interval.
Bold font indicates statistically significant results.
*Adjusted for race, ln(height), weight (linear and quadratic), education level, smoking status, pack-years, and season (sin[date], cos [date]).
†Times given in the "Outcome" column are exposure windows.

−0.5% per year in ever smokers (95% CI, −1.0% to 0.01%) with a significant interaction ($P = 0.02$). There were no significant differences in the baseline effect by smoking status.

Discussion

Our results show, for the first time, that exposure to traffic particles, as indexed by BC, is associated with lower baseline lung function and accelerated lung function decline in the elderly, a population sensitive to the effects of particles. These effects were the same for participants younger and older than 65 years at baseline, and remained stable with increasing level of control for other potential predictors of lung function.

In 1965, Holland and Reid (16) showed that after controlling for smoking, lung function in long-term postal workers in London was lower than in similar postal workers in the countryside, where BC levels were roughly half of those in London. Since that time considerable research has indicated that air pollution in general, and particles specifically, are associated with lower lung function. Lubinski and coworkers (17) reported lower FEV_1/FVC ratios in nonsmoking Polish men on military entrance examinations were associated with particle concentrations in their home cities. Fewer studies have examined changes in lung function over time and most of them have focused on children. In Mexico City, reduced rates of lung function growth have been reported in children living in parts of the city with higher particle levels (18). The Southern California Children's Health Study followed children older than 8 years and found that $PM_{2.5}$ exposure was associated with clinically impaired lung function at 18 years of age (19). Avol and coworkers (20) identified 110 children from the University of Southern California Children's Health Study who moved from the study area, and followed them in their new home with pulmonary function testing identical to that in the main cohort. Subjects who moved to locations with higher PM_{10} concentrations had lower rates of annual growth in lung function, whereas children who moved to locations with lower PM_{10} levels showed higher rates of growth in lung function. This effect was larger in subjects who lived in the new location for at least 3 years. Another study took advantage of a natural experiment—the collapse of communism. Sugiri and coworkers (21) examined lung function in children in East and West Germany repeatedly between 1991 and 2000. In 1991 the West German children had higher lung function, and much lower exposure to particles. By 2000, changes in East German environmental and socioeconomic conditions had eliminated the difference in particle exposure, and the difference in lung function also disappeared.

In our study focused on elderly males, we found 1.3–6.7% lower levels of baseline lung function associated with previous exposure to BC. For each 0.5 $\mu g/m^3$ increase in long-term (1–5 yr) BC exposure, we found an additional annual rate of decline of 0.5–0.9% for FVC and 0.5–0.8% for FEV_1. In SAPALDIA, Downs and coworkers (3) reported 9% lower annual rates of decline in FEV_1 associated with a 10 $\mu g/m^3$ decrease in the annual average PM_{10} concentration between examinations. In ECRHS, Götschi and coworkers (22) found no significant effect of $PM_{2.5}$ on FEV_1 level and decline. The authors acknowledge such results might be caused by methodologic issues. In women, Sekine and coworkers (23) compared annual mean change of FEV_1 for three exposure groups older than 8 years and found stronger

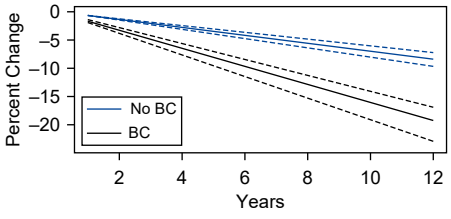


Figure 1. Rate of decline of FVC (and 95% confidence intervals [*dotted lines*]) comparing that seen at the mean black carbon (BC) in the study (0.5 $\mu g/m^3$) with what would have been expected in the counterfactual situation where BC was zero; 2,410 visits undergone by 858 men participating in the Normative Aging Study, 1995–2011.

Table 4. Sensitivity Analyses: Longitudinal Association between Chronic Black Carbon Exposure and Lung Function According to Confounders Adjusted for 2,410 Visits Undergone by 858 Men Participating in the Normative Aging Study, 1995–2011

		Adjustment Level											
		Level 2 Black Carbon Effect				Level 3 Black Carbon Effect				Level 4 Black Carbon Effect			
		Cross-Sectional		On Rate of Lung Function Decline		Cross-Sectional		On Rate of Lung Function Decline		Cross-Sectional		On Rate of Lung Function Decline	
Outcome*	Number of Observations	β (%)	95% CI	β (%)	95% CI	β (%)	95% CI	β (%)	95% CI	β (%)	95% CI	β (%)	95% CI
FVC													
1 yr	2,056	−0.9	−2.0 to 0.3	**−1.0**	**−1.2 to −0.8**	−0.8	−2.0 to 0.4	**−1.0**	**−1.2 to −0.8**	−0.2	−1.6 to 1.2	**−1.0**	**−1.2 to −0.8**
2 yr	1,859	−1.3	−2.7 to 0.2	**−0.9**	**−1.1 to −0.6**	−1.2	−2.7 to 0.2	**−0.9**	**−1.1 to −0.6**	−0.1	−1.8 to 1.6	**−0.9**	**−1.2 to −0.7**
3 yr	1,668	**−2.8**	**−4.5 to −1.1**	**−0.7**	**−1.0 to −0.5**	**−2.7**	**−4.4 to −1.0**	**−0.8**	**−1.0 to −0.5**	−0.9	−2.7 to 1.0	**−0.8**	**−1.1 to −0.5**
4 yr	1,471	**−4.3**	**−6.1 to −2.5**	**−0.5**	**−0.9 to −0.2**	**−4.3**	**−6.1 to −2.5**	**−0.6**	**−0.9 to −0.3**	**−2.9**	**−4.9 to −0.8**	**−0.7**	**−1.0 to −0.4**
5 yr	1,289	**−5.7**	**−7.8 to −3.6**	**−0.8**	**−1.2 to −0.4**	**−5.8**	**−7.8 to −3.7**	**−0.8**	**−1.2 to −0.4**	**−4.6**	**−6.9 to −2.3**	**−0.9**	**−1.2 to −0.5**
FEV_1													
1 yr	2,056	**−1.4**	**−2.7 to −0.1**	**−0.6**	**−0.8 to −0.4**	**−1.4**	**−2.7 to −0.1**	**−0.6**	**−0.9 to −0.4**	−0.8	−2.3 to 0.8	**−0.6**	**−0.9 to −0.4**
2 yr	1,859	**−2.0**	**−3.7 to −0.4**	**−0.6**	**−0.9 to −0.4**	**−2.0**	**−3.6 to −0.4**	**−0.6**	**−0.9 to −0.4**	−1.0	−2.8 to 0.9	**−0.7**	**−0.9 to −0.4**
3 yr	1,668	**−3.5**	**−5.4 to −1.6**	**−0.6**	**−0.9 to −0.3**	**−3.4**	**−5.3 to −1.5**	**−0.6**	**−0.9 to −0.3**	**−2.3**	**−4.4 to −0.1**	**−0.7**	**−1.0 to −0.3**
4 yr	1,471	**−5.2**	**−7.2 to −3.1**	**−0.6**	**−1.0 to −0.3**	**−5.3**	**−7.3 to −3.2**	**−0.6**	**−1.0 to −0.3**	**−4.2**	**−6.4 to −1.8**	**−0.7**	**−1.1 to −0.4**
5 yr	1,289	**−6.9**	**−9.2 to −4.6**	**−0.9**	**−1.2 to −0.5**	**−7.0**	**−9.3 to −4.7**	**−1.0**	**−1.4 to −0.6**	**−6.5**	**−9.0 to −3.9**	**−1.0**	**−1.4 to −0.6**

Definition of abbreviation: CI = confidence interval.
Levels 2, 3, and 4 were adjusted for race, ln(height), weight (linear and quadratic), education level, smoking status, pack-years, season (sin[date], cos [date]).
Level 2 was further adjusted for chronic lung conditions (asthma, emphysema, chronic bronchitis), methacholine responsiveness, medication use (sympathomimetic α and β, anticholinergics).
Level 3 was adjusted for covariates of Level 2 and further adjusted for coronary heart disease, stroke, hypertension, and diabetes.
Level 4 was adjusted for covariates of Levels 2 and 3 and further adjusted for short-term exposure to black carbon.
Bold font indicates statistically significant results.
*Times given in the "Outcome" column are exposure windows.

FEV_1 decline in the group with the highest exposure to traffic. Comparison of results across studies is made difficult because of differences in exposure metrics and statistical methods used to study the relationship with lung function decline. In our study, the cross-sectional effects of BC were a bit stronger on FEV_1 compared with FVC, suggesting that BC exposure might lead to obstructive changes rather than restrictive. However, the longitudinal effects were slightly stronger on FVC compared with FEV_1. Further studies are needed to confirm whether traffic air pollutants affect lung function decline and to clarify whether such effect is more obstructive or restrictive.

We did not see any effect modification by FEV_1/FVC ratio, but we did see evidence of stronger effects in never smokers than in ever smokers, almost all of whom were former smokers. Former smokers often stop smoking because they become symptomatic, and it may be that the ability of air pollution to further damage already compromised lungs is limited, or that former smokers take action to limit their exposure. Further work is needed to first confirm this effect modification, and if confirmed, to identify the mechanism.

Hence, our main results are consistent with prior literature, but extend it to a key susceptible population, the elderly, and to a key fraction of particulate air pollution, traffic particles. BC is a marker of harmful combustion particles (24). In Boston, BC is a marker of traffic particles associated with local traffic and long-range transported traffic particles. Epidemiologic studies are supported by toxicology. For example, one study exposed mice and their offspring to either ambient air or filtered air to remove only particles, not gases. Lung function in the particle-exposed mice (average particles concentrations of 16.8 $\mu g/m^3$) was lower than in the mice with filtered air (average particle concentrations of 2.9 $\mu g/m^3$) (25). The underlying mechanisms of the association between air pollution and lung function are not fully elucidated. Pulmonary inflammation has been shown after controlled exposure to diesel exhaust, rich in BC and nitrogen oxides (26). Oxidative stress is a key pathway for pulmonary diseases, and a continuous reduction in oxidative stress in the lung has been shown in animals first exposed to the Boston air and then to a filtered air (27). Aging involves complex biologic phenomena. Physiologic functions can be compromised, making the elderly more susceptible to inflammatory states and vulnerable to air pollution. Particle clearance might be less efficient or impaired by other dysfunctions.

We acknowledge some limitations to our study. First, there is room for measurement error in BC exposure assessment, because we only accounted for home outdoor exposure as it is often the case in air pollution studies. By the time of our analysis, 75% of the men were older than 68 years, so essentially everyone was retired, making the home address a better location for assessing outdoor exposure than in a working population. Predictions from our land-use model have been merged to the geocoded address of each subject of the study and have been used to investigate the effect of traffic pollution on markers of inflammatory and endothelial response (28), blood pressure (29), cognitive function (30), and other outcomes. Because the elderly likely have reduced outdoor activities, indoor sources may contribute more to personal exposure than in other populations. Assuming that indoor and outdoor particles have the same composition and toxicity, Zeger and coworkers (31) have shown that errors caused by indoor exposures are of Berkson type, which is expected to increase standard errors. If indoor and outdoor particles are not

identical, then the effect would generally be underestimated.

Second, we cannot rule out residual or unmeasured confounding. However, we adjusted for a variety of potential predictors of lung function and our analyses indicated our results were robust. Furthermore, because we have seen associations of short-term exposure to traffic pollution with lung function (14), we controlled for BC averaged over the previous week (level 4) to ensure that we were really looking at an effect of long-term BC exposure. Cross-sectional effects of long-term exposure to BC were weaker when we adjusted for short-term exposure to BC, which means that part of the short-term effects of BC was previously captured by the cross-sectional effect of long-term exposure. Third, study results were observed in a cohort of elderly men, which may limit the generalizability of our results to similar populations.

The magnitude of the difference in lung function decline in the elderly is not trivial, and points to increased levels of significant impairment caused by the substantially greater decline in lung function among elderly men with higher exposure to traffic particles. Such effects should not be underestimated because they might be well-tolerated by a healthy population, but become life threatening for elderly or ill subjects (32). Moreover, particle pollution ($PM_{2.5}$) during the period of this study was always within the Environmental Protection Agency annual air quality standards. This indicates functionally significant differences in health and risk of disability occur within those standards. ■

Author disclosures are available with the text of this article at www.atsjournals.org.

Acknowledgment: The authors thank Tania Kotlov, data programmer, and Steve Melly, GIS specialist, from the Harvard School of Public Health, and the participants for their collaboration.

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Living near major roads and the incidence of dementia, Parkinson's disease, and multiple sclerosis: a population-based cohort study

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Lancet 2017; 389: 718–26
Published Online January 4, 2017
http://dx.doi.org/10.1016/S0140-6736(16)32399-6

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Summary

Background Emerging evidence suggests that living near major roads might adversely affect cognition. However, little is known about its relationship with the incidence of dementia, Parkinson's disease, and multiple sclerosis. We aimed to investigate the association between residential proximity to major roadways and the incidence of these three neurological diseases in Ontario, Canada.

Methods In this population-based cohort study, we assembled two population-based cohorts including all adults aged 20–50 years (about 4·4 million; multiple sclerosis cohort) and all adults aged 55–85 years (about 2·2 million; dementia or Parkinson's disease cohort) who resided in Ontario, Canada on April 1, 2001. Eligible patients were free of these neurological diseases, Ontario residents for 5 years or longer, and Canadian-born. We ascertained the individual's proximity to major roadways based on their residential postal-code address in 1996, 5 years before cohort inception. Incident diagnoses of dementia, Parkinson's disease, and multiple sclerosis were ascertained from provincial health administrative databases with validated algorithms. We assessed the associations between traffic proximity and incident dementia, Parkinson's disease, and multiple sclerosis using Cox proportional hazards models, adjusting for individual and contextual factors such as diabetes, brain injury, and neighbourhood income. We did various sensitivity analyses, such as adjusting for access to neurologists and exposure to selected air pollutants, and restricting to never movers and urban dwellers.

Findings Between 2001, and 2012, we identified 243 611 incident cases of dementia, 31 577 cases of Parkinson's disease, and 9247 cases of multiple sclerosis. The adjusted hazard ratio (HR) of incident dementia was 1·07 for people living less than 50 m from a major traffic road (95% CI 1·06–1·08), 1·04 (1·02–1·05) for 50–100 m, 1·02 (1·01–1·03) for 101–200 m, and 1·00 (0·99–1·01) for 201–300 m versus further than 300 m (p for trend=0·0349). The associations were robust to sensitivity analyses and seemed stronger among urban residents, especially those who lived in major cities (HR 1·12, 95% CI 1·10–1·14 for people living <50 m from a major traffic road), and who never moved (1·12, 1·10–1·14 for people living <50 m from a major traffic road). No association was found with Parkinson's disease or multiple sclerosis.

Interpretation In this large population-based cohort, living close to heavy traffic was associated with a higher incidence of dementia, but not with Parkinson's disease or multiple sclerosis.

Funding Health Canada (MOA-4500314182).

Introduction

Dementia, Parkinson's disease, and multiple sclerosis are among the most common neurodegenerative diseases, with devastating effects on individuals, families, and society. Globally, about 55 million people have these disorders, with rising numbers expected given increasing longevity.[1,2] Without cures, identification of modifiable risk factors is important.

Despite the mounting global effect of these neurodegenerative diseases, their cause remains largely unknown.[3–5] Concern is growing that exposures associated with traffic such as air pollution and noise might contribute to neurodegenerative pathology.[6,7] Results of studies showed that air pollutants and diesel exhaust induce oxidative stress and neuroinflammation,[8] activate microglia,[9] and stimulate neural antibodies.[10] Exposure to more noise also impairs cognitive abilities in rats.[11] Similarly, a few epidemiologic studies[12–14] linked traffic-related noise and air pollution to cognitive decline and increased incidence of Parkinson's disease[15] and Alzheimer's disease.[16] Traffic exposure might affect various neurodegenerative processes.

Studies also showed that living near roads was associated with reduced white matter hyperintensity volume[17] and cognition,[18,19] but its effect on the incidence of dementia, Parkinson's disease, and multiple sclerosis is unknown. Living near traffic is a multifaceted exposure representing heightened exposure to nitrogen oxides, ultrafine particles, fine particulate matter (≤2·5 μm in diameter or $PM_{2.5}$), heavy metals, polycyclic aromatic hydrocarbons, volatile organic compounds, noise, and other factors. Because hundreds of millions of people

Research in context

Evidence before this study

We searched the MEDLINE and Embase databases for epidemiological studies of the associations between exposure to roadway traffic and the risk in adults (older than 18 years of age) of developing dementia, Parkinson's disease, or multiple sclerosis. Studies published in the peer-review literature up to Feb 1, 2016, were included, regardless of the language of publication. We perused the bibliographies of these articles and of previously published reviews. We searched the bibliographic databases using the keywords traffic exposure, mobile source, roadway, proximity or near, air pollution, and with the following health outcomes: dementia; Alzheimer's disease; cognition; Parkinson's disease; multiple sclerosis. A few studies found an association between living close to major roadways and cognitive decline and changes in the brain structure. There is also some evidence linking traffic-related noise and air pollution to cognitive decline and the incidence of dementia, and to a lesser degree, Parkinson's disease. No study has so far investigated the onset of all three major neurodegenerative diseases (dementia, Parkinson's disease, and multiple sclerosis) in association with near-road exposure. Moreover, the few existing studies involved relatively small study populations and nearly half were cross-sectional.

Added value of this study

We report that living close to heavy traffic is associated with increased incidence of dementia. Using the same populations and methods, however, we did not find an association between residential proximity to traffic and Parkinson's disease or multiple sclerosis. The cause of these major neurodegenerative diseases remains largely unclear. This study sheds important insights into a possible role of near-road exposure on the development of dementia. Our study overcomes several limitations of previous studies, since it has large cohorts comprising almost the entire adult population in Ontario, the most populous province in Canada, and lagged exposure up to 10 years to reduce concerns about reverse causality. With demographic characteristics similar to the USA and many European countries, findings from this study will be highly generalisable to populations in many other regions.

Implications of all the available evidence

Increasing population growth and continuing urbanisation globally has placed many people close to heavy traffic. With the widespread exposure to traffic and growing population with dementia, even a modest effect from near-road exposure can pose an enormous public health burden. This study suggests that improvements in environmental health policies and land use planning aimed at reducing traffic exposure can have considerable potential for prevention of dementia, which would lead to a broad public health implication. This study adds weight to previous observations suggesting that roadway traffic is an important source of environmental stressors that could give rise to neurological disorders and that future investigation targeting the effects of different aspects of traffic such as traffic-related air pollutants and noise on neurological health is merited.

worldwide live close to major roads, we sought to investigate the association between exposure to traffic, measured by residential proximity to major roadways, and the incidence of dementia, Parkinson's disease, and multiple sclerosis in a large population-based cohort in Ontario, Canada.

Methods

Study design

We did a population-based cohort study of all Ontario adults to determine the incidence of dementia, Parkinson's disease, and multiple sclerosis. Eligible participants were, as of April 1, 2001, Ontario residents for 5 years or longer, aged 20–85 years, and Canadian-born. We created the study population using Ontario's Registered Persons Database, a registry of all residents who have ever had health insurance. This database covers virtually all Ontario residents.[20]

Because dementia and Parkinson's disease onset occurs predominantly in people aged 55 years or older, whereas multiple sclerosis onset is most common in adults younger than 50 years, we separated the study population into two analytical cohorts: individuals aged 20–50 years (multiple sclerosis cohort); and individuals aged 55–85 years (dementia or Parkinson's disease cohort). We further excluded individuals with any of these three disorders at baseline, yielding a total of 4 372 720 and 2 165 268 participants in each cohort.

The Research Ethics Board of Sunnybrook Health Sciences Centre, Toronto, approved the study.

We ascertained incident diagnoses of dementia, Parkinson's disease, and multiple sclerosis using validated databases (see appendix). Details of these databases are available elsewhere.[20] These databases have been validated previously using chart review, with sensitivity of 78–84% and specificity of 99–100%.[21–23] They were created using hospital discharge abstracts from the Canadian Institute for Health Information, physician service claims from the Ontario Health Insurance Plan database, and prescription medication claims from the Ontario Drug Benefits programme database. Hospital, laboratory, and physician services in Ontario are funded by the provincial government through a single-payer universal medicare system that covers virtually all residents.[20] Drug coverage is provided to those aged 65 years or older, and social assistance recipients. We linked the cohorts to these databases using encrypted unique identifiers to ascertain incident cases.

See Online for appendix

Residential proximity to roads

We calculated residential proximity to major roadways or highways based on 6-character postal-code addresses in 1996, 5 years before cohort inception. Postal codes in urban areas represent the centroid of the blocks or single large buildings in which cohort members lived. Distance (m) was measured using ArcGIS. Major traffic roads include primary urban roads and arterial roads (ie, a major thoroughfare with medium to large traffic capacity with a combination of controlled access and intersections at grade level) whereas highways include expressways and primary and secondary highways, according to Ontario Government Road Network Data Standards. Consistent with previous studies,[17,24] we created five distance categories: less than 50 m from major traffic road, 50–100 m, 101–200 m, 201–300 m, and more than 300 m. We also considered a continuous measure of distance.

	Multiple sclerosis cohort* (n=4 372 720)		Dementia/Parkinson's disease cohort* (n=2 165 268)	
	Subject count	%	Subject count	%
Age at entry (years); mean (SD)	35·9 (8·7)	..	66·8 (8·2)	..
20–29	1 198 499	27·4	..	..
30–39	1 475 303	33·7	..	..
40–50	1 698 918	38·9	..	..
55–64	..	..	978 235	45·2
65–74	..	..	731 685	33·8
75–85	..	..	455 348	21·0
Sex				
Male	2 178 448	49·8	1 013 010	46·8
Female	2 194 272	50·2	1 152 258	53·2
Pre-existing comorbidity†				
Coronary heart disease	21 957	0·5	213 071	9·8
Stroke	6005	0·2	66 241	3·1
Congestive heart failure	4687	0·1	120 550	5·6
Diabetes	105 088	2·4	323 544	15·0
Hypertension	295 996	6·8	1 038 119	48·0
Arrhythmia	11 717	0·3	93 495	4·3
Traumatic brain injury	302 869	6·9	90 694	4·2
Area-level risk factors‡				
Low-income cutoff quintile				
Lowest	784 958	18·0	400 839	18·5
Lower middle	867 694	19·8	447 184	20·7
Middle	903 386	20·7	437 336	20·2
Upper middle	915 524	20·9	420 427	19·4
Upper	901 158	20·6	459 482	21·2
Percentage of rural residents	724 024	16·6	410 575	19·0
Percentage of recent immigrants	..	3·6	..	3·3
Percentage ≥15 years of age with less than high school education	..	25·5	..	26·9
Percentage ≥15 years of age without employment	..	6·2	..	6·2

Data are n or %, unless otherwise specified. *Multiple sclerosis cohort comprised all adults aged 20–50 years and dementia/Parkinson's disease cohort comprised all adults aged 55–85 years in Ontario, Canada, in 2001. †In the 10 years before cohort onset. ‡From Canadian Census 2001, at the census dissemination area level.

***Table 1*: Baseline characteristics of the study population**

Covariates

We selected accepted or suspected risk factors for neurodegenerative pathology, including age, sex, pre-existing comorbidities, and socioeconomic status.[3–5] The comorbidities included traumatic brain injury, diabetes, hypertension, stroke, coronary heart disease, congestive heart failure, and arrhythmia. We ascertained the presence of comorbidities at baseline using hospital discharge abstracts, physician service claims, and validated chronic disease databases (appendix).

Several individual-level socioeconomic status and behavioural factors, such as education, smoking, and physical activity are also implicated in neurological health,[3–5] but were unavailable. Since neighbourhood-level socioeconomic status is strongly associated with these factors,[25,26] we derived four neighbourhood-level variables: income quintile, a measure of relative household income accounting for household size and community; percentage of population aged 15 years or older with less than high school education; unemployment rate; and percentage of recent immigrants, using 2001 Canadian Census dissemination area data. A dissemination area (with 400–700 people) is the smallest census geographic area for which census data are disseminated. We further derived neighbourhood-level deprivation based on the Ontario Marginalization Index that quantifies the degree of marginalisation in health and social wellbeing (appendix).

To control for regional differences in the incidence of dementia, Parkinson's disease, and multiple sclerosis, we created a variable for urban residence (yes/no), density of neurologists using the ICES Physician Database to represent accessibility to neurological care, and the latitude of residence given the reported latitude gradient with multiple sclerosis.[3] Additionally, we created a dichotomous variable classifying Ontario into the Greater Toronto Area, a densely-populated urban mega-region, and all other areas. Toronto tends to differ from other areas with respect to sociodemographic characteristics, health care access, and population health status.

To explore whether exposure to air pollutants, especially nitrogen dioxide (NO_2) and $PM_{2.5}$ might explain the roadway proximity-outcome association, we obtained long-term measures of $PM_{2.5}$ and NO_2 for all participants (appendix). Briefly, estimates of ground-level concentrations of $PM_{2.5}$ were derived from satellite observations of aerosol optical depth in combination with outputs from a global atmospheric chemistry transport model (GEOS-Chem CTM).[27] The $PM_{2.5}$ estimates were further adjusted using information on urban land cover, elevation, and aerosol composition using a geographically weighted regression. We used estimates between 1998 (the earliest year with available data) and 2001 (the year of cohort inception), thus producing four-year mean concentration of $PM_{2.5}$ at a spatial resolution of 1×1 km and covering all North America

	Incidence of dementia (n=243611)‡			Incidence of Parkinson's disease (n=31577)‡			Incidence of multiple sclerosis (n=9247)‡		
	HR	95% CI	p_{trend}	HR	95% CI	p_{trend}	HR	95% CI	p_{trend}
Distance† by category									
<50 m	1·07	1·06–1·08	0·0349	1·01	0·98–1·04	0·12	1·02	0·95–1·09	0·72
50–100 m	1·04	1·02–1·05	..	1·01	0·97–1·05	..	0·93	0·86–1·01	..
101–200 m	1·02	1·01–1·03	..	0·99	0·96–1·03	..	1·01	0·95–1·08	..
201–300 m	1·00	0·99–1·01	..	0·99	0·96–1·02	..	1·01	0·94–1·08	..
>300 m	Reference	..	..	Reference	..	..	Reference	..	..
Log(distance)§	0·91	0·89–0·92	..	0·99	0·97–1·01	..	1·00	0·98–1·02	..

Cox proportional hazards model with age as the time-scale, stratified by an indicator for living in the Greater Toronto Area or not, adjusted for sex, history of diabetes, hypertension, coronary heart disease, stroke, congestive heart failure, arrhythmia, and traumatic brain injury, income quintile, urban/rural indicator, census division-level unemployment rate, education, recent immigrants, as well as the subtraction of these variables at the census dissemination level from their census division. For multiple sclerosis, the model was also adjusted for latitude. †Major traffic roads include primary urban roads and arterial roads whereas highways include expressways and primary and secondary highways, as defined by Ontario Government Road Network Data Standards. ‡Incidence of dementia and Parkinson's disease was analysed among all adults aged 55–85 years (dementia/Parkinson's disease cohort) whereas incidence of multiple sclerosis was analysed among all adults aged 20–50 years (multiple sclerosis cohort). §Distance was fitted as a continuous variable, using natural logarithm of distance. Hazard ratios (HRs) expressed per IQR increase in distance (dementia/Parkinson's disease cohort: 310 m and multiple sclerosis cohort: 320 m).

***Table 2*: Hazard ratios and 95% CIs for the associations between residential proximity to major roadways in 1996 and the risks of incident dementia, Parkinson's disease, and multiple sclerosis in Ontario, during the follow-up period 2001–12**

below 70°N, which includes all of Ontario. These satellite-based estimates of $PM_{2.5}$ closely agree with ground measurements at fixed-site monitoring stations across North America (R^2 0·82, n=1440).[27] Similarly, we derived long-term exposure to NO_2 from a national land-use regression (LUR) model developed from Environment Canada's National Air Pollution Surveillance Network monitoring data, 2005–11 satellite NO_2 estimates, area of industrial land use, road length, and mean summer rain fall.[28] The estimates were further calibrated by incorporating local-scale variations of NO_2 from vehicle emissions by applying spatially-varying multipliers that represented distance-decay gradient in NO_2. The final LUR model explained 73% of the variation in annual 2006 measurements of NO_2, with a root mean square error of 2·9 parts per billion (ppb).[28] The resulting LUR NO_2 estimates were available for each year between 1998 and 2001, after applying temporal adjustment.

Statistical analysis

We used Cox proportional hazards models with age as the time-scale to assess the relationship between residential proximity to major roadways and the incidence of dementia, Parkinson's disease, and multiple sclerosis. For each outcome, follow up time (in days) was measured from April 1, 2001 until diagnosis date, ineligibility for provincial health insurance, death, or March 31, 2012.

Separate models were developed for each disease. All models were stratified by region (living in Toronto or not), and adjusted for sex, comorbidities, urban residency, and neighbourhood-level income, education, unemployment, and immigration status. To adjust for regional variations in the neighbourhood-level variables across Ontario, we included them as the average for each census division (equivalent to county), and as the difference between the values for each census dissemination area and the census division mean. We further adjusted for latitude for multiple sclerosis cohort. The analyses were repeated using distance as categorical and continuous variables.

We routinely tested for deviation from the proportional hazards assumption by adding the cross-product of each variable with the natural logarithm of the time variable, but we did not find any violation of this assumption (p>0·05). We calculated adjusted hazard ratios (HRs) and 95% CIs for each category of roadway proximity compared with the furthest category (>300 m). Linear trend was assessed by assigning the median distance (in natural log) to each category and fitting the term as a continuous variable in a regression model. In analyses with distance as a continuous variable, we considered the natural log of distance because this exposure has been linearly related to mortality and morbidity outcomes in Ontario and elsewhere.[17,24]

Sensitivity analyses

We controlled for access to neurologists, deprivation index, and a North/South indicator (appendix). We also adjusted for a linear term for time to account for potential changes in the risk of the three disorders over time.

We assessed whether HR might be influenced by any spatial dependence among participants. We fitted models with a frailty term for census division (ie, county) to account for the possibility that participants in the same community could share similar risk factors than those living in different locations. We assumed a gamma distribution for the frailties, with an exchangeable correlation structure within county.

We assessed the potential influence of unmeasured individual-level socioeconomic status and behavioural variables, especially education, smoking, obesity, and

	Main model ‡		Indirectly adjusted for smoking		Further indirectly adjusted for BMI, physical activity		Further indirectly adjusted for education	
	Hazard ratio	95% CI	Hazard ratio	95% CI	Hazard ratio	95% CI	Hazard ratio	95% CI
Distance† by category								
<50 m	1·07	1·06–1·08	1·06	1·05–1·08	1·06	1·05–1·08	1·06	1·05–1·08
50–100 m	1·04	1·02–1·05	1·03	1·02–1·05	1·03	1·02–1·05	1·04	1·02–1·06
101–200 m	1·02	1·01–1·03	1·01	1·00–1·02	1·01	1·00–1·03	1·02	1·01–1·04
201–300 m	1·00	0·99–1·01	1·00	0·98–1·01	1·00	0·99–1·02	1·01	0·99–1·03
>300 m	Reference	..	Reference	..	Reference	..	Reference	..
Log (distance)§	0·91	0·89–0·92	0·92	0·90–0·93	0·92	0·90–0·93	0·92	0·90–0·93

Indirect adjustment for smoking, body-mass index (BMI), physical activity, and attained education. Data of smoking, BMI, physical activity, and educational attainment were obtained from Ontario respondents to the 1996 cycle of National Population Health Survey and the 2000–01, 2003 cycles of Canadian Community Health Survey, and who were 50 to 85 years old at the time of the surveys (n=16 441). †Major traffic roads include primary urban roads and arterial roads whereas highways include expressways and primary and secondary highways, as defined by Ontario Government Road Network Data Standards. ‡Cox proportional hazards model with age as time axis, stratified by an indicator for living in the Greater Toronto Area or not, adjusted for sex, history of diabetes, hypertension, coronary heart disease, stroke, congestive heart failure, arrhythmia, and traumatic brain injury, income quintile, urban/rural indicator, census division-level unemployment, education, and recent immigrants, as well as the subtraction of these variables at the census dissemination level from their census division. §Distance was fitted as a continuous variable, using natural logarithm of distance. The hazard ratios were expressed per interquartile-range increase in distance (310 m).

***Table 3*: Hazard ratios and 95% CI for associations between residential proximity to major roadways in 1996 and the risk of incident dementia in Ontario during the follow-up period 2001–12**

	Parkinson's disease				Multiple sclerosis			
	Main model‡		Indirectly adjusted for smoking and physical activity‖		Main model‡		Indirectly adjusted for smoking‖	
	Hazard ratio	95% CI	Hazard ratio	95% CI	Hazard ratio	95% CI	Hazard ratio	95% CI
Distance† by category								
<50 m	1·01	0·98–1·04	1·01	0·98–1·05	1·02	0·95–1·09	1·00	0·93–1·07
50–100 m	1·01	0·97–1·05	1·02	0·98–1·06	0·93	0·86–1·01	0·93	0·86–1·01
101–200 m	0·99	0·96–1·03	0·99	0·96–1·03	1·01	0·95–1·08	1·00	0·93–1·06
201–300 m	0·99	0·96–1·02	1·00	0·97–1·03	1·01	0·94–1·08	1·00	0·93–1·07
>300 m	Reference	..	Reference	..	Reference	..	Reference	..
Log (distance)§	0·99	0·97–1·01	1·00	0·98–1·02	1·00	0·98–1·02	0·99	0·97–1·02

Indirect adjustment for smoking and physical activity for Parkinson's disease, and for smoking for multiple sclerosis. Data of smoking and physical activity were obtained from Ontario respondents to the 1996 cycle of National Population Health Survey and the 2000–01 and 2003 cycles of Canadian Community Health Survey. For Parkinson's disease, respondents aged 50–85 years at the time of the surveys were included (n=16 441) and for multiple sclerosis, those who were 20–55 years old were included (n=31 635). †Major traffic roads include primary urban roads and arterial roads whereas highways include expressways and primary and secondary highways, as defined by Ontario Government Road Network Data Standards. ‡Cox proportional hazards model with age as time axis, stratified by an indicator for living in the Greater Toronto Area or not, adjusted for sex, history of diabetes, hypertension, coronary heart disease, stroke, congestive heart failure, arrhythmia, and traumatic brain injury, income quintile, urban/rural indicator, census division-level unemployment, education, and recent immigrants, as well as the subtraction of these variables at the census dissemination level from their census division. For multiple sclerosis, the model was also adjusted for latitude. §Distance was fitted as a continuous variable, using natural logarithm of distance. HRs expressed per interquartile-range increase in distance (dementia/Parkinson's disease cohort: 310 m and multiple sclerosis cohort: 320 m). ‖For Parkinson's disease, p_{trend}=0·38 and for multiple sclerosis, p_{trend}=0·53.

***Table 4*: Hazard ratios and 95% CI for associations between residential proximity to major roadways in 1996 and risk of incident Parkinson's disease and multiple sclerosis in Ontario, during the follow-up period 2001–12**

physical activity on our results. To do this, we used a method to mathematically adjust HR for these variables while simultaneously controlling for all variables available in the model (ie, age, sex, comorbidities, and socioeconomic status; appendix). Details of this method are presented elsewhere.[29] Briefly, this method requires spatial associations between the unmeasured and observed variables from an auxiliary dataset. Following previous Canadian studies,[30] we obtained the relationships using data from the 1996–97 cycle of the National Population Health Survey and the 2000–01 and 2003 cycles of the Canadian Community Health Survey, which constituted a representative sample of the study cohorts (appendix). This information along with estimated associations between these unmeasured variables and incident dementia, Parkinson's disease, and multiple sclerosis from the literature, were used to estimate their effect on HR. Based on systematic reviews of dementia, Parkinson's disease, and multiple sclerosis, we considered all four variables in our analysis with dementia, smoking and physical activity with Parkinson's disease, and smoking with multiple sclerosis (appendix).

Furthermore, we additionally adjusted for $PM_{2·5}$ and NO_2, excluded events occurring in the first 2 and 5 years

during follow-up to lag exposure up to 10 years, excluded people residing in long-term care facilities (often located near major roadways) at baseline, and restricted the dementia/Parkinson's disease cohort to those aged 65 years or older because drug information was unavailable for younger adults. Lastly, we further adjusted for rurality index and neighbourhood-level percentage of visible minority, and restricted the analysis to people who never moved since 1996, to urban residents, and to residents of six major urban centres in Ontario (Toronto, Hamilton, Ottawa, London, Windsor, and Sarnia) (appendix).

Role of the funding source

The funder had no role in study design, data collection, data analysis, data interpretation, or writing of the report. The corresponding author had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Results

The multiple sclerosis cohort comprised 46·7 million person-years of observations and the dementia/Parkinson's disease cohort contributed 20·1 million person-years. At baseline, the mean age was 35·9 years (SD 8·7 years) for the multiple sclerosis cohort and 66·8 years (8·2 years) for the dementia/Parkinson's disease cohort (table 1). Of the multiple sclerosis cohort, 50% were male, 17% were rural residents, 2% had diabetes, and 7% had hypertension, whereas 47% of the dementia/Parkinson's disease cohort were male, 19% were rural residents, 15% had diabetes, and 48% had hypertension. Average unemployment among census dissemination areas was 6% and the mean percentage of population with less than high school education was about 26% in both cohorts.

Nearly half of the cohorts lived within 200 m from a major road and 95% were within 1000 m (appendix). Of the cohorts, the average concentration of $PM_{2.5}$ according to participants' residences in 1996, 5 years before cohort inception, was 9·7 μg/m³ (range 1·3–19·8 μg/m³), while the average concentration of NO_2 was 15·4 ppb (2·2–62·0 ppb). Between 2001–12, we identified 243611 incident cases of dementia, 31577 incident cases of Parkinson's disease, and 9247 incident cases of multiple sclerosis.

In both categorical and continuous analyses, living closer to a major road was associated with increased incidence of dementia, with fully adjusted HR of 1·07 (95% CI 1·06–1·08) for people living less than 50 m, 1·04 (1·02–1·05) for people living 50–100 m, 1·02 (1·01–1·03) for people living 101–200 m, and 1·00 (0·99–1·01) for people living 201–300 m away from a major roadway versus more than 300 m from a major roadway (P_{trend}=0·0349; table 2). An interquartile-range increase in residential proximity to a major road was associated with a 9% (95% CI 8–11%) lower incidence of dementia. In contrast, there was no evidence linking traffic proximity to Parkinson's disease or multiple sclerosis (HR 1·00 for both; table 2).

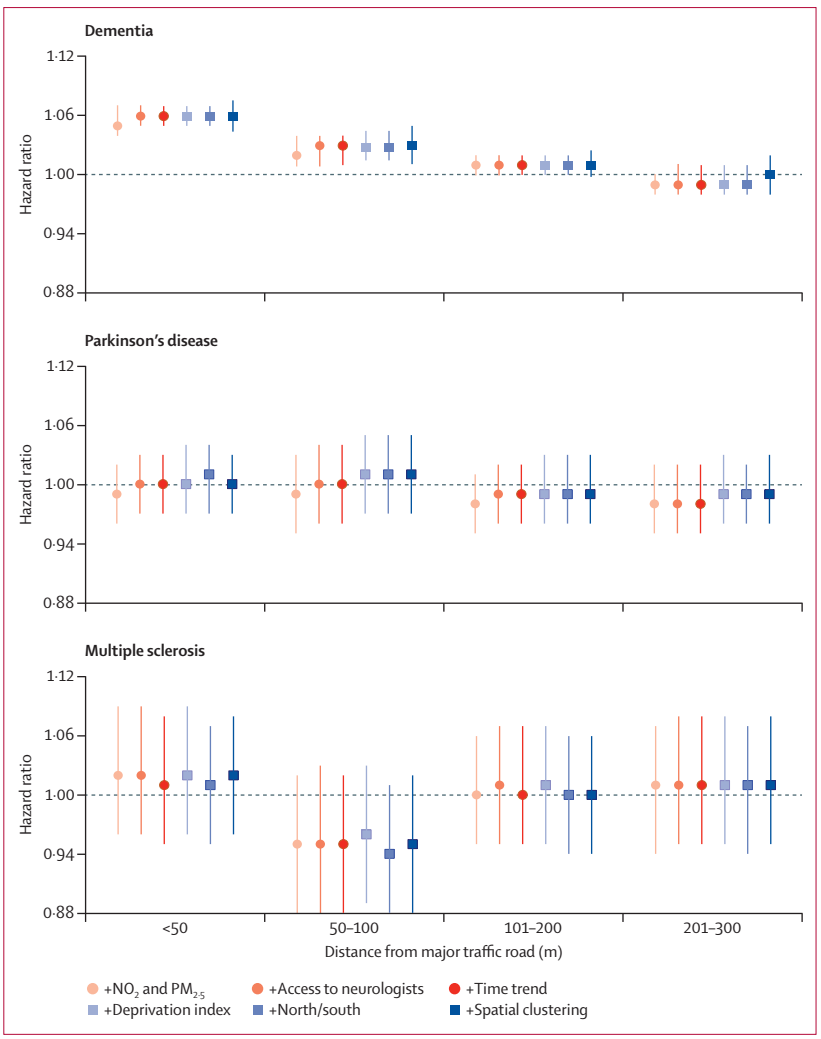


***Figure 1*: Estimated associations between residential proximity to major roadways in 1996 and the risk of incident dementia, Parkinson's disease, multiple sclerosis in Ontario, 2001–12**
Measured by six sensitivity analyses to further control for potential confounding factors. Model further adjusted for exposure to NO_2 and $PM_{2.5}$ access to neurologists, time trend, deprivation, an indicator for North/South Ontario, and a frailty term to account for potential spatial clustering.

The association between traffic exposure and dementia was insensitive to additional controls for smoking, obesity, physical activity, and education (HR 1·06 for living <50 m away from a major road, 1·04 for 51–100 m, and 1·02 for 101–200 m; table 3). Similarly, the associations between traffic exposure and Parkinson's disease and multiple sclerosis remained unchanged after adjusting for smoking and physical activity (table 4).

Further adjustment for access to neurologists, deprivation, time trend, and a North/South indicator did not alter the associations, nor did adding a frailty term in the survival model to account for potential spatial clustering (figure 1). Adjustment for NO_2 and $PM_{2.5}$ modestly attenuated the association between traffic

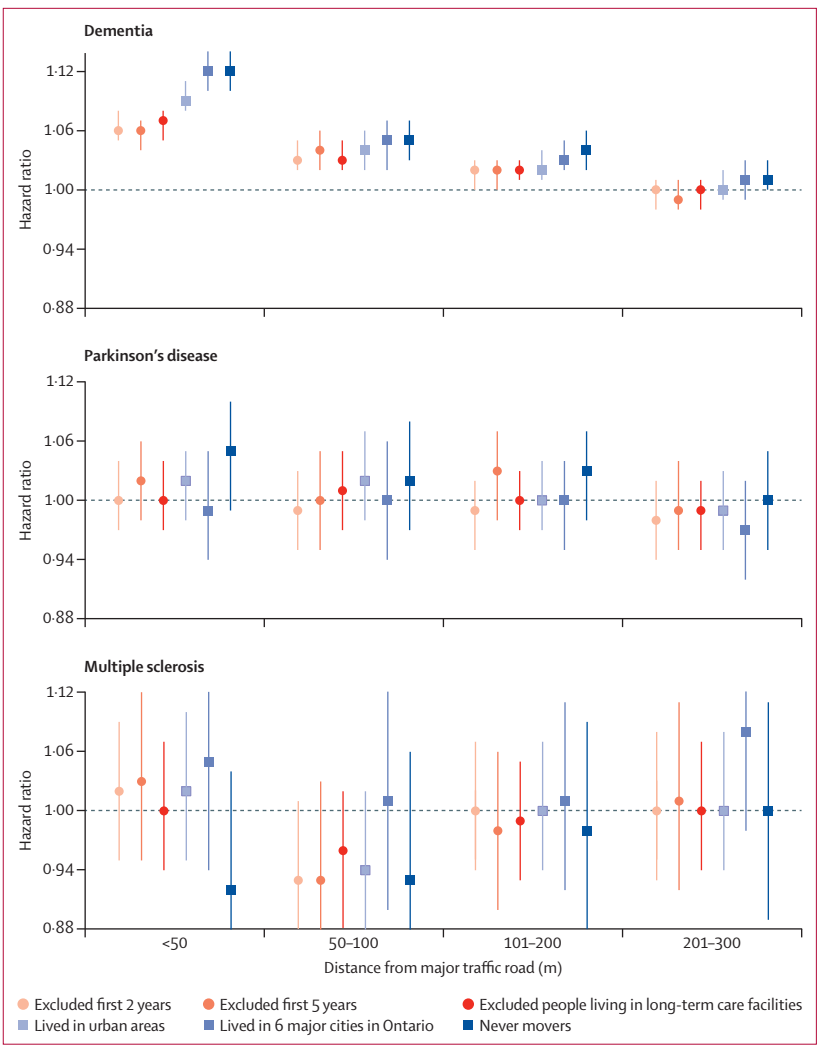


***Figure 2*: Association between residential proximity to major roadways in 1996 and the risk of incident dementia, Parkinson's disease, multiple sclerosis in Ontario, 2001–12**
Hazard ratios and 95% CIs from six additional sensitivity analyses (excluding first 2 years of follow-up, excluding first 5 years of follow-up, excluding people living in long-term care facilities, restricting to urban residents, restricting to six major cities in Ontario, and restricting to those who did not move after 1996).

proximity and dementia (HR 1·05 for living <50 m away from a major road and HR 1·02 for 51–100 m away from a major road *vs* 1·07 and 1·04 without adjustment). Importantly, NO_2 was significantly associated with dementia, whereas $PM_{2.5}$ was associated with both dementia and Parkinson's disease (appendix).

In sensitivity analyses, the magnitude of associations were similar after further excluding the first 2 and 5 years of follow-up, restricting to people aged 65 years or older, excluding those living in long-term care facilities, or considering other sensitivity analyses (figure 2 and appendix). However, the association between living less than 50 m from a major roadway and dementia appeared stronger among participants who lived in urban areas, who lived in one of the six major cities, or who never moved (HR 1·09–1·12, depending on the analysis).

Discussion

In this large population-based cohort, living near major roadways was associated with increased dementia incidence. The associations seemed stronger among urban residents, especially those living in major urban centres and those who never moved. Although the increase in risk might appear moderate (eg, HRs varied from 1·07–1·12 for living <50 m away from a major road, depending on the region), this translates to 7–11% of dementia cases in patients who live near major roads attributable to traffic exposure (appendix). The associations were robust to various sensitivity analyses, except for additional adjustment for $PM_{2.5}$ and NO_2 which led to a modest attenuation. It is noteworthy that both NO_2 and $PM_{2.5}$ were positively associated with dementia. Lastly, we found no association between roadway proximity and incidence of Parkinson's disease or multiple sclerosis.

To our knowledge, this is the first study to investigate the onset of three major neurodegenerative diseases in association with near-roadway exposure. Previous studies have linked living near roadways to cognitive decline in cohorts of older adults in Boston MA, USA[18] and in the Ruhr area, Germany,[19] and to smaller white matter hyperintensity volume in the Framingham Offspring cohort.[17] Living near major roads substantially increases an individual's exposure to traffic-related air pollution (eg, ultrafine particles, nitrogen oxides, and particles from wear of tyres and friction materials), and noise.[17] Although the mechanisms through which traffic exposure might affect brain health are unknown, systemic inflammation arising from traffic-related air pollution is probably important. In studies of both experimental animals and in autopsy samples of sudden accidental deaths in human beings, particulates and diesel exhaust provoke oxidative stress and systemic inflammatory responses, disrupt the blood-brain barrier, precipitate Aβ peptides, and activate microglia.[8,9] Ultrafine particles have also been found in the olfactory bulb and the frontal cortical areas in the brain of highly exposed dogs and human beings.[8] Furthermore, emerging epidemiologic evidence relates nitrogen oxides and black carbon, markers for traffic-related pollution, to dementia incidence[12] and cognitive impairment.[14] We observed that exposures to NO_2 and $PM_{2.5}$ were related to dementia and that adjusting for these two pollutants attenuated its association with roadway proximity, suggesting that the effect of traffic exposure might, at least in part, operate through this mechanism. Given the potentially significant implications of exposure to traffic-related pollutants on dementia risk, understanding their effects merit further investigation.

The fact that $PM_{2.5}$ and NO_2 did not fully explain the near-road effect on dementia suggests that additional pollutants or other factors such as noise might play a role. Although we were unable to directly examine these factors, traffic-related noise has been linked to cognitive

impairment in a cohort in Germany.[13] In rat models, noise exposure directly impaired cognition.[11] Additionally, sleep loss from noise contributes to sleep fragmentation, which is associated with reduced cognition.[5] Living near busy roads might also reduce physical activity, which could subsequently affect neurological health. However, we found little change in our results after indirect adjustment for this variable.

Compared with dementia, less is known about the effect of traffic exposure on Parkinson's disease and multiple sclerosis. Only three studies have examined the relationship between traffic exposure and Parkinson's disease: a positive association between NO_2 and incident Parkinson's disease was reported in a case-control study in Denmark,[15] whereas in another case-control study in the USA, no association with NO_2 was found.[31] Additionally, in a cross-sectional study in Ontario, Parkinson's disease prevalence was not associated with roadway proximity nor NO_2.[32] For multiple sclerosis, one time-series study found a relationship between daily hospital admissions and particulate pollution,[33] but no studies have assessed the effect of living close to traffic. In this study, we observed an association only between traffic proximity and dementia, which might be attributable to relatively few cases of Parkinson's disease and multiple sclerosis. Another possibility is that traffic exposure could augment neurodegeneration through pathways that are related to dementia but not Parkinson's disease or multiple sclerosis.[3–5]

Our study has some limitations. First, we could not identify undiagnosed cases of dementia, Parkinson's disease, and multiple sclerosis. However, the estimates were unchanged when we adjusted for access to neurologists, a North/South indicator, deprivation, and time trends. With universal health care in Ontario, incomplete diagnosis might lead to underestimation of the true effect because this measurement error was probably independent of the exposure.

Second, we did not have information on medications that might potentially influence dementia risk (eg, anti-inflammatory medication and NSAIDs), although it is unclear whether these factors would be associated with traffic exposure. Furthermore, we lacked information on individual socioeconomic status and behavioural variables. To control for these unmeasured variables, we adjusted for neighbourhood socioeconomic status and comorbidities. Since neighbourhood socioeconomic status is strongly associated with individual socioeconomic status and behavioural variables,[25,26] and comorbidities and neurodegenerative diseases share some common behavioural factors, adjusting for these variables should reduce the influence of these unmeasured variables on HR (appendix). We further controlled indirectly for these variables, and found similar results. Although we cannot rule out residual confounding, the null findings for Parkinson's disease and multiple sclerosis do not support this possibility.

Third, our exposure assessment was based on postal-code addresses, which do not completely reflect personal exposure. $PM_{2.5}$ is a complex mixture with a secondary aerosol component that might not originate from vehicle emissions. Finally, roadway proximity does not account for traffic density and meteorological conditions that might influence exposure to air pollution and noise. Given the inherent imprecision of this exposure, our assessment of near-road exposure was probably subject to non-differential misclassification that probably attenuated our results.

The strengths of this study include the large cohorts made up of almost the entire adult population in Ontario. The many cases ascertained from validated registries enabled us to investigate fine-scale changes in traffic exposure and to examine the effect from exposures lagged up to 10 years. Our study also benefited from quantifying and comparing the effects on three major neurodegenerative diseases from traffic exposures using the same methods. Furthermore, the availability of detailed information on medical and residential history allowed us to control for important risk factors (eg, head trauma) and assess the influence of residential mobility.

Conclusions

In this large cohort, living near major roadways was associated with higher incidence of dementia, but not Parkinson's disease or multiple sclerosis. Given the potentially significant implications of traffic exposure on dementia risk, understanding the effect of different aspects of traffic merits further investigation.

Contributors

HC, RTB, JCK, PJV, KT, BJM, RC, and BJ contributed to the study design. HC, ASW, and AK prepared and cleaned the data. HC, AvD, PH, and RVM contributed to the exposure assessment. RTB provided substantial scientific input in statistical methods and interpretation of the results. HC, RTB, JCK, PJV, KT, BJM, ASW, and AK contributed to the data analyses. HC took the lead in drafting the manuscript. All authors contributed to interpretation of data, provided critical revisions to the manuscript, and approved the final draft.

Declaration of interests

We declare no competing interests.

Acknowledgements

This study was supported by Public Health Ontario (PHO) and the Institute for Clinical Evaluative Sciences (ICES), which is funded by an annual grant from the Ontario Ministry of Health and Long-Term Care (MOHLTC). Parts of this material are based on data and information compiled and provided by Canadian Information Health Institute (CIHI). The opinions, results, and conclusions reported in this article do not necessarily represent the views of ICES, PHO, MOHLTC, or CIHI.

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APPENDIX C:

TIER 2 COMMUNITY ADVISORY REPORT

I-710/MAJOR CORRIDOR STUDY
Tier 2 Community Advisory Committee

Major Opportunity/Strategy Recommendations and Conditions







August, 2004

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Note: Some communities had a change in representatives during the process

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Executive Summary

INTRODUCTION

This report presents the final consensus resulting from nine months of deliberations by a broad-based group appointed by I-710 corridor communities and the I-710 Oversight Policy Committee. Known as the Tier 2 Committee, this group represented a broad base of interests, including local communities, academic, environmental, business, community and environmental justice. The most directly impacted communities in the corridor were invited to form community-level committees (known as the Tier 1 Committees). The chairs of these committees were also represented on the Tier 2 Committee, along with a representative named by each City Council in the remaining corridor cities.

The following guiding principles define the priorities of the Tier 2 Committee and reflect the consensus that emerged during this process:

1. **This is a corridor – considerations go beyond the freeway and infrastructure.**
2. **Health is the overriding consideration.**
3. **Every action should be viewed as an opportunity for repair and improvement of the current situation.**

The Committee recognizes that something must be done to address the current congestion and design of the I-710 freeway. The high number of trucks on the freeway uses up capacity and the mix of cars and trucks poses a serious safety concern. The committee agrees that the hybrid design concept presented could accomplish maximum build out in a manner that reflects the Tier 1 CACs' concerns and recommendations for their communities, with the exception of the City of Commerce and East Los Angeles area, which require further study. However, the I-710 corridor is more than just a place for trucks to pass through on their way to their final destination. It is the location of our homes, businesses, schools, parks, and lives. Today, particulates and other pollutants from diesel truck traffic in the I-710 Corridor and the ports of Long Beach and Los Angeles are our communities' primary air-quality-related health concern. **Therefore, the conditions for major infrastructure improvements must be as follows:**

1. Implement a corridor level action plan to improve community air quality.
2. Major infrastructure improvements must be conditioned on achieving air quality goals to protect public health; corridor air quality must comply with county, state and federal standards prior to the start of mainline construction

and the entire project taken as a whole must result in a net reduction in criteria pollutants.

3. Prior to the initiation of the environmental review process, all Tier 1 Community Advisory Committees must have formally endorsed the freeway improvement design concept.

4. Prior to adopting a preferred alternative the OPC must conduct a study and cost benefit analysis of potential goods movement alternatives as an alternative to increasing the capacity of the I-710 Freeway.

5. A study of the impact of construction on air quality, traffic, congestion, noise and impact on surrounding communities must be conducted, and if construction does go forward, specific mitigation plans must be developed and put into effect during the construction process to minimize and mitigate the impact of construction on the surrounding communities.

6. Major infrastructure improvements must be conditioned on achieving a net decrease in noise impacts upon the affected communities.

The Committee recognizes that certain aspects of the design concepts, particularly for designated on-ramps, may be appropriate for implementation prior to addressing the "mainline" issues. However, these improvements cannot be constructed in isolation from all of the other recommendations such as public health, community enhancement, and noise abatement. The I-710 design must take into account the safety and quality of life of the communities in the corridor, including provisions for greenbelts and open space.

This Executive Summary presents a synopsis of our committee's findings and recommendations, which are presented, in eight topic areas. (Greater detail is provided in the full report.)

HEALTH

Air quality is the number one public health issue. Poor air quality has had significant negative impacts on public, economic, environmental and community health in the corridor. Particulates and other pollutants from diesel truck traffic in the I-710 Corridor and the ports of Los Angeles and Long Beach are our communities' primary air-quality-related health concern. The first consideration for approval of any improvements within the I-710 corridor must be the project's ability to reduce air quality impacts. Therefore, these steps must be taken before construction can begin on the "mainline" project to reduce air pollution.

The Tier 2 Committee recommends the following air quality improvement strategies:

1. Develop an action plan to improve air quality in the corridor.
2. Implement a corridor level action plan to improve community air quality.
3. Implement local alternative fuels/electrification and/or hydrogen policies and programs to reduce diesel emissions.
4. Pursue opportunities for incremental improvements.
5. Implement port-specific air quality improvement strategies.

JOBS AND ECONOMIC DEVELOPMENT

The twin ports of the San Pedro Bay generate significant economic benefits for the region as a whole. However, the cost associated with the movement of goods is primarily borne by local communities. These external costs, including increased levels of pollution, have reduced the attractiveness and livability of these communities. To address this imbalance, local residents and businesses must become net beneficiaries of the continued growth in international trade through the local ports. Improvement of air quality and the environment are essential for the area to take advantage of and capitalize on the area's assets. In addition, an investment in education is necessary to continue to diversify the economy and provide economic opportunity for residents.

The Tier 2 Committee recommends the following economic development strategies:

1. Position the I-710 corridor and Gateway communities for a post-oil economy.
2. Create a community environment that attracts and retains businesses and residents who can support a new gateway cities economy.
3. Enable the I-710 corridor and Gateway communities to become more proactive in today's economy.
4. Institute corridor-wide programs and partnerships to equip area residents with the skills needed to move into higher-paying jobs in this new economy.
5. While promoting the importance of all business, specifically recognize small business as an economic driver and foster its growth within the communities.
6. Consistent with current law, advocate policies at the national, state, regional and local levels to require businesses that benefit from any potential I-710 improvements to pay living wages.

SAFETY

The I-710 corridor is one of the most unsafe freeways in the State. Increasing truck traffic, conflicts between cars and trucks, aging infrastructure, and outdated design are all contributing causes to accidents in and around the freeway. The high concentration of older trucks, which frequently become disabled, poses a significant safety hazard, as do truck intrusions into nearby communities and neighborhoods. Just as the Alameda Corridor helped reduce conflicts between trains and automobiles, any improvements to the I-710 corridor must resolve the inherent conflicts between automobiles and trucks.

The Tier 2 Committee recommends the following safety improvement strategies:

1. Continue support and implementation of safety programs.
2. Increase enforcement of traffic and vehicle safety laws and regulations.
3. Increase public and trucker education on safety and neighborhood issues.
4. Implement infrastructure improvements.
5. Separate trucks and cars.

NOISE

Excessive noise is a serious public health concern in the corridor and cannot be resolved by simply building more sound walls. A comprehensive analysis of noise along the corridor must lead to a plan that recognizes the health impacts to our communities and seeks to resolve those impacts by providing appropriate relief. Major infrastructure improvements must be conditioned on achieving a net decrease in noise impact upon the affected communities.

The Tier 2 Committee recommends the following noise control strategies:

1. Provide appropriate and effective sound walls to reduce noise impacts to neighborhoods and schools adjacent to the freeway.
2. Implement noise mitigation programs.
3. Conduct a study to assess how truck traffic from extended gate hours for trucks and 24/7 port operations will impact communities, and assess what mitigations may be appropriate.

CONGESTION AND MOBILITY

The major purpose of congestion relief must be to improve the quality of life and economic vitality of the corridor rather than simply to accommodate port growth. The current corridor capacity is not adequate even for the existing demands in the area. The current conditions along the corridor are simply not acceptable. The Committee suggests an approach that provides multiple options for personal mobility – auto, pedestrian, bike and transit – within the corridor. Likewise, goods movement requires a comprehensive, regional approach that reduces bottlenecks in all segments – ship, truck, and rail.

The Tier 2 Committee recommends the following congestion and mobility strategies:

1. Maximize use of existing infrastructure
2. Implement expanded public transit solutions.
3. Provide a comprehensive bicycle and pedestrian network with connectivity throughout the area.
4. Develop a consistently implemented plan with cities and residents to mitigate construction impacts and maintain access.
5. Support cooperative planning among all ports along the West Coast.

COMMUNITY ENHANCEMENTS

The I-710 corridor is more than just a place for trucks to pass through on their way to their final destination. It is the location of our homes, businesses, schools, parks, and lives. Plans for future improvements to the I-710 are not intended to solely address congestion and mobility problems. Instead a revitalized I-710 must be the catalyst to enhance local communities along the corridor, creating an even more desirable place to live, work, and play. Major infrastructure improvements must also be conditioned on conclusion of satisfactory agreements with the neighboring communities to fully mitigate negative aesthetic impacts and to mitigate the impacts of any increased light and glare.

The Tier 2 Committee recommends the following community enhancement strategies:

1. Preserve existing parks, open space, and natural areas.
2. Develop and implement community enhancement projects.
3. Provide programs to minimize construction impacts.
4. Develop and implement a plan for arterial streetscapes.
5. Mitigate light and glare in surrounding communities.

DESIGN CONCEPTS

A new design concept for I-710 and/or alternative transportation modes for vehicles and goods movement is needed that responds to the specific design recommendations developed by the Tier 1 CACs to minimize or limit take of homes within their communities along I-710. The hybrid design, as developed to date, does a credible job of accomplishing this goal. However, final decisions on project configuration can only be made subsequent to incorporation of the further study of East Los Angeles and City of Commerce and upon completion of cost benefit and environmental studies. The I-710 design must take into account the safety and quality of life of the communities located next to the freeway, including provisions for greenbelts and open space.

The Tier 2 Committee recommends the following design concept strategies:

1. Endorse the specific Tier 1 CAC recommendations included in the Appendix.
2. Support capacity enhancement improvements for the I-710 Freeway upon meeting the conditions recommended in this report, including those recommended by both Tier 1 and Tier 2 CACs.
3. If economic and environmental studies show that expansion of the freeway is necessary, develop new transportation infrastructure for I-710 that separates cars from trucks.
4. If economic and environmental studies show that expansion of the freeway is necessary, locate the new truck lanes in such a way as to minimize community impacts.
5. Redesign unsafe and congested interchanges on I-710.
6. Consider future needs and requirements in implementing any new I-710 design.
7. If economic and environmental studies show that expansion of the freeway is necessary, upgrade of the existing freeway must satisfy criteria detailed in this report.

ENVIRONMENTAL JUSTICE

In the fifty years since the freeway was first built, the corridor has become home to minority and low-income populations. For many years, the people who live within the corridor have shouldered an unfair burden in health, economic, and quality of life issues. Environmental justice requires a mechanism for the meaningful involvement of all people in the transportation decision-making process and to ensure that the low-income and

minority communities receive equitable distribution of the benefits from transportation activities without suffering disproportionate adverse impacts.

The Tier 2 Committee recommends the following environmental justice strategies:

1. Include the corridor communities in the planning process in a meaningful way, including provision of appropriate language translation.
2. Ensure that impacts do not disproportionately fall on low-income people or people of color.
3. Ensure that the benefits from the projects flow to the corridor communities.

ORGANIZATION AND PROCESS

To ensure that the work of the Tier 2 Committee is carried forward as set forth in the full report, a task force of representatives from the Tier 2 CAC, the OPC and the TAC should be established to plan and oversee the implementation of the conditions and recommendations of the Tier 2 CAC.

The Tier 2 Committee recommends the following organization and process strategies:

1. This Tier 2 Report will be formally "agendized" and presented to the OPC when it convenes in September 2004 for its consideration and decision. All Tier 2 members will be invited to the OPC meeting, and the presentation of the Tier 2 report will be delivered by a representative group of Tier 2 spokespersons.
2. Following the OPC's meeting, there will be a follow-up meeting(s) of the Tier 2 Committee to discuss actions taken by the OPC.
3. Prior to the beginning of any formal EIR for the I-710 Major Corridor Study, Metro (MTA) and the Gateway Cities COG will work with the communities, appropriate agencies, organizations and community groups in developing a collaborative process for community participation in the environmental review process. This process will continue to work collaboratively throughout the EIR process.

CONCLUSIONS AND NEXT STEPS

This report is hereby presented by the Tier 2 CAC to the I-710 Oversight Policy Committee. The Committee expects that its recommendations will be carried forward by the OPC, the Gateway Cities COG, the Los Angeles County Metropolitan Transportation Authority (Metro), the Southern California Association of Governments (SCAG) and the

California State Department of Transportation (Caltrans). Further, we expect our recommendations to be used as required guidance in the planning and development of future corridor improvements. The Committee and the communities we represent expect to have continued formal and meaningful participation in the I-710 corridor improvement process and look forward to working with the OPC and future project sponsors toward an improved and revitalized I-710 Corridor.

I. Introduction

This report documents the recommendations for policies, strategies and conditions developed by the Tier 2 Committee to address I-710 issues, paving the way for a consensus-based corridor solution. The Tier 1 Community Advisory Committee (CAC) chairs represented the Tier 1 Committees on the Tier 2 Committee to ensure that community concerns and recommendations were represented. The Oversight Policy Committee (OPC) will review the findings and recommendations outlined in this report and will use the information to make recommendations for potential action. The Technical Advisory Committee (TAC) will review the recommended strategies generated by the process and consider the implications to the local preferred strategy. This report will also be included in the Major Corridor Study.

Strategic discussions among Tier 2 Committee members occurred over a series of twelve facilitated meetings held from February through August 2004. Building on a foundation of understanding of their own community issues and particular concerns, Tier 2 Committee members began to examine corridor-wide issues and shared their viewpoints with each other in open and thought-provoking dialogues. Experts were available to answer questions and to add clarity to specific concerns.

GUIDING PRINCIPLES

The Foundation of Our Findings

The guiding principles set forth below affirm the Tier 2 Committee's concerns and encompass the values that are important to the communities along the corridor. These principles define the priorities of the Tier 2 Committee and reflect the consensus that emerged during this process. The recommendations in this report support these principles:

1. This is a corridor – considerations go beyond the freeway and infrastructure.
2. Health is the overriding consideration:
   - Public Health (the people)
   - Environmental and Community Health (the place)
   - Economic Health (the resources)
3. Every action should be viewed as an opportunity for repair and improvement of the current situation.

II. Financial Considerations

The Committee recognizes that the strategies, recommendations and conditions in this report will be costly. In order to implement the strategies and policies identified by the Tier 2 Committee it will be necessary to establish appropriate lead agencies and funding sources for these programs. This Committee expects that the project lead agency will be responsible for directing mitigation funds to implement these recommendations. While it is expected that mitigation funds and fees may fund all or portions of these programs, the issues of funding and program implementation are generally beyond the scope of these recommendations and must continue to be addressed by the Tier II CAC and OPC. The Committee also expects that our public officials will bring to bear all available means to implement the community's vision including existing and new regulations, incentives, and funding sources, including appropriate contributions from the goods movement industry

III. Conditions

1. Implement a corridor level action plan to improve community air quality. The State shall levy fees on containers to fund environmental improvements and community programs to address hidden costs attributable to goods movement impacts, including the funding of community health care clinics.

2. Major infrastructure improvements must be conditioned on achieving air quality goals to protect public health. Based on air monitoring data collected by regional air quality agency stations (including, but not limited to, South Coast Air Quality Management District (AQMD) stations in Lynwood and North Long Beach), corridor air quality must be in compliance with State and National Ambient Air Quality Standards prior to the start of freeway construction. Furthermore, the entire 710 corridor improvement project must from inception result in a reduction in criteria pollutants (particulate matter, ozone, nitrogen dioxide, and carbon monoxide) in the corridor and rail and port communities, as compared to 2002 baseline values according to the SCAQMD, State standards, or National Ambient Air Quality Standards, whichever are lower, and that reduction must be maintained. The lowering of emissions shall include those from the ports of Long Beach and Los Angeles. No construction project on the mainline shall move forward until credible, acceptable plans for achieving this reduction are received and approved by the OPC and Tier 2 CAC.

3. Prior to the initiation of the environmental review process, all Tier 1 Community Advisory Committees (CACs) must have formally endorsed (signed off on) the freeway improvement design concept.

4. Prior to adopting a preferred alternative, the OPC must conduct a study of potential goods movement alternatives (such as the use of maglev system for freight movement) as an alternative to increasing the capacity of the I-710 Freeway; this study must include a cost benefit analysis.

5. A study of the impact of construction on air quality, traffic, congestion, noise and impact on surrounding communities must be conducted, and if construction does go forward, specific mitigation plans must be developed and put into effect during the construction process to minimize and mitigate the impact of said construction of the surrounding communities.

6. Major infrastructure improvements must be conditioned on achieving a net decrease in noise impacts upon the affected communities.

IV. Health

SYNOPSIS OF FINDINGS:

Air quality is the number one public health issue. Poor air quality has significant negative impacts on public, economic, environmental and community health in the corridor. Other parts of the environment, such as water quality, are also negatively impacted by goods movement.

Particulates and other pollutants from diesel truck traffic in the I-710 Corridor and the ports of Long Beach and Los Angeles are our communities' primary air-quality-related health concern. Ports and all associated transportation such as trucks, trains, ships, and yard equipment are the major sources of pollution along the I-710 corridor. Cars continue to be a source of air quality and health concerns in the corridor as well, but the continuing increase in port activities has focused corridor community attention on cargo movement-related emissions (ships, trucks, trains, and yard equipment). Noise is also a significant health issue, but because this issue has additional ramifications, it is treated in depth in a separate section of this report.

RECOMMENDED STRATEGIES

1. **Develop an action plan to improve air quality in the corridor, including the following steps:**
   a. Establishing a baseline of current levels of pollution from each contributing source using the best available technology.
   b. Identify the level of air quality impacts from increasing trucking, rail and shipping.
   c. Determine the approximate costs of health care that can be traced to the differential levels of air pollution to be encountered by corridor community members as a result of the construction effort, if it goes forward as envisioned.
   d. Study the direct and indirect health and other economic costs on communities and the region caused by global trade and its associated pollution impacts.

2. **Implement a corridor level action plan to improve community air quality**
   a. Use enforcement, truck inspections and incentives to control emissions.
   b. Require air quality improvements in port operation as a condition of project approval.

c. Encourage the development and expansion of fleet modernization clean air programs.
d. Levy fees on containers to fund environmental improvements and community programs to address hidden costs attributable to goods movement impacts including:
   - Health care
   - Alternative fuels
   - Improvements/construction of I-710 infrastructure
   - Beautification of the corridor
e. Develop infrastructure that quantifies emission reductions:
   - Permanent monitoring stations to measure emissions levels in the corridor
f. Develop and implement improved air quality monitoring techniques.

3. Implement local alternative fuels/electrification and/or hydrogen policies and programs to reduce diesel emissions.

a. Make the use of alternative fuels a priority.
b. Discourage use of out-of-state fuel.
c. All trucks, regardless of origin, must be subject to local, state and federal standards
d. Require all trucks using the truck lanes on the I-710 to use alternative fuels as defined above, or pollution controls which achieve equal or better results.
e. Require all railroad locomotives servicing the two ports, or any rail yards connected with port container traffic, to use alternative fuels as defined above, or pollution controls which achieve equal or better results.
f. Require the Alameda Corridor Authority to prepare a plan to electrify all locomotives involved in its operations.

4. Pursue opportunities for incremental improvements

a. Retrofit schools, homes and parks to increase protection from noise and pollution.
b. Identify location and develop facility for one-stop truck inspection.
c. Provide incentives for businesses to accept off-peak deliveries.
d. Create programs to assist truck owners with engine/equipment upgrades and retrofits.
e. Restrict Port-generated traffic onto I-710 until improved fuels programs or other pollution emissions mitigation programs are implemented.
f. Provide landscaping, specifically including tree planting, to improve air quality.

5. Implement Port-specific strategies

a. Require ports to develop plans to electrify other terminal operations as a priority.
b. Require all rubber tired gantry cranes to be electrified.
c. Require all ships docking in the Ports of Los Angeles and Long Beach to shut down all diesel engines and use shore electric power.
d. Require the ports to expedite development of effective pollution controls for ships.
e. Make mandatory the proposal of CARB to require that ships entering the coastal waters of California switch to low sulfur diesel fuel. Require the ports to provide financial subsidy if necessary to implement this requirement.
f. Include trucks, trains and rail yards, marine vessels, and port equipment in clean air initiatives.
g. Require all terminal equipment at the ports to operate on alternative fuel as defined by CARB. This includes Liquid Petroleum Gas, Compressed Natural Gas, or Liquid Natural Gas. As an alternative, require all engines to be equipped with pollution control technology, which achieves equal or less emissions.
h. Establish a fund that shippers must pay into, that provides rebates to those who adopt the use of clean air engines for vehicles. Ensure that this program accomplishes the goals of decreasing pollution rather than a pay-to-pollute program.

POLICY CONSIDERATIONS

The first consideration for approval of any improvements within the I-710 corridor must be the project's ability to reduce air quality impacts. Air quality in the corridor must be better at the time of construction than it is today. Therefore, these steps to reduce air pollution must be taken before construction can begin on the "mainline" project.

V. Jobs and Economic Development

SYNOPSIS OF FINDINGS

The central location of the Gateway communities and proximity to ports, waterfronts, airports, downtown, Orange County and the Inland Empire has been undercapitalized. The ports provide economic benefit but statistics do not exist that can track these benefits back to specific communities. Therefore, communities are not convinced of the specific level of benefit provided by the ports in comparison to the cost caused by port and freight operation. In recent years, the area has been in transition from high-quality, high-paying manufacturing and aerospace jobs to lower-pay manufacturing and logistics jobs. Improvement of air quality and the environment are essential for the area to take advantage of and capitalize on the area's assets. In addition, an investment in education is necessary to continue to diversify the economy and provide economic opportunity for residents. Finally, there is some measure of competition among the ports, resulting in lack of cooperative planning at the regional, state, national and international levels.

RECOMMENDED STRATEGIES

1. **Position the I-710 corridor and Gateway communities as leaders in the post-oil economy**
   a. Develop and sponsor job training programs for alternative fuel vehicle retrofit and manufacturing, which will fit into a retrofit program implemented by the lead agency.
   b. Re-think and re-organize alternative/non-oil methods and operations for goods movement throughout the region.
   c. Conduct a feasibility study for an alternative transportation system such as Maglev.

2. **Create a community environment that attracts and retains businesses and residents who can support a new gateway cities economy**
   a. Improve health, air quality and infrastructure.
   b. Provide economic incentives for industries, and especially environmentally friendly industries, which offer the greatest multiplier effect and improve the region's quality of life.
   c. Use the experience of other waterfront cities, such as Boston, New York, London, and Melbourne, as models for redevelopment.

3. **Enable the I-710 corridor and Gateway communities to become more proactive in today's economy**

a. Conduct a cost/benefit analysis of the international goods movement industry to determine the economic impact of international trade on the corridor communities.
b. Reduce the communities' over-reliance on jobs that damage the quality of life by supporting the development of other, more community-friendly industries.
c. Create or support regional mechanisms for sustainable economic development.

4. **Institute corridor-wide programs and partnerships to equip area residents with the skills needed to move into higher-paying jobs in this new economy**
   a. Develop and promote education, training and internship opportunities for youth and young adults.
   b. Build on existing adult education and vocational training programs.
   c. Establish strategic partnerships between corridor cities, the Gateway Cities COG, community colleges, regional occupational programs, and local business.
   d. Dedicate an incremental percentage of container fees to partially fund job training and development programs.
   e. Provide training to allow employees to transition from traditional truck, port and train jobs to alternative transportation systems such as maglev.

5. **While promoting the importance of all business, recognize small business, as an economic driver, and foster its growth within the communities**
   a. Encourage land use and economic policies that support small business development.
   b. Promote fee structures and amenities that attract and encourage small business growth.

6. **Consistent with current law, advocate policies at the national, state, regional and local levels to require businesses that benefit from any potential I-710 improvements to pay living wages.** *(Note: Consensus was not reached on this specific recommendation. Dissent included, "the concept of living wages is unrealistic and unenforceable.")*

POLICY CONSIDERATIONS

The twin ports of the San Pedro Bay generate significant economic benefits to the Southern California region and the nation as a whole by facilitating the rapid growth in international trade. However, the cost associated with the movement of goods, whether through the ports or the region's arterial highway, freeway or rail corridors, is primarily

borne by local communities. The cities adjacent to the ports as well as the cities bordering the major transportation corridors, especially the I-710, experience increased levels of pollution. These external costs have reduced the attractiveness and livability of these communities. To address this imbalance, local residents and businesses must be net beneficiaries of the continued growth in international trade. Not only must programs be earmarked for local residents and businesses, but companies who locate in corridor communities must also be encouraged to hire locally. In addition, major construction projects should be structured to incorporate effective programs to provide local residents with jobs. At the same time, there is a clear obligation to implement mitigation measures to reduce the adverse effects associated with goods movement.

VI. Safety

SYNOPSIS OF FINDINGS

The I-710 corridor is one of the most unsafe freeways in the State. Increasing truck traffic, conflicts between cars and trucks, aging infrastructure and outdated design are all contributing causes to accidents in and around the freeway. In addition, the high concentration of older trucks is a significant contributing factor to the frequency of disabled big rigs, which pose a significant safety hazard. Truck intrusion into nearby communities and neighborhoods also negatively impacts street safety in these areas. While the Alameda Corridor grade separations have improved the safety of street crossings within the corridor, other freight and rail operations continue to be a source of concern for the communities. Furthermore, the current sub-standard design features of the I-710 significantly contribute to the traffic safety problems associated with the corridor, and demand safety design upgrades and improvements.

RECOMMENDED STRATEGIES

1. **Continue support and implementation of safety programs**
   a. Support the Gateway Cities Council of Governments (COG) Safety Initiatives.
   b. Support implementation of MTA Big Rig Tow program.
   c. Encourage goods movement industry to revise its rate structure in order to support truck upgrades.

2. **Increase enforcement of traffic and vehicle safety laws and regulations**
   a. Establish permanent truck inspection station(s).
   b. Monitor vehicle speeds and enforce speed limits.
   c. Support safe driving of trucks through added enforcement.
   d. Support safe driving of vehicles in the presence of trucks through added enforcement.
   e. Enforce a truck certification program for all trucks

3. **Increase public and trucker education on safety and neighborhood issues**
   a. Utilize CHP materials to increase public awareness.
   b. Educate drivers about truck stopping speed and distances and truck driver blind spots.

4. **Implement infrastructure improvements**

a. Ensure that median barriers are in place along the full length of the freeway, and that they are high enough to increase protection, minimize traffic delays created by glare and drivers slowing to view accidents.
b. Improve lighting while fully mitigating light pollution from all sources including port and rail yards.
c. Improve existing informational signage.
d. Link signage to Intelligent Transportation Systems (ITS).
e. Re-surface the I-710 Freeway, making no assumptions that doing so should necessarily add capacity.
    i. If there is a major corridor improvement on the mainline, provide separate lanes for trucks and vehicles.

POLICY CONSIDERATIONS

Any improvements to the I-710 corridor must resolve the inherent conflicts between automobiles and trucks. Just as the Alameda Corridor helped reduce the conflicts between trains and automobiles, improvements to the I-710 corridor should lead to a safe highway infrastructure that resolves the truck/auto conflict, provides the opportunity to remove unsafe vehicles from the road, and creates a more efficient transportation corridor based on good information and safer geometric design features using the most current highway design standards, while minimizing and mitigating the impacts to the surrounding neighborhoods.

VII. Noise

SYNOPSIS OF FINDINGS

Excessive noise is a serious concern in the corridor. Noise has been shown to impact learning ability, skills development and quality of life. While not all noise can be eliminated, noise can be controlled through design and operational strategies, sound walls and retrofit of homes, schools and equipment. Noise must be controlled and we must find the means to do so.

RECOMMENDED STRATEGIES

1. **Provide appropriate and effective sound walls to reduce noise impacts to neighborhoods and schools adjacent to the freeway**
   a. Make sound walls along the freeway consistent in appearance, attractive and well designed. Plant native vines on walls to discourage graffiti.
   b. Ensure that sound walls and noise abatement treatments are designed, budgeted and installed before construction begins, and take into account steps necessary to shield residents from the noise of construction itself.
   c. Ensure that additional sound buffers, such as sound walls and landscaping are installed where double decking occurs, to ensure no increase in overall levels in residential areas.

2. **Implement noise mitigation programs**
   a. Retrofit homes and schools near the freeway, freight routes and rail yards with double-paned glass and air conditioning or other sustainable methods for reducing noise such as landscaping and window shades.
   b. Trucks using the corridor must utilize the latest noise reduction technology, including retrofitting of old trucks to decrease noise.
   c. Implement train noise mitigation for communities near rail yards and rail ways.
   d. Aggressively enforce train switching and truck engine brake laws.
   e. Ensure noise mitigation during construction, including mitigation related to truck diversion on all detour routes and “hot spots” in the corridor.
   f. Design the freeway system so that there is a lower ambient noise level in communities.
   g. Choose road surfaces that result in lower noise levels. Noise levels associated with any improvements must not exceed CNELs in local land use plans.

3. **Conduct a study to assess how truck traffic from extended gate hours for trucks and 24/7 port operations will impact communities, and assess what mitigations may be appropriate.**
   a. Designate special truck routes through communities, and create them, if needed, utilizing designs that will result in lower noise and pollution levels in residential neighborhoods.
   b. Adopt policies and enforcement mechanisms to reduce and prevent truck idling on city streets, and encourage new technologies in this endeavor.
   c. Consider a mini-truck stop in designated areas to reduce and eliminate truck idling on city streets.

POLICY CONSIDERATIONS

Noise issues go beyond simply building more soundwalls. A comprehensive analysis of noise along the corridor must lead to a plan that recognizes the heath impacts to our communities and seeks to resolve those impacts by providing appropriate relief. Future improvements must consider noise as a primary public health issue and find ways to mitigate those impacts.

VIII. Congestion and Mobility

SYNOPSIS OF FINDINGS

Congestion is a significant quality of life issue for area residents and businesses. The major purpose of congestion relief must be to improve the quality of life and economic vitality of the corridor rather than simply to accommodate ports growth. Although the port's growth is a major contributing factor to the increased traffic on the I-710 corridor, the ambient background growth must be considered and mitigated as well. The current corridor capacity is not adequate even for the existing demands in the area. It is necessary to identify multi-modal capacity enhancements along the I-710 corridor and the region to address congestion and mobility. Alternative transportation has been an underdeveloped asset in the corridor, especially mass transportation, bicycle and pedestrian options. Since many corridor and freeway improvements may require construction, we must recognize potential negative impacts from this construction and aggressively plan ahead to deal with them. While expanded hours for the ports can decrease congestion during daytime hours, this policy can also increase nighttime impacts on neighborhoods. Measures are needed to anticipate, plan for and mitigate these impacts.

RECOMMENDED STRATEGIES

1. **Maximize use of existing infrastructure**
    a. Synchronize signals along major arterials.
    b. Consider extended gate hours for trucks and 24/7 port operations if ways can be found to ensure that there will be no impact on adjacent residential areas.
    c. Encourage full utilization of the Alameda Rail Corridor and vigorously pursue additional use possibilities.
    d. Support policies that support near dock facilities.
    e. Regulate port- and rail-generated traffic onto I-710 based on I-710 capacity.
    f. Encourage use of mass transit.
    g. Encourage alternative business hours by employers to distribute commuter traffic to non-peak hours.
    h. Encourage alternative business hours to accommodate trucks during off peak commuter hours, so long as the impact to the community is minimal.

2. **Transit**
    a. Create links to other forms of public transportation.

b. Close gaps in bus service.
c. Expand light rail system.
d. Make use of alternative transportation such as maglev for port use and people moving.
e. Provide incentives for use of mass transit, including rideshare and other modes.

3. Provide a comprehensive bicycle and pedestrian network that provide connectivity throughout the area

a. Utilize existing bike and pedestrian trails and provide new ones along the Los Angeles River Corridor.
b. Establish east-west connections across the freeway to unite communities and provide access to the Los Angeles River bike trail.
c. Provide for bike lanes and sidewalks in all aspects of arterial improvements to the I-710 corridor.

4. Develop a consistently implemented plan with cities and residents to mitigate construction impacts and maintain access

a. Examine truck destinations to create alternate routes.
b. Mitigate impacts in all areas that are in proximity to local schools.
c. Restrict the construction hours to off-peak hours, and maximize the nighttime construction activities with full consideration for its noise and light impacts.
d. Support legislation (such as original language contained in AB2041) to encourage extended gate hours and to help mitigate truck traffic.

5. Support cooperative planning among all ports along the West Coast

a. Address impacts and develop consistent fee structures and policies with regard to containers.
b. Expand cooperative port efforts beyond Los Angeles/Long Beach to West Coast, national and international policies. Support a common fee structure among ports so that there is not an incentive to move freight operations based on fees paid.
c. Support legislation (such as in the original AB 2043) to develop and maintain a long-range plan for West Coast port planning and general transportation and distribution. Future port planning must take into account roadway and rail capacity not just terminal capacity.

6. Create additional options to address long-term capacity needs.

a. Consider long-term impacts of elevated roadways on the local economy and environment.

b. Study the use of underground truckways to relieve congestion of surface traffic when surface truckways approach "design capacity".

7. Address and Manage Impact of National Goods Movement Trends on Local Facilities.

a. Set a goal to redirect a portion of imports destined outside Southern California to other West Coast ports.

POLICY CONSIDERATIONS

The goal of congestion and mobility relief is to improve the movement of goods and people significantly reducing health impacts and enhancing quality of life. The strategies suggest an approach that provides multiple options for personal mobility – auto, pedestrian, bike and transit – within the corridor. Likewise, the outcome for goods movement must be a comprehensive approach towards a regional network that reduces bottlenecks in all segments – ship, truck, and rail – but is not primarily to promote port growth. The current conditions along the corridor are simply not acceptable.

IX. Community Enhancements

SYNOPSIS OF FINDINGS

The I-710 corridor is more than just a place for trucks to pass through on their way to their final destination. It is the location of our homes, businesses, schools, parks, and lives. A significant consideration for all projects is how they enhance and upgrade the natural and built environment along the corridor. A revitalized I-710 must be the catalyst that improves the region's quality of life and makes the area an even more desirable place to live, work, and play.

RECOMMENDED STRATEGIES

1. **Preserve existing parks, opens space and natural areas**
   a. The design must accommodate additional planned park, open space and wetlands projects in the corridor.
   b. All mitigation funding for this project related to the impacts on open space, parklands or habitat will be used to implement Los Angeles River and tributary, or other open space, habitat restoration, recreational and educational opportunities within the corridor.
   c. There must be no net decrease in the amount of permeable surface as a result of the I-710 corridor project.
   d. Design ramp abandonment and other corridor-related infrastructure improvements to make maximum use of these areas for community open space and enhancement projects.
   e. There must be no negative impacts to the Los Angeles River, Compton Creek or other open channels in the corridor as a result of this project.
   f. To the maximum extent possible, landscaping materials used for this project should be local native plants.

2. **Develop and implement community enhancement projects**
   a. Coordinate with local city redevelopment departments to identify priority enhancement areas.
   b. Utilize input from CAC to develop community enhancement priorities.
   c. Emphasize landscaping and aesthetic improvements to major arterial routes within the corridor.

3. **Provide programs to minimize construction impacts**
   a. Establish construction staging areas in locations with the least amount of impact on local circulation.

b. Establish a community forum to identify and rectify impacts during construction.

4. Develop and implement a plan for arterial streetscapes

a. Landscape medians, using native plants and recycled water where possible.
b. Utilize signage, which identifies communities and connections to local rivers, i.e., LA, Compton Creek, Rio Hondo, bikeways, parks and historical landmarks.

5. Mitigate light and glare in surrounding communities

POLICY CONSIDERATIONS

As the import/export industry continues to grow and generate traffic in the ports, the corridor communities continue to be burdened without any significant gain. The inherent potential of these communities cannot be fully realized until their perception as unattractive and economically challenged communities is changed. Plans for future improvements to the I-710 are not intended to solely address congestion and mobility problems but to enhance local communities along the corridor. Major infrastructure improvements must also be conditioned on conclusion of satisfactory agreements with the neighboring communities to fully mitigate negative aesthetic impacts and to mitigate the impacts if any increased light and glare.

X. Design Concepts

SYNOPSIS OF FINDINGS

The Committee recognizes that something must be done to address the current congestion and design of the I-710 freeway. The high number of trucks on the freeway uses up capacity and the mix of cars and trucks poses a serious safety concern. Measures must be taken to separate cars from trucks. In addition, the design of the freeway is outdated and contributes to the safety and congestion problem. A new design concept for I-710 and/or alternative transportation modes for vehicles and goods movement is needed that responds to the specific design recommendations developed by the Tier 1 CACs to minimize or limit take of homes within their communities along I-710. The Committee further recognizes that certain aspects of the design concepts, particularly for designated on-ramps, may be appropriate for implementation prior to addressing the "mainline" issues. The Committee further recognizes that in addition to addressing air quality goals, prior to implementation of any mainline major infrastructure improvements there must be a definitive cost benefit analysis and environmental review to determine if there are alternative methods for addressing the capacity and safety deficiencies of the I-710 corridor. Therefore, these recommended strategies are premised on meeting those conditions.

RECOMMENDED STRATEGIES

1. **Support capacity enhancement improvements for the I-710 Freeway upon meeting the conditions recommended in this report.**
    a. Actively pursue and finalize the cost benefit and environmental studies required in the above synopsis of findings.
    b. Advocate the inclusion of the I-710 corridor improvements for special earmark consideration in the federal transportation finance bills. To the extent possible, it is the committee's desire that truck-related improvements and mitigations be financed by truck and port fees.
    c. Actively pursue and develop creative funding alternatives to finance the design and capacity enhancement improvements for the I-710 corridor.

2. **If economic and environmental studies show that expansion of the freeway is necessary, develop new transportation infrastructure for I-710 that separates cars from trucks.**
    a. Add lanes for trucks that are separate from the I-710 freeway lanes.

b. Build truck ramps that lead directly from I-710 to the railroad yards to take truck traffic out of neighborhoods and off of local streets.
c. Improve the Atlantic and Bandini intersection in the City of Vernon.
d. Improve the Atlantic and Bandini interchange to the south (Garfield to I-5 South).

3. If economic and environmental studies show that expansion of the freeway is necessary, locate the new truck lanes in such a way as to minimize community impacts

a. Utilize property between the existing freeway and the Los Angeles River to minimize taking of residences, local businesses and parks.
b. Truck lanes should be located in those lanes that are at the greatest distance from homes, parks and schools to limit noise and emissions impacts on the community.
c. Keep trucks at or below grade to reduce potential for noise and visual impacts.

4. Redesign unsafe and congested interchanges on I-710

a. Implement diamond interchange modifications as recommended by Tier 1 communities.
b. Maintain and improve local access to I-710 for residents and businesses.
c. Widen bridges that cross and parallel the I-710 to provide sufficient space for cars, bicyclists, and pedestrians.

5. Consider the future in implementing new I-710 design

a. Provide for future mobility in the long run by preserving options to use advanced technologies for moving goods as these are developed.
b. Use utility right-of-way to minimize community impacts.
c. Future port planning must take into account roadway and rail capacity, not just terminal capacity.

6. If economic and environmental studies show that expansion of the freeway is necessary, upgrade of the existing freeway must:

a. Ensure that sufficient capacity is provided for the general public by making improvements to the existing freeway (mainline) as presented by the Tier 1 design concepts.
b. The mainline portion of I-710 will be upgraded to modern design standards.
c. Continue working with those communities north of the rail yards to finalize design concepts in that area.

POLICY CONSIDERATIONS

We cannot entirely build our way out of congestion. Therefore, any freeway improvements project must be accompanied by other policies and programs such as those described in the congestion and mobility strategies. At the same time, the current status of the I-710 is not acceptable to the communities that depend on it and are affected by it. The hybrid design does a credible job of showing that maximum build out may be accommodated while incorporating community concerns about land use. However, further study is required to determine if there are other feasible alternatives that would substantively address the local communities' concerns. Final decisions on project configuration can only be made subsequent to the cost benefit and environmental studies required in the synopsis of findings. These improvements cannot be constructed in isolation from all of the other recommendations such as public health, community enhancement, and noise abatement. The I-710 design must take into account the safety and quality of life of the communities located next to the freeway, including provisions for greenbelts and open space.

XI. Environmental Justice

SYNOPSIS OF FINDINGS

In the fifty years since the freeway was first built, demographics have changed within the corridor. Today the corridor is home to low-income populations and minority groups, including African American, Asian, Latino, Pacific Islander and Native American communities. For many years, these communities have shouldered an unfair burden in health, economic, and quality of life issues in comparison with residents in other parts of the region. While the I-710 freeway is a critical factor in the region's economy, the localized negative impacts resulting from past transportation projects have more than offset their benefits in the corridor communities. Freeways have dissected some communities, and the operations of the logistics industry have compounded these impacts.

RECOMMENDED STRATEGIES

1. **Include the corridor communities in the planning process in a meaningful way, including provision of appropriate language translation.**
2. **Ensure that impacts do not disproportionately fall on low-income people or people of color.**
3. **Ensure that the benefits from the projects flow to the corridor communities.**

POLICY CONSIDERATIONS

The requirement of the environmental justice is to provide a mechanism for the meaningful involvement of all people in the transportation decision-making process and to ensure that the low-income and minority communities receive equitable distribution of the benefits from transportation activities without suffering disproportionate adverse impacts. In order to ensure equitable outcomes, future I-710 corridor projects must include "implementable" environmental justice policies and procedures that are developed by the locally affected communities. The communities' expectation is that transportation projects in their communities will meet modern standards of safety, design and aesthetics and that all negative environmental impacts will be fully mitigated. The mitigations must be, at a minimum, determined by the Tier 1 communities and other communities which might be impacted by negative environmental impacts.

XII. Organization and Process

SYNOPSIS OF FINDINGS

To ensure that the work of the Tier 2 Committee is carried forward as set forth in this document, a task force of representatives from the Tier 2 CAC, the OPC and the TAC should be established to plan and oversee the implementation of the conditions and recommendations of the Tier 2 CAC.

RECOMMENDED STRATEGIES

1. **This Tier 2 Report (Major Opportunity/Strategy Recommendations and Conditions) will be formally "agendized" and presented to the Oversight Policy Committee when it convenes in September 2004 (or as soon as possible thereafter) for its consideration and decision. All Tier 2 members will be invited to the OPC meeting, and the presentation of the Tier 2 report will be delivered by a representative group of Tier 2 spokespersons.**
2. **Following the OPC's meeting, there will be a follow-up meeting(s) of the Tier 2 Committee to discuss actions taken by the OPC.**
3. **Prior to the beginning of any formal EIR for the I-710 Major Corridor Study, Metro (MTA) and the Gateway Cities COG will work with the communities, appropriate agencies, organizations and community groups in developing a collaborative process for community participation in the environmental review process. This process will continue to work collaboratively throughout the EIR process.**

Appendix A

Strategies Summary Matrix

GUIDE TO INTERPRETING THE STRATEGIES SUMMARY MATRIX

The Strategies Summary Matrix lists the strategies recommended by the Tier 1 and Tier 2 Community Advisory Committees. The purpose of the Summary Matrix is to synopsize these strategies and to track the source of the recommended strategies.

The strategies are organized by the themes developed by the Tier 2 CAC and are referenced as follows:

H – Health
J - Jobs and Economic Development
S -- Safety
N -- Noise
M -- Congestion and Mobility
E -- Community Enhancements
D -- Design Concepts
EJ -- Environmental Justice
P -- Organization and Process

Guide to ID# Column Interpretation:

e.g. H1-a:

H = Located in the Health Section of the Tier 2 Report
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Source Column

Identifies the source of the recommendation:

- Tier 2
- Tier 1 & Tier 2
- Tier 1 only (note: These appear in ***italics*** and are strategies that were recommended by many Tier 1 communities, but not specifically called out in the Tier 2 Committee's final report.)

Programs/Policies

Strategies that relate to programmatic and policy recommendations

MCS Transportation Actions

Recommended Major Corridor Study (MCS) construction or mitigation activities to complement improvements to the I-710 mainline.

I-710 Design Concepts

Infrastructure improvement recommendations on the I-710 mainline interchanges.

					TYPE		
ID#	**Strategy Type**	**Recommendation**	**Description**	**Source**	**I. Programs/Policies**	**II. MCS Transportation Actions**	**III. I-710 Design Concepts**
			HEALTH				
H1-a	**Air Quality Improvements**	AQ Improvement Action Plan	Establish a baseline of current levels of pollution.	Tier 1 & Tier 2	X		
H1-b			Identify level of air quality impacts from increasing truck, rail and shipping.	Tier 1 & Tier 2	X		
H1-c			Determine costs of health care that can be traced to pollution encountered by corridor community members as a result of construction.	Tier 2	X		
H1-d		Global Trade Expansion: Impact Assessment	Perform studies to determine direct and indirect health and other economic costs on corridor communities and region.	Tier 2	X		
			Determine how other ports are addressing health and air quality issues.	*Tier 1*	X		
H2-a		Truck Inspection	Use enforcement and increase inspections to control emissions.	Tier 1 & Tier 2	X		
H2-b		Port Emissions Reduction	Condition project approval on air quality improvements in Port operations	Tier 1 & Tier 2	X		
H2-c			Encourage development/expansion of fleet modernization clean air programs	Tier 2	X		
H2-d		Container fees	Impose container fees to generate revenue to enhance corridor communities and address impacts.	Tier 1 & Tier 2	X		
H2-e		Quantify Emissions	Install permanent monitoring stations to measure emissions levels.	Tier 1 & Tier 2	X		
H2-f			Develop and implement improved air quality monitoring techniques.		X		
H3-a	**Diesel Emissions Reduction**	Alternative Fuels	Support policies that encourage use of alternative fuels.	Tier 1 & Tier 2	X		
H3-b			Discourage use of out-of-state fuel.	Tier 1 & Tier 2	X		
H3-c			Subject all trucks to local, state and federal standards.	Tier 1 & Tier 2	X		
H3-d			Require trucks using I-710 to use alternative fuels or equivalent pollution controls.		X		
H3-e			Require railroad locomotives servicing the two ports to use alternative fuels.	Tier 1 & Tier 2	X		
H3-f			Require the Alameda Corridor Authority to prepare a plan to electrify locomotives involved in its operations.	Tier 1 & Tier 2	X		
H4-a	**Environmental Improvements**	Emissions Reduction and Mitigation	Retrofit schools, homes and parks to increase protection from noise and pollution.	Tier 1 &Tier 2	X		
H4-b			Identify location and develop facility for one-stop truck inspection.	Tier 1 & Tier 2		X	
H4-c			Provide incentives for business to accept off-peak deliveries.	Tier 1 & Tier 2	X		
H4-d		Truck emissions reduction programs	Create programs to assist truck owners with engine/equipment upgrades.	Tier 1 & Tier 2	X		
H4-e			Restrict Port generated traffic on I-710 until emission mitigation is in place.	Tier 1 & Tier 2	X		
H4-f			Provide landscaping to improve air quality.	Tier 1 & Tier 2	X		
H5-a	**Port Air Quality**	Alternative Fuels	Require plans for terminal operation electrification	Tier 2	X		

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H5-b			Require electrification of port gantry cranes.	Tier 2	X		
H5-c		Ship Operations	Require ships to shut down diesel engines and use shore electric power.	Tier 2	X		
H5-d			Require ports to expedite development of pollution control for ships.	Tier 2	X		
H5-e			Make low sulfur diesel fuel use mandatory.	Tier 2	X		
H5-f		Emissions Control	Include trucks, trains, and rail yards, marine vessels and port equipment in clean air initiative.	Tier 2	X		
H5-g			Require terminal equipment emissions controls.	Tier 2	X		
H5-h		Funding	Establish shipper-funded emissions-lowering incentives.	Tier 2	X		
JOBS AND ECONOMIC DEVELOPMENT							
J1-a	**Local Economic Development**	Create New Corridor Economy	Provide job training programs for alternative fuel retrofit and manufacturing.	Tier 2	X		
J1-b			Reorganize and re-think alternative methods and operations for goods movement through the corridor that are not reliant on oil.	Tier 2	X		
J1-c			Conduct a feasibility study for alternative transportation system.	Tier 2	X		
J2-a		Support New Corridor Economy	Improve health, air quality and infrastructure to retain businesses and residents.	Tier 2	X		
J2-b			Provide economic incentives for industries which contribute to improving the region's quality of life.	Tier 1 & Tier 2	X		
			Create local jobs to avoid commuting out of the corridor for better paying jobs.	*Tier 1*	X		
J2-c			Use experiences of other waterfront cities as models for redevelopment.	Tier 1 & Tier 2	X		
J3-a			Conduct a cost benefit/analysis of the international goods movement industry to determine impact on corridor communities.	Tier 2	X		
J3-b	**Job Development**	Industry Development	Support more community-friendly industries to reduce communities' over-reliance on jobs that damage quality of life.	Tier 2	X		
J3-c			Create or support regional mechanisms for sustainable economic development.	Tier 2	X		
J4-a	**Job Training**	Education	Develop and promote education, training and internships opportunities for youth and young adults.	Tier 1 & Tier 2	X		
J4-b			Build on existing adult education and vocational training programs.	Tier 1 & Tier 2	X		
J4-c			Establish strategic partnerships between corridor cities, Gateway COG, education and local business.	Tier 2	X		
J4-d		Funding	Dedicate an incremental percentage of container fees to fund job training/development programs.	Tier 1 & Tier 2	X		
J4-e			Provide training to transition employees from traditional logistics jobs to jobs in alternative transportation systems.	Tier 2	X		
J5-a	**Small Business Development**		Encourage land use and economic policies that support small business development.	Tier 2	X		
J5-b			Promote fee structures and amenities that attract and encourage small business growth.	Tier 2	X		
J6			Encourage policies that promote "living wages" for area logistics businesses.	Tier 2	X		

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SAFETY							
S1-a	**Safety Programs**	Advocacy	Support the Gateway Cities Council of Governments (COG) Safety Initiatives.	Tier 2	X		
S1-b		Road Assistance	Support MTA "Big Rig Tow" program.	Tier 1 & Tier 2	X		
S1-c		Truck Upgrades	Encourage goods movement industry to revise its rate structure in order to support truck upgrades.	Tier 2	X		
S2-a	**Enforcement**	Truck Inspection	Establish permanent truck inspection station(s).	Tier 1 & Tier 2	X		
S2-b		Speed Monitoring	Monitor vehicle speeds and enforce speed limits.	Tier 1 & Tier 2	X		
S2-c		Increased Enforcement	Support safe driving of trucks through added enforcement.	Tier 1 & Tier 2	X		
S2-d			Support safe driving of vehicles in the presence of trucks through added enforcement.	Tier 1 & Tier 2	X		
S2-e		Truck Certification	Enforce a truck certification program for all trucks.	Tier 2	X		
			Create truck driver training and licensing programs.	*Tier 1*	X		
S3-a	**Education**	Public/Trucker Education Campaign	Build on existing CHP campaign to increase public awareness.	Tier 2	X		
S3-b			Educate drivers about truck stopping speed and distance and truck driver blind spots.	Tier 1 & Tier 2	X		
S4-a	**Infrastructure Improvements**	Median Barriers	Provide median barriers along the full length of the I-710 freeway.	Tier 1 & Tier 2		X	
S4-b		Lighting	Improve lighting while fully mitigating light pollution from all sources.	Tier 1 & Tier 2	X		
S4-c		Signage	Improve existing informational signage.	Tier 1 &Tier 2	X		
S4-d		Technology	Link signage to Intelligent Transportation Systems (ITS)	Tier 2	X		
			Utilize computerized message boards to post traffic alerts.	*Tier 1*	X		
S4-e		Resurfacing	Re-surface the I-710 Freeway (Provide separate lanes for trucks and vehicles if there is a major corridor improvement to the mainline)	Tier 1 & Tier 2		X	
NOISE							
N1-a	**Noise Reduction**	Sound Walls	Provide sound walls along the corridor that are consistent in appearance, attractive and well designed.	Tier 1 & Tier 2		X	
N1-b			Ensure sound walls are installed before any construction and are designed to mitigate construction impact.	Tier 2		X	
N1-c			Provide additional sound buffers where double decking occurs.	Tier 2		X	
N2-a		Noise Mitigation Programs	Retrofit homes near the freeway, freight routes and rail yards.	Tier 1 & Tier 2	X		
			Provide air conditioning and window programs for residents along the freeway edge.	*Tier 1*	X		
N2-b			Truck using the corridor must use latest noise reduction technologies.	Tier 1 & Tier 2	X		
N2-c			Provide train noise mitigation for communities near rail yards.	Tier 1 & Tier 2	X		
N2-d		Enforcement	Enforce train switching and truck engine brake laws.	Tier 2	X		
N2-e		Construction Mitigation	Ensure noise mitigation during construction.	Tier 1 & Tier 2	X		
N2-f		Design	Design the freeway system to lower ambient noise levels in communities.	Tier 2			X
N2-g			Use road surfaces that result in lower noise levels.	Tier 1 & Tier 2			X
N3-a		Alternate Routes	Designate special truck routes through communities and use designs that will result in lower noise pollution.	Tier 1 & Tier 2	X		
			Encourage use of some arterials as routes for trucks.	*Tier 1*	X		
			Encourage use of other freeways as routes for trucks.	*Tier 1*			
			Provide improved East/West access to other regional freeways.	*Tier 1*		X	

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N3-b		Truck Noise Reduction	Adopt policies and enforcement mechanisms to reduce and prevent truck idling on city streets.	Tier 1 & Tier 2	X		X
			Partner with local business to allow shared parking opportunities on existing lots to eliminate truck parking on neighborhood streets.	*Tier I*			
N3-c			Consider a mini-truck stop in designated areas to reduce and eliminate truck idling on city streets.	Tier 1 & Tier 2	X		
			CONGESTION & MOBILITY				
M1-a	**Infrastructure Management**	Technology	Synchronize signals at arterials along corridor.	Tier 1 & Tier 2	X		
M1-b		Improved Port Operations	Consider extended gate hours for trucks and 24/7 port operations while minimizing residential impacts.	Tier 1 & Tier 2	X		
			Limit truck traffic hours and encourage more evening driving.	*Tier 1*	X		
M1-c		Freight Rail	Encourage full use of the Alameda Rail Corridor.	Tier 1 & Tier 2	X		
			Provide incentives to ship by rail.	*Tier 1*	X		
M1-d			Support building near dock-rail facilities.	Tier 1 & Tier 2		X	
M1-e			Regulate port- and rail-generated traffic and link to I-710 capacity.	Tier 2	X		
M1-f	**Traffic Reduction**	Demand Management	Encourage use of mass transit.	Tier 1 & Tier 2	X		
M1-g			Encourage alternative business hours to distribute commuter traffic to non-peak hours.	Tier 1 & Tier 2	X		
M1-h		Logistics Operations	Encourage alternative business hours to accommodate trucks during off-peak commuter hours.	Tier 1 & Tier 2	X		
M2-a	**Transit**	Mass Transit Improvements	Create links to other forms of public transportation.	Tier 1 & Tier 2	X		
			Create better connections between existing light rail and bus system.	*Tier 1*	X		
M2-b			Close gaps in bus service	Tier 1 & Tier 2	X		
M2-c			Expand light rail system.	Tier 1 & Tier 2		X	
			Build light rail along the I-710 to relieve auto congestion.	*Tier 1*		X	
M2-d		Alternative Transportation	Make use of alternative transportation such as maglev for port use and people moving.	Tier 1 & Tier 2	X		
M2-e		Incentives	Provide incentives for use of mass transit, including rideshare and other modes.	Tier 1 & Tier 2	X		
M3-a	**Connectivity**	Bike and ped trails	Use existing bike and pedestrian trails and provide new ones along the LA River Corridor.	Tier 2	X		
M3-b			Establish east-west connections across the freeway.	Tier 2		X	
M3-c			Provide for bike lanes and sidewalks in all aspects of arterial improvements to I-710 corridor.	Tier 2	X		
M4-a	**Construction Mitigation**		Examine truck destinations to create alternate routes.	Tier 1 & Tier 2	X		
M4-b			Mitigate all areas that are in proximity to schools.	Tier 1 & Tier 2	X		
M4-c			Restrict construction to off peak hours.	Tier 1 & Tier 2	X		
M4-d			Support legislation to encourage extended gate hours to mitigate truck traffic.	Tier 1 & Tier 2	X		
M5-a	**Port Planning**	West coast port cooperative planning	Address impacts and develop consistent fee structures and policies with regard to containers.	Tier 1 & Tier 2	X		
M5-b			Expand cooperative port efforts beyond Los Angeles/Long Beach.	Tier 1 & Tier 2	X		
M5-c			Support legislation to develop and maintain a long-range plan for West Coast port planning and general transportation and distribution.	Tier 1 & Tier 2	X		

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M6-a	**Alternative Options**	Elevated Roadways	Consider long-term impacts of elevated roadways on the local economy and environment.	Tier 1 & Tier 2	X		
M6-b		Underground Roadways	Study the use of underground truckways to relieve congestion of the surface traffic when surface truckways approach "design capacity".	Tier 1 & Tier 2	X		
M7-a		Redirect Imports	Redirect a portion of imports destined outside Southern California to other West Coast ports.	Tier 1 & Tier 2	X		
COMMUNITY ENHANCEMENTS							
E1-a	**Preservation**	Parks and Open Space & Natural Areas	Accommodate additional planned park, open space and wetlands projects in corridor.	Tier 1 & Tier 2	X		
E1-b			Use open space-related mitigation funds to implement Los Angeles River and community projects.	Tier 1 & Tier 2	X		
E1-c			There must be no net decrease in the amount of permeable surface as a result of the I-710 corridor project.	Tier 1 & Tier 2	X		
E1-d		Community Open Space	Design ramp abandonment and other corridor-related infrastructure improvements to make maximum use of these areas for community open space and enhancement projects.	Tier 1 & Tier 2	X		
E1-e		Water Quality Protection	Any project should not have any negative impacts to the LA River, Compton Creek or other open channels in the corridor.	Tier 2	X		
E1-f		Native Plants	Encourage the use of native plants as landscaping materials used for this project.	Tier 2	X		
			Provide extensive landscaping along 18-mile corridor to improve community aesthetics and image.	*Tier 1*	X		
E2-a	**Community Enhancement Projects**	Agency Coordination	Coordinate with local city redevelopment departments to identify priority enhancement areas.	Tier 2	X		
E2-b		Prioritization	Develop community enhancement priorities using CAC input.	Tier 2	X		
E2-c		Landscaping	Emphasize landscaping and aesthetic improvements to major arterial routes within the corridor.	Tier 1 & Tier 2	X		
E3-a	**Mitigation**	Construction Staging	Establish construction staging areas in locations with the least amount of impact on local circulation.	Tier 1 & Tier 2	X		
E3-b		Community Consultation	Establish community forum to identify and rectify impacts during construction.	Tier 1 & Tier 2	X		
E4-a		Arterial Streetscapes	Landscape medians.	Tier 1 & Tier 2	X		
E4-b		Signage	Provide signage which identifies communities and connections to local natural areas and landmarks.	Tier 2	X		
E5		Light Mitigation	Mitigate light and glare in surrounding communities.	Tier 1 & Tier 2	X		
DESIGN CONCEPTS							
D1a	**Capacity Enhancement**	Studies/Assessment	Pursue and finalize the cost benefit and environmental studies required.	Tier 1 & Tier 2	X		X
D1-b			Finance truck related improvements through federal funds and truck and port fees.	Tier 1 & Tier 2	X		
D1-c			Actively pursue and develop creative funding alternatives to finance the design and capacity enhancement improvements for the I-710 corridor.	Tier 1 & Tier 2	X		
D2-a		Separate Trucks From Cars	Add lanes for trucks that are separate from the I-710 freeway lanes	Tier 1 & Tier 2			X
D2-b			Build truck ramps that lead directly from I-710 to the railroad yards to take truck traffic out of neighborhoods and off local streets.	Tier 1 & Tier 2			X
D2-c			Improve the Atlantic Bandidni intersection in the City of Vernon.	Tier 1 & Tier 2		X	

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D2-d			Improve the Atlantic Bandidni intersection to the south (Garfield to I-5 south).	Tier 1 & Tier 2		X	
D3-a	**Minimized Impacts**	Right of Way	Utilize the property between the existing freeway and the LA River to minimize taking of residences, local businesses and parks.	Tier 1 & Tier 2	X		
D3-b			Truck lanes should be located in those lanes that are the greatest distance from homes, parks and schools to limit noise and emissions impacts on the community.	Tier 1 & Tier 2	X		
D3-c		Design and Congestion	Keep trucks at or below grade to reduce potential for noise and visual impacts.	Tier 1 & Tier 2	X		
			Make improvements to major arterials in corridor communities to relieve congestion.	*Tier 1*		X	
D4-a	**Improvements**	Interchanges and Access	Redesign unsafe and congested interchanges.	Tier 1 & Tier 2			X
D4-b			Maintain and improve local access to the freeway for residents and businesses.		X		
D4-c		Bridges	Widen bridges that cross and parallel the freeway to provide space for cars, bikes and pedestrians.			X	
D5-a		Technology	Preserve options to advanced technologies for moving goods as these are being developed.	Tier 2	X		
D5-b		Right of Way	Use utility right-of-way to minimize community impacts.	Tier 1 & Tier 2	X		
D5-c		Port Planning	Future port planning must take into account roadway and rail capacity, not just terminal capacity.	Tier 1 & Tier 2	X		
D6-a	**Capacity Enhancement Improvements**	Local Improvements	Ensure sufficient capacity is provided for the general public by making Tier 1 CAC improvements to the existing freeway.	Tier 1 & Tier 2			X
		Carpool Lanes	*Dedicate one carpool lane for vehicles with 2 or more persons on the I-710 from the 405-Long Beach.*	*Tier 1*			X
		Management	*Include transponders for greater mobility & provide incentives for use.*	*Tier 1*			X
D6-b		Design	Upgrade mainline portion of the I-710 freeway to modern design standards.	Tier 2			X
			Improve on and off ramps along the corridor.	*Tier 1*		X	
D6-c			Continue work with communities north of the rail yards to finalize design concepts in that area.	Tier 1 & Tier 2	X		
ENVIRONMENTAL JUSTICE							
EJ1	**Process**	Community Engagement	Involve corridor communities and provide appropriate language translation.	Tier 2	X		
EJ2	**Implementation**	Community Impacts	Ensure that impacts do not disproportionately fall on low-income people or people of color.	Tier 2	X		
			Impacts should be shared throughout other communities.	*Tier 1*	X		
EJ3	**Project Benefits**	Benefit Assessment	Ensure that the project benefits flow to the corridor communities.	Tier 2	X		
			Provide compensation to corridor communities that have been affected by I-710 freeway impacts.	*Tier 1*	X		
			Provide rebates to residents for use of extra water and power as a result of impacts from freeway.	*Tier 1*	X		
			Implement local employment requirements for future I-710 improvements.	*Tier 1*	X		
ORGANIZATION AND PROCESS							
P1		Presentation to OPC	Tier 2 Report will be presented to the OPC by Tier 2 representatives.	Tier 2	X		
P2		Tier 2 Follow-up	Tier 2 CAC will meet following OPC action.	Tier 2	X		

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P3		Develop Collaborative Process	Metro and the Gateway Cities COG will develop collaborative community participation process prior to formal EIR process.	Tier 2	X		
			Create a Task Force to allow for community participation and oversight.	*Tier 1*	X		
			Create a governing body such as the JPA with membership from community and agencies.	*Tier 1*	X		

Guide to ID# Column Interpretation

e.g. H1-a:

H = Located in the Health Section of the Tier 2 Report

1 = Strategy #1 in this Section

a = Designation of the specific recommendation under this Strategy

Appendix B

Tier 1 CAC Community Ideas Matrices

I-710 Major Corridor Study
Tier 1 Community Advisory Committee CAC

August-04

City of Bell	
ID#	**Community Ideas**
H3-a	Our community needs to support pending legislation to address pollution.
D4-a	Improve the Florence exit and fix the cloverleaf.
D4-c	Widen bridges over the I-710 freeway.
E2-a, b	Improve sidewalk in the City.
E1-f	Implement a beautification program that includes graffiti removal and landscaping from I-91 to the I-60.
N1-a	Provide sound walls.
i	Seek opportunities to underground utilities.
N2-g	Repair potholes along the freeway.
EJ-3	City should be compensated for loss in revenue from construction impacts.
M3-a, c	Include bike trails in any potential projects.
D3-c	Improve intersection at Florence and Atlantic.
S4-d	Use Caltrans marquee to alert drivers when accidents occur.
H2-d	Assess surcharge fees on logistics industry to pay for improvements.
E3-a	Provide construction mitigation measures.
H1-d	Conduct study (funded by the ports) to determine the increased health impacts that port growth will cause.
H4-b	Increase inspection points to monitor and enforce compliance.
D6-a	Add carpool/bus lanes.
M1-b	Support 24/7 port operations.
M7-a	Encourage use of other ports.
ii	Cap port growth and rail yard expansion.

Xx-x - reference to the ID number found in the Strategies Summary Matrix
i - Local city issues to be addressed with the city during the environmental phase
ii - Ideas considered by Tier 1 CACs but not carried forward to Tier 2 CAC

City of Bell Gardens

ID#	Community Ideas
H4-c	Encourage trucks to use I-710 during off-peak hours. Levy higher fees/charge premium fees on companies who transport during peak hours.
ii	Build an elevated four-lane truck-dedicated express roadway, within the LA River, with minimal off-ramps to access distribution facilities with no off-ramp to Bell Gardens.
H3-a	Provide incentives for use of alternative fuels: Levy higher fees/tolls on trucks using diesel fuel and make allowances for trucks using alternative fuels. Use technology to monitor compliance.
D3-a	Relocate transmission lines between the river and I-710 freeway and use transmission right-of-way for a truck-dedicated expressway.
ii	Build a truck-dedicated roadway over the river channel that runs along the freeway.
ii	Develop additional rail distribution facilities to support out-of-state hauls to help alleviate congestion at rail yards in Commerce and Vernon.
N1-a	Sound walls should be built along the freeway in Bell Gardens to mitigate noise pollution, particularly from heavy trucks.
N1-a	Ivy should be planted on the sound walls to discourage graffiti.
H2-a	Truck inspections should be conducted regularly to ensure trucks on the road comply with safety and emission standards.
N2-d	Alameda Corridor operators should provide quieter operations for the trains.
H4-f	Create a beautification program that provides landscaping and improved aesthetics along the freeway.

Xx-x - reference to the ID number found in the Strategies Summary Matrix
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I-710 Major Corridor Study
Tier 1 Community Advisory Committee (CAC)

August-04

City of Carson	
ID#	**Community Ideas**
N3-a	Provide East West Access for trucks and autos for other regional freeways.
D2-a, b	Get trucks onto freeway more directly and quickly.
i	Examine the Terminal Island Freeway extension to 405 and its potential impacts on Carson.
ii	Use LA River for truck access.
D4-a	Provide interchange improvements.
D2-a	Consider dedicated truck lanes with transponders along I-710 next to the river and provide incentives for trucks to adopt use.
M6-b	Underground proposed improvements, if possible.
M1-d	Create a near dock facility.
M1-c	Provide incentives to ship by rail.
H4-e	Regulate truck hours.
i	Consider possibility of building below grade along Alameda Street.
i	The community does not support the Terminal Island Freeway proposal extension to Alameda Street because of the possibility of increasing the amount of truck traffic on Alameda Street traveling through Carson.
H2-b	Reduce air pollution emissions from the Port and the rail systems and support federal legislation for more stringent air quality improvements.
D1-a	Tie improvements to I-710 to air quality improvements.
H3-a	Use new clean burning fuels a soon as possible - trucks and trains.
H1-d	Perform medical studies (cancer, asthma, etc.) for the community residents along the freeway to determine the extent of the air pollution problems to these communities.
H2-d	Provide funding for the air quality impacts the residents have had to suffer from the Port and truck diesel pollution.
H4-2	Provide incentives or other financial assistance to replace older diesel truck engines.
N1-a	Provide decorative sound walls along the freeway

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City of Carson

ID#	Community Ideas
N2-d	Alameda Corridor operators should provide quieter operations for the trains
H4-f E1-f E2-c	Create a beautification program that provides landscaping and improved aesthetics along the freeway, including trees.
EJ2	There should be equity of impacts spread among all corridor communities
M5-a	Ports should provide more efficient loading and unloading at the ports
H1-d	Look at other ports (San Diego, San Francisco, etc.) to determine how they are dealing with similar issues such as air quality and transportation
M7-a	Shift as much cargo to other ports as much as possible (Baja, Seattle, Ventura, etc.)
M1-b	24/7 Port operations (extended hours)
i	Reversible lanes
M5-b	Establish a second port in LA
H2-e	Provide a permanent, local air quality monitoring station
D2-a	Use tolls during peak hours
D2-a M6-a	Double deck the freeway starting at Port to avoid bottleneck at the Port and have it drop into a dedicated truck lane
D2-a	Add extra lanes between PCH and Willow
D5-a	Utilize TDM and TSM technologies.
H2a	Provide for truck inspection, including emissions, and increased enforcement.
N3-a	Examine other freeways in the region in addition to the I-710, provide interagency coordination and create truck routes along other freeways.
E1-a	Use the Los Angeles River green belt area.
D4-a	Provide separate truck interchanges to accommodate short-term hauling, where only limited truck access is needed.

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I-710 Major Corridor Study
Tier 1 Community Advisory Committee CAC

August-04

City of Commerce	
ID#	**Community Ideas**
H1-d	Reduce diesel emissions and other pollutants that damage air quality. The impact to our community's children is intolerable. The health of our community must become a priority! In the short-term deploy stronger enforcement; in the long-term, address the cumulative impacts that the growth in the number of trucks will have, and provide increased restrictions, insure to reduce the related increased levels of toxic emissions.
D2-c, d	Support the Bandini Alternative. It shows promise as a viable and community-supported solution. Include truck lanes on Bandini Boulevard and improving the I-5 at the Garfield interchange so trucks may go south on the I-5.
E3-a	Minimize construction impacts as much as possible, especially private property acquisition, and impacts to parks and public spaces.
M1-c	Improve public understanding through education about the purpose of the Alameda Corridor and its long-term potential as an effective and efficient transportation option.
D4-a	Explore solutions to resolve problems on both the I-5 freeway and the I-710 concurrently. It is important to recognize that these systems are dynamic and interrelated.
J3-a H1-d	Analyze the impacts on the quality of life in our community, along with possible financial impacts, of potential expanded 24/7 Port operation. Explore the local goods movement and truck route solutions that can help mitigate the impacts to our community. (This item is still subject to more community input)
N1-a	Determine the need and priority for sound walls, particularly in conjunction with other potential transportation and traffic improvements. Possible priority location could be the Bristow area, and both sides of the Washington Boulevard off-ramp.
D3-c	Oppose the proposed Slauson Avenue improvements because of the impacts in our City. The Bandini Alternative would make the Slauson improvements unnecessary.
ii	Explore the riverbed as a potential heavy-rail corridor to alleviate truck traffic related to goods movement from the ports.

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D2-c, d	Improve the Atlantic Bandini interchange, including truck ramps from the I-710 truck lanes and the southbound I-710 freeway, directly into the rail yards and truck ramps from the I-710 truck lane onto elevated truck lanes on Bandini Blvd. between 1-710 and I-5 to Garfield Ave. at the I-5 freeway.

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I-710 Major Corridor Study
Tier 1 Community Advisory Committee (CAC)

August-04

City of Compton	
ID#	**Community Ideas**
D4-a D6-a	Ensure that on-and off-ramps and adjacent streets are safe for both cars and pedestrians.
D6-a	Conduct a Pedestrian Analysis to determine the safety measures that may be needed on streets that lead to (or connect to) on-and off-ramps in Compton --particularly near schools..
D4-a	Improve the safety of the I-710 and 91 Interchange near Alondra. The west-bound 91 Freeway must be addressed.
H3-a	Fuel technology should be used to decrease air pollution.
E1-e	Ensure that Compton Creek will not be harmed from additional run-off resulting from freeway improvements. Provide stringent measures to against any potential pollution. Wildlife and plant life are vulnerable and must be protected.
N1-a	Sound walls should be provided to alleviate sound pollution.
i	Any widening and other improvements should take place on the east side of the I-710 through Compton. There should be no housing takes on the west side.
M4-a D3-c	Provide a by-pass for Compton and improve arterial highways that feed into the I-710.
D3-c	Ensure that major arterials are not adversely impacted by I-710 improvements.
D3-c	Analyze whether improvements are needed to improve the traffic flow on Atlantic, Alameda, Alondra, and Santa Fe, as all are important arterials in Compton.
M4-a D3-c	Consider placing restrictions for use of arterials that run through Compton. If use of these arterials are linked to I-710 improvements, there should be financial incentives provided to the city of Compton.
EJ2,3	The Port should provide financial incentives to the City of Compton for future proposed I-710 impacts that accommodate their growth.
D3-b	Ensure that truck-dedicated lanes on the freeway are located away from residential neighborhoods to avoid increased air pollution near homes.
D3-b	Keep elevated roadways away from residential neighborhoods.
M6-a	If elevated roadways are used, truck-designated roadways should be located on the lower level (to muffle the sound).

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M2-c	Provide a light rail system along the I-710 with stops in Compton.
D6-a	Provide carpool lanes that lead more directly to Long Beach as it is a major destination.
ii	Explore the use of the riverbed for I-710 improvements.
E3-a	When construction is underway, provide advance warnings of detours and closures.
H4-b	Locate a truck facility in Compton--if it generates revenue for the City.
S4-d	Designate and identify specific alternate routes through Compton for drivers who must exit the freeway when accidents occur. Encourage use of these routes as much as possible to protect neighborhoods.
H4-f E1-f	Ensure that ramps are "green" Landscaping should be planted and maintained to beautify the area along the freeway. Establish a committee to monitor maintenance and accountability.
EJ3	For I-710 improvements, establish a requirement that Compton youth and adults must be hired on projects.
P3	Establish an ad hoc partnership, such as a Joint Powers Authority, between the City of Compton, and other I-710 Corridor Cities, Caltrans, and other public agencies involved with the I-710 improvements.
D4-a	Improve the safety of the I-710 and 91 Interchange at Alondra. Redesign the interchange to provide safer merging conditions.
D4-a	Provide an exit ramp to Rosecrans Avenue from the I-105 ramps.
H1-a-d	Addressing air quality and its improvement is a top priority for Compton.
EJ3	Explore using Compton residents to work on I-710 construction projects and provide training if needed.

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I-710 Major Corridor Study
Tier 1 Community Advisory Committee (CAC)

August-04

Note: The East Los Angeles Tier 1 CAC is still evaluating various ideas and options for the I-710 and I-5 freeways and have not yet made any decisions on improvements to those freeways until further studies are completed.

East Los Angeles

*ID#	Community Ideas
M2-c	Build a light rail system along the I-710 to relieve some of the auto congestion.
H3-f	Provide incentives, such as reduced fees, to encourage increased use of the Alameda Corridor and disincentives, such as increased fees/taxes, for truckers using the I-710.
H4-f	Beautify the I-710. Caltrans should maintain trash pick-ups, at a minimum, and provide landscaping.
D2-a	Double-deck the I-710 with truck-dedicated lanes.
EJ2	Encourage policy-makers to stress that San Gabriel Valley and South Pasadena must accept a more equitable share of the burden of traffic.
EJ2	Finish the I-710 through South Pasadena before making changes in our neighborhoods.
ii	Build a subterranean tunnel dedicated to truck traffic.
H4-c	Provide incentives for businesses to accept delivery during non-peak hours.
EJ1	Implement policies that encourage "land-use" trade-offs" and partnerships to allow shared parking or innovative solutions to eliminate truck parking in neighborhoods.
N1-a S4-a	Seek on-going funding for mitigation along the freeway, including soundwalls and concrete median barriers.
ii	Solutions must seek to resolve problems concurrently on both the I-710 and the 60 Interchange, as well as, the I-5 and I-710.
H3-a	Encourage technology that decreases toxic diesel emissions, such as the use of alternative fuels.
S4-b	Improve lighting along the corridor.

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East Los Angeles

*ID#	Community Ideas
M1-b	Encourage the Ports to implement 24/7 operations, **including negotiating with the Teamsters Union.**
M1-g M1-h	Limit truck traffic during rush hours and provide incentives to encourage more driving at night.
ii	Leave the Freeway as it is from Telegraph Road to the I-60 Freeway.
E1-a	Loss of open space due to freeways is a major concern.
ii	Tunnel under the freeway to provide truck dedicated lanes. Make it a toll-road to fund it.
ii	Interchange improvements are needed at the I-5 to I-710 southbound. Improve the on-ramp.
ii	Use a double-decker system within an existing right-of-way all the way to the I-210.
M1-f	Incorporate mass transit as alternatives to the freeway.
S2-b S2-c	Increase enforcement of speeding trucks.
S2-c	Trucks should use slow lanes only and second lane for passing only.
D2-a	Allow trucks to travel on dedicated lanes only.
S2-a	Increase enforcement of vehicles that don't meet regulations.
D2-a	Need to improve safety through design on Freeways.
S4-a	Add concrete barriers in the middle of the freeway.
M7-a	Disseminate goods through other ports--not just LA and Long Beach.
M1-c	Alameda corridor must be more widely used.
H3-a	Shift to alternative fuels.
H3-d, e, f	Require the use of alternative fuel for shipping.
H1-a	Conduct a study to evaluate air quality around schools. **With a baseline established, change can be monitored.**
H3-a	Outlaw use of diesel fuels.
EJ2, 3	Our community needs to have representation such as wealthier communities facing facing similar issues (101 freeway).
E1-a EJ3	Freeway improvements should result in community improvements such as parks, community facilities, local transit improvements.
D2-b	Provide off-ramps at rail yards.

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East Los Angeles

*ID#	Community Ideas
N1-a	Provide attractive and tall enough sound walls.
i	Address the area between Third and Sixth and McDonnell. There is dangerous double parking.
D3-a	East Los Angeles does not want any net loss in housing as a result of improvements to the freeway.
M2-a, b, c	Expand public transportation.
D3-c	Local streets that parallel the freeway need to be studied and improved.
H1-a - H2-f	Improvement in air quality is the number one priority for East Los Angeles.
ii	Examine other alternatives along I-5 (eliminate carpool lane or tunnel car pool lanes) to reduce property impacts in East Los Angeles.
ii	Determine impacts in East Los Angeles of proposed closure of I-710 Washington Boulevard interchange and mitigating impacts.

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I-710 Major Corridor Study
Tier 1 Community Advisory Committee (CAC)

Aug-04

City of Long Beach	
ID#	**Community Ideas**
	Community Approved Recommendations
i	Involve federal elected officials in the Freeway major corridor study.
i	The City of Long Beach should support Congress-member Rohrabacher's legislation to impose a fee on each container that enters the Port.
i	Do not move forward with the 710 Freeway project.
M2-d, e M3-b	Find an alternative to 710 Freeway expansion.
N1-a, b, c	Sound walls need to be included into the final budget for the 710 Freeway improvements, and they must be built at the time of construction of any improvements.
i	MTA and Caltrans should conduct a walk thru the Long Beach segment of the 710 Freeway where proposed improvements might take place.
EJ1	Minutes of all workshops should be translated in Spanish and Khmer.
i	No double decking of the 710 Freeway.
M4-b	School Bus traffic flow should not be impacted by future construction on the 710 Freeway.
S1-a S4-a	Center dividers must be built taller in the future.
	Health and Environment
H1-b	The Long Beach Health Department should conduct air quality studies near the intersection of the 710 Freeway and the 47 Freeway.
H3-a	School buses should use alternative fuels to reduce diesel emissions.
H3-a	The performance of alternative fuels on air pollution should be verified prior to commercial use.
i H1-d	City of Long Beach should review impacts of ICTF terminal to community ad local schools. Truck idling levels at the ICTF terminal should be reduced to the level of the Ports.

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E1-f E2-c E4-a H4-f	Increase tree plantings in Long Beach by threefold.
H1-d	Future health studies must include data about deaths related to pollution.
H1-d	The City of Long Beach should conduct research into the health impacts on the community stemming from local refinery emissions.
H1-d	The City of Long Beach should conduct research into the health impacts of diesel and other vehicle emission to children.
H1-d	The research should include asthma and other health ailments, including respiratory problems, cancer, allergies, etc.
H3-a, e, f	Trains should use cleaner fuels.
i	Signage should be visible to traffic at all times in the design of the 710 freeway.
H1-d	The City of Long Beach should conduct research regarding the impacts of pollution to local residents from Port operations, the 710 Freeway, local petroleum refineries, and the proposed Liquid Natural Gas station.
H4-d H2-c	Give incentive funding to truck operators to use bio-diesel.
N1-a, b, c N2-a - g	Noise pollution should be mitigated for any I-710 Freeway improvements.
H2-b, c	Trucks and ships delivering and hauling cargo from the Port of Long Beach should use particulate matter traps.
H3-a	A pilot project for the use of bio-diesel should be implemented.
	Port Operation and the I-710
H4-e M5-c M7-a	A limit on Port expansion should be discussed.
M5-a	Tariffs should be imposed on businesses that use the port. The funds gathered through the tariffs should be utilized for programs to clean air pollution.
H2-b H2-a H3-d H4-d	Trucks operating at the Port should use bio-diesel or alternative fuels.
i	Shipping companies should hire independent truck drivers as employees and they should treat them fairly.
M1-d	On-dock rail capabilities should be expanded.

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H2-d	The Port should pay for any impacts to the community, including any improvements to the 710 Freeway and impacts to the health of residents in the community.
i	All empty containers should be shipped to the place of origin and they should be allowed to remain empty in the Port.
i	The City of Long Beach should research the impacts of Port expansion to the local tourism industry.
H2-d M5-a D1-b,c	Extra fees should be charged to Port tenants and companies hauling cargo from the Port to cover expenses related to local healthcare costs.
H3-a H2-b	The Port should support the use of green diesel and compressed natural gas for trucks hauling cargo from the Port.
H2-b N3-b	The Port should develop aggressive idling legislation to limit diesel truck idling to a maximum of five minutes.
M7-a	Cargo should be distributed to other regional Ports.
M7-a H4-e, i	The Port of Long Beach should be downsized.
M7-a H4-e, i	The City of Long Beach should define the maximum capacity of the Port of Long Beach.
M1-b, c, d	The Alameda Corridor Transportation Authority's initiatives should be implemented immediately.
H1-d	The Port should not extend to a 24-hour operation until further air quality research is conducted on the potential impacts to Long Beach residents.
H2-b	Governing agencies should make it mandatory for ships to slow down as they prepare to dock at the Port of Long Beach.
H2-b	By 2006, offshore shipping companies should be equipped to use shore power while docked at the Port.
i	Cargo containers should be standardized which would allow multiple companies to use the containers and reduce the number of empty containers at the Port.
i	The Port of Los Angeles should participate at the next workshop related to Port Operations.
H2-b	Local Ports should coordinate the use of alternative fuels strategies.
H1-c	The Port should conduct research on the cost of pollution to local healthcare.
M1-c, d M2-d	Identify alternative methods to haul cargo from the Port- other than diesel trucks.
H2-b	Ships should be made to slow down when entering the Port.
H2-b	Diesel emissions from sea vessels and trains need to be addressed by regulatory agencies.

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H2-b	Ships should use alternative fuels when docking at the Port of Long Beach.
	Preserving Neighborhoods
i	Residents should have free and competent legal advice provided to them to assist them with the property acquisition process.
EJ-3	Residents whose property is not taken but impacted by 710 Freeway improvements should be compensated by Caltrans.
EJ1	The City of Long Beach and Caltrans should inform residents about any property acquisition plans in advance and a timely manner.
i	The public should be provided an opportunity to view and comment on the new 710 Freeway designs at various public meetings.
M2-d, e	Do not take any businesses or homes until all other alternatives and options for improving the 710 Freeway are exhausted.
i	Caltrans should better maintain the properties they currently own in Long Beach.
EJ3 E3-b	Caltrans should establish a performance bond for any improvements to the 710 Freeway that would allow for residents to recoup any damages during construction.
EJ1	Residents should be encouraged to attend meetings about the 710 Freeway and they should continue applying pressure and giving input on this process.
EJ1	Properties should be referred to as "homes" and not "houses" during discussions about 710 Freeway improvements.
EJ1, 3 E3-b	Caltrans should provide contact information to residents about whom to contact regarding damages done to properties because of construction to the 710 Freeway.
EJ3	An appraisal should be conducted at the time of the final design for the 710 Freeway improvements and a second appraisal should be conducted at the time that Caltrans begins the property acquisition process.
i	Conduct community meetings in the first district to make it easier for residents in that district to attend meetings.
	Truck Congestion and Safety
M5-a D1-b D1-c S1-c	A toll on diesel trucks should be imposed to offset the cost of utilizing the Alameda Corridor.
D3-b	Study the spillover traffic and the 710 Freeway. The spillover traffic may create safety issues for pedestrians.
M1-c	A shuttle trail system should be developed to haul cargo to local distribution centers in Southern California.

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M3-b	Use the Terminal Island Freeway and the Alameda Corridor to haul cargo and divert diesel trucks away from the 710 Freeway.
M4-a	The 103 Freeway should be expanded and should proceed left on Sepulveda and Willow and connect to the Alameda Corridor.
M4-a	Encourage the use of the 110 Freeway to divide truck traffic equally with the 710 Freeway.
M4-a	The City of Long Beach should establish a transportation policy to divert truck traffic to routes other than the 710 Freeway.
M5-a D1-a, d, c	A toll shall be implemented on trucks hauling cargo from the Port and shipping companies should pay a toll.
H2-a	A new truck inspection site should be built on Port of Long Beach Property.
i	Truck drivers should be considered when developing new cargo hauling methods.

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I-710 Major Corridor Study
Tier 1 Community Advisory Committee (CAC)

August-04

City of Lynwood	
***ID#**	**Community Ideas**
ii	Install surveillance cameras at areas known to be unsafe in order to reduce hit-and-run accidents and dangerous, illegal driving behavior.
D2-a	Minimize trucks accidents by separating truck/auto traffic.
S3-b	Improve safety by implementing public education campaigns aimed at increasing awareness of how to share the road safely with trucks, and through greater enforcement and emphasis on adequate truck driver training and licensing.
ii	Explore the possibility of constructing a truck-dedicated elevated roadway above the riverbed that runs parallel to the I-710.
ii	Double-deck the I-710 freeway with truck-dedicated lanes.
M2-c	Support a light rail system that follows the course of the I-710. Provide stations that are easily accessible for Lynwood residents.
E1-f	Provide landscaping along the freeway in Lynwood. Ensure that landscaping creates an aesthetically-pleasing, safe environment.
S4-a	Extend the median barriers along the entire stretch of the freeway.
M1-h	Limit truck traffic hours.
D4-b	Improve access to Lynwood by creating more off-on ramps.
ii	Explore utilizing Alameda and Imperial as the major mobility corridors for through-truck traffic.
M1-h	Limit the hours of operation of trucks and increase fees during peak hours.
ii	Build a truck-designated roadway within the LA River.
M1-e	Lower fees to promote increased use of the Alameda Corridor for goods movement.
N1-b	Build sound walls along the entire I-710 to buffer noise in residential areas. Where necessary, use similar sound mitigation measures that airports employ.
S4-b	Improve existing lighting/add new lighting on the I-710.
i	Study Josephine, Rosecrans, Martin Luther King Boulevard, Abbott, and Carlin to determine traffic flow improvements that are needed (as part of the EIR process.)
H3-a	Provide more stringent air quality standards that address the excessive pollution generated by diesel-using trucks.

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City of Lynwood

*ID#	Community Ideas
E2-b	Beautification of areas through landscaping and maintenance of landscaping should take place, particularly beneath the cloverleaf portion of the I-710 (in Lynwood) that may be reconfigured as a future improvement (see Jerry Wood's concept drawings)
D4-a	Provide more on/off ramps from the I-105 to Lynwood at Atlantic Ave. and also Alameda St..
i E3-a	Conduct a pavement analysis of city streets before and after construction of arterial and I-710 improvements to assess whether damage has occurred. If streets have been damaged, the responsible agency/entity shall pay for and undertake repair in a timely manner.

Xx-x - reference to the ID number found in the Strategies Summary Matrix
i - Local city issues to be addressed with the city during the environmental phase
ii - Ideas considered by Tier 1 CACs but not carried forward to Tier 2 CAC

I-710 Major Corridor Study
Tier 1 Community Advisory Committee (CAC)

August-04

City of South Gate	
***ID#**	**Community Ideas**
M1-a	Synchronize traffic signals along arterials and major streets for better mobility and to less congestion.
D4-a	Reconstruct Imperial/I-710 interchange to establish diamond lanes similar to Firetstone/1-710.
N2-e	Mitigate noise and dust during construction.
S4-c	Adequately mark and provide signage for truck routes.
N1-a	Construct decorative sound wall and safety shields along the freeway adjacent to affected residents and businesses.
E2-c	Include landscaping along the (I-710) freeway especially at interchanges and soundwalls.
i	Provide a three dimensional model of the proposed I-710 Freeway improvement in the City of South Gate.
i	Provide a time schedule that includes sequence of construction work in South Gate.
M4-c	Establish ways to minimize inconvenience to residents and businesses during construction.
EJ2	Provide incentives to residents and businesses that have been and will be suffering depreciation and (loss of) income during construction of the freeway.
M1-h	Install ramp metering for trucks at the port of Long Beach.
ii	Establish a (800) number with a bilingual live person responding throughout this project so anyone can call with questions. Consider using television, internet, radio and other media fro keeping the community informed of the project status through completion.
P3	Continue including Tier 2 on the corridor improvements through project completion including but not limited to design, construction staging (especially establishing detour routes during construction.
D3-c	Extend Southern Avenue under or over the freeway and increase Southern Ave. Lane width to four lanes (two lanes each direction) for better mobility and to reduce local traffic from Firestone.

Xx-x - reference to the ID number found in the Strategies Summary Matrix
i - Local city issues to be addressed with the city during the environmental phase
ii - Ideas considered by Tier 1 CACs but not carried forward to Tier 2 CAC

City of South Gate

*ID#	Community Ideas
D4-c	Widen Garfield Avenue Bridge over the Rio Hondo River and associated sidewalk along Garfield.
M2-b	Consider using additional bus transportation on Garfield between Firestone and Imperial.
EJ2	Provide fair and expedient negotiations with property owners that must move due to the proposed project. In the event of partial takes, efforts should be made to replace the property taken with property contiguous with that remaining.
i M4-b	Avoid impacts to local businesses including Security Public Storage South Gate Facility, Scully-Miller and Rockview Farms.
ii	Prior to major freeway construction surface street repairs, upgrades and improvements should be scheduled and completed. This work should be undertaken on all surface streets within the corridor that will be impacted traffic diverted from the I-710 during construction and should include refinement of the traffic control system.
D2-a	Rockview supports the inclusion of "truck only" lanes as part of the project.
D4-c	Include the installation of a Southern Ave. Bridge over the I-710 thereby connecting east with west South Gate. This bridge would relieve traffic on Firestone Blvd. and provide a second exit on for the Thunderbird Mobile Home Park.
M4-a	Provide advance and continuous public notice of road closures, detours and other changes to traffic flow. Include accommodations for emergency services, truck and business traffic signage directing customer traffic to businesses.
E1-f	Develop a freeway design that includes beautification of the right of way with a separate identity for each city through which the freeway passes.
i	Maintain access to Sully-Miller Construction by providing the same number of driveways.
D3-c	Study parallel arterial highway and determine needed improvements prior to major construction of the freeway.
i	Improve air quality and reduce diesel emissions.
M1-b	Support extended hours of operation at the ports and moving more cargo by rail, potentially the Alameda corridor.

Xx-x - reference to the ID number found in the Strategies Summary Matrix
i - Local city issues to be addressed with the city during the environmental phase
ii - Ideas considered by Tier 1 CACs but not carried forward to Tier 2 CAC

APPENDIX D: TRAFFIC ASSUMPTIONS; TRANSLOAD COMMENTS AND REPORT

1. EXCERPTS FROM MINUTES OF I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE
2. Transload Report by Andrea Hricko
3. Journal of Commerce transload statistics

1. EXCERPTS FROM MINUTES OF I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE

THE MINUTES OF THE MEETING OF THE
I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE
A Meeting Held at Progress Park
15500 Downey Ave.
Paramount, CA
January 30, 2014

Excerpt from the Minutes:

B. I-710 Traffic Forecast Update

Dave Levinsohn, URS, gave a PowerPoint presentation which summarized changes to the traffic model since the release of the Draft EIR/EIS. He identified key travel demand inputs that had been updated, including the SCIG and ICTF projects, new understanding of the transload truck patterns, the 2012 SCAG RTP travel demand model, and port cargo projections. Overall, the 2012 SCAR RTP model shows lower projected port truck volumes and greater volumes of non-port trucks on I-710 than the 2008 SCAG RTP model.

MINUTES OF THE MEETING OF THE
I-710 CORRIDOR PROJECT EIR/EIS
TECHNICAL ADVISORY COMMITTEE
16401 Paramount Blvd., Paramount, CA
June 19, 2013

Excerpt from the Minutes

Jerry Wood commented that the traffic forecasts will be analyzed with and without the near-dock rail yards, with and without the SR-710 north extension, and including new multi-modal and active transportation plans inputs, and new rail yards and transloading facilities information that has recently been developed or become available.

MINUTES OF THE MEETING OF THE I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE

A Meeting Held at Progress Park

15500 Downey Ave. Paramount, CA

May 30, 2013

Excerpt from the Minutes:

Gill Hicks, Cambridge Systematics, gave a PowerPoint presentation regarding the goods movement assumptions. He said the SCIG and ICTF rail yards are now included in the No Build and various build alternatives. He said reductions had been made in the container volume at intermodal yards and the daily trips of automobiles to the ports. Mr. Hicks explained the projections for annual lifts at the intermodal rail yards and gave a detailed description of how and where transloading of marine containers takes place. Because of the advance in information systems, the revised EIR/EIS will assume a greater level of truck double-cycling and empty chassis re-use at intermodal yards. He said the next steps will include forecast modeling and a report on the initial model runs.
Patricia Ochoa, Coalition for Clean Air, read a letter from the Coalition for Environmental Health and Justice. She said the recommendation is that more time be taken to analyze the traffic assumptions before presenting them to the Project Committee.

Patricia Ochoa, Coalition for Clean Air, read a letter from the Coalition for Environmental Health and Justice. She said the recommendation is that more time be taken to analyze the traffic assumptions before presenting them to the Project Committee.

Angelo Logan, East Yard Communities for Environmental Justice, said this is very important and complicated. He said their recommendation is to take pause and allow this information to be well-vetted by all stakeholders.

MINUTES OF THE MEETING OF THE I-710 CORRIDOR PROJECT EIR/EIS TECHNICAL ADVISORY COMMITTEE 16401 Paramount Blvd., Paramount, CA August 21, 2013

Mr. Hicks said the 2035 forecast is for 110,000 daily truck trips to and from the ports and for 17,000 daily trips involved in transloading of port-related goods. He said the forecast is for an additional 14,000 intermodal daily trips that are not port-related and 172,000 daily non-intermodal truck trips in the I-710 study area that are not port-related. He said the 2035 numbers reflect a reduction from the previous forecast from 43.2 million to 41.4 million containers coming through the ports.

THE TRUCK AND TRANSLOAD REPORT:

An analysis

of unverified assertions and untested assumptions

in the BNSF SCIG DEIR

concerning future activities at the BNSF Hobart Yard

if the BNSF SCIG opens

Report submitted as comments
to the POLA on the SCIG DEIR
by
Andrea Hricko, MPH*
Professor of Preventive Medicine, Keck School of Medicine, USC
& Director of the Community Outreach and Engagement Program
of the Southern California Environmental Health Sciences Center

February 1, 2012

** A first draft of this report was completed by Andrea Hricko and Ariella Morrow in 2007, when Ms. Morrow was a graduate MPH student at USC Keck School of Medicine. Ms. Morrow is currently a medical student and has not reviewed the recently issued Draft Environmental Impact Report. We acknowledge her work and earlier efforts.*

Summary

BNSF Railway has proposed a new intermodal rail facility to be located "near-dock" -- four miles from the Ports of Los Angeles and Long Beach. A Draft Environmental Impact Report (DEIR) has been issued. That report concludes that the new rail yard, called the Southern California International Gateway or SCIG Project will reduce truck traffic, improve air quality and improve health in the region.

This analysis examines the assertions in the DEIR about how the claimed reduction in truck traffic will be accomplished. It examines the assumptions in the DEIR upon which other analyses (e.g., air quality) are based. It explores what might happen to the BNSF Hobart Yard if the SCIG opens, with claims in the DEIR stating that Hobart will handle only "domestic" containers and will no longer be handling any more than 5% of international cargo, thereby "shifting" trucks from the I-710 and I-110 Freeways a shorter distance to the new SCIG.

Definitions play a role in claims in the DEIR. It is important to note that "domestic containers" can be of two types:

- Transloaded containers - cargo that arrived at the Ports and was then taken out of the 40-foot containers at a transload facility and then placed into 53-foot containers before arriving at a rail yard, and
- "Pure" domestic cargo in either domestic 53-foot containers or trailers – cargo that has not passed through the Ports before arriving at the rail yard. *(See DEIR at 3.10-31)*

The analysis concludes that those who drafted the DEIR and supplied information for it (POLA, Environ, and BSNF) failed to consider the most recent trends in the industry with regard to a "surge" in transloading of international containers, a practice increasingly popular with retailers that has been well-reported in the logistics industry press and in goods movement reports. According to the director of the Alameda Corridor Transportation Authority, a full 25% of imported cargo containers from the Ports of Los Angeles and Long Beach are now transloaded into domestic containers before they leave Southern California on rail. The author concludes that by 2016 the BNSF Hobart Yard would have the opportunity to "replace" the volume of "lifts" (containers) that go to the new BNSF SCIG yard with transloaded containers. If this happens, it would mean that there will likely be no "reduction" in truck mileage on the I-710 when the SCIG opens. In fact, the volume of trucks on the road to the two railyards (SCIG and Hobart) would be double the volume that had gone to the BNSF Hobart Yard alone. Several scenarios are included in this report.

The analysis concludes that the assertions in the DEIR about 1) reduction of truck trips to the BNSF SCIG, including information about the volume of transloaded containers and other information about what the "domestic containers" will comprise, are undocumented, 2) the assumptions are untested, and 3) the conclusions in the DEIR about traffic and air pollution impacts – which are based on these assumptions – are inaccurate.

Using documented and up-to-date information about trends in transloading, this Truck and Transload Report concludes that by 2016 the BNSF Hobart Yard will have the opportunity to replace with transloaded "domestic" containers all the "truck trips" that would supposedly have "been eliminated" by switching international containers from Hobart to the new BNSF SCIG.

In addition, there will be nearly an equal number of trucks by 2016 to the Hobart Yard and to the new BNSF SCIG, indicating that there could be twice as much truck traffic on the Harbor area's roads and freeways than the DEIR claims.

More detail: as calculated in this report, based on Port cargo forecasts in the SCIG DEIR, there might be as many as 1,202,500 transloaded containers available for the Hobart Yard in 2016, meaning that the number of transloaded containers by 2016 could replace the number of international containers moved to SCIG in 2016 (projected at 1.1 million). This would indicate that all of the traffic counts in the DEIR are faulty. If the Hobart Yard is going to continue handling transloaded containers (which it already does, but which the DEIR fails to describe), then there will be no reduction of truck trips and miles on the I-710 Freeway assuming that imported cargo grows as forecasted and that transloading continues to capture an ever-growing share of how imported cargo leaves the Ports.

In addition, the distance from the Port to a typical transload center and then on to Hobart with a transloaded domestic container is more than the current 24 miles that trucks travel to deliver international containers, because of the diversion off the I-710 to the transload facility and often then back onto the I-710. This transload scenario makes all the calculations in the SCIG DEIR about reduced truck traffic along the I-710 questionable**.**

The author of these comments recommends sending the DEIR back to the drawing board, redoing it and recirculating it, and requiring that all of the unverified assertions and untested assumptions be fully documented – and that all analyses, including air quality impacts, traffic impacts, cancer risk in the HRA, cumulative impacts and other impacts of the proposed SCIG, based on these assertions and assumptions, be fully redone.

THE REPORT

We appreciate the opportunity to offer comments on the BNSF SCIG DEIR and have chosen to look at the truck, traffic and transloading issue in the form of a report.

What does the DEIR say about the proposed BNSF SCIG project and the future of the existing BNSF Hobart Yard?

The Southern California International Gateway ("SCIG") rail yard project is an intermodal rail facility proposed by the BNSF Railway and the Port of Los Angeles (POLA) that would increase the ability of both POLA and the Port of Long Beach to grow. The POLA released the project's Draft Environmental Impact Report (DEIR) in September 2012, with comments due on February 1, 2011.

The DEIR was prepared by Environ International. The DEIR's analyses of potential air quality impacts, traffic impacts, cancer risk, cumulative impacts and other impacts of the proposed SCIG all heavily rely on assertions in the DEIR about BNSF's major Southern California rail yard, Hobart, the country's largest intermodal facility, which is located 24 miles from the Ports at the northern end of the I-710 (Long Beach) Freeway. Drayage trucks will be "shifted" from Hobart to the SCIG, saving miles traveled and reducing air pollution, according to the Draft EIR:

*"The proposed Project would construct an intermodal transfer facility at a location approximately 4 miles from the Ports, the proposed Project would eliminate a part (estimated at 95%) of existing and future intermodal truck trips between the Port and the BNSF's Hobart Yard, which is located approximately 24 miles north of the Ports in the cities of Los Angeles and Commerce, by diverting them to the proposed SCIG facility." (*DEIR at 3.10-30) (emphasis added)

The DEIR continues:

*"On the I-710 freeway … it is estimated that the project will reduce over 1.3 million truck trips per year…. This is due to the fact that the trips will occur to SCIG rather than to Hobart Yard, thus eliminating the trips on the I-710." (*DEIR at 3.10-26 (emphasis added).

In addition, the DEIR states:

"The proposed Project would result in fewer truck trips on the surrounding freeway system, as drayage operations currently serving the Hobart Railyard near downtown Los Angeles utilizing I-110 and I-710 north of the Pacific Coast Highway would be switched to the proposed Project site utilizing the proposed Project truck routes. Thus, the existing longer-distance freeway system trips from the ports to downtown rail yards would be replaced by shorter-distance trips to/from the proposed Project along port-area roadways." DEIR at 3.10-45) (emphasis added).

The DEIR does state that a small number of international containers will still go to the Hobart Yard, indicating that the Yard will not be closing:

*"The baseline intermodal demand handled by the Hobart Yard would be handled by the proposed Project. In order to be conservative, some international container trips are assumed to be handled by the Hobart Yard under proposed Project conditions – five percent of the baseline operations."(*DEIR at 3.10-40, emphasis added).

And finally, below is a description of how the DEIR says it used all of these alleged shortened traffic routes to evaluate air pollution and other impacts:

"These changes in traffic patterns, which are evaluated in this EIR, are being proposed in order to shorten truck trips for movement of containers between ships and railyards), thereby easing traffic conditions on local freeways and reducing regional air quality impacts. On the I-710 freeway, which is the primary roadway facility that services current Hobart Yard traffic, it is estimated that the project will reduce over 1.3 million truck trips per year between the SCIG project site and the BNSF Hobart Yard. This is due to the fact that the trips will occur to SCIG rather than to Hobart Yard, thus eliminating trips on the I-710." (DEIR at 3.10-26) (emphasis added)

What types of cargo are <u>currently</u> handled at the BNSF Hobart Yard – in 2011?

The DEIR states the following about the BNSF Hobart Yard and other intermodal rail yards in the Ports area: (See DEIR at 1-13).

Off-Dock Rail

Off-dock railyards are located farther (more than five miles) from marine terminals. Currently, there are a total of five off-dock railyards, three operated by UP and two operated by BNSF, but only two handle substantial numbers of containers from the San Pedro Bay Ports: the BNSF Hobart Yard in Los Angeles/Commerce/Vernon and the UP East Los Angeles Yard (Figure 1-8). Both railyards are located near downtown Los Angeles, approximately 24 miles north of the Ports. The remaining off-dock railyards include the UP Los Angeles Trailer and Container Intermodal Facility (LATC), UP City of Industry yard, and the BNSF San Bernardino yard. In 2008 the East LA and Hobart yards handled most of the international cargo not handled by on-dock yards and the ICTF: 136,000 TEUs by East LA and 1.48 million by Hobart, which currently handles all of BNSF's non-on-dock international cargo. All of the off-dock railyards in the region, including Hobart, handle more domestic and transloaded containers than international containers.

Key Definitions

Off-Dock Railyard: railyard located more than five miles from a marine terminal.

We note that the last sentence in the DEIR above states that: **"All of the off-dock railyards in the region, including Hobart, handle more domestic and transloaded containers than international containers."** This statement is interesting in several ways. First, it is an admission that the Hobart Yard currently handles transloaded containers. But the statement is factually incorrect with regard to the makeup of the overall container load at Hobart – something that is critical to the DEIR's calculations. Using information from BNSF, **the California Air Resources Board and Los Angeles County Metropolitan Transportation Authority both show that at the Hobart Yard, 59% of the containers handled are international containers and 41% are domestic (including transloaded and "pure" domestic).**[i] That is, there are currently more international containers at Hobart Yard than domestic and transloaded containers. It seems odd in a DEIR of this magnitude to have such a basic fact about the BNSF Hobart facility be completely wrong. See figure from L.A. County Metro below:

Table A-6
UP and BNSF Intermodal Off-Dock Railyards
In the South Coast Air Basin
International vs. Domestic Containers

Railyard	International Containers (Port Containers)[a]	Domestic Containers (Non-Port / Warehouse / Transloading)[a]
BNSF San Bernardino	0%	100%
BNSF Hobart (includes BNSF Commerce/Eastern)	59%	41%
UP Commerce	24%	76%
UP ICTF/Dolores	100%	0%

a. Los Angeles County Metropolitan Transportation Authority, *Technical Memorandum – I-710 Railroads Goods Movement Study, WBS Task ID:160.10.50*, February 2009, pp. 22-24.

B Basis for Emission Control Factors

The Union Pacific Intermodal Container Transfer Facility (UP ICTF) handles only international cargo containers. There are three large rail yards (and one small yard) north of the Ports that handle a combination of international containers, domestic containers, and transloaded containers, as shown in Table 1.

Table 1. Rail Intermodal Throughput Capacity, Adapted from Metro Table[ii] and California Air Resources Board[iii]

Facility	Capacity Lifts	2006 international lifts	Percent of Yard That is International Container Traffic	Percent of Yard That Handles Domestic Containers (Pure Domestic and Transloaded Domestic)
BNSF Hobart	1, 500,000*	808,086	59%	41%
UP East Los Angeles/Commerce	510,000	80,108	24%	76%
UP LATC	340,000	32,912	16%	84%
BNSF Eastern*		130,000 (2004)		

**BNSF counts capacity at this yard as 1.7 million, but the actual capacity according to the ARB is 1.5 million lifts. The rest is related to the BNSF Commerce Eastern yard, according to the ARB. The BNSF Eastern yard focuses on local domestic containers and handled 130,000 lifts in 2004, according to the California Air Resources Board.* http://www.arb.ca.gov/railyard/hra/bnsf_eastern_hra.pdf

Table A-5
Four High-Priority Railyards
Container Lift Activities, Forecasts, and Capacities
(April 2011)

Railyard	2005 (lifts) Actual	2010 (lifts) Actual	2015 (lifts) Projected	2020 (lifts) Projected	Annual Percent Growth from 2011 to 2020	Railroad Stated Capacity (lifts)
BNSF San Bernardino	555,000[a]	447,000[c]	546,000	668,000	4.1	660,000[e]
% change from 2005	–	-19%	-1.6%	+20%	–	–
BNSF Hobart	1,336,000[a]	1,090,000[c]	1,386,000	1,763,000	4.9	1,500,000[e,f]
% change from 2005	–	-19%	+3.6%	+32%	–	–
UP Commerce	345,000[b]	429,000[d]	534,000	664,000	4.4	510,000[e]
% change from 2005	–	+24%	+55%	+92%	–	–
UP ICTF/Dolores	626,000[b]	450,000[d]	587,000	767,000	5.5	760,000[e]
% change from 2005	–	-28%	-6.2%	+23%	–	–

a. Del Grosso, Robert C., *BNSF Railway Company 2010 Locomotive Review*, p. 9.
b. Union Pacific Fact Book, 2005, p. 9.
c. ARB staff, Harold Holmes, Personal communication with BNSF via email (January 17, 2011).
d. Union Pacific Fact Book, 2010, p. 15.
e. Los Angeles County Metropolitan Transportation Authority, *Technical Memorandum – I-710 Railroads Goods Movement Study, WBS Task ID:150.10.50*, February 2009, pp. 22-24.
f. Based on personal communications between BNSF and Harold Holmes via phone on May 20, 2011, staff determined that 1.5 million of 1.7 million lift capacity was attributed to BNSF Hobart Railyard only, with the balance attributed to BNSF Commerce/Eastern Railyard.

What are current transloading trends at the Ports of L.A. and Long Beach, what does the DEIR say about transloading, and why does transloading matter to analysis of the DEIR's assertions?

There is a surging industry trend: the practice called "transloading." The trend involves switching the contents of international containers into domestic containers at a location north of the Ports, in the 25-mile stretch between the Ports and the Hobart rail yard.

It works this way: 3 big-rig trucks pick up three international containers at the Ports. The containers are driven a few miles or up to 24 miles north of the Ports, and they are dropped off at a "transload center." At the transload center, the contents of the 20 or 40-foot "international" containers are emptied. The goods are then reloaded into 53-foot "domestic" containers. This trend is valuable for the retail industry, because the contents of 3 international containers fit into 2 domestic containers, reducing shipping costs and allowing for greater flexibility in selecting destinations for cargo once it has arrived in California.[iv]

The 53-foot transloaded "domestic containers" may "appear" to be "domestic" but <u>they are full of international goods.</u> And these transloaded containers travel at least 24 miles to get to the Hobart Yard.

The DEIR virtually ignores the latest trends in the goods movement industry with regard to transloading of international containers; in fact, the DEIR's statistics are based on completely outdated figures. The DEIR has a table (See Table 1-2 below) citing transload statistics,[v] referring to an unidentified source or report, simply "POLA, 2009." The text states that: "… approximately eight percent of import containers are transloaded to domestic international containers, a portion of which may then be drayed to an intermodal railyard for transport by rail to their eastern destinations." It also cites the Table 1-2 below as data used in developing intermodal rail forecasts. (See DEIR at 1-21).

Table 1-2. Mode Split of Containers Handled at the Ports of Los Angeles and Long Beach in 2008.

Container Mode	TEUs (Millions)	Percent of Total
Direct Rail (Direct Intermodal)		
- On-Dock	(3.4)	(23.7)
- Near-Dock	(1.06)	(7.4)
- Off-Dock	(1.68)	(11.1)
Total Direct Rail	6.14	42.2
Transload	1.12	7.8
Local/Domestic (Truck only)	7.07	50.0
Total	14.33	100%

Source: POLA, 2009.

:

Contrary to the claimed 2009 statistics cited in Table 1-2 (above) of the DEIR showing 7.8% transloaded containers, currently a full 25% of cargo coming into the Ports is transloaded to rail, according to the head of the Alameda Corridor Transportation Authority (ACTA), John Doherty). In an email exchange with the author of these comments, in October 2011,[vi] Mr. Doherty stated the following:

"Another simpler way of expressing the data (thereby avoiding the confusion of whether you are talking about % of outbound rail imports or % of port total imports) is as follows: about 40% of port imports go out of state by rail as ISO containers (20', 40', 45') with no transloading, about 25% go out by rail after transloading (48' and 53'), about 10% go out of state by truck after transloading (48' and 53'), and about 25% stay local both with and without transloading." *(John Doherty, ACTA, October 2011)*

The following table reflects the statistics from Mr. Doherty, which are his conclusions after having interviewed more than 100 shipping and transload experts.

Table 2. Where POLA and POLB Cargo Goes and by What Mode	
Mode	**%**
Out of state by rail in ISO containers (20', 40', 45') – with no transloading	40%
Out of state by rail after transloading into 48' and 53' containers	25%
Out of state by truck after transloading (48' and 53')	10%
Stay local both with and without transloading	25%
TOTAL CARGO	100%

The current documented statistic of 25% transloading of containers entering the Ports of LA and Long Beach versus the DEIR's statistic of 7.8% transloading (shown in DEIR Table 1-2) indicates a 320% error in the DEIR.

We note that in another section of the DEIR, a figure of 25% transloading is mentioned, with no citation, but the DEIR does nothing to explain the discrepancy with the 7.8% figure. The DEIR claims to use the 25% figure in calculating freight rail volumes for 2035. It does not discuss using either the 7.8% figure nor the 25% figure in doing any calculations about what the future will hold specifically for the Hobart Yard. See DEIR

at 4-92, reprinted below:

> Specifically, year 2035 freight rail volumes were developed using projections for direct intermodal containers from the ports (intact containers that are not transloaded); projections for non-intermodal port rail shipments (bulk, automobiles, and carload traffic); transloaded cargo containers (estimated, on the basis of historical data and recent SCAG studies, at 25 percent of all import containers; the I-170 EIR/EIS and current work being conducted for the SCAG 2012 RTP use this same assumption); non-port rail data and projections being developed for the 2012 RTP; historical lift data, by railyard, of marine and non-marine containers at off-dock railyards; off-dock railyard capacities (see Section 1.1.5.3); and volumes of domestic cargo in 53-foot containers or trailers that has not passed through the ports. Consistent with the ongoing I-710 EIR/EIS technical studies, a reasonable growth factor of two percent per year was assumed. The cumulative rail volumes also include 2035 projections of passenger trains, based upon data from SCAG and MetroLink. Rail volumes for 2046 were estimated by assuming that the growth in rail volumes beyond 2035 will come only from increases in domestic freight rail traffic.

The *Journal of Commerce*, the premier logistics industry journal, has written a number of articles about the dramatic surge in transloading, especially at the POLA and POLB:

> *… "In an attempt to control transportation costs, retailers transload 40-foot marine containers into 53-foot domestic containers for inland movements. The contents of three marine containers can be loaded into two domestic containers."*[vii]

> *""… transloading took off during the recession, particularly at the ports of Los Angeles and Long Beach. According to the Alameda Corridor Transportation Authority, the share of goods arriving at LA-Long Beach transloaded into domestic containers grew significantly during the recession…. "That means that transload has a greater market share now. The pendulum has swung to transload," said John Doherty, CEO of the authority.""*[viii].

If, as noted above, 25% of imported cargo containers are being transloaded, where are the calculations in the DEIR that explain how this will impact/affect the NBSF Hobart Yard in the future? The author of this report cannot find such calculations.

The *Journal of Commerce* describes several reasons why retailers are embracing transloading:

> *"There have always been obvious economic benefits — transloading allows the contents of three international containers to be reloaded into two larger 53-foot trailers or domestic containers. … When the recession hit and shippers large and small went searching for transportation savings, transloading was a ready-made opportunity."*[ix]

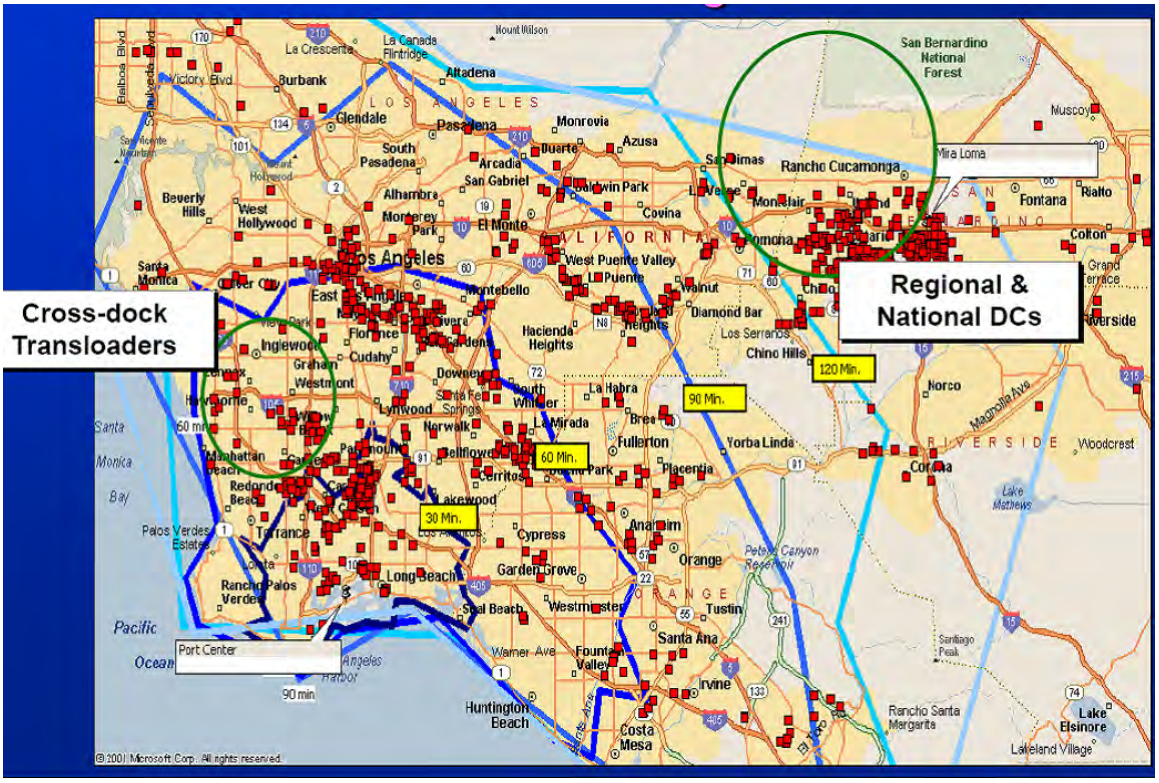
Lest anyone think that this transload trend might not have been common knowledge in the ports/logistics/rail industries long before the *Journal of Commerce* articles in 2011 (and long before the DEIR was released), please see the following excerpt from a Tioga Group report in 2008:[x]

> *"The Transload segment will be largely confined to the region between the Ports and downtown Los Angeles. This segment includes cargo that is "cross-docked" from international containers to domestic containers or trailers for onward movement by rail*

without spending significant time in inventory or undergoing value-added alterations. This cargo is typified by the Maersk Logistics activity in South Gate (Exhibit 11. As the aerial photo shows, this facility consists primarily of two-sided transfer sheds suitable for the "cross-dock" transfer operation, with minimal if any space for "warehousing…"…such operations are clustered within 15 miles of the Ports to maximize round-trip drayage productivity. Tioga studies have reinforced this finding."[xi]

See also the following reference, which states that as early as 2004 – 8 years ago – a full 12% of cargo was transloaded according to a 2004 study by the Alameda Corridor Transportation Authority (ACTA),[xii] which is also referenced in the 2006 Multi-County Goods Movement Action Plan (McGMAP).[xiii] The McGMAP report includes the following graphic, showing the high volume of transload facilities north of the the POLA/POLB and in the vicinity of the Hobart Yard. [xiv]

Figure 1. Transload Facilities North of the Ports in Los Angeles; McGMAP 2006.

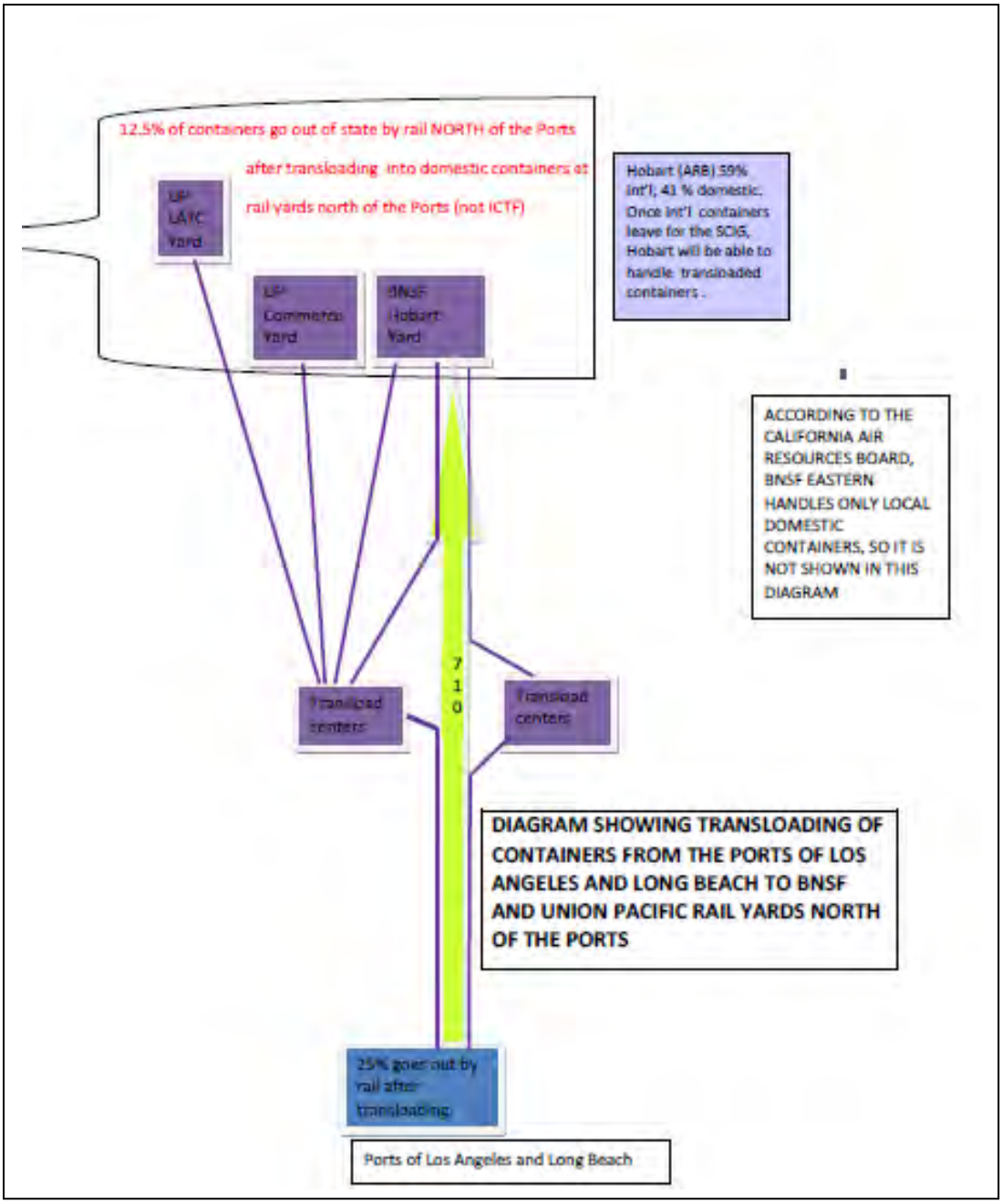


The current surging transload trends are anticipated to continue,[xv] and if they do, this report calculates that transloading will allow the BSNF Hobart Yard an opportunity to replace the volume of containers that was diverted to the SCIG by 2016, if the SCIG becomes operational.

The graphic below shows the location of the major railyards in southern California that handle cargo from the Ports:

The sketch below shows the major rail yards handling transloaded cargo north of the Ports.

Figure 2. Major Railyards in Southern California Handling Cargo that Originated at the Ports (either in International Containers or Transloaded)



Sketch by Andrea Hricko

WHAT WOULD HAPPEN IF THE HOBART YARD TOOK ONLY DOMESTIC (NON-TRANSLOADED) CONTAINERS ONCE THE SCIG OPENS, AS THE DEIR IMPLIES?

SCENARIO 1.

Using 2010 actual statistics on lifts, the Hobart Yard would lose 59% of its lift capacity by shifting international containers to the SCIG. It would then replace the Hobart with 5% additional international containers. The remaining 41% of the Hobart yard handles domestic and transloaded containers. No information on the splits between domestic and transloaded at Hobart are in the DEIR or seemingly published elsewhere, we have assumed an even split in the two types. Note that BNSF to refer to all of the non-international containers it handles at Hobart as "domestic" containers, even though a good proportion of them are actually "transloaded"). See Table 3 below.

In 2010 there were 1,090,000 "actual" lifts at the Hobart Yard

Table 3. Where containers would go under Scenario 1 – The Hobart Yard, 2010, if SCIG had opened that year (last year with accurate figures for actual lifts, so this is a model)

Actual total lifts in 2010	Int'l lifts gone to SCIG (59%)	Add back 5% international containers as the DEIR states	Pure domestic containers* 41% (remaining space)	Total of pure domestic and 5% inter-national containers
1,090,000 **Note: capacity is 1,500,000**	**643,100**	**54,500**	**** After international containers go to SCIG there would be only "pure domestic" containers at the Hobart, according to the DEIR – these are containers that did not contain goods that originated at the Ports.*** ***That means, 41% of the remaining space at the Hobart yard after removing international containers***	***446,900 54,500 =501,400*** ***501,400*** ***This means the Hobart Yard would be only 33% full if the SCIG had opened in 2010 and if Hobart thereafter handled only pure domestic containers.*** ***That would leave 66% of the capacity EMPTY – or potentially available for 998,600 transloaded***

			would be "pure domestic containers." (If there are even that many to handle at Hobart	***containers (which is not mentioned in the SCIG DEIR).*** ***CAPACITY LEFT AT HOBART FOR 998,600 MORE CONTAINERS IF SCIG OPENED***

*ARB states that Hobart is 41% "domestic containers," including domestic and transloaded.

According to statements in the DEIR, the Hobart Yard will not be handling any international cargo that originated at the Ports if the SCIG opens. Let's accept that as factual for this scenario and see what would happen to the Hobart Yard. If SCIG had opened in 2010, and Hobart's international containers were shifted to SCIG, Hobart Yard would be handling only 33% of the lifts it handled in 2010. If it handled no additional transloaded containers with international cargo that originated at the Ports, it would be two-thirds empty." *(See other scenarios for how quickly it could fill up with transloaded containers).*

This is the ONLY scenario under which trucks from the Ports would be reduced on the I-710 Freeway. That is, for the DEIR to be correct, Hobart would handle only 5% international containers and also "pure" domestic containers with local goods. As the DEIR claims, it would not handle international goods that came in through the ports and were transloaded into 53-foot containers. It would be the largest intermodal rail yard in the U.S. operating 66% empty.

BASED ON FUTURE CARGO FORECASTS, HOW QUICKLY COULD THE HOBART YARD ACTUALLY FILL UP WITH TRANSLOADED AND DOMESTIC CONTAINERS AFTER THE BNSF SCIG OPENS?

SCENARIO 2. Recognizing that transloading as a trend is surging and is currently 25%, where does the 25% of transloaded cargo go? John Doherty, director of the Alameda Corridor Transportation Authority (ACTA) says that ½ of the transloaded cargo goes "east" – to City of Industry, Mira Loma, San Bernardino, etc. He says that the other ½ goes to the rail yards that are "north of the Ports" (UP Commerce, UP LATC and BSNF Hobart).[xvi]

Let's look at forecasts for the year 2016. See below; in 2016 it is estimated that there will be with 17.8 million TEUs at the twin ports. Let's estimate how many transloaded containers there would be and where they could possibly go.

Table from DEIR, below (DEIR, at 1-23). *Note it has inappropriate figures for near/off-dock rail throughput (that is, it does not account for 25% transloading).*

Table 1-5. 2009 San Pedro Bay Ports Direct Intermodal Cargo Forecast.

2009 San Pedro Bay Ports Direct Intermodal Cargo Forecast (shown in Million TEUs)							
Year	2008 (Actual)	2012	2016	2020	2023	2030	2035
Total San Pedro Bay Ports Cargo Volume	14.3	14.3	17.8	21.8	25.2	34.6	43.2
Total Direct Intermodal	6.1 (42.2%)	5.7 (40.0%)	7.1 (40.0%)	8.7 (40.0%)	10.1 (40.0%)	13.8 (40.0%)	17.3 (40.0%)
On-Dock Rail Throughput (share)	3.4 (23.7%)	3.7 (25.7%)	6.0 (33.4%)	7.3 (33.3%)	8.2 32.5%)	11.5 (33.3%)	12.9 (29.8%)
Near-/Off-Dock Rail Throughput (share)	2.7 (18.5%)	2.0 (14.3%)	1.2 (6.6%)	1.5 (6.7%)	1.9 (7.6%)	2.3 (6.7%)	4.4 (10.2%)

Using the forecasted cargo volumes in TEUs from Table I-5 above, the chart below converts TEUs to containers. Please note that a full 25% of import containers is transloaded but that ½ of that goes "east" and ½ of that stays north of the Ports. That means 12.5% of the cargo containers imported are transloaded to domestic containers before going to one of the rail yards north of the Ports that are shown in Figure 2.

Table 4. San Pedro Bay Ports Intermodal Forecast, 2009. ***Table adapted from Tioga Report, 2009.***[xvii]

Year	TEUs	1 container = 1.85 TEUs	Total containers/year	Total containers that are transloaded north of the Ports = 12.5%
2012	14.3 Million		7.73 Million	996,250
2016	17.8		9.62	1,202,500
2020	21.8		11.78	1,472,500
2023	25.2		13.62	1,702,500
2030	34.6		18.7	
2035	43.2		23.25	

In 2016 there will be 1,020,500 transloaded containers heading north of the Ports to a rail yard, using the 25% of Port imports figure supplied by John Doherty of ACTA. If these containers ALL went to Hobart, they would more than "replace" the 1.1 million international cargo containers that were "diverted" to the SCIG in that year. The SCIG will handle 1.1 million containers in 2016 according to the DEIR's Executive Summary.

In scenario, the Hobart Yard would have the opportunity to be full again by 2016 – and there would be just as many trucks on the I-710 and other local freeways as there are today. In fact, counting the trucks carrying 1.1 million containers to the SCIG and potentially 1.0 million containers to Hobart – there would be TWICE as many trucks on the roads as there are now. No reduction in air pollution. No "health savings." Increased cancer risk. Increased noise.

In this scenario, the capacity of the Hobart Yard is 1,500,000. With 1,020,500 transloaded containers, there would still be space for 479,500 pure domestic containers.

BASED ON FUTURE CARGO FORECASTS, HOW QUICKLY COULD THE HOBART YARD ACTUALLY FILL UP WITH TRANSLOADED AND DOMESTIC CONTAINERS AFTER THE BNSF SCIG OPENS?

Scenario 3

But what if some of the transloaded containers went to the UP LATC or the UP Commerce Yards. Does that dramatically change the forecast for Hobart? First, these yards are significantly smaller as Table 5 demonstrates. In this Scenario, let's assume that there is a domestic to transload "split" of 50/50 at the two UP yards (noting also that UP Commerce handles 26% international containers and Hobart would handle 5 percent international cargo.) Let's go back to Scenario 1, in which Hobart in 2010 had 1,090,000 actual lifts, 59% of which were international. For that Scenario, we used what we consider faulty information in the SCIG DEIR—that is that only "pure domestic containers" are handled at the Hobart Yard. Therefore we "assumed" that the remaining 41% of the containers handled in 2010 were "pure domestic containers." For this Scenario, however, we look at Hobart having a more realistic 50-50 split of domestic containers and transloaded containers in 2010. (See Table 3 above). That would mean that the "pure domestic containers at Hobart in 2010 were ½ of 446,900 or 223,450. (Again, refer to Table 3 above).

We start with the 223,450 pure domestic containers as calculated above, and add a 3% increase per year. Handling of pure domestic containers is rising at a much slower rate than is transloading so we have added a small growth rate for pure domestic containers. 2010 pure domestic containers at Hobart were calculated at 223,450. If this number rose by 3% every year until 2016, there would be approximately 266,810 "pure domestic containers" handled by Hobart in 2016. There would leave 958,000 spaces for transloaded containers at Hobart.

Table 5. Future Space for Transloaded Containers at the UP and BNSF Rail Yards North of the Ports, if International Containers Leave Hobart for the SCIG

Yard	Ca-pacity in 2016	Int'l con-tainers?	If 50/50 domestic and transloaded	Space for trans-loads	Transloaded containers available in 2016 1,202,500	In 2016, total transloaded containers = 1,202,500 based on cargo projections in DEIR SCIG
UP LATC	250,000	0	125,000	125,000		125,000
UP Commerce	510,000	26% = 132,600 *Leaving 377,400 slots*	188,700	188,700		188,700
Hobart Eastern	200,000		BNSF and CARB say that this yard handles "only local domestic" containers	0		
Hobart	1.5 million	75,000 (5%)	266,810	1.16 million		958,000
					There would be more transloaded containers available for Hobart than there is even space for, if we assume a 50-50 split of domestic and transloaded at Hobart.	**958,000 transload spaces would be available for Hobart to have the oppor-tunity to fill**
	Scenario 3: Again, in 2016 the SCIG will have 1.1 million "lifts" according the DEIR. In 2016, there will be 1,202,500 transloaded containers available for the three rail yards, two of which are small compared to Hobart. Hobart would have space for at least 958,000 of these containers.					

	SCIG would have diverted 1.1 million containers and Hobart would have been able by 2016 to "fill" 958,000 of those slots, leaving a difference of only 142,000 containers. By early 2017, Hobart would have the opportunity to have MORE transloaded containers than the 1.1 million "diverted" to the SCIG. **In this scenario, by early 2017, there will be more transloaded containers on the I-710 and adjacent roads heading to Hobart than were so-called "eliminated" by diversion of international containers to the SCIG.**

Please also note: The LATC and Up Commerce handle a small % of international containers but these might move to the UP ICTF if it is approved and opens. This somewhat limits their ability to take a full load of transloaded containers, leaving more containers potentially needing to go to the Hobart Yard.

The DEIR says that the Hobart Yard will handle only domestic containers in the future, *thereby "…eliminat[ing] a part (estimated at 95%) of existing and future intermodal truck trips between the Port and the BNSF's Hobart Yard?" (DEIR at 3.10-25).* **Where in the DEIR is documentation provided for that statement?**

The simple answer is that we can find no documentation for this statement anywhere in the 4000+ page SCIG DEIR. We can, however, find many assertions to that effect in the DEIR and in the press.

BNSF president and CEO Matthew Rose described the advantages of the SCIG at a 2006 Town Hall Los Angeles keynote address, by noting how much shorter truck trips would be for containers currently going to the Hobart Yard once they are able to travel to the SCIG. He stated:

> *"… The Hobart Yard … is 20 miles away from the ports and handles, this year [2006], about 1.4 million containers and trailers. You can imagine if we could shift that volume near-dock or on-dock the impact that we could just have in terms of reducing congestion and improving air quality."*[xviii]
>
> - Matthew K. Rose, Chairman, President and CEO, Burlington Northern Santa Fe Corp.

Mr. Rose also added:[xix]

> **"Hobart is the largest inland intermodal facility in the world, and we look forward to being able to continue that as well."**

Despite Mr. Rose's assertions that the Hobart Yard will continue to thrive, the DEIR states over and over again that when the SCIG opens, truck trips on the I-710 Freeway from the Ports will be dramatically reduced. (See for example *DEIR*, at 2-11; 3.10-30; 3.10-25; 4-60; and 7-33.) The only reference to the future of Hobart Yard, however, is that it will handle 5% international cargo containers and otherwise handle "domestic" containers. (DEIR 3.10-25). The only documentation provided for assertions about what will happen to the Hobart Yard with/without the SCIG project appears to be a reference to "Personal communication, J. Hovland, 2009." "J. Hovland" is apparently John Hovland, director of marketing and facilities management for BNSF Railway in Fort Worth, Texas.

None of the following types of potential documentation about what could happen to the BNSF Hobart Yard are included in the DEIR:

- No memo from BNSF's J. Hovland about the future of the BNSF Hobart Yard.

- No memos describing exactly what BNSF plans to do with the Hobart Yard if the SCIG is approved.
- No affidavits from BNSF about its future plans for the Hobart Yard.
- No affidavits or memos from BNSF that state that the Hobart Yard will only be handling "pure" domestic containers (ones with goods that did not originate at the Ports)
- No affirmative statement saying that BNSF Hobart will not be accepting any international cargo in <u>transloaded</u> containers at the Hobart Yard if/when the SCIG is built.

Thus, the assertion that BNSF Hobart will "eliminate 95% of existing and future intermodal truck trips between the Port and the BNSF's Hobart Yard" is undocumented and untested.

This assertion presented as fact in the DEIR is also an **untested assumption** which is used in all of the DEIR's and Health Risk Assessment's (HRA) analyses and conclusions about truck volumes, near-roadway pollution, noise, EJ, air quality, and diesel cancer risk – an assumption that trucks from the Ports will no longer travel 24 miles to the Hobart yard if the SCIG is built. Using this untested assumption, the DEIR has calculated dramatic "health savings" and "pollution" savings that would result from "eliminating trucks" from the Ports to Hobart. The author has analyzed data on truck trips, transload volumes and traffic and concludes that the assertion utilized in all the DEIR and HRA analyses is incorrect and the assumptions based on it make the subsequent analyzes upon questionable, as will be demonstrated below.

HOW MANY MILES WOULD A <u>TRANSLOADED CONTAINER</u> TYPICALLY TRAVEL TO GET TO THE HOBART YARD?

Such a calculation includes miles covered by a truck driving an international container from the Ports to a typical transload center and then having another truck carrying the transloaded domestic container to the Hobart Yard. As we can see from Figure 1 in this report, showing transload centers, there are hundreds of transload centers between the Port and Hobart Yard. Let's use an example of one that is in South Gate, as pictured below in Figure 3 from the McGMAP report:

Figure 3. Maersk Transloading Facility in South Gate, CA



If the SCIG is built, there will be empty space at the Hobart Yard that could have the opportunity to handle transloaded containers. Calculations of the potential volume of transloaded containers that could originate at the Ports and end up at the Hobart Yard demonstrate that Hobart can continue to thrive as an intermodal rail yard with a large number of both domestic and transloaded containers from the Ports. Much of the goods originate at the Ports and make their way by truck up the I-710 Freeway (or other freeways) to the Hobart Yard – after having been transloaded into domestic containers, making <u>at least a 24-mile trip</u> before reaching Hobart. *See Table 6.*

See Table 6 below. Three very typical routes from the Port of L.A. to a transload center and then on to the Hobart Yard with a domestic container all would entail MORE truck miles traveled than the straight route from the POLA up the I-710 Freeway to the Hobart Yard with an international container. That means that if the international container lift load at Hobart went to the SCIG but the empty slots were replaced with a similar number of transloaded container lifts, the number of truck miles traveled would actually increase, including on local area freeways. Note the routes and mileages below.

Table 6. Distances of Direct Rail Container Trips versus Transloaded Container Trips from the Port of Los Angeles to the BNSF Hobart Yard

Starting Point	Destination #1	Destination #2	Total Miles Traveled	Miles saved or added compared to 24.3 miles on the I-710 or other local area freeways
Port of Los Angeles	To BNSF Hobart, 3770 East Washington Blvd., Commerce, CA		24.3 miles	
Port of Los Angeles	To South Gate Transload Facility	South Gate Maersk logistics facility at 5011 Firestone Place, South Gate, CA 90280 to Hobart Yard in Commerce	25.7 miles	+ 1.4 miles
Port of Los Angeles	To logistics facility in Santa Fe Springs at 11204 Norwalk Blvd Santa Fe Springs, CA 90670	Santa Fe Springs transload facility (Gale/Triangle) to Hobart Yard in Commerce	33.8 miles	+8.1 miles
Port of Los Angeles	To logistics facility in Carson, CA	Carson, CA to Hobart Yard in Commerec	26.6 miles	+2.3 miles including 7 miles on the I-110; 4 miles on the I-405 and 13 miles on the

				I-710.

Google Map of route from POLA to Carson logistics facility to Hobart Yard: 1 mile on surface streets; 7.1 miles on I-110; 1.4 miles on surface streets; 3.9 on the I-405; and 13.2 on the I-710. That adds up to about 26.6 miles.

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500 Pier a Street, Wilmington, CA 90744 - (310) 732-3700

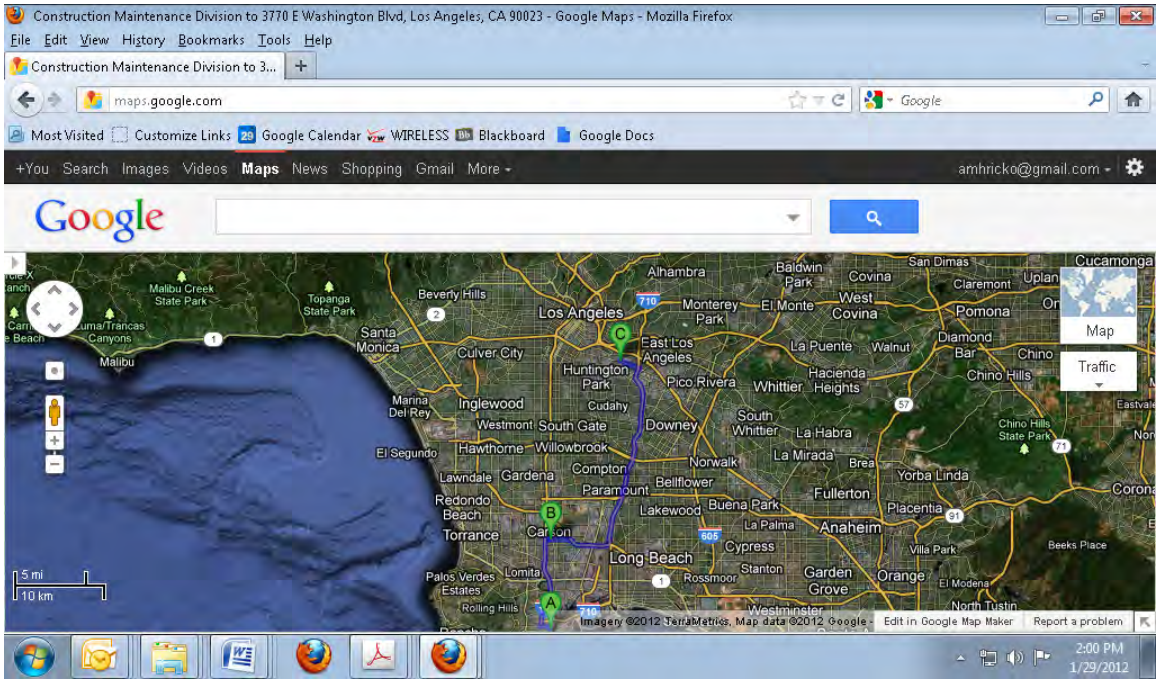
1. Head **north** on **S Palos Verdes St** toward **W 5th St** go 0.2 mi
   About 1 min total 0.2 mi
2. Turn left onto **W 1st St** go 0.6 mi
   About 2 mins total 0.8 mi
3. Turn right onto **N Gaffey St** go 0.2 mi
   total 1.0 mi
4. Slight right onto **I-110 N** go 5.8 mi
   About 5 mins total 6.8 mi
5. Take the exit toward **Carson St** go 0.1 mi
   total 6.9 mi
6. Take exit **7** toward **S Figueroa St** go 0.2 mi
   total 7.1 mi
7. Turn left onto **S Figueroa St** go 0.2 mi
   About 1 min total
   7.3 mi
8. Turn right onto **W Carson St** go 0.2 mi
   About 1 min total 7.6 mi

Total: **7.6 mi** – about **12 mins**

Carson, CA total 0.0 mi

9. Head **east** on **W Carson St** toward **Moneta Ave** go 1.5 mi
   About 4 mins total 1.5 mi
10. Turn right to merge onto **I-405 S** toward **San Diego** go 2.4 mi
    About 3 mins total 3.9 mi
11. Take the **I-710 N** exit toward **Pasadena** go 0.3 mi
    total
    4.2 mi
12. Continue on the ramp and merge onto **I-710 N** go 13.2 mi
    About 13 mins total 17.4 mi
13. Take exit **17C** for **Washington Blvd** toward **Commerce** go 0.2 mi
    total 17.6 mi
14. Merge onto **Hepworth Ave** go 56 ft
    total 17.6 mi
15. Turn right onto **E Washington Blvd** go 1.5 mi
    Destination will be on the left total 19.1 mi
    About 3 mins

Total: **19.1 mi** – about **23 mins**
3770 E Washington Blvd, Los Angeles, CA 90023



In other words, if transloaded containers replace the former international container slots that are "diverted" to the SCIG, then there would be more truck miles with the transloaded containers than currently exist with the international containers at Hobart – because transloaded containers always have to make a diversion to a transload center before going to Hobart.

A WORD ABOUT SEMANTICS

When people's lives and health are at stake, we cannot afford playing with semantics over what is inside of a 53-foot container and where the cargo inside originated.

What is a 40 foot container with goods originating at the Ports called? -- An "international"container

What is a 53 foot container with goods originating at the Ports called? – A "domestic" container.

What is INSIDE each of these containers? – goods that originated in another country, e.g., China, Vietnam, Korea!

A 53-foot container with goods from the Ports inside it cannot be camouflaged in the BNSF SCIG DEIR as though industry leaders at the Port of Los Angeles, BNSF Railway, Environ and other DEIR consultants are not aware of the transloading phenomenon and of exactly how far trucks travelled to get that container to the Hobart Yard from where the goods entered at the Ports.

To reiterate, many retailers these days are finding that using 53 foot containers and using the transloading process provides them more flexibility in getting their products, provide additional transit time to make decisions about where the transloaded domestic containers are heading, and they hold more contents, making them cheaper to ship on rail than 40-foot containers.[xx] The CEO of a company with transloading facilities, one located in Santa Fe Springs, told the author that transloading containers which originated at the Ports into 53-foot domestic containers and driving them to the BNSF Hobart Yard is a regular part of their business.[xxi] Since transloading is a surging trend and Hobart is the country's largest intermodal rail yard, Hobart is undoubtedly already handling more and more of these transloaded containers – and they would arrive on trucks that have traveled at least 24 miles to get to the Hobart yard because of their diversion to a transload center.

How does this reconcile with all the analyses in the DEIR? It does not. The analyses (air quality, HRA, noise, cumulative impacts, and more) in the entire DEIR need to be redone

with accurate information about transloading and affidavits about what will happen to the Hobart Yard once the SCIG opens.
We conclude that the DEIR fails to recognize that in the future the Hobart Yard could potentially retain a robust business handling transloaded containers that originated at the Port of L.A. and Long Beach that are full of international cargo. The DEIR further confuses the issue by the choice of words. It says the Hobart will be "95% international container free" when SCIG opens. It does not say that Hobart will be "95% free of international goods that originated at the Ports." The DEIR would have one believe that all of the containers handled by Hobart now and in the future are "pure domestic containers" with locally made products inside them, thereby ignoring the reality of the transload business (and of the U.S. economy).

Finally, we attach below a series of claims that have been made over and over again about the so-called diversion of trucks off the 710 Freeway that the SCIG will allegedly create. The DEIR needs to redo the DEIR and validate and test the assertions and assumptions upon which it makes these claims. The public's health in Wilmington, Carson and Long Beach depends on it – as does the health of the thousands of residents who live along the I-710 Freeway.

EXAMPLES OF CLAIMS BETWEEN 2005-2011 THAT THERE WILL BE PUBLIC HEALTH BENEFITS DUE TO ELIMINATING TRUCK TRAFFIC ON THE I-710 BY BUILDING THE SCIG

Even before the initial environmental review process began in 2005, BNSF made assertions about the public health benefits that the SCIG would bring, issuing a press release about the anticipated public health and quality of life benefits of the SCIG, quoting then Mayor of Los Angeles James Hahn:

> *"This near dock rail facility will eliminate nearly 1 million truck trips per year, benefiting our commuters, our communities and our environment."*
>
> - Former Los Angeles Mayor James Hahn. Quotation in BNSF press release: "BNSF's Proposed Near-Dock Facility Receives Support from L.A. Mayor Hahn and Councilwoman Hahn," February 10, 2005 [1]

In July 2007, the BNSF SCIG's promotional website, entitled *Communities Matter*, promised that the SCIG "will help reduce traffic on local highways" and "improve air quality."[2] As noted above, BNSF specifically claimed that the SCIG will ease the impact of trucks on the region's air quality and congestion, including the I-710 (Long Beach) Freeway. That freeway leads from the Ports to the BNSF Hobart Yard, the largest intermodal facility in the U.S., located in City of Commerce. As mentioned earlier, BNSF president and CEO Matthew Rose described the advantages of the SCIG at a 2006 Town Hall Los Angeles keynote address, by noting how much shorter truck trips would be for containers currently going to the Hobart Yard when they will go to the BNSF SCIG:

> *"… The Hobart Yard … is 20 miles away from the ports and handles, this year [2006], about 1.4 million containers and trailers. You can imagine if we could shift that volume near-dock or on-dock the impact that we could just have in terms of reducing congestion and improving air quality."*[xxii]
>
> - Matthew K. Rose, Chairman, President and CEO, Burlington Northern Santa Fe Corp.

Shifting millions of containers from the Hobart Yard to <u>on-dock rail</u> would indeed be advantageous, because on-dock rail does not involve the use of trucks to move containers off the port property. On-dock rail means that a container is taken off a ship and goes directly onto a train to its destination – no truck involved, thereby reducing air pollution.

Moving the containers to near-dock rail, on the other hand, requires trucking each container five miles one way to the near-dock SCIG facility, creating air pollution.

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[1] http://www.bnsf.com/employees/communications/bnsf_today/2005/02/2005-02-10-d.html
[2] Burlington Northern Santa Fe Railway's Southern California International Gateway website www.communitiesmatter.com/why.html.

But it is actually the rest of CEO Rose's statement (and the earlier statement of former Mayor James Hahn) about the SCIG that has captured the attention and admiration of many elected officials and even Port staff – BNSF's claim that the SCIG would take more than a million trucks off the I-710 Freeway, trucks that normally would have traveled from the Ports to the BNSF Hobart Yard in Commerce. From the Port's web site in 2007 (and still there in 2012):

> *"Today, port related containers moving between the BNSF railyard and the ports travel on the I-710 freeway. Once this facility [the SCIG] is fully operational, it is expected that one million port-related trucks could be eliminated from the I-710 freeway per year. Estimated year of completion is 2009*." (Citation: POLA website accessed 7-17-2007 and again on 1-29-2012).

It is important to note that the BNSF assertions over the past 5-7 years have been accepted even more widely than stated above. In fact, from the Governor's office to State of California advisory councils, to the Southern California Association of Governments, and to various industry stakeholders, the BNSF claims have been stated and re-stated as "fact."

The Governor's Goods Movement Action Plan selected SCIG –because it would eliminate trucks on the I-710:

"It would "reduce truck trips on Interstate 710." [3] "... SCIG ... will eliminate over a million truck trips per year on I-710."

- Gill V. Hicks, transportation consultant
  Chairman of California Marine and Intermodal Transportation System Advisory Council (CALMITSAC). Quotation in a BNSF press release, May 8, 2007: "BNSF Enhances Proposed Southern California International Gateway"[4]

"Such a facility could eliminate one million truck trips annually from the 710 Freeway..."

- Southern California Association of Governments
  Southern California Regional Strategy for Goods Movement: A Plan for Action. February 2005 (Amended March 2005)[5]

"Authorities estimate the [SCIG rail] yard could take as many as 1 million trucks off local roadways, including the Long Beach (710) freeway, annually."

- "Rail yard planners offer cleaner solutions"
  Long Beach Press Telegram May 8, 2007 [6]

"It is simple: take a million older trucks a year off the 710 Freeway and replace them with clean trucks delivering containers to rail much closer to the ports."

- Elizabeth Warren

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[3] Goods Movement Action Plan, January 2007 http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf.
[4] Add citation
[5] Southern California Regional Goods Movement Policy Paper , page 22. www.scag.ca.gov/goodsmove/reportsmove.htm
[6] http://www.bnsf.com/employees/communications/bnsf_today/2007/05/2007-05-08-b.html

Executive Director, FuturePorts
"BNSF Railway Enhances Proposed Southern California International Gateway" BNSF E-Release May 2007 [7]

Moreover, the Los Angeles Chamber of Commerce endorsement letter for the SCIG highlights:

> *"the significant air quality, traffic and safety improvements" that will have a "direct effect on improving the quality of life for communities in the port areas as well as those along the Interstate 710 Corridor and other freeways."* [8]

The claim that the SCIG will result in a million fewer trucks on the I-710 and other local freeways, thereby improving air quality and reducing the burden on southeast L.A. communities along the I-710 goods movement corridor, has been so widely asserted and repeated that it appears to be "fact;" it is now commonly accepted as "the truth." But the SCIG DEIR simply failed to evaluate the unverified assertions and untested assumptions behind those statements.

[7] http://www.communitiesmatter.com/erelease/0507/index.html
[8] Russell J. Hammer, President & CEO of the Los Angeles Chamber of Commerce; in a letter to BNSF Railway, June 16, 2005 http://www.communitiesmatter.com/SCIGletter0605.pdf

UNTESTED ASSERTIONS HAVE APPEARED ON THE PORT OF LOS ANGELES WEBSITE FOR YEARS

Despite statements by elected officials, newspaper reports and BNSF officials at multiple corporate levels, along with statements in the DEIR, no documentation to support the claims above has yet been provided. For more than seven years, even the Port of Los Angeles has accepted this as "fact" on its public web site:

Accessed July 16, 2007 on POLA website:

"Today, port related containers moving between the BNSF railyard and the ports travel on the I-710 freeway. Once this facility is fully operational, it is expected that one million port-related trucks could be eliminated from the I-710 freeway per year."

Accessed January 29, 2012 on the POLA website:

"Southern California International Gateway"

The Port of Los Angeles is developing a new near dock rail facility, which will be operated by Burlington Northern Santa Fe (BNSF). This facility will be used to handle Port related intermodal containers. The proposed site for this facility is Port of Los Angeles property north of Pacific Coast Highway, south of Sepulveda Boulevard and west of the SR103. Today, port related containers moving between the BNSF railyard and the ports travel on the I-710 freeway. Once this facility is fully operational, it is expected that one million port-related trucks could be eliminated from the I-710 freeway per year. Estimated year of completion is 2009."

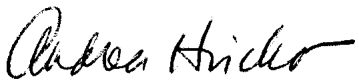
Since the statements were made before the BNSF SCIG Draft EIR/EIS was even completed, and since it has not yet been finalized by the Port, it might be reasonable to question whether the above web site statements might even be considered prejudicial.

CONCLUSION

The author of these comments concludes that the DEIR should be sent back, be redone and be recirculated for comment. She requests that the recirculated DEIR include an evaluation of whether the capacity that will be opened up at Hobart by building SCIG will be filled with additional freight truck trips to Hobart with transloaded containers that originated at the Ports – and that the impacts of that traffic and air pollution be re-considered in the new DEIR. The author also requests that the DEIR consultants document BNSF and other industry data about where containers are heading, and conduct interviews with key transloading center executives to develop an accurate picture of what is happening in southern California with regard to transloading practices. This is critical to an accurate BNSF SCIG DEIR, and it is needed to replace the virtually non-existent review of transloading that exists in the current DEIR and the undocumented statements about the fate of BNSF Hobart Yard after the SCIG opens, if it does. All analyses in a

revised DEIR for air quality, cancer risk, other health risks, noise, cumulative impacts, traffic, etc. will need to be redone once transloading statistics are included.

Thank you for your consideration.



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[i] California Air Resources Board. Supplement to the June 10 Staff Report. Proposed Actions to Further Reduce Diesel Particulate Matter at Four High Priority California Railyards. July 2011.
[ii] Los Angeles Country Metropolitan Transportation Authority. Technical Memorandum – I-710 Railroads Goods Movement Study, Feburary 2009, pp 22-24.
[iii] California Air Resources Board. Supplement to the June 10 Staff Report. Proposed Actions to Further Reduce Diesel Particulate Matter at Four High Priority California Railyards. July 2011.
[iv] Phone interview with Michael Kaplan, CEO of Gale/Triangle, Inc.,October 2011.
[v] See Table at DEIR, page 1-21.
[vi] See email exchange reprinted in Appendix A.
[vii] Bill Mongelluzzo. Alameda Shortfall, Just Once More. *The Journal of* Commerce Magazine. Nov 10, 2011.

[viii] Peter Tirschwell. Surging Transload. Journal of Commerce online. Jan 24, 2011.

[ix] Peter Tirschwell. Transloading, Part II. The *Journal of Commerce Magazine* - Jan 31, 2011. *Commentary.* |
JOC Tirschwell
[x] Tioga Group. Appendix C- Memorandum – Revised to Michael Fischer, Mark Jensen, Dave Levinsohn – Market Estimate for Alternative Container Transport Technology, October 1, 2008.
[xi] Tioga Group. Appendix C- Memorandum – Revised to Michael Fischer, Mark Jensen, Dave Levinsohn – Market Estimate for Alternative Container Transport Technology, October 1, 2008.
[xii] Consolidation Activity in the Southern California Area. Alameda Corridor Transportation Authority, March 2004.
[xiii] Wilbur Smith & Associates. Multi-County Goods Movement Action Plan. Final Technical Memorandum 3: Existing Conditions and Constraints. October 6, 2006. http://www.metro.net/images/Final%20TM3%20100606.pdf
[xiv] Tioga Group. Appendix C- Memorandum – Revised to Michael Fischer, Mark Jensen, Dave Levinsohn – Market Estimate for Alternative Container Transport Technology, October 1, 2008.
[xv] See JOC
[xvi] From email exchanges between the author of these comments and Mr. John Doherty, director of the Alameda Corridor Transportation Authority, October 2011.
[xvii] Tioga Group. San Pedro Bay Container Forecast Update. Prepared for the Ports of Los Angeles and Long Beach, July 2009.
[xviii] *Town Hall Los Angeles, Keynote Address "Will Southern California Have Adequate Freight Transportation Capacity In the Future?"* http://www.communitiesmatter.com/hall.html. September 14, 2006.
[xix].*Town Hall Los Angeles, Keynote Address "Will Southern California Have Adequate Freight Transportation Capacity In the Future?"* http://www.communitiesmatter.com/hall.html. September 14, 2006.
[xx] Phone interview with Michael Kaplan, CEO of Gale/Triangle, Inc., October 2011.
[xxi] Phone interview with Michael Kaplan, CEO of Gale/Triangle, Inc., October 2011

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US transloading growth reshaping cargo routing

Bill Mongelluzzo, Senior Editor | Mar 03, 2017 6:05PM EST

LONG BEACH, California — Increased transloading of merchandise imports from marine containers to domestic containers and trailers at major US seaports — rising from 52 percent of total intermodal volume through Los Angeles-Long Beach to 58 percent in five years — is reshaping containerized supply chains.

Data accumulated by industry analysts and industrial real estate experts reveal that this trend is underway, and they project that growth in transloading will continue unabated as a result of the convergence of the big-ship phenomenon and rapid growth in e-commerce fulfillment. The ability of importers to determine the final destination of the merchandise after the container reaches the US port, rather than two weeks earlier when it is loaded on the vessel in Asia, gives retailers more flexibility in routing. Beneficial cargo owners must further study their supply chains to determine the best routing for their needs.

Ports must invest in the marine terminal infrastructure and tall cranes needed to handle bigger and bigger ships. Industrial real estate developers must scramble to find suitable locations near major ports for transloading activities, and also for locations near urban cores to process last-mile deliveries for e-commerce fulfillment.

Seaports will continue to be where the action is in supply chain logistics. “The greatest concentration of this demand is in Southern California,” Rob Leachman, professor at the Institute of Transportation Studies at the University of California, Berkeley, told the 17th Annual TPM Conference this week in Long Beach. “The next greatest concentration is at ports that serve the other two, three, or four corners,” he said.

There are four to five load-center gateways for the the North American container trades. The so-called five-corner strategy of logistics involves the Pacific Northwest, which includes the

Northwest Seaport Alliance of Seattle and Tacoma and the British Columbia ports of Vancouver and Prince Rupert, Los Angeles-Long Beach, Houston, the South Atlantic ports of Savannah and Charleston, and the mid- and North Atlantic ports of Norfolk and New York-New Jersey.

In 2015, Los Angeles-Long Beach handled 50.7 percent of US containerized imports from Asia, other West Coast ports handled 12.2 percent, British Columbia had 4.4 percent, the Gulf ports 2.2 percent, South Atlantic ports 13.8 percent, and the Northeast 16.7 percent, Leachman said.

Cargo routing for imports from Asia, by far the largest sourcing area for merchandise imports, is affected greatly by cargo value. The highest-value imports such as electronic goods are concentrated in Los Angeles-Long Beach. Importers are willing to pay higher intermodal transportation costs to the interior in order to get high-cost or seasonal merchandise to the eastern half of the country as quickly as possible. Medium and low-cost imports are spread over the five corners to get the product closer to the consuming market at the lowest possible cost.

For example, Leachman found that 63.9 percent of electronics imports and 57.8 percent of auto parts imports enter the country through Southern California, but Los Angeles-Long Beach handles 47.4 percent of the lower-cost consumer goods such as furniture imports. By contrast, East and Gulf Coast ports do best when lower all-in transportation costs via all-water services from Asia provide access to population centers in their regions. The Northeast, South Atlantic, and Gulf ports combined handle more than 50 percent of the lowest cost containerized merchandise where price, rather than time-to-market, is the determining factor in cargo routing.

In supply chain logistics terms, the tendency of retailers to “push” their containers through seaports to the final destinations is growing less rapidly — or in some cases not at all — than pushing the 40-foot marine containers to large import distribution warehouses, transloading the merchandise into 53-foot domestic containers and trailers, and “pulling” the merchandise to regional distribution centers.

Leachman said this trend, coupled with growing e-commerce demand, is driving more freight to the push-pull model. “Push-pull is growing faster than overall imports, and push is growing slower than overall imports or even declining,” he said.

The trend toward more transloading was confirmed by Larry Gross, president of Gross Transportation and a partner at FTR. “Transloading is playing a larger role,” Gross said, but the “intermodal-unfriendly” west-to-east routing of intact containers will probably not be a growth sector in the coming years.

For example, in Southern California, which is the transloading capital of the country, transloading’s share of intermodal freight increased from 52 percent in 2011 to 58 percent in 2016, whereas intact intermodal’s share dropped from 47 percent in 2011 to 42 percent.

The merchandise imports will be carried by ever-larger ships. According to Drewry Shipping Consultants, 78 percent of the new vessel deliveries in 2017 will be vessels with capacities of 10,000 twenty-foot-equivalent units or higher, and more than half will be ships of 14,000 TEUs

capacity or greater. The message for the major gateway ports is that they better be able to handle these ships or they will lose market share.

Los Angeles-Long Beach has been handling weekly calls of vessels of 10,000 TEUs or greater for the past several years, and this has sent the ports and their terminal operators into a frenzy of marine terminal upgrades and the purchase of taller ship-to-shore cranes to be able to handle these vessels fully loaded.

Noel Hacegaba, managing director of commercial operations in Long Beach, said infrastructure and equipment comprise only half of the equation. Those big ships generate such a large surge of container discharges and reloads, 10,000 or more container exchanges per vessel call, that improved cargo-handling processes, immediate dray-offs of containers from the terminals, a focus on improved chassis availability, and enhanced data-sharing among all port users is at least as important as infrastructure investment, Hacegaba said.

Terminal efficiency takes on even greater importance with the surge of e-commerce fulfillment and the need for speed that consumers have created in receiving their shipments. Walter Kemmsies, managing director, economist, and chief strategist at Jones Lang LaSalle airports and seaports division, said a "looming conflict" could be in the making as the bigger ships call at fewer ports, take longer to unload, and generate more congestion at the gateways, but consumers want their purchases shipped to them in a day or less. This trend calls for import distribution centers to carry larger inventories so the merchandise can be pushed to intermediary facilities for delivery to consumers.

Kemmsies noted that e-commerce accounts for only 10 percent of retail sales, but about half of the new construction of industrial properties is for e-commerce. The growing demands of e-commerce fulfillment are beginning to affect the logistics strategy that has been present since the 2008 to 2009 economic recession. During the lean times, reducing transportation and inventory-carrying costs were most important. Now, the greatest fear of logistics managers is a "stock out" notification that upsets consumers and can lead to the dismissal of those employees in charge of having the right merchandise on hand when and where it is needed, he said. Therefore, costly investments in carrying additional inventory and building intermediate warehouses on costly land in urban core areas are more important than cost-cutting.

The implications of these trends for developers and users of industrial real estate are changes in the mix of distribution facility sizes, as well as the siting of those facilities, at the major gateways and in secondary and tertiary markets. Leachman said demand for national distribution centers of 500,000 to 1 million square feet in locations that serve ports will be strong, but so too will be demand for 1-million-plus sq ft e-commerce fulfillment centers and import warehouses.

Also emerging rapidly from the growth in e-commerce development is a need for intermediate facilities located between the large import and regional distribution facilities and the urban core. These facilities break down the shipments to the package level for shipment directly to the consumers' homes or to retail stores that are increasingly becoming pickup locations for merchandise ordered online.

E-commerce fulfillment in urban areas can be handled at facilities of 100,000 to 200,000 square feet, which are often found at in-fill sites. They can be older warehouses or former manufacturing sites that can be repurposed for e-commerce. This trend has grown so rapidly that in some of the larger, denser urban areas, developers are finding it increasingly difficult to locate these facilities, said Matt Mullarkey, senior vice president of strategic planning at CenterPoint Properties. The cost of land and labor obviously increase the closer developers get to the urban core, but the need for timely delivery of merchandise in the last mile makes location more important than those factors, he said.

The confluence of the big-ship phenomenon, the increase in transloading, and the last-mile requirements of e-commerce have retailers and other importers reviewing their supply chain strategies and possibly modifying them, Leachman said. Shippers must consider cost, efficiency, and time to market in order to determine the best path to each location they serve, he said.

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APPENDIX D: TRAFFIC ASSUMPTIONS; TRANSLOAD COMMENTS AND REPORT

1. EXCERPTS FROM MINUTES OF I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE
2. Transload Report by Andrea Hricko
3. Journal of Commerce transload statistics

1. EXCERPTS FROM MINUTES OF I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE

THE MINUTES OF THE MEETING OF THE
I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE
A Meeting Held at Progress Park
15500 Downey Ave.
Paramount, CA
January 30, 2014

Excerpt from the Minutes:

B. I-710 Traffic Forecast Update

Dave Levinsohn, URS, gave a PowerPoint presentation which summarized changes to the traffic model since the release of the Draft EIR/EIS. He identified key travel demand inputs that had been updated, including the SCIG and ICTF projects, new understanding of the transload truck patterns, the 2012 SCAG RTP travel demand model, and port cargo projections. Overall, the 2012 SCAR RTP model shows lower projected port truck volumes and greater volumes of non-port trucks on I-710 than the 2008 SCAG RTP model.

MINUTES OF THE MEETING OF THE
I-710 CORRIDOR PROJECT EIR/EIS
TECHNICAL ADVISORY COMMITTEE
16401 Paramount Blvd., Paramount, CA
June 19, 2013

Excerpt from the Minutes

Jerry Wood commented that the traffic forecasts will be analyzed with and without the near-dock rail yards, with and without the SR-710 north extension, and including new multi-modal and active transportation plans inputs, and new rail yards and transloading facilities information that has recently been developed or become available.

MINUTES OF THE MEETING OF THE I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE

A Meeting Held at Progress Park

15500 Downey Ave. Paramount, CA

May 30, 2013

Excerpt from the Minutes:

Gill Hicks, Cambridge Systematics, gave a PowerPoint presentation regarding the goods movement assumptions. He said the SCIG and ICTF rail yards are now included in the No Build and various build alternatives. He said reductions had been made in the container volume at intermodal yards and the daily trips of automobiles to the ports. Mr. Hicks explained the projections for annual lifts at the intermodal rail yards and gave a detailed description of how and where transloading of marine containers takes place. Because of the advance in information systems, the revised EIR/EIS will assume a greater level of truck double-cycling and empty chassis re-use at intermodal yards. He said the next steps will include forecast modeling and a report on the initial model runs.
Patricia Ochoa, Coalition for Clean Air, read a letter from the Coalition for Environmental Health and Justice. She said the recommendation is that more time be taken to analyze the traffic assumptions before presenting them to the Project Committee.

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Angelo Logan, East Yard Communities for Environmental Justice, said this is very important and complicated. He said their recommendation is to take pause and allow this information to be well-vetted by all stakeholders.

MINUTES OF THE MEETING OF THE I-710 CORRIDOR PROJECT EIR/EIS TECHNICAL ADVISORY COMMITTEE 16401 Paramount Blvd., Paramount, CA August 21, 2013

Mr. Hicks said the 2035 forecast is for 110,000 daily truck trips to and from the ports and for 17,000 daily trips involved in transloading of port-related goods. He said the forecast is for an additional 14,000 intermodal daily trips that are not port-related and 172,000 daily non-intermodal truck trips in the I-710 study area that are not port-related. He said the 2035 numbers reflect a reduction from the previous forecast from 43.2 million to 41.4 million containers coming through the ports.

THE TRUCK AND TRANSLOAD REPORT:

An analysis

of unverified assertions and untested assumptions

in the BNSF SCIG DEIR

concerning future activities at the BNSF Hobart Yard

if the BNSF SCIG opens

Report submitted as comments
to the POLA on the SCIG DEIR
by
Andrea Hricko, MPH*
Professor of Preventive Medicine, Keck School of Medicine, USC
& Director of the Community Outreach and Engagement Program
of the Southern California Environmental Health Sciences Center

February 1, 2012

** A first draft of this report was completed by Andrea Hricko and Ariella Morrow in 2007, when Ms. Morrow was a graduate MPH student at USC Keck School of Medicine. Ms. Morrow is currently a medical student and has not reviewed the recently issued Draft Environmental Impact Report. We acknowledge her work and earlier efforts.*

Summary

BNSF Railway has proposed a new intermodal rail facility to be located "near-dock" -- four miles from the Ports of Los Angeles and Long Beach. A Draft Environmental Impact Report (DEIR) has been issued. That report concludes that the new rail yard, called the Southern California International Gateway or SCIG Project will reduce truck traffic, improve air quality and improve health in the region.

This analysis examines the assertions in the DEIR about how the claimed reduction in truck traffic will be accomplished. It examines the assumptions in the DEIR upon which other analyses (e.g., air quality) are based. It explores what might happen to the BNSF Hobart Yard if the SCIG opens, with claims in the DEIR stating that Hobart will handle only "domestic" containers and will no longer be handling any more than 5% of international cargo, thereby "shifting" trucks from the I-710 and I-110 Freeways a shorter distance to the new SCIG.

Definitions play a role in claims in the DEIR. It is important to note that "domestic containers" can be of two types:

- Transloaded containers - cargo that arrived at the Ports and was then taken out of the 40-foot containers at a transload facility and then placed into 53-foot containers before arriving at a rail yard, and
- "Pure" domestic cargo in either domestic 53-foot containers or trailers – cargo that has not passed through the Ports before arriving at the rail yard. *(See DEIR at 3.10-31)*

The analysis concludes that those who drafted the DEIR and supplied information for it (POLA, Environ, and BSNF) failed to consider the most recent trends in the industry with regard to a "surge" in transloading of international containers, a practice increasingly popular with retailers that has been well-reported in the logistics industry press and in goods movement reports. According to the director of the Alameda Corridor Transportation Authority, a full 25% of imported cargo containers from the Ports of Los Angeles and Long Beach are now transloaded into domestic containers before they leave Southern California on rail. The author concludes that by 2016 the BNSF Hobart Yard would have the opportunity to "replace" the volume of "lifts" (containers) that go to the new BNSF SCIG yard with transloaded containers. If this happens, it would mean that there will likely be no "reduction" in truck mileage on the I-710 when the SCIG opens. In fact, the volume of trucks on the road to the two railyards (SCIG and Hobart) would be double the volume that had gone to the BNSF Hobart Yard alone. Several scenarios are included in this report.

The analysis concludes that the assertions in the DEIR about 1) reduction of truck trips to the BNSF SCIG, including information about the volume of transloaded containers and other information about what the "domestic containers" will comprise, are undocumented, 2) the assumptions are untested, and 3) the conclusions in the DEIR about traffic and air pollution impacts – which are based on these assumptions – are inaccurate.

Using documented and up-to-date information about trends in transloading, this Truck and Transload Report concludes that by 2016 the BNSF Hobart Yard will have the opportunity to replace with transloaded "domestic" containers all the "truck trips" that would supposedly have "been eliminated" by switching international containers from Hobart to the new BNSF SCIG.

In addition, there will be nearly an equal number of trucks by 2016 to the Hobart Yard and to the new BNSF SCIG, indicating that there could be twice as much truck traffic on the Harbor area's roads and freeways than the DEIR claims.

More detail: as calculated in this report, based on Port cargo forecasts in the SCIG DEIR, there might be as many as 1,202,500 transloaded containers available for the Hobart Yard in 2016, meaning that the number of transloaded containers by 2016 could replace the number of international containers moved to SCIG in 2016 (projected at 1.1 million). This would indicate that all of the traffic counts in the DEIR are faulty. If the Hobart Yard is going to continue handling transloaded containers (which it already does, but which the DEIR fails to describe), then there will be no reduction of truck trips and miles on the I-710 Freeway assuming that imported cargo grows as forecasted and that transloading continues to capture an ever-growing share of how imported cargo leaves the Ports.

In addition, the distance from the Port to a typical transload center and then on to Hobart with a transloaded domestic container is more than the current 24 miles that trucks travel to deliver international containers, because of the diversion off the I-710 to the transload facility and often then back onto the I-710. This transload scenario makes all the calculations in the SCIG DEIR about reduced truck traffic along the I-710 questionable**.**

The author of these comments recommends sending the DEIR back to the drawing board, redoing it and recirculating it, and requiring that all of the unverified assertions and untested assumptions be fully documented – and that all analyses, including air quality impacts, traffic impacts, cancer risk in the HRA, cumulative impacts and other impacts of the proposed SCIG, based on these assertions and assumptions, be fully redone.

THE REPORT

We appreciate the opportunity to offer comments on the BNSF SCIG DEIR and have chosen to look at the truck, traffic and transloading issue in the form of a report.

What does the DEIR say about the proposed BNSF SCIG project and the future of the existing BNSF Hobart Yard?

The Southern California International Gateway ("SCIG") rail yard project is an intermodal rail facility proposed by the BNSF Railway and the Port of Los Angeles (POLA) that would increase the ability of both POLA and the Port of Long Beach to grow. The POLA released the project's Draft Environmental Impact Report (DEIR) in September 2012, with comments due on February 1, 2011.

The DEIR was prepared by Environ International. The DEIR's analyses of potential air quality impacts, traffic impacts, cancer risk, cumulative impacts and other impacts of the proposed SCIG all heavily rely on assertions in the DEIR about BNSF's major Southern California rail yard, Hobart, the country's largest intermodal facility, which is located 24 miles from the Ports at the northern end of the I-710 (Long Beach) Freeway. Drayage trucks will be "shifted" from Hobart to the SCIG, saving miles traveled and reducing air pollution, according to the Draft EIR:

*"The proposed Project would construct an intermodal transfer facility at a location approximately 4 miles from the Ports, the proposed Project would eliminate a part (estimated at 95%) of existing and future intermodal truck trips between the Port and the BNSF's Hobart Yard, which is located approximately 24 miles north of the Ports in the cities of Los Angeles and Commerce, by diverting them to the proposed SCIG facility." (*DEIR at 3.10-30) (emphasis added)

The DEIR continues:

*"On the I-710 freeway … it is estimated that the project will reduce over 1.3 million truck trips per year…. This is due to the fact that the trips will occur to SCIG rather than to Hobart Yard, thus eliminating the trips on the I-710." (*DEIR at 3.10-26 (emphasis added).

In addition, the DEIR states:

"The proposed Project would result in fewer truck trips on the surrounding freeway system, as drayage operations currently serving the Hobart Railyard near downtown Los Angeles utilizing I-110 and I-710 north of the Pacific Coast Highway would be switched to the proposed Project site utilizing the proposed Project truck routes. Thus, the existing longer-distance freeway system trips from the ports to downtown rail yards would be replaced by shorter-distance trips to/from the proposed Project along port-area roadways." DEIR at 3.10-45) (emphasis added).

The DEIR does state that a small number of international containers will still go to the Hobart Yard, indicating that the Yard will not be closing:

*"The baseline intermodal demand handled by the Hobart Yard would be handled by the proposed Project. In order to be conservative, some international container trips are assumed to be handled by the Hobart Yard under proposed Project conditions – five percent of the baseline operations."(*DEIR at 3.10-40, emphasis added).

And finally, below is a description of how the DEIR says it used all of these alleged shortened traffic routes to evaluate air pollution and other impacts:

"These changes in traffic patterns, which are evaluated in this EIR, are being proposed in order to shorten truck trips for movement of containers between ships and railyards), thereby easing traffic conditions on local freeways and reducing regional air quality impacts. On the I-710 freeway, which is the primary roadway facility that services current Hobart Yard traffic, it is estimated that the project will reduce over 1.3 million truck trips per year between the SCIG project site and the BNSF Hobart Yard. This is due to the fact that the trips will occur to SCIG rather than to Hobart Yard, thus eliminating trips on the I-710." (DEIR at 3.10-26) (emphasis added)

What types of cargo are <u>currently</u> handled at the BNSF Hobart Yard – in 2011?

The DEIR states the following about the BNSF Hobart Yard and other intermodal rail yards in the Ports area: (See DEIR at 1-13).

Off-Dock Rail

Off-dock railyards are located farther (more than five miles) from marine terminals. Currently, there are a total of five off-dock railyards, three operated by UP and two operated by BNSF, but only two handle substantial numbers of containers from the San Pedro Bay Ports: the BNSF Hobart Yard in Los Angeles/Commerce/Vernon and the UP East Los Angeles Yard (Figure 1-8). Both railyards are located near downtown Los Angeles, approximately 24 miles north of the Ports. The remaining off-dock railyards include the UP Los Angeles Trailer and Container Intermodal Facility (LATC), UP City of Industry yard, and the BNSF San Bernardino yard. In 2008 the East LA and Hobart yards handled most of the international cargo not handled by on-dock yards and the ICTF: 136,000 TEUs by East LA and 1.48 million by Hobart, which currently handles all of BNSF's non-on-dock international cargo. All of the off-dock railyards in the region, including Hobart, handle more domestic and transloaded containers than international containers.

Key Definitions

Off-Dock Railyard: railyard located more than five miles from a marine terminal.

We note that the last sentence in the DEIR above states that: **"All of the off-dock railyards in the region, including Hobart, handle more domestic and transloaded containers than international containers."** This statement is interesting in several ways. First, it is an admission that the Hobart Yard currently handles transloaded containers. But the statement is factually incorrect with regard to the makeup of the overall container load at Hobart – something that is critical to the DEIR's calculations. Using information from BNSF, **the California Air Resources Board and Los Angeles County Metropolitan Transportation Authority both show that at the Hobart Yard, 59% of the containers handled are international containers and 41% are domestic (including transloaded and "pure" domestic).**[i] That is, there are currently more international containers at Hobart Yard than domestic and transloaded containers. It seems odd in a DEIR of this magnitude to have such a basic fact about the BNSF Hobart facility be completely wrong. See figure from L.A. County Metro below:

Table A-6
UP and BNSF Intermodal Off-Dock Railyards
In the South Coast Air Basin
International vs. Domestic Containers

Railyard	International Containers (Port Containers)[a]	Domestic Containers (Non-Port / Warehouse / Transloading)[a]
BNSF San Bernardino	0%	100%
BNSF Hobart (includes BNSF Commerce/Eastern)	59%	41%
UP Commerce	24%	76%
UP ICTF/Dolores	100%	0%

a. Los Angeles County Metropolitan Transportation Authority, *Technical Memorandum – I-710 Railroads Goods Movement Study, WBS Task ID:160.10.50*, February 2009, pp. 22-24.

B Basis for Emission Control Factors

The Union Pacific Intermodal Container Transfer Facility (UP ICTF) handles only international cargo containers. There are three large rail yards (and one small yard) north of the Ports that handle a combination of international containers, domestic containers, and transloaded containers, as shown in Table 1.

Table 1. Rail Intermodal Throughput Capacity, Adapted from Metro Table[ii] and California Air Resources Board[iii]

Facility	Capacity Lifts	2006 international lifts	Percent of Yard That is International Container Traffic	Percent of Yard That Handles Domestic Containers (Pure Domestic and Transloaded Domestic)
BNSF Hobart	1, 500,000*	808,086	59%	41%
UP East Los Angeles/Commerce	510,000	80,108	24%	76%
UP LATC	340,000	32,912	16%	84%
BNSF Eastern*		130,000 (2004)		

**BNSF counts capacity at this yard as 1.7 million, but the actual capacity according to the ARB is 1.5 million lifts. The rest is related to the BNSF Commerce Eastern yard, according to the ARB. The BNSF Eastern yard focuses on local domestic containers and handled 130,000 lifts in 2004, according to the California Air Resources Board.* http://www.arb.ca.gov/railyard/hra/bnsf_eastern_hra.pdf

Table A-5
Four High-Priority Railyards
Container Lift Activities, Forecasts, and Capacities
(April 2011)

Railyard	2005 (lifts) Actual	2010 (lifts) Actual	2015 (lifts) Projected	2020 (lifts) Projected	Annual Percent Growth from 2011 to 2020	Railroad Stated Capacity (lifts)
BNSF San Bernardino	555,000[a]	447,000[c]	546,000	668,000	4.1	660,000[e]
% change from 2005	–	-19%	-1.6%	+20%	–	–
BNSF Hobart	1,336,000[a]	1,090,000[c]	1,386,000	1,763,000	4.9	1,500,000[e,f]
% change from 2005	–	-19%	+3.6%	+32%	–	–
UP Commerce	345,000[b]	429,000[d]	534,000	664,000	4.4	510,000[e]
% change from 2005	–	+24%	+55%	+92%	–	–
UP ICTF/Dolores	626,000[b]	450,000[d]	587,000	767,000	5.5	760,000[e]
% change from 2005	–	-28%	-6.2%	+23%	–	–

a. Del Grosso, Robert C., *BNSF Railway Company 2010 Locomotive Review*, p. 9.
b. Union Pacific Fact Book, 2005, p. 9.
c. ARB staff, Harold Holmes, Personal communication with BNSF via email (January 17, 2011).
d. Union Pacific Fact Book, 2010, p. 15.
e. Los Angeles County Metropolitan Transportation Authority, *Technical Memorandum – I-710 Railroads Goods Movement Study, WBS Task ID:150.10.50*, February 2009, pp. 22-24.
f. Based on personal communications between BNSF and Harold Holmes via phone on May 20, 2011, staff determined that 1.5 million of 1.7 million lift capacity was attributed to BNSF Hobart Railyard only, with the balance attributed to BNSF Commerce/Eastern Railyard.

What are current transloading trends at the Ports of L.A. and Long Beach, what does the DEIR say about transloading, and why does transloading matter to analysis of the DEIR's assertions?

There is a surging industry trend: the practice called "transloading." The trend involves switching the contents of international containers into domestic containers at a location north of the Ports, in the 25-mile stretch between the Ports and the Hobart rail yard.

It works this way: 3 big-rig trucks pick up three international containers at the Ports. The containers are driven a few miles or up to 24 miles north of the Ports, and they are dropped off at a "transload center." At the transload center, the contents of the 20 or 40-foot "international" containers are emptied. The goods are then reloaded into 53-foot "domestic" containers. This trend is valuable for the retail industry, because the contents of 3 international containers fit into 2 domestic containers, reducing shipping costs and allowing for greater flexibility in selecting destinations for cargo once it has arrived in California.[iv]

The 53-foot transloaded "domestic containers" may "appear" to be "domestic" but <u>they are full of international goods.</u> And these transloaded containers travel at least 24 miles to get to the Hobart Yard.

The DEIR virtually ignores the latest trends in the goods movement industry with regard to transloading of international containers; in fact, the DEIR's statistics are based on completely outdated figures. The DEIR has a table (See Table 1-2 below) citing transload statistics,[v] referring to an unidentified source or report, simply "POLA, 2009." The text states that: "… approximately eight percent of import containers are transloaded to domestic international containers, a portion of which may then be drayed to an intermodal railyard for transport by rail to their eastern destinations." It also cites the Table 1-2 below as data used in developing intermodal rail forecasts. (See DEIR at 1-21).

Table 1-2. Mode Split of Containers Handled at the Ports of Los Angeles and Long Beach in 2008.

Container Mode	TEUs (Millions)	Percent of Total
Direct Rail (Direct Intermodal)		
- On-Dock	(3.4)	(23.7)
- Near-Dock	(1.06)	(7.4)
- Off-Dock	(1.68)	(11.1)
Total Direct Rail	6.14	42.2
Transload	1.12	7.8
Local/Domestic (Truck only)	7.07	50.0
Total	14.33	100%

Source: POLA, 2009.

:

Contrary to the claimed 2009 statistics cited in Table 1-2 (above) of the DEIR showing 7.8% transloaded containers, currently a full 25% of cargo coming into the Ports is transloaded to rail, according to the head of the Alameda Corridor Transportation Authority (ACTA), John Doherty). In an email exchange with the author of these comments, in October 2011,[vi] Mr. Doherty stated the following:

"Another simpler way of expressing the data (thereby avoiding the confusion of whether you are talking about % of outbound rail imports or % of port total imports) is as follows: about 40% of port imports go out of state by rail as ISO containers (20', 40', 45') with no transloading, about 25% go out by rail after transloading (48' and 53'), about 10% go out of state by truck after transloading (48' and 53'), and about 25% stay local both with and without transloading." *(John Doherty, ACTA, October 2011)*

The following table reflects the statistics from Mr. Doherty, which are his conclusions after having interviewed more than 100 shipping and transload experts.

Table 2. Where POLA and POLB Cargo Goes and by What Mode	
Mode	**%**
Out of state by rail in ISO containers (20', 40', 45') – with no transloading	40%
Out of state by rail after transloading into 48' and 53' containers	25%
Out of state by truck after transloading (48' and 53')	10%
Stay local both with and without transloading	25%
TOTAL CARGO	100%

The current documented statistic of 25% transloading of containers entering the Ports of LA and Long Beach versus the DEIR's statistic of 7.8% transloading (shown in DEIR Table 1-2) indicates a 320% error in the DEIR.

We note that in another section of the DEIR, a figure of 25% transloading is mentioned, with no citation, but the DEIR does nothing to explain the discrepancy with the 7.8% figure. The DEIR claims to use the 25% figure in calculating freight rail volumes for 2035. It does not discuss using either the 7.8% figure nor the 25% figure in doing any calculations about what the future will hold specifically for the Hobart Yard. See DEIR

at 4-92, reprinted below:

> Specifically, year 2035 freight rail volumes were developed using projections for direct intermodal containers from the ports (intact containers that are not transloaded); projections for non-intermodal port rail shipments (bulk, automobiles, and carload traffic); transloaded cargo containers (estimated, on the basis of historical data and recent SCAG studies, at 25 percent of all import containers; the I-170 EIR/EIS and current work being conducted for the SCAG 2012 RTP use this same assumption); non-port rail data and projections being developed for the 2012 RTP; historical lift data, by railyard, of marine and non-marine containers at off-dock railyards; off-dock railyard capacities (see Section 1.1.5.3); and volumes of domestic cargo in 53-foot containers or trailers that has not passed through the ports. Consistent with the ongoing I-710 EIR/EIS technical studies, a reasonable growth factor of two percent per year was assumed. The cumulative rail volumes also include 2035 projections of passenger trains, based upon data from SCAG and MetroLink. Rail volumes for 2046 were estimated by assuming that the growth in rail volumes beyond 2035 will come only from increases in domestic freight rail traffic.

The *Journal of Commerce*, the premier logistics industry journal, has written a number of articles about the dramatic surge in transloading, especially at the POLA and POLB:

> *… "In an attempt to control transportation costs, retailers transload 40-foot marine containers into 53-foot domestic containers for inland movements. The contents of three marine containers can be loaded into two domestic containers."*[vii]

> *""… transloading took off during the recession, particularly at the ports of Los Angeles and Long Beach. According to the Alameda Corridor Transportation Authority, the share of goods arriving at LA-Long Beach transloaded into domestic containers grew significantly during the recession…. "That means that transload has a greater market share now. The pendulum has swung to transload," said John Doherty, CEO of the authority.""*[viii].

If, as noted above, 25% of imported cargo containers are being transloaded, where are the calculations in the DEIR that explain how this will impact/affect the NBSF Hobart Yard in the future? The author of this report cannot find such calculations.

The *Journal of Commerce* describes several reasons why retailers are embracing transloading:

> *"There have always been obvious economic benefits — transloading allows the contents of three international containers to be reloaded into two larger 53-foot trailers or domestic containers. … When the recession hit and shippers large and small went searching for transportation savings, transloading was a ready-made opportunity."*[ix]

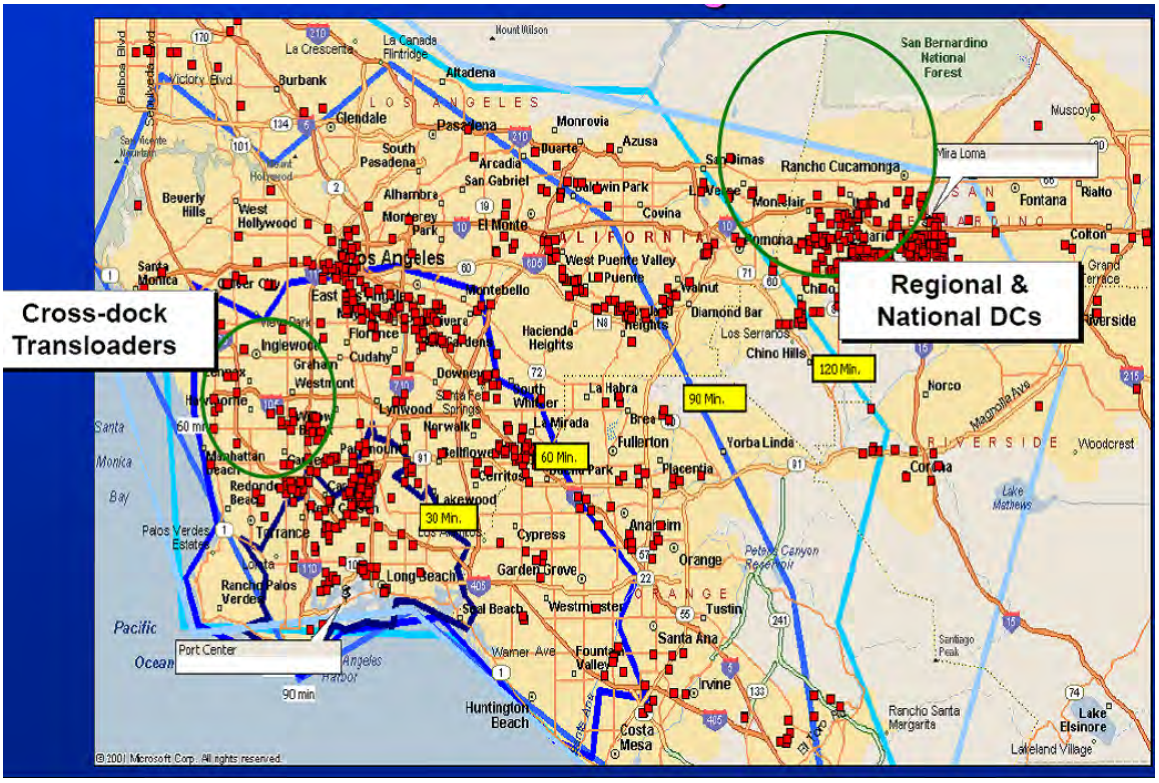
Lest anyone think that this transload trend might not have been common knowledge in the ports/logistics/rail industries long before the *Journal of Commerce* articles in 2011 (and long before the DEIR was released), please see the following excerpt from a Tioga Group report in 2008:[x]

> *"The Transload segment will be largely confined to the region between the Ports and downtown Los Angeles. This segment includes cargo that is "cross-docked" from international containers to domestic containers or trailers for onward movement by rail*

without spending significant time in inventory or undergoing value-added alterations. This cargo is typified by the Maersk Logistics activity in South Gate (Exhibit 11. As the aerial photo shows, this facility consists primarily of two-sided transfer sheds suitable for the "cross-dock" transfer operation, with minimal if any space for "warehousing…"…such operations are clustered within 15 miles of the Ports to maximize round-trip drayage productivity. Tioga studies have reinforced this finding."[xi]

See also the following reference, which states that as early as 2004 – 8 years ago – a full 12% of cargo was transloaded according to a 2004 study by the Alameda Corridor Transportation Authority (ACTA),[xii] which is also referenced in the 2006 Multi-County Goods Movement Action Plan (McGMAP).[xiii] The McGMAP report includes the following graphic, showing the high volume of transload facilities north of the the POLA/POLB and in the vicinity of the Hobart Yard. [xiv]

Figure 1. Transload Facilities North of the Ports in Los Angeles; McGMAP 2006.

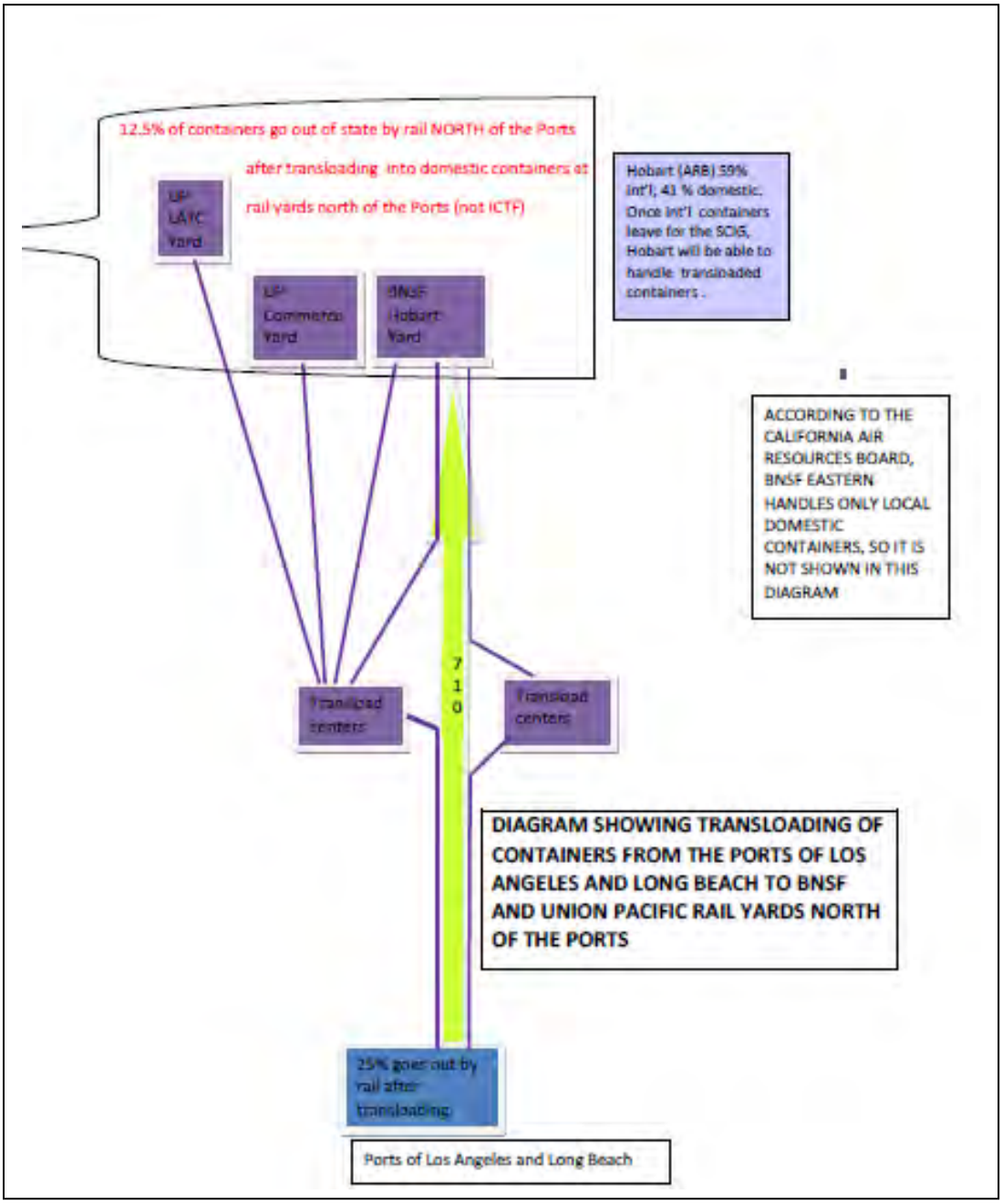


The current surging transload trends are anticipated to continue,[xv] and if they do, this report calculates that transloading will allow the BSNF Hobart Yard an opportunity to replace the volume of containers that was diverted to the SCIG by 2016, if the SCIG becomes operational.

The graphic below shows the location of the major railyards in southern California that handle cargo from the Ports:

The sketch below shows the major rail yards handling transloaded cargo north of the Ports.

Figure 2. Major Railyards in Southern California Handling Cargo that Originated at the Ports (either in International Containers or Transloaded)



Sketch by Andrea Hricko

WHAT WOULD HAPPEN IF THE HOBART YARD TOOK ONLY DOMESTIC (NON-TRANSLOADED) CONTAINERS ONCE THE SCIG OPENS, AS THE DEIR IMPLIES?

SCENARIO 1.

Using 2010 actual statistics on lifts, the Hobart Yard would lose 59% of its lift capacity by shifting international containers to the SCIG. It would then replace the Hobart with 5% additional international containers. The remaining 41% of the Hobart yard handles domestic and transloaded containers. No information on the splits between domestic and transloaded at Hobart are in the DEIR or seemingly published elsewhere, we have assumed an even split in the two types. Note that BNSF to refer to all of the non-international containers it handles at Hobart as "domestic" containers, even though a good proportion of them are actually "transloaded"). See Table 3 below.

In 2010 there were 1,090,000 "actual" lifts at the Hobart Yard

Table 3. Where containers would go under Scenario 1 – The Hobart Yard, 2010, if SCIG had opened that year (last year with accurate figures for actual lifts, so this is a model)

Actual total lifts in 2010	Int'l lifts gone to SCIG (59%)	Add back 5% international containers as the DEIR states	Pure domestic containers* 41% (remaining space)	Total of pure domestic and 5% inter-national containers
1,090,000 **Note: capacity is 1,500,000**	**643,100**	**54,500**	**** After international containers go to SCIG there would be only "pure domestic" containers at the Hobart, according to the DEIR – these are containers that did not contain goods that originated at the Ports.*** ***That means, 41% of the remaining space at the Hobart yard after removing international containers***	***446,900 54,500 =501,400*** ***501,400*** ***This means the Hobart Yard would be only 33% full if the SCIG had opened in 2010 and if Hobart thereafter handled only pure domestic containers.*** ***That would leave 66% of the capacity EMPTY – or potentially available for 998,600 transloaded***

			would be "pure domestic containers." (If there are even that many to handle at Hobart	***containers (which is not mentioned in the SCIG DEIR).*** ***CAPACITY LEFT AT HOBART FOR 998,600 MORE CONTAINERS IF SCIG OPENED***

*ARB states that Hobart is 41% "domestic containers," including domestic and transloaded.

According to statements in the DEIR, the Hobart Yard will not be handling any international cargo that originated at the Ports if the SCIG opens. Let's accept that as factual for this scenario and see what would happen to the Hobart Yard. If SCIG had opened in 2010, and Hobart's international containers were shifted to SCIG, Hobart Yard would be handling only 33% of the lifts it handled in 2010. If it handled no additional transloaded containers with international cargo that originated at the Ports, it would be two-thirds empty." *(See other scenarios for how quickly it could fill up with transloaded containers).*

This is the ONLY scenario under which trucks from the Ports would be reduced on the I-710 Freeway. That is, for the DEIR to be correct, Hobart would handle only 5% international containers and also "pure" domestic containers with local goods. As the DEIR claims, it would not handle international goods that came in through the ports and were transloaded into 53-foot containers. It would be the largest intermodal rail yard in the U.S. operating 66% empty.

BASED ON FUTURE CARGO FORECASTS, HOW QUICKLY COULD THE HOBART YARD ACTUALLY FILL UP WITH TRANSLOADED AND DOMESTIC CONTAINERS AFTER THE BNSF SCIG OPENS?

SCENARIO 2. Recognizing that transloading as a trend is surging and is currently 25%, where does the 25% of transloaded cargo go? John Doherty, director of the Alameda Corridor Transportation Authority (ACTA) says that ½ of the transloaded cargo goes "east" – to City of Industry, Mira Loma, San Bernardino, etc. He says that the other ½ goes to the rail yards that are "north of the Ports" (UP Commerce, UP LATC and BSNF Hobart).[xvi]

Let's look at forecasts for the year 2016. See below; in 2016 it is estimated that there will be with 17.8 million TEUs at the twin ports. Let's estimate how many transloaded containers there would be and where they could possibly go.

Table from DEIR, below (DEIR, at 1-23). *Note it has inappropriate figures for near/off-dock rail throughput (that is, it does not account for 25% transloading).*

Table 1-5. 2009 San Pedro Bay Ports Direct Intermodal Cargo Forecast.

2009 San Pedro Bay Ports Direct Intermodal Cargo Forecast (shown in Million TEUs)							
Year	2008 (Actual)	2012	2016	2020	2023	2030	2035
Total San Pedro Bay Ports Cargo Volume	14.3	14.3	17.8	21.8	25.2	34.6	43.2
Total Direct Intermodal	6.1 (42.2%)	5.7 (40.0%)	7.1 (40.0%)	8.7 (40.0%)	10.1 (40.0%)	13.8 (40.0%)	17.3 (40.0%)
On-Dock Rail Throughput (share)	3.4 (23.7%)	3.7 (25.7%)	6.0 (33.4%)	7.3 (33.3%)	8.2 32.5%)	11.5 (33.3%)	12.9 (29.8%)
Near-/Off-Dock Rail Throughput (share)	2.7 (18.5%)	2.0 (14.3%)	1.2 (6.6%)	1.5 (6.7%)	1.9 (7.6%)	2.3 (6.7%)	4.4 (10.2%)

Using the forecasted cargo volumes in TEUs from Table I-5 above, the chart below converts TEUs to containers. Please note that a full 25% of import containers is transloaded but that ½ of that goes "east" and ½ of that stays north of the Ports. That means 12.5% of the cargo containers imported are transloaded to domestic containers before going to one of the rail yards north of the Ports that are shown in Figure 2.

Table 4. San Pedro Bay Ports Intermodal Forecast, 2009. ***Table adapted from Tioga Report, 2009.***[xvii]

Year	TEUs	1 container = 1.85 TEUs	Total containers/year	Total containers that are transloaded north of the Ports = 12.5%
2012	14.3 Million		7.73 Million	996,250
2016	17.8		9.62	1,202,500
2020	21.8		11.78	1,472,500
2023	25.2		13.62	1,702,500
2030	34.6		18.7	
2035	43.2		23.25	

In 2016 there will be 1,020,500 transloaded containers heading north of the Ports to a rail yard, using the 25% of Port imports figure supplied by John Doherty of ACTA. If these containers ALL went to Hobart, they would more than "replace" the 1.1 million international cargo containers that were "diverted" to the SCIG in that year. The SCIG will handle 1.1 million containers in 2016 according to the DEIR's Executive Summary.

In scenario, the Hobart Yard would have the opportunity to be full again by 2016 – and there would be just as many trucks on the I-710 and other local freeways as there are today. In fact, counting the trucks carrying 1.1 million containers to the SCIG and potentially 1.0 million containers to Hobart – there would be TWICE as many trucks on the roads as there are now. No reduction in air pollution. No "health savings." Increased cancer risk. Increased noise.

In this scenario, the capacity of the Hobart Yard is 1,500,000. With 1,020,500 transloaded containers, there would still be space for 479,500 pure domestic containers.

BASED ON FUTURE CARGO FORECASTS, HOW QUICKLY COULD THE HOBART YARD ACTUALLY FILL UP WITH TRANSLOADED AND DOMESTIC CONTAINERS AFTER THE BNSF SCIG OPENS?

Scenario 3

But what if some of the transloaded containers went to the UP LATC or the UP Commerce Yards. Does that dramatically change the forecast for Hobart? First, these yards are significantly smaller as Table 5 demonstrates. In this Scenario, let's assume that there is a domestic to transload "split" of 50/50 at the two UP yards (noting also that UP Commerce handles 26% international containers and Hobart would handle 5 percent international cargo.) Let's go back to Scenario 1, in which Hobart in 2010 had 1,090,000 actual lifts, 59% of which were international. For that Scenario, we used what we consider faulty information in the SCIG DEIR—that is that only "pure domestic containers" are handled at the Hobart Yard. Therefore we "assumed" that the remaining 41% of the containers handled in 2010 were "pure domestic containers." For this Scenario, however, we look at Hobart having a more realistic 50-50 split of domestic containers and transloaded containers in 2010. (See Table 3 above). That would mean that the "pure domestic containers at Hobart in 2010 were ½ of 446,900 or 223,450. (Again, refer to Table 3 above).

We start with the 223,450 pure domestic containers as calculated above, and add a 3% increase per year. Handling of pure domestic containers is rising at a much slower rate than is transloading so we have added a small growth rate for pure domestic containers. 2010 pure domestic containers at Hobart were calculated at 223,450. If this number rose by 3% every year until 2016, there would be approximately 266,810 "pure domestic containers" handled by Hobart in 2016. There would leave 958,000 spaces for transloaded containers at Hobart.

Table 5. Future Space for Transloaded Containers at the UP and BNSF Rail Yards North of the Ports, if International Containers Leave Hobart for the SCIG

Yard	Ca-pacity in 2016	Int'l con-tainers?	If 50/50 domestic and transloaded	Space for trans-loads	Transloaded containers available in 2016 1,202,500	In 2016, total transloaded containers = 1,202,500 based on cargo projections in DEIR SCIG
UP LATC	250,000	0	125,000	125,000		125,000
UP Commerce	510,000	26% = 132,600 *Leaving 377,400 slots*	188,700	188,700		188,700
Hobart Eastern	200,000		BNSF and CARB say that this yard handles "only local domestic" containers	0		
Hobart	1.5 million	75,000 (5%)	266,810	1.16 million		958,000
					There would be more transloaded containers available for Hobart than there is even space for, if we assume a 50-50 split of domestic and transloaded at Hobart.	**958,000 transload spaces would be available for Hobart to have the oppor-tunity to fill**
	Scenario 3: Again, in 2016 the SCIG will have 1.1 million "lifts" according the DEIR. In 2016, there will be 1,202,500 transloaded containers available for the three rail yards, two of which are small compared to Hobart. Hobart would have space for at least 958,000 of these containers.					

	SCIG would have diverted 1.1 million containers and Hobart would have been able by 2016 to "fill" 958,000 of those slots, leaving a difference of only 142,000 containers. By early 2017, Hobart would have the opportunity to have MORE transloaded containers than the 1.1 million "diverted" to the SCIG. **In this scenario, by early 2017, there will be more transloaded containers on the I-710 and adjacent roads heading to Hobart than were so-called "eliminated" by diversion of international containers to the SCIG.**

Please also note: The LATC and Up Commerce handle a small % of international containers but these might move to the UP ICTF if it is approved and opens. This somewhat limits their ability to take a full load of transloaded containers, leaving more containers potentially needing to go to the Hobart Yard.

The DEIR says that the Hobart Yard will handle only domestic containers in the future, *thereby "…eliminat[ing] a part (estimated at 95%) of existing and future intermodal truck trips between the Port and the BNSF's Hobart Yard?" (DEIR at 3.10-25).* **Where in the DEIR is documentation provided for that statement?**

The simple answer is that we can find no documentation for this statement anywhere in the 4000+ page SCIG DEIR. We can, however, find many assertions to that effect in the DEIR and in the press.

BNSF president and CEO Matthew Rose described the advantages of the SCIG at a 2006 Town Hall Los Angeles keynote address, by noting how much shorter truck trips would be for containers currently going to the Hobart Yard once they are able to travel to the SCIG. He stated:

> *"… The Hobart Yard … is 20 miles away from the ports and handles, this year [2006], about 1.4 million containers and trailers. You can imagine if we could shift that volume near-dock or on-dock the impact that we could just have in terms of reducing congestion and improving air quality."*[xviii]
>
> - Matthew K. Rose, Chairman, President and CEO, Burlington Northern Santa Fe Corp.

Mr. Rose also added:[xix]

> **"Hobart is the largest inland intermodal facility in the world, and we look forward to being able to continue that as well."**

Despite Mr. Rose's assertions that the Hobart Yard will continue to thrive, the DEIR states over and over again that when the SCIG opens, truck trips on the I-710 Freeway from the Ports will be dramatically reduced. (See for example *DEIR*, at 2-11; 3.10-30; 3.10-25; 4-60; and 7-33.) The only reference to the future of Hobart Yard, however, is that it will handle 5% international cargo containers and otherwise handle "domestic" containers. (DEIR 3.10-25). The only documentation provided for assertions about what will happen to the Hobart Yard with/without the SCIG project appears to be a reference to "Personal communication, J. Hovland, 2009." "J. Hovland" is apparently John Hovland, director of marketing and facilities management for BNSF Railway in Fort Worth, Texas.

None of the following types of potential documentation about what could happen to the BNSF Hobart Yard are included in the DEIR:

- No memo from BNSF's J. Hovland about the future of the BNSF Hobart Yard.

- No memos describing exactly what BNSF plans to do with the Hobart Yard if the SCIG is approved.
- No affidavits from BNSF about its future plans for the Hobart Yard.
- No affidavits or memos from BNSF that state that the Hobart Yard will only be handling "pure" domestic containers (ones with goods that did not originate at the Ports)
- No affirmative statement saying that BNSF Hobart will not be accepting any international cargo in <u>transloaded</u> containers at the Hobart Yard if/when the SCIG is built.

Thus, the assertion that BNSF Hobart will "eliminate 95% of existing and future intermodal truck trips between the Port and the BNSF's Hobart Yard" is undocumented and untested.

This assertion presented as fact in the DEIR is also an **untested assumption** which is used in all of the DEIR's and Health Risk Assessment's (HRA) analyses and conclusions about truck volumes, near-roadway pollution, noise, EJ, air quality, and diesel cancer risk – an assumption that trucks from the Ports will no longer travel 24 miles to the Hobart yard if the SCIG is built. Using this untested assumption, the DEIR has calculated dramatic "health savings" and "pollution" savings that would result from "eliminating trucks" from the Ports to Hobart. The author has analyzed data on truck trips, transload volumes and traffic and concludes that the assertion utilized in all the DEIR and HRA analyses is incorrect and the assumptions based on it make the subsequent analyzes upon questionable, as will be demonstrated below.

HOW MANY MILES WOULD A <u>TRANSLOADED CONTAINER</u> TYPICALLY TRAVEL TO GET TO THE HOBART YARD?

Such a calculation includes miles covered by a truck driving an international container from the Ports to a typical transload center and then having another truck carrying the transloaded domestic container to the Hobart Yard. As we can see from Figure 1 in this report, showing transload centers, there are hundreds of transload centers between the Port and Hobart Yard. Let's use an example of one that is in South Gate, as pictured below in Figure 3 from the McGMAP report:

Figure 3. Maersk Transloading Facility in South Gate, CA



If the SCIG is built, there will be empty space at the Hobart Yard that could have the opportunity to handle transloaded containers. Calculations of the potential volume of transloaded containers that could originate at the Ports and end up at the Hobart Yard demonstrate that Hobart can continue to thrive as an intermodal rail yard with a large number of both domestic and transloaded containers from the Ports. Much of the goods originate at the Ports and make their way by truck up the I-710 Freeway (or other freeways) to the Hobart Yard – after having been transloaded into domestic containers, making <u>at least a 24-mile trip</u> before reaching Hobart. *See Table 6.*

See Table 6 below. Three very typical routes from the Port of L.A. to a transload center and then on to the Hobart Yard with a domestic container all would entail MORE truck miles traveled than the straight route from the POLA up the I-710 Freeway to the Hobart Yard with an international container. That means that if the international container lift load at Hobart went to the SCIG but the empty slots were replaced with a similar number of transloaded container lifts, the number of truck miles traveled would actually increase, including on local area freeways. Note the routes and mileages below.

Table 6. Distances of Direct Rail Container Trips versus Transloaded Container Trips from the Port of Los Angeles to the BNSF Hobart Yard

Starting Point	Destination #1	Destination #2	Total Miles Traveled	Miles saved or added compared to 24.3 miles on the I-710 or other local area freeways
Port of Los Angeles	To BNSF Hobart, 3770 East Washington Blvd., Commerce, CA		24.3 miles	
Port of Los Angeles	To South Gate Transload Facility	South Gate Maersk logistics facility at 5011 Firestone Place, South Gate, CA 90280 to Hobart Yard in Commerce	25.7 miles	+ 1.4 miles
Port of Los Angeles	To logistics facility in Santa Fe Springs at 11204 Norwalk Blvd Santa Fe Springs, CA 90670	Santa Fe Springs transload facility (Gale/Triangle) to Hobart Yard in Commerce	33.8 miles	+8.1 miles
Port of Los Angeles	To logistics facility in Carson, CA	Carson, CA to Hobart Yard in Commerec	26.6 miles	+2.3 miles including 7 miles on the I-110; 4 miles on the I-405 and 13 miles on the

				I-710.

Google Map of route from POLA to Carson logistics facility to Hobart Yard: 1 mile on surface streets; 7.1 miles on I-110; 1.4 miles on surface streets; 3.9 on the I-405; and 13.2 on the I-710. That adds up to about 26.6 miles.

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500 Pier a Street, Wilmington, CA 90744 - (310) 732-3700

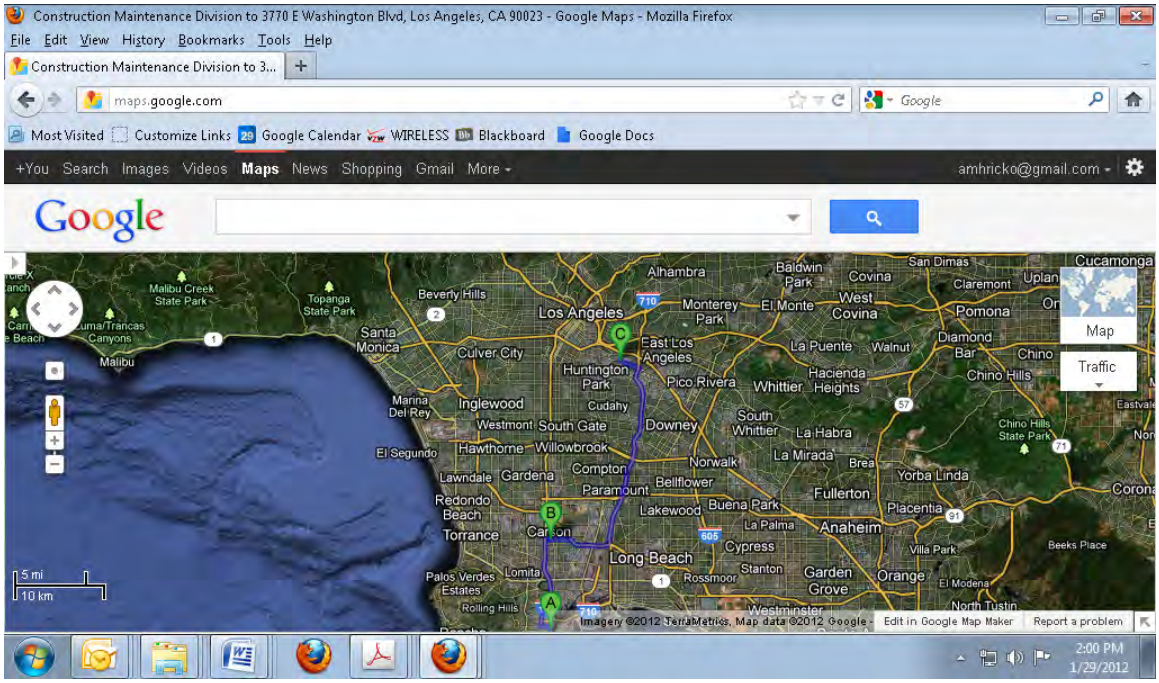
1. Head **north** on **S Palos Verdes St** toward **W 5th St** go 0.2 mi
   About 1 min total 0.2 mi
2. Turn left onto **W 1st St** go 0.6 mi
   About 2 mins total 0.8 mi
3. Turn right onto **N Gaffey St** go 0.2 mi
   total 1.0 mi
4. Slight right onto **I-110 N** go 5.8 mi
   About 5 mins total 6.8 mi
5. Take the exit toward **Carson St** go 0.1 mi
   total 6.9 mi
6. Take exit **7** toward **S Figueroa St** go 0.2 mi
   total 7.1 mi
7. Turn left onto **S Figueroa St** go 0.2 mi
   About 1 min total
   7.3 mi
8. Turn right onto **W Carson St** go 0.2 mi
   About 1 min total 7.6 mi

Total: **7.6 mi** – about **12 mins**

Carson, CA total 0.0 mi

9. Head **east** on **W Carson St** toward **Moneta Ave** go 1.5 mi
   About 4 mins total 1.5 mi
10. Turn right to merge onto **I-405 S** toward **San Diego** go 2.4 mi
    About 3 mins total 3.9 mi
11. Take the **I-710 N** exit toward **Pasadena** go 0.3 mi
    total
    4.2 mi
12. Continue on the ramp and merge onto **I-710 N** go 13.2 mi
    About 13 mins total 17.4 mi
13. Take exit **17C** for **Washington Blvd** toward **Commerce** go 0.2 mi
    total 17.6 mi
14. Merge onto **Hepworth Ave** go 56 ft
    total 17.6 mi
15. Turn right onto **E Washington Blvd** go 1.5 mi
    Destination will be on the left total 19.1 mi
    About 3 mins

Total: **19.1 mi** – about **23 mins**
3770 E Washington Blvd, Los Angeles, CA 90023



In other words, if transloaded containers replace the former international container slots that are "diverted" to the SCIG, then there would be more truck miles with the transloaded containers than currently exist with the international containers at Hobart – because transloaded containers always have to make a diversion to a transload center before going to Hobart.

A WORD ABOUT SEMANTICS

When people's lives and health are at stake, we cannot afford playing with semantics over what is inside of a 53-foot container and where the cargo inside originated.

What is a 40 foot container with goods originating at the Ports called? -- An "international"container

What is a 53 foot container with goods originating at the Ports called? – A "domestic" container.

What is INSIDE each of these containers? – goods that originated in another country, e.g., China, Vietnam, Korea!

A 53-foot container with goods from the Ports inside it cannot be camouflaged in the BNSF SCIG DEIR as though industry leaders at the Port of Los Angeles, BNSF Railway, Environ and other DEIR consultants are not aware of the transloading phenomenon and of exactly how far trucks travelled to get that container to the Hobart Yard from where the goods entered at the Ports.

To reiterate, many retailers these days are finding that using 53 foot containers and using the transloading process provides them more flexibility in getting their products, provide additional transit time to make decisions about where the transloaded domestic containers are heading, and they hold more contents, making them cheaper to ship on rail than 40-foot containers.[xx] The CEO of a company with transloading facilities, one located in Santa Fe Springs, told the author that transloading containers which originated at the Ports into 53-foot domestic containers and driving them to the BNSF Hobart Yard is a regular part of their business.[xxi] Since transloading is a surging trend and Hobart is the country's largest intermodal rail yard, Hobart is undoubtedly already handling more and more of these transloaded containers – and they would arrive on trucks that have traveled at least 24 miles to get to the Hobart yard because of their diversion to a transload center.

How does this reconcile with all the analyses in the DEIR? It does not. The analyses (air quality, HRA, noise, cumulative impacts, and more) in the entire DEIR need to be redone

with accurate information about transloading and affidavits about what will happen to the Hobart Yard once the SCIG opens.
We conclude that the DEIR fails to recognize that in the future the Hobart Yard could potentially retain a robust business handling transloaded containers that originated at the Port of L.A. and Long Beach that are full of international cargo. The DEIR further confuses the issue by the choice of words. It says the Hobart will be "95% international container free" when SCIG opens. It does not say that Hobart will be "95% free of international goods that originated at the Ports." The DEIR would have one believe that all of the containers handled by Hobart now and in the future are "pure domestic containers" with locally made products inside them, thereby ignoring the reality of the transload business (and of the U.S. economy).

Finally, we attach below a series of claims that have been made over and over again about the so-called diversion of trucks off the 710 Freeway that the SCIG will allegedly create. The DEIR needs to redo the DEIR and validate and test the assertions and assumptions upon which it makes these claims. The public's health in Wilmington, Carson and Long Beach depends on it – as does the health of the thousands of residents who live along the I-710 Freeway.

EXAMPLES OF CLAIMS BETWEEN 2005-2011 THAT THERE WILL BE PUBLIC HEALTH BENEFITS DUE TO ELIMINATING TRUCK TRAFFIC ON THE I-710 BY BUILDING THE SCIG

Even before the initial environmental review process began in 2005, BNSF made assertions about the public health benefits that the SCIG would bring, issuing a press release about the anticipated public health and quality of life benefits of the SCIG, quoting then Mayor of Los Angeles James Hahn:

> *"This near dock rail facility will eliminate nearly 1 million truck trips per year, benefiting our commuters, our communities and our environment."*
>
> - Former Los Angeles Mayor James Hahn. Quotation in BNSF press release: "BNSF's Proposed Near-Dock Facility Receives Support from L.A. Mayor Hahn and Councilwoman Hahn," February 10, 2005 [1]

In July 2007, the BNSF SCIG's promotional website, entitled *Communities Matter*, promised that the SCIG "will help reduce traffic on local highways" and "improve air quality."[2] As noted above, BNSF specifically claimed that the SCIG will ease the impact of trucks on the region's air quality and congestion, including the I-710 (Long Beach) Freeway. That freeway leads from the Ports to the BNSF Hobart Yard, the largest intermodal facility in the U.S., located in City of Commerce. As mentioned earlier, BNSF president and CEO Matthew Rose described the advantages of the SCIG at a 2006 Town Hall Los Angeles keynote address, by noting how much shorter truck trips would be for containers currently going to the Hobart Yard when they will go to the BNSF SCIG:

> *"… The Hobart Yard … is 20 miles away from the ports and handles, this year [2006], about 1.4 million containers and trailers. You can imagine if we could shift that volume near-dock or on-dock the impact that we could just have in terms of reducing congestion and improving air quality."*[xxii]
>
> - Matthew K. Rose, Chairman, President and CEO, Burlington Northern Santa Fe Corp.

Shifting millions of containers from the Hobart Yard to <u>on-dock rail</u> would indeed be advantageous, because on-dock rail does not involve the use of trucks to move containers off the port property. On-dock rail means that a container is taken off a ship and goes directly onto a train to its destination – no truck involved, thereby reducing air pollution.

Moving the containers to near-dock rail, on the other hand, requires trucking each container five miles one way to the near-dock SCIG facility, creating air pollution.

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[1] http://www.bnsf.com/employees/communications/bnsf_today/2005/02/2005-02-10-d.html
[2] Burlington Northern Santa Fe Railway's Southern California International Gateway website www.communitiesmatter.com/why.html.

But it is actually the rest of CEO Rose's statement (and the earlier statement of former Mayor James Hahn) about the SCIG that has captured the attention and admiration of many elected officials and even Port staff – BNSF's claim that the SCIG would take more than a million trucks off the I-710 Freeway, trucks that normally would have traveled from the Ports to the BNSF Hobart Yard in Commerce. From the Port's web site in 2007 (and still there in 2012):

> *"Today, port related containers moving between the BNSF railyard and the ports travel on the I-710 freeway. Once this facility [the SCIG] is fully operational, it is expected that one million port-related trucks could be eliminated from the I-710 freeway per year. Estimated year of completion is 2009*." (Citation: POLA website accessed 7-17-2007 and again on 1-29-2012).

It is important to note that the BNSF assertions over the past 5-7 years have been accepted even more widely than stated above. In fact, from the Governor's office to State of California advisory councils, to the Southern California Association of Governments, and to various industry stakeholders, the BNSF claims have been stated and re-stated as "fact."

The Governor's Goods Movement Action Plan selected SCIG –because it would eliminate trucks on the I-710:

"It would "reduce truck trips on Interstate 710." [3] "... SCIG ... will eliminate over a million truck trips per year on I-710."

- Gill V. Hicks, transportation consultant
  Chairman of California Marine and Intermodal Transportation System Advisory Council (CALMITSAC). Quotation in a BNSF press release, May 8, 2007: "BNSF Enhances Proposed Southern California International Gateway"[4]

"Such a facility could eliminate one million truck trips annually from the 710 Freeway..."

- Southern California Association of Governments
  Southern California Regional Strategy for Goods Movement: A Plan for Action. February 2005 (Amended March 2005)[5]

"Authorities estimate the [SCIG rail] yard could take as many as 1 million trucks off local roadways, including the Long Beach (710) freeway, annually."

- "Rail yard planners offer cleaner solutions"
  Long Beach Press Telegram May 8, 2007 [6]

"It is simple: take a million older trucks a year off the 710 Freeway and replace them with clean trucks delivering containers to rail much closer to the ports."

- Elizabeth Warren

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[3] Goods Movement Action Plan, January 2007 http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf.
[4] Add citation
[5] Southern California Regional Goods Movement Policy Paper , page 22. www.scag.ca.gov/goodsmove/reportsmove.htm
[6] http://www.bnsf.com/employees/communications/bnsf_today/2007/05/2007-05-08-b.html

Executive Director, FuturePorts
"BNSF Railway Enhances Proposed Southern California International Gateway" BNSF E-Release May 2007 [7]

Moreover, the Los Angeles Chamber of Commerce endorsement letter for the SCIG highlights:

> *"the significant air quality, traffic and safety improvements" that will have a "direct effect on improving the quality of life for communities in the port areas as well as those along the Interstate 710 Corridor and other freeways."* [8]

The claim that the SCIG will result in a million fewer trucks on the I-710 and other local freeways, thereby improving air quality and reducing the burden on southeast L.A. communities along the I-710 goods movement corridor, has been so widely asserted and repeated that it appears to be "fact;" it is now commonly accepted as "the truth." But the SCIG DEIR simply failed to evaluate the unverified assertions and untested assumptions behind those statements.

[7] http://www.communitiesmatter.com/erelease/0507/index.html
[8] Russell J. Hammer, President & CEO of the Los Angeles Chamber of Commerce; in a letter to BNSF Railway, June 16, 2005 http://www.communitiesmatter.com/SCIGletter0605.pdf

UNTESTED ASSERTIONS HAVE APPEARED ON THE PORT OF LOS ANGELES WEBSITE FOR YEARS

Despite statements by elected officials, newspaper reports and BNSF officials at multiple corporate levels, along with statements in the DEIR, no documentation to support the claims above has yet been provided. For more than seven years, even the Port of Los Angeles has accepted this as "fact" on its public web site:

Accessed July 16, 2007 on POLA website:

"Today, port related containers moving between the BNSF railyard and the ports travel on the I-710 freeway. Once this facility is fully operational, it is expected that one million port-related trucks could be eliminated from the I-710 freeway per year."

Accessed January 29, 2012 on the POLA website:

"Southern California International Gateway"

The Port of Los Angeles is developing a new near dock rail facility, which will be operated by Burlington Northern Santa Fe (BNSF). This facility will be used to handle Port related intermodal containers. The proposed site for this facility is Port of Los Angeles property north of Pacific Coast Highway, south of Sepulveda Boulevard and west of the SR103. Today, port related containers moving between the BNSF railyard and the ports travel on the I-710 freeway. Once this facility is fully operational, it is expected that one million port-related trucks could be eliminated from the I-710 freeway per year. Estimated year of completion is 2009."

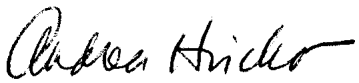
Since the statements were made before the BNSF SCIG Draft EIR/EIS was even completed, and since it has not yet been finalized by the Port, it might be reasonable to question whether the above web site statements might even be considered prejudicial.

CONCLUSION

The author of these comments concludes that the DEIR should be sent back, be redone and be recirculated for comment. She requests that the recirculated DEIR include an evaluation of whether the capacity that will be opened up at Hobart by building SCIG will be filled with additional freight truck trips to Hobart with transloaded containers that originated at the Ports – and that the impacts of that traffic and air pollution be re-considered in the new DEIR. The author also requests that the DEIR consultants document BNSF and other industry data about where containers are heading, and conduct interviews with key transloading center executives to develop an accurate picture of what is happening in southern California with regard to transloading practices. This is critical to an accurate BNSF SCIG DEIR, and it is needed to replace the virtually non-existent review of transloading that exists in the current DEIR and the undocumented statements about the fate of BNSF Hobart Yard after the SCIG opens, if it does. All analyses in a

revised DEIR for air quality, cancer risk, other health risks, noise, cumulative impacts, traffic, etc. will need to be redone once transloading statistics are included.

Thank you for your consideration.



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[i] California Air Resources Board. Supplement to the June 10 Staff Report. Proposed Actions to Further Reduce Diesel Particulate Matter at Four High Priority California Railyards. July 2011.
[ii] Los Angeles Country Metropolitan Transportation Authority. Technical Memorandum – I-710 Railroads Goods Movement Study, Feburary 2009, pp 22-24.
[iii] California Air Resources Board. Supplement to the June 10 Staff Report. Proposed Actions to Further Reduce Diesel Particulate Matter at Four High Priority California Railyards. July 2011.
[iv] Phone interview with Michael Kaplan, CEO of Gale/Triangle, Inc.,October 2011.
[v] See Table at DEIR, page 1-21.
[vi] See email exchange reprinted in Appendix A.
[vii] Bill Mongelluzzo. Alameda Shortfall, Just Once More. *The Journal of* Commerce Magazine. Nov 10, 2011.

[viii] Peter Tirschwell. Surging Transload. Journal of Commerce online. Jan 24, 2011.

[ix] Peter Tirschwell. Transloading, Part II. The *Journal of Commerce Magazine* - Jan 31, 2011. *Commentary.* |
JOC Tirschwell
[x] Tioga Group. Appendix C- Memorandum – Revised to Michael Fischer, Mark Jensen, Dave Levinsohn – Market Estimate for Alternative Container Transport Technology, October 1, 2008.
[xi] Tioga Group. Appendix C- Memorandum – Revised to Michael Fischer, Mark Jensen, Dave Levinsohn – Market Estimate for Alternative Container Transport Technology, October 1, 2008.
[xii] Consolidation Activity in the Southern California Area. Alameda Corridor Transportation Authority, March 2004.
[xiii] Wilbur Smith & Associates. Multi-County Goods Movement Action Plan. Final Technical Memorandum 3: Existing Conditions and Constraints. October 6, 2006. http://www.metro.net/images/Final%20TM3%20100606.pdf
[xiv] Tioga Group. Appendix C- Memorandum – Revised to Michael Fischer, Mark Jensen, Dave Levinsohn – Market Estimate for Alternative Container Transport Technology, October 1, 2008.
[xv] See JOC
[xvi] From email exchanges between the author of these comments and Mr. John Doherty, director of the Alameda Corridor Transportation Authority, October 2011.
[xvii] Tioga Group. San Pedro Bay Container Forecast Update. Prepared for the Ports of Los Angeles and Long Beach, July 2009.
[xviii] *Town Hall Los Angeles, Keynote Address "Will Southern California Have Adequate Freight Transportation Capacity In the Future?"* http://www.communitiesmatter.com/hall.html. September 14, 2006.
[xix].*Town Hall Los Angeles, Keynote Address "Will Southern California Have Adequate Freight Transportation Capacity In the Future?"* http://www.communitiesmatter.com/hall.html. September 14, 2006.
[xx] Phone interview with Michael Kaplan, CEO of Gale/Triangle, Inc., October 2011.
[xxi] Phone interview with Michael Kaplan, CEO of Gale/Triangle, Inc., October 2011

[xxii] *Town Hall Los Angeles, Keynote Address "Will Southern California Have Adequate Freight Transportation Capacity In the Future?"* http://www.communitiesmatter.com/hall.html. September 14, 2006.

US transloading growth reshaping cargo routing

Bill Mongelluzzo, Senior Editor | Mar 03, 2017 6:05PM EST

LONG BEACH, California — Increased transloading of merchandise imports from marine containers to domestic containers and trailers at major US seaports — rising from 52 percent of total intermodal volume through Los Angeles-Long Beach to 58 percent in five years — is reshaping containerized supply chains.

Data accumulated by industry analysts and industrial real estate experts reveal that this trend is underway, and they project that growth in transloading will continue unabated as a result of the convergence of the big-ship phenomenon and rapid growth in e-commerce fulfillment. The ability of importers to determine the final destination of the merchandise after the container reaches the US port, rather than two weeks earlier when it is loaded on the vessel in Asia, gives retailers more flexibility in routing. Beneficial cargo owners must further study their supply chains to determine the best routing for their needs.

Ports must invest in the marine terminal infrastructure and tall cranes needed to handle bigger and bigger ships. Industrial real estate developers must scramble to find suitable locations near major ports for transloading activities, and also for locations near urban cores to process last-mile deliveries for e-commerce fulfillment.

Seaports will continue to be where the action is in supply chain logistics. “The greatest concentration of this demand is in Southern California,” Rob Leachman, professor at the Institute of Transportation Studies at the University of California, Berkeley, told the 17th Annual TPM Conference this week in Long Beach. “The next greatest concentration is at ports that serve the other two, three, or four corners,” he said.

There are four to five load-center gateways for the the North American container trades. The so-called five-corner strategy of logistics involves the Pacific Northwest, which includes the

Northwest Seaport Alliance of Seattle and Tacoma and the British Columbia ports of Vancouver and Prince Rupert, Los Angeles-Long Beach, Houston, the South Atlantic ports of Savannah and Charleston, and the mid- and North Atlantic ports of Norfolk and New York-New Jersey.

In 2015, Los Angeles-Long Beach handled 50.7 percent of US containerized imports from Asia, other West Coast ports handled 12.2 percent, British Columbia had 4.4 percent, the Gulf ports 2.2 percent, South Atlantic ports 13.8 percent, and the Northeast 16.7 percent, Leachman said.

Cargo routing for imports from Asia, by far the largest sourcing area for merchandise imports, is affected greatly by cargo value. The highest-value imports such as electronic goods are concentrated in Los Angeles-Long Beach. Importers are willing to pay higher intermodal transportation costs to the interior in order to get high-cost or seasonal merchandise to the eastern half of the country as quickly as possible. Medium and low-cost imports are spread over the five corners to get the product closer to the consuming market at the lowest possible cost.

For example, Leachman found that 63.9 percent of electronics imports and 57.8 percent of auto parts imports enter the country through Southern California, but Los Angeles-Long Beach handles 47.4 percent of the lower-cost consumer goods such as furniture imports. By contrast, East and Gulf Coast ports do best when lower all-in transportation costs via all-water services from Asia provide access to population centers in their regions. The Northeast, South Atlantic, and Gulf ports combined handle more than 50 percent of the lowest cost containerized merchandise where price, rather than time-to-market, is the determining factor in cargo routing.

In supply chain logistics terms, the tendency of retailers to “push” their containers through seaports to the final destinations is growing less rapidly — or in some cases not at all — than pushing the 40-foot marine containers to large import distribution warehouses, transloading the merchandise into 53-foot domestic containers and trailers, and “pulling” the merchandise to regional distribution centers.

Leachman said this trend, coupled with growing e-commerce demand, is driving more freight to the push-pull model. “Push-pull is growing faster than overall imports, and push is growing slower than overall imports or even declining,” he said.

The trend toward more transloading was confirmed by Larry Gross, president of Gross Transportation and a partner at FTR. “Transloading is playing a larger role,” Gross said, but the “intermodal-unfriendly” west-to-east routing of intact containers will probably not be a growth sector in the coming years.

For example, in Southern California, which is the transloading capital of the country, transloading’s share of intermodal freight increased from 52 percent in 2011 to 58 percent in 2016, whereas intact intermodal’s share dropped from 47 percent in 2011 to 42 percent.

The merchandise imports will be carried by ever-larger ships. According to Drewry Shipping Consultants, 78 percent of the new vessel deliveries in 2017 will be vessels with capacities of 10,000 twenty-foot-equivalent units or higher, and more than half will be ships of 14,000 TEUs

capacity or greater. The message for the major gateway ports is that they better be able to handle these ships or they will lose market share.

Los Angeles-Long Beach has been handling weekly calls of vessels of 10,000 TEUs or greater for the past several years, and this has sent the ports and their terminal operators into a frenzy of marine terminal upgrades and the purchase of taller ship-to-shore cranes to be able to handle these vessels fully loaded.

Noel Hacegaba, managing director of commercial operations in Long Beach, said infrastructure and equipment comprise only half of the equation. Those big ships generate such a large surge of container discharges and reloads, 10,000 or more container exchanges per vessel call, that improved cargo-handling processes, immediate dray-offs of containers from the terminals, a focus on improved chassis availability, and enhanced data-sharing among all port users is at least as important as infrastructure investment, Hacegaba said.

Terminal efficiency takes on even greater importance with the surge of e-commerce fulfillment and the need for speed that consumers have created in receiving their shipments. Walter Kemmsies, managing director, economist, and chief strategist at Jones Lang LaSalle airports and seaports division, said a "looming conflict" could be in the making as the bigger ships call at fewer ports, take longer to unload, and generate more congestion at the gateways, but consumers want their purchases shipped to them in a day or less. This trend calls for import distribution centers to carry larger inventories so the merchandise can be pushed to intermediary facilities for delivery to consumers.

Kemmsies noted that e-commerce accounts for only 10 percent of retail sales, but about half of the new construction of industrial properties is for e-commerce. The growing demands of e-commerce fulfillment are beginning to affect the logistics strategy that has been present since the 2008 to 2009 economic recession. During the lean times, reducing transportation and inventory-carrying costs were most important. Now, the greatest fear of logistics managers is a "stock out" notification that upsets consumers and can lead to the dismissal of those employees in charge of having the right merchandise on hand when and where it is needed, he said. Therefore, costly investments in carrying additional inventory and building intermediate warehouses on costly land in urban core areas are more important than cost-cutting.

The implications of these trends for developers and users of industrial real estate are changes in the mix of distribution facility sizes, as well as the siting of those facilities, at the major gateways and in secondary and tertiary markets. Leachman said demand for national distribution centers of 500,000 to 1 million square feet in locations that serve ports will be strong, but so too will be demand for 1-million-plus sq ft e-commerce fulfillment centers and import warehouses.

Also emerging rapidly from the growth in e-commerce development is a need for intermediate facilities located between the large import and regional distribution facilities and the urban core. These facilities break down the shipments to the package level for shipment directly to the consumers' homes or to retail stores that are increasingly becoming pickup locations for merchandise ordered online.

E-commerce fulfillment in urban areas can be handled at facilities of 100,000 to 200,000 square feet, which are often found at in-fill sites. They can be older warehouses or former manufacturing sites that can be repurposed for e-commerce. This trend has grown so rapidly that in some of the larger, denser urban areas, developers are finding it increasingly difficult to locate these facilities, said Matt Mullarkey, senior vice president of strategic planning at CenterPoint Properties. The cost of land and labor obviously increase the closer developers get to the urban core, but the need for timely delivery of merchandise in the last mile makes location more important than those factors, he said.

The confluence of the big-ship phenomenon, the increase in transloading, and the last-mile requirements of e-commerce have retailers and other importers reviewing their supply chain strategies and possibly modifying them, Leachman said. Shippers must consider cost, efficiency, and time to market in order to determine the best path to each location they serve, he said.

Contact Bill Mongelluzzo at bill.mongelluzzo@ihsmarkit.com and follow him on Twitter: @billmongelluzzo.

APPENDIX C: TRAFFIC ASSUMPTIONS; TRANSLOAD COMMENTS AND REPORT

1. EXCERPTS FROM MINUTES OF I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE
2. Transload Report by Andrea Hricko
3. Journal of Commerce transload statistics

1. EXCERPTS FROM MINUTES OF I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE

THE MINUTES OF THE MEETING OF THE
I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE
A Meeting Held at Progress Park
15500 Downey Ave.
Paramount, CA
January 30, 2014

Excerpt from the Minutes:

B. I-710 Traffic Forecast Update

Dave Levinsohn, URS, gave a PowerPoint presentation which summarized changes to the traffic model since the release of the Draft EIR/EIS. He identified key travel demand inputs that had been updated, including the SCIG and ICTF projects, new understanding of the transload truck patterns, the 2012 SCAG RTP travel demand model, and port cargo projections. Overall, the 2012 SCAR RTP model shows lower projected port truck volumes and greater volumes of non-port trucks on I-710 than the 2008 SCAG RTP model.

MINUTES OF THE MEETING OF THE
I-710 CORRIDOR PROJECT EIR/EIS
TECHNICAL ADVISORY COMMITTEE
16401 Paramount Blvd., Paramount, CA
June 19, 2013

Excerpt from the Minutes

Jerry Wood commented that the traffic forecasts will be analyzed with and without the near-dock rail yards, with and without the SR-710 north extension, and including new multi-modal and active transportation plans inputs, and new rail yards and transloading facilities information that has recently been developed or become available.

MINUTES OF THE MEETING OF THE I-710 CORRIDOR EIR/EIS PROJECT COMMITTEE

A Meeting Held at Progress Park

15500 Downey Ave. Paramount, CA

May 30, 2013

Excerpt from the Minutes:

Gill Hicks, Cambridge Systematics, gave a PowerPoint presentation regarding the goods movement assumptions. He said the SCIG and ICTF rail yards are now included in the No Build and various build alternatives. He said reductions had been made in the container volume at intermodal yards and the daily trips of automobiles to the ports. Mr. Hicks explained the projections for annual lifts at the intermodal rail yards and gave a detailed description of how and where transloading of marine containers takes place. Because of the advance in information systems, the revised EIR/EIS will assume a greater level of truck double-cycling and empty chassis re-use at intermodal yards. He said the next steps will include forecast modeling and a report on the initial model runs.
Patricia Ochoa, Coalition for Clean Air, read a letter from the Coalition for Environmental Health and Justice. She said the recommendation is that more time be taken to analyze the traffic assumptions before presenting them to the Project Committee.

Patricia Ochoa, Coalition for Clean Air, read a letter from the Coalition for Environmental Health and Justice. She said the recommendation is that more time be taken to analyze the traffic assumptions before presenting them to the Project Committee.

Angelo Logan, East Yard Communities for Environmental Justice, said this is very important and complicated. He said their recommendation is to take pause and allow this information to be well-vetted by all stakeholders.

MINUTES OF THE MEETING OF THE I-710 CORRIDOR PROJECT EIR/EIS TECHNICAL ADVISORY COMMITTEE 16401 Paramount Blvd., Paramount, CA August 21, 2013

Mr. Hicks said the 2035 forecast is for 110,000 daily truck trips to and from the ports and for 17,000 daily trips involved in transloading of port-related goods. He said the forecast is for an additional 14,000 intermodal daily trips that are not port-related and 172,000 daily non-intermodal truck trips in the I-710 study area that are not port-related. He said the 2035 numbers reflect a reduction from the previous forecast from 43.2 million to 41.4 million containers coming through the ports.

THE TRUCK AND TRANSLOAD REPORT:

An analysis

of unverified assertions and untested assumptions

in the BNSF SCIG DEIR

concerning future activities at the BNSF Hobart Yard

if the BNSF SCIG opens

Report submitted as comments
to the POLA on the SCIG DEIR
by
Andrea Hricko, MPH*
Professor of Preventive Medicine, Keck School of Medicine, USC
& Director of the Community Outreach and Engagement Program
of the Southern California Environmental Health Sciences Center

February 1, 2012

** A first draft of this report was completed by Andrea Hricko and Ariella Morrow in 2007, when Ms. Morrow was a graduate MPH student at USC Keck School of Medicine. Ms. Morrow is currently a medical student and has not reviewed the recently issued Draft Environmental Impact Report. We acknowledge her work and earlier efforts.*

Summary

BNSF Railway has proposed a new intermodal rail facility to be located "near-dock" -- four miles from the Ports of Los Angeles and Long Beach. A Draft Environmental Impact Report (DEIR) has been issued. That report concludes that the new rail yard, called the Southern California International Gateway or SCIG Project will reduce truck traffic, improve air quality and improve health in the region.

This analysis examines the assertions in the DEIR about how the claimed reduction in truck traffic will be accomplished. It examines the assumptions in the DEIR upon which other analyses (e.g., air quality) are based. It explores what might happen to the BNSF Hobart Yard if the SCIG opens, with claims in the DEIR stating that Hobart will handle only "domestic" containers and will no longer be handling any more than 5% of international cargo, thereby "shifting" trucks from the I-710 and I-110 Freeways a shorter distance to the new SCIG.

Definitions play a role in claims in the DEIR. It is important to note that "domestic containers" can be of two types:

- Transloaded containers - cargo that arrived at the Ports and was then taken out of the 40-foot containers at a transload facility and then placed into 53-foot containers before arriving at a rail yard, and
- "Pure" domestic cargo in either domestic 53-foot containers or trailers – cargo that has not passed through the Ports before arriving at the rail yard. *(See DEIR at 3.10-31)*

The analysis concludes that those who drafted the DEIR and supplied information for it (POLA, Environ, and BSNF) failed to consider the most recent trends in the industry with regard to a "surge" in transloading of international containers, a practice increasingly popular with retailers that has been well-reported in the logistics industry press and in goods movement reports. According to the director of the Alameda Corridor Transportation Authority, a full 25% of imported cargo containers from the Ports of Los Angeles and Long Beach are now transloaded into domestic containers before they leave Southern California on rail. The author concludes that by 2016 the BNSF Hobart Yard would have the opportunity to "replace" the volume of "lifts" (containers) that go to the new BNSF SCIG yard with transloaded containers. If this happens, it would mean that there will likely be no "reduction" in truck mileage on the I-710 when the SCIG opens. In fact, the volume of trucks on the road to the two railyards (SCIG and Hobart) would be double the volume that had gone to the BNSF Hobart Yard alone. Several scenarios are included in this report.

The analysis concludes that the assertions in the DEIR about 1) reduction of truck trips to the BNSF SCIG, including information about the volume of transloaded containers and other information about what the "domestic containers" will comprise, are undocumented, 2) the assumptions are untested, and 3) the conclusions in the DEIR about traffic and air pollution impacts – which are based on these assumptions – are inaccurate.

Using documented and up-to-date information about trends in transloading, this Truck and Transload Report concludes that by 2016 the BNSF Hobart Yard will have the opportunity to replace with transloaded "domestic" containers all the "truck trips" that would supposedly have "been eliminated" by switching international containers from Hobart to the new BNSF SCIG.

In addition, there will be nearly an equal number of trucks by 2016 to the Hobart Yard and to the new BNSF SCIG, indicating that there could be twice as much truck traffic on the Harbor area's roads and freeways than the DEIR claims.

More detail: as calculated in this report, based on Port cargo forecasts in the SCIG DEIR, there might be as many as 1,202,500 transloaded containers available for the Hobart Yard in 2016, meaning that the number of transloaded containers by 2016 could replace the number of international containers moved to SCIG in 2016 (projected at 1.1 million). This would indicate that all of the traffic counts in the DEIR are faulty. If the Hobart Yard is going to continue handling transloaded containers (which it already does, but which the DEIR fails to describe), then there will be no reduction of truck trips and miles on the I-710 Freeway assuming that imported cargo grows as forecasted and that transloading continues to capture an ever-growing share of how imported cargo leaves the Ports.

In addition, the distance from the Port to a typical transload center and then on to Hobart with a transloaded domestic container is more than the current 24 miles that trucks travel to deliver international containers, because of the diversion off the I-710 to the transload facility and often then back onto the I-710. This transload scenario makes all the calculations in the SCIG DEIR about reduced truck traffic along the I-710 questionable**.**

The author of these comments recommends sending the DEIR back to the drawing board, redoing it and recirculating it, and requiring that all of the unverified assertions and untested assumptions be fully documented – and that all analyses, including air quality impacts, traffic impacts, cancer risk in the HRA, cumulative impacts and other impacts of the proposed SCIG, based on these assertions and assumptions, be fully redone.

THE REPORT

We appreciate the opportunity to offer comments on the BNSF SCIG DEIR and have chosen to look at the truck, traffic and transloading issue in the form of a report.

What does the DEIR say about the proposed BNSF SCIG project and the future of the existing BNSF Hobart Yard?

The Southern California International Gateway ("SCIG") rail yard project is an intermodal rail facility proposed by the BNSF Railway and the Port of Los Angeles (POLA) that would increase the ability of both POLA and the Port of Long Beach to grow. The POLA released the project's Draft Environmental Impact Report (DEIR) in September 2012, with comments due on February 1, 2011.

The DEIR was prepared by Environ International. The DEIR's analyses of potential air quality impacts, traffic impacts, cancer risk, cumulative impacts and other impacts of the proposed SCIG all heavily rely on assertions in the DEIR about BNSF's major Southern California rail yard, Hobart, the country's largest intermodal facility, which is located 24 miles from the Ports at the northern end of the I-710 (Long Beach) Freeway. Drayage trucks will be "shifted" from Hobart to the SCIG, saving miles traveled and reducing air pollution, according to the Draft EIR:

*"The proposed Project would construct an intermodal transfer facility at a location approximately 4 miles from the Ports, the proposed Project would eliminate a part (estimated at 95%) of existing and future intermodal truck trips between the Port and the BNSF's Hobart Yard, which is located approximately 24 miles north of the Ports in the cities of Los Angeles and Commerce, by diverting them to the proposed SCIG facility." (*DEIR at 3.10-30) (emphasis added)

The DEIR continues:

*"On the I-710 freeway … it is estimated that the project will reduce over 1.3 million truck trips per year…. This is due to the fact that the trips will occur to SCIG rather than to Hobart Yard, thus eliminating the trips on the I-710." (*DEIR at 3.10-26 (emphasis added).

In addition, the DEIR states:

"The proposed Project would result in fewer truck trips on the surrounding freeway system, as drayage operations currently serving the Hobart Railyard near downtown Los Angeles utilizing I-110 and I-710 north of the Pacific Coast Highway would be switched to the proposed Project site utilizing the proposed Project truck routes. Thus, the existing longer-distance freeway system trips from the ports to downtown rail yards would be replaced by shorter-distance trips to/from the proposed Project along port-area roadways." DEIR at 3.10-45) (emphasis added).

The DEIR does state that a small number of international containers will still go to the Hobart Yard, indicating that the Yard will not be closing:

*"The baseline intermodal demand handled by the Hobart Yard would be handled by the proposed Project. In order to be conservative, some international container trips are assumed to be handled by the Hobart Yard under proposed Project conditions – five percent of the baseline operations."(*DEIR at 3.10-40, emphasis added).

And finally, below is a description of how the DEIR says it used all of these alleged shortened traffic routes to evaluate air pollution and other impacts:

"These changes in traffic patterns, which are evaluated in this EIR, are being proposed in order to shorten truck trips for movement of containers between ships and railyards), thereby easing traffic conditions on local freeways and reducing regional air quality impacts. On the I-710 freeway, which is the primary roadway facility that services current Hobart Yard traffic, it is estimated that the project will reduce over 1.3 million truck trips per year between the SCIG project site and the BNSF Hobart Yard. This is due to the fact that the trips will occur to SCIG rather than to Hobart Yard, thus eliminating trips on the I-710." (DEIR at 3.10-26) (emphasis added)

What types of cargo are <u>currently</u> handled at the BNSF Hobart Yard – in 2011?

The DEIR states the following about the BNSF Hobart Yard and other intermodal rail yards in the Ports area: (See DEIR at 1-13).

Off-Dock Rail

Off-dock railyards are located farther (more than five miles) from marine terminals. Currently, there are a total of five off-dock railyards, three operated by UP and two operated by BNSF, but only two handle substantial numbers of containers from the San Pedro Bay Ports: the BNSF Hobart Yard in Los Angeles/Commerce/Vernon and the UP East Los Angeles Yard (Figure 1-8). Both railyards are located near downtown Los Angeles, approximately 24 miles north of the Ports. The remaining off-dock railyards include the UP Los Angeles Trailer and Container Intermodal Facility (LATC), UP City of Industry yard, and the BNSF San Bernardino yard. In 2008 the East LA and Hobart yards handled most of the international cargo not handled by on-dock yards and the ICTF: 136,000 TEUs by East LA and 1.48 million by Hobart, which currently handles all of BNSF's non-on-dock international cargo. All of the off-dock railyards in the region, including Hobart, handle more domestic and transloaded containers than international containers.

Key Definitions

Off-Dock Railyard: railyard located more than five miles from a marine terminal.

We note that the last sentence in the DEIR above states that: **"All of the off-dock railyards in the region, including Hobart, handle more domestic and transloaded containers than international containers."** This statement is interesting in several ways. First, it is an admission that the Hobart Yard currently handles transloaded containers. But the statement is factually incorrect with regard to the makeup of the overall container load at Hobart – something that is critical to the DEIR's calculations. Using information from BNSF, **the California Air Resources Board and Los Angeles County Metropolitan Transportation Authority both show that at the Hobart Yard, 59% of the containers handled are international containers and 41% are domestic (including transloaded and "pure" domestic).**[i] That is, there are currently more international containers at Hobart Yard than domestic and transloaded containers. It seems odd in a DEIR of this magnitude to have such a basic fact about the BNSF Hobart facility be completely wrong. See figure from L.A. County Metro below:

Table A-6
UP and BNSF Intermodal Off-Dock Railyards
In the South Coast Air Basin
International vs. Domestic Containers

Railyard	International Containers (Port Containers)[a]	Domestic Containers (Non-Port / Warehouse / Transloading)[a]
BNSF San Bernardino	0%	100%
BNSF Hobart (includes BNSF Commerce/Eastern)	59%	41%
UP Commerce	24%	76%
UP ICTF/Dolores	100%	0%

a. Los Angeles County Metropolitan Transportation Authority, *Technical Memorandum – I-710 Railroads Goods Movement Study, WBS Task ID:160.10.50*, February 2009, pp. 22-24.

B Basis for Emission Control Factors

The Union Pacific Intermodal Container Transfer Facility (UP ICTF) handles only international cargo containers. There are three large rail yards (and one small yard) north of the Ports that handle a combination of international containers, domestic containers, and transloaded containers, as shown in Table 1.

Table 1. Rail Intermodal Throughput Capacity, Adapted from Metro Table[ii] and California Air Resources Board[iii]

Facility	Capacity Lifts	2006 international lifts	Percent of Yard That is International Container Traffic	Percent of Yard That Handles Domestic Containers (Pure Domestic and Transloaded Domestic)
BNSF Hobart	1, 500,000*	808,086	59%	41%
UP East Los Angeles/Commerce	510,000	80,108	24%	76%
UP LATC	340,000	32,912	16%	84%
BNSF Eastern*		130,000 (2004)		

**BNSF counts capacity at this yard as 1.7 million, but the actual capacity according to the ARB is 1.5 million lifts. The rest is related to the BNSF Commerce Eastern yard, according to the ARB. The BNSF Eastern yard focuses on local domestic containers and handled 130,000 lifts in 2004, according to the California Air Resources Board.* http://www.arb.ca.gov/railyard/hra/bnsf_eastern_hra.pdf

Table A-5
Four High-Priority Railyards
Container Lift Activities, Forecasts, and Capacities
(April 2011)

Railyard	2005 (lifts) Actual	2010 (lifts) Actual	2015 (lifts) Projected	2020 (lifts) Projected	Annual Percent Growth from 2011 to 2020	Railroad Stated Capacity (lifts)
BNSF San Bernardino	555,000[a]	447,000[c]	546,000	668,000	4.1	660,000[e]
% change from 2005	–	-19%	-1.6%	+20%	–	–
BNSF Hobart	1,336,000[a]	1,090,000[c]	1,386,000	1,763,000	4.9	1,500,000[e,f]
% change from 2005	–	-19%	+3.6%	+32%	–	–
UP Commerce	345,000[b]	429,000[d]	534,000	664,000	4.4	510,000[e]
% change from 2005	–	+24%	+55%	+92%	–	–
UP ICTF/Dolores	626,000[b]	450,000[d]	587,000	767,000	5.5	760,000[e]
% change from 2005	–	-28%	-6.2%	+23%	–	–

a. Del Grosso, Robert C., *BNSF Railway Company 2010 Locomotive Review*, p. 9.
b. Union Pacific Fact Book, 2005, p. 9.
c. ARB staff, Harold Holmes, Personal communication with BNSF via email (January 17, 2011).
d. Union Pacific Fact Book, 2010, p. 15.
e. Los Angeles County Metropolitan Transportation Authority, *Technical Memorandum – I-710 Railroads Goods Movement Study, WBS Task ID:150.10.50*, February 2009, pp. 22-24.
f. Based on personal communications between BNSF and Harold Holmes via phone on May 20, 2011, staff determined that 1.5 million of 1.7 million lift capacity was attributed to BNSF Hobart Railyard only, with the balance attributed to BNSF Commerce/Eastern Railyard.

What are current transloading trends at the Ports of L.A. and Long Beach, what does the DEIR say about transloading, and why does transloading matter to analysis of the DEIR's assertions?

There is a surging industry trend: the practice called "transloading." The trend involves switching the contents of international containers into domestic containers at a location north of the Ports, in the 25-mile stretch between the Ports and the Hobart rail yard.

It works this way: 3 big-rig trucks pick up three international containers at the Ports. The containers are driven a few miles or up to 24 miles north of the Ports, and they are dropped off at a "transload center." At the transload center, the contents of the 20 or 40-foot "international" containers are emptied. The goods are then reloaded into 53-foot "domestic" containers. This trend is valuable for the retail industry, because the contents of 3 international containers fit into 2 domestic containers, reducing shipping costs and allowing for greater flexibility in selecting destinations for cargo once it has arrived in California.[iv]

The 53-foot transloaded "domestic containers" may "appear" to be "domestic" but <u>they are full of international goods.</u> And these transloaded containers travel at least 24 miles to get to the Hobart Yard.

The DEIR virtually ignores the latest trends in the goods movement industry with regard to transloading of international containers; in fact, the DEIR's statistics are based on completely outdated figures. The DEIR has a table (See Table 1-2 below) citing transload statistics,[v] referring to an unidentified source or report, simply "POLA, 2009." The text states that: "… approximately eight percent of import containers are transloaded to domestic international containers, a portion of which may then be drayed to an intermodal railyard for transport by rail to their eastern destinations." It also cites the Table 1-2 below as data used in developing intermodal rail forecasts. (See DEIR at 1-21).

Table 1-2. Mode Split of Containers Handled at the Ports of Los Angeles and Long Beach in 2008.

Container Mode	TEUs (Millions)	Percent of Total
Direct Rail (Direct Intermodal)		
- On-Dock	(3.4)	(23.7)
- Near-Dock	(1.06)	(7.4)
- Off-Dock	(1.68)	(11.1)
Total Direct Rail	6.14	42.2
Transload	1.12	7.8
Local/Domestic (Truck only)	7.07	50.0
Total	14.33	100%

Source: POLA, 2009.

:

Contrary to the claimed 2009 statistics cited in Table 1-2 (above) of the DEIR showing 7.8% transloaded containers, currently a full 25% of cargo coming into the Ports is transloaded to rail, according to the head of the Alameda Corridor Transportation Authority (ACTA), John Doherty). In an email exchange with the author of these comments, in October 2011,[vi] Mr. Doherty stated the following:

"Another simpler way of expressing the data (thereby avoiding the confusion of whether you are talking about % of outbound rail imports or % of port total imports) is as follows: about 40% of port imports go out of state by rail as ISO containers (20', 40', 45') with no transloading, about 25% go out by rail after transloading (48' and 53'), about 10% go out of state by truck after transloading (48' and 53'), and about 25% stay local both with and without transloading." *(John Doherty, ACTA, October 2011)*

The following table reflects the statistics from Mr. Doherty, which are his conclusions after having interviewed more than 100 shipping and transload experts.

Table 2. Where POLA and POLB Cargo Goes and by What Mode	
Mode	**%**
Out of state by rail in ISO containers (20', 40', 45') – with no transloading	40%
Out of state by rail after transloading into 48' and 53' containers	25%
Out of state by truck after transloading (48' and 53')	10%
Stay local both with and without transloading	25%
TOTAL CARGO	100%

The current documented statistic of 25% transloading of containers entering the Ports of LA and Long Beach versus the DEIR's statistic of 7.8% transloading (shown in DEIR Table 1-2) indicates a 320% error in the DEIR.

We note that in another section of the DEIR, a figure of 25% transloading is mentioned, with no citation, but the DEIR does nothing to explain the discrepancy with the 7.8% figure. The DEIR claims to use the 25% figure in calculating freight rail volumes for 2035. It does not discuss using either the 7.8% figure nor the 25% figure in doing any calculations about what the future will hold specifically for the Hobart Yard. See DEIR

at 4-92, reprinted below:

> Specifically, year 2035 freight rail volumes were developed using projections for direct intermodal containers from the ports (intact containers that are not transloaded); projections for non-intermodal port rail shipments (bulk, automobiles, and carload traffic); transloaded cargo containers (estimated, on the basis of historical data and recent SCAG studies, at 25 percent of all import containers; the I-170 EIR/EIS and current work being conducted for the SCAG 2012 RTP use this same assumption); non-port rail data and projections being developed for the 2012 RTP; historical lift data, by railyard, of marine and non-marine containers at off-dock railyards; off-dock railyard capacities (see Section 1.1.5.3); and volumes of domestic cargo in 53-foot containers or trailers that has not passed through the ports. Consistent with the ongoing I-710 EIR/EIS technical studies, a reasonable growth factor of two percent per year was assumed. The cumulative rail volumes also include 2035 projections of passenger trains, based upon data from SCAG and MetroLink. Rail volumes for 2046 were estimated by assuming that the growth in rail volumes beyond 2035 will come only from increases in domestic freight rail traffic.

The *Journal of Commerce*, the premier logistics industry journal, has written a number of articles about the dramatic surge in transloading, especially at the POLA and POLB:

> *… "In an attempt to control transportation costs, retailers transload 40-foot marine containers into 53-foot domestic containers for inland movements. The contents of three marine containers can be loaded into two domestic containers."*[vii]

> *""… transloading took off during the recession, particularly at the ports of Los Angeles and Long Beach. According to the Alameda Corridor Transportation Authority, the share of goods arriving at LA-Long Beach transloaded into domestic containers grew significantly during the recession…. "That means that transload has a greater market share now. The pendulum has swung to transload," said John Doherty, CEO of the authority.""*[viii].

If, as noted above, 25% of imported cargo containers are being transloaded, where are the calculations in the DEIR that explain how this will impact/affect the NBSF Hobart Yard in the future? The author of this report cannot find such calculations.

The *Journal of Commerce* describes several reasons why retailers are embracing transloading:

> *"There have always been obvious economic benefits — transloading allows the contents of three international containers to be reloaded into two larger 53-foot trailers or domestic containers. … When the recession hit and shippers large and small went searching for transportation savings, transloading was a ready-made opportunity."*[ix]

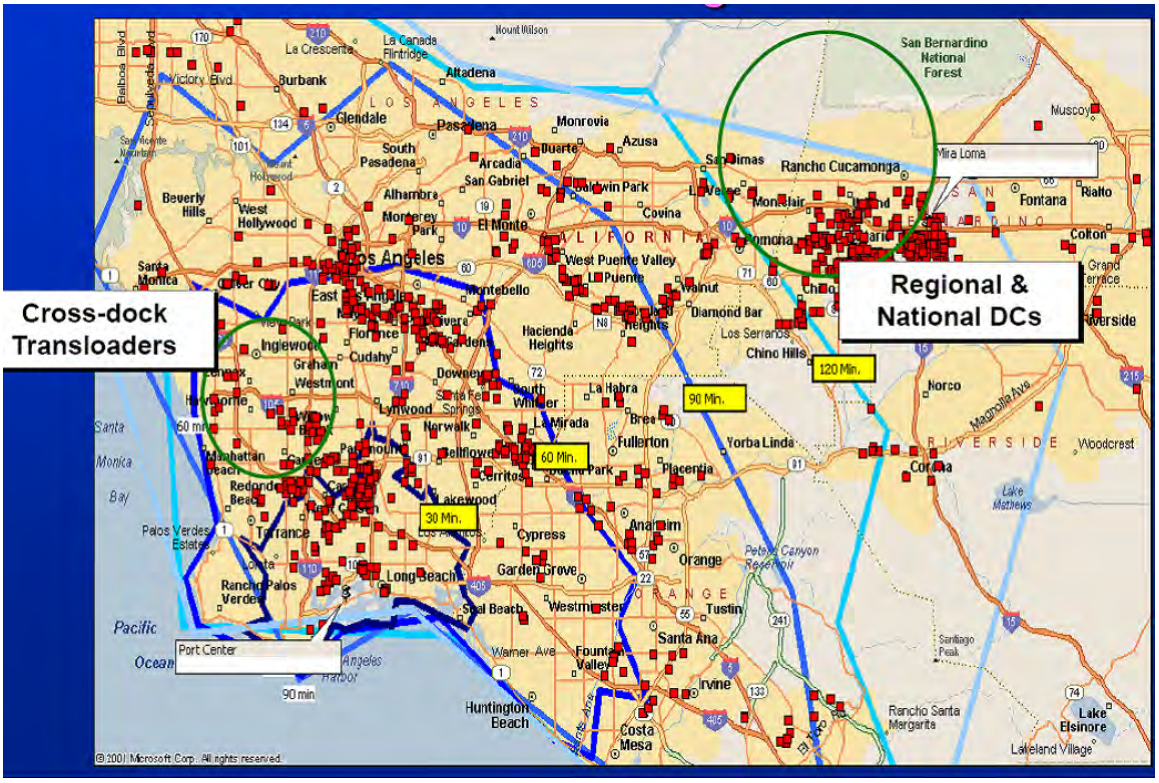
Lest anyone think that this transload trend might not have been common knowledge in the ports/logistics/rail industries long before the *Journal of Commerce* articles in 2011 (and long before the DEIR was released), please see the following excerpt from a Tioga Group report in 2008:[x]

> *"The Transload segment will be largely confined to the region between the Ports and downtown Los Angeles. This segment includes cargo that is "cross-docked" from international containers to domestic containers or trailers for onward movement by rail*

without spending significant time in inventory or undergoing value-added alterations. This cargo is typified by the Maersk Logistics activity in South Gate (Exhibit 11. As the aerial photo shows, this facility consists primarily of two-sided transfer sheds suitable for the "cross-dock" transfer operation, with minimal if any space for "warehousing…"…such operations are clustered within 15 miles of the Ports to maximize round-trip drayage productivity. Tioga studies have reinforced this finding."[xi]

See also the following reference, which states that as early as 2004 – 8 years ago – a full 12% of cargo was transloaded according to a 2004 study by the Alameda Corridor Transportation Authority (ACTA),[xii] which is also referenced in the 2006 Multi-County Goods Movement Action Plan (McGMAP).[xiii] The McGMAP report includes the following graphic, showing the high volume of transload facilities north of the the POLA/POLB and in the vicinity of the Hobart Yard. [xiv]

Figure 1. Transload Facilities North of the Ports in Los Angeles; McGMAP 2006.

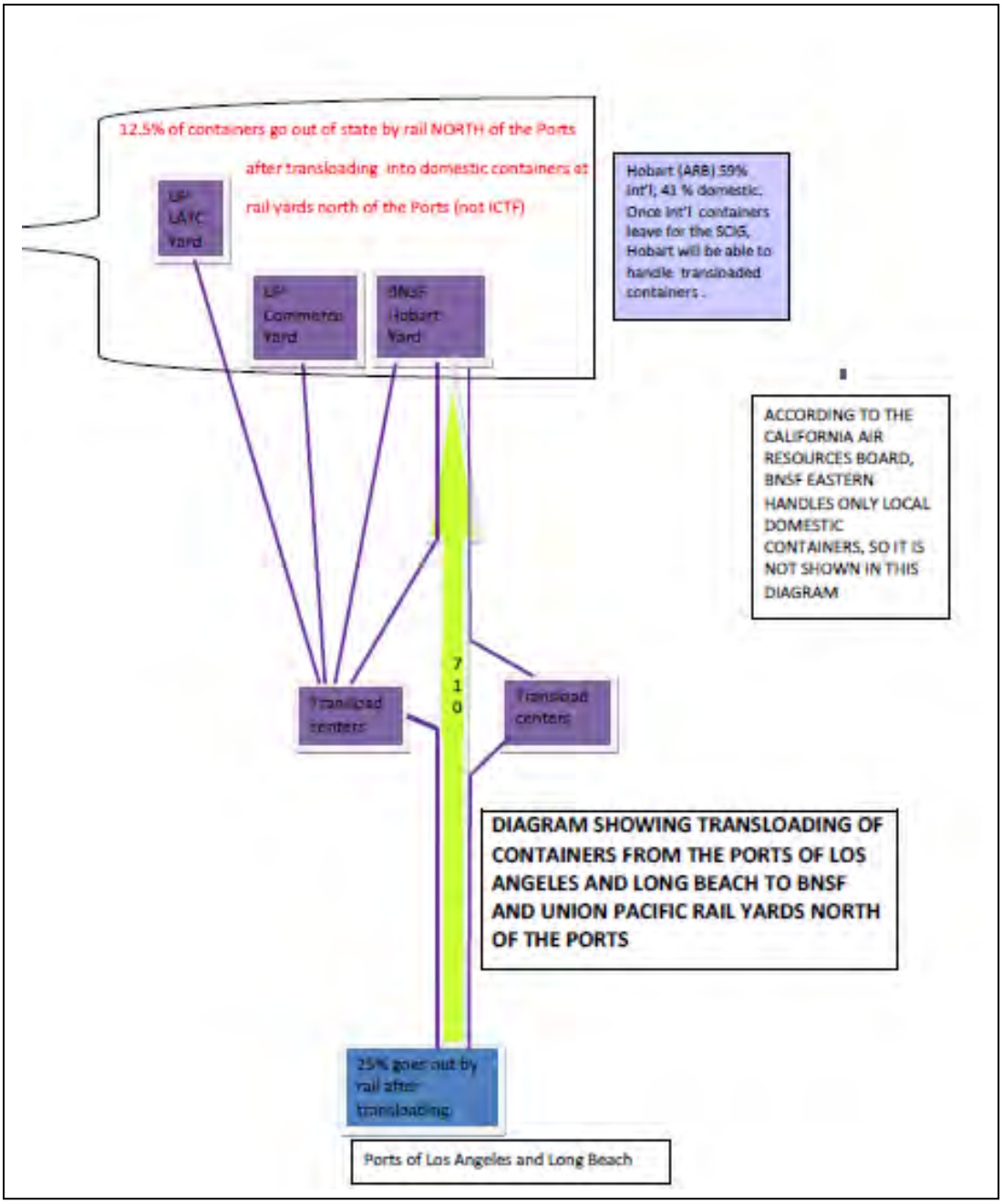


The current surging transload trends are anticipated to continue,[xv] and if they do, this report calculates that transloading will allow the BSNF Hobart Yard an opportunity to replace the volume of containers that was diverted to the SCIG by 2016, if the SCIG becomes operational.

The graphic below shows the location of the major railyards in southern California that handle cargo from the Ports:

The sketch below shows the major rail yards handling transloaded cargo north of the Ports.

Figure 2. Major Railyards in Southern California Handling Cargo that Originated at the Ports (either in International Containers or Transloaded)



Sketch by Andrea Hricko

WHAT WOULD HAPPEN IF THE HOBART YARD TOOK ONLY DOMESTIC (NON-TRANSLOADED) CONTAINERS ONCE THE SCIG OPENS, AS THE DEIR IMPLIES?

SCENARIO 1.

Using 2010 actual statistics on lifts, the Hobart Yard would lose 59% of its lift capacity by shifting international containers to the SCIG. It would then replace the Hobart with 5% additional international containers. The remaining 41% of the Hobart yard handles domestic and transloaded containers. No information on the splits between domestic and transloaded at Hobart are in the DEIR or seemingly published elsewhere, we have assumed an even split in the two types. Note that BNSF to refer to all of the non-international containers it handles at Hobart as "domestic" containers, even though a good proportion of them are actually "transloaded"). See Table 3 below.

In 2010 there were 1,090,000 "actual" lifts at the Hobart Yard

Table 3. Where containers would go under Scenario 1 – The Hobart Yard, 2010, if SCIG had opened that year (last year with accurate figures for actual lifts, so this is a model)

Actual total lifts in 2010	Int'l lifts gone to SCIG (59%)	Add back 5% international containers as the DEIR states	Pure domestic containers* 41% (remaining space)	Total of pure domestic and 5% inter-national containers
1,090,000 **Note: capacity is 1,500,000**	**643,100**	**54,500**	**** After international containers go to SCIG there would be only "pure domestic" containers at the Hobart, according to the DEIR – these are containers that did not contain goods that originated at the Ports.*** ***That means, 41% of the remaining space at the Hobart yard after removing international containers***	***446,900 54,500 =501,400*** ***501,400*** ***This means the Hobart Yard would be only 33% full if the SCIG had opened in 2010 and if Hobart thereafter handled only pure domestic containers.*** ***That would leave 66% of the capacity EMPTY – or potentially available for 998,600 transloaded***

			would be "pure domestic containers." (If there are even that many to handle at Hobart	***containers (which is not mentioned in the SCIG DEIR).*** ***CAPACITY LEFT AT HOBART FOR 998,600 MORE CONTAINERS IF SCIG OPENED***

*ARB states that Hobart is 41% "domestic containers," including domestic and transloaded.

According to statements in the DEIR, the Hobart Yard will not be handling any international cargo that originated at the Ports if the SCIG opens. Let's accept that as factual for this scenario and see what would happen to the Hobart Yard. If SCIG had opened in 2010, and Hobart's international containers were shifted to SCIG, Hobart Yard would be handling only 33% of the lifts it handled in 2010. If it handled no additional transloaded containers with international cargo that originated at the Ports, it would be two-thirds empty." *(See other scenarios for how quickly it could fill up with transloaded containers).*

This is the ONLY scenario under which trucks from the Ports would be reduced on the I-710 Freeway. That is, for the DEIR to be correct, Hobart would handle only 5% international containers and also "pure" domestic containers with local goods. As the DEIR claims, it would not handle international goods that came in through the ports and were transloaded into 53-foot containers. It would be the largest intermodal rail yard in the U.S. operating 66% empty.

BASED ON FUTURE CARGO FORECASTS, HOW QUICKLY COULD THE HOBART YARD ACTUALLY FILL UP WITH TRANSLOADED AND DOMESTIC CONTAINERS AFTER THE BNSF SCIG OPENS?

SCENARIO 2. Recognizing that transloading as a trend is surging and is currently 25%, where does the 25% of transloaded cargo go? John Doherty, director of the Alameda Corridor Transportation Authority (ACTA) says that ½ of the transloaded cargo goes "east" – to City of Industry, Mira Loma, San Bernardino, etc. He says that the other ½ goes to the rail yards that are "north of the Ports" (UP Commerce, UP LATC and BSNF Hobart).[xvi]

Let's look at forecasts for the year 2016. See below; in 2016 it is estimated that there will be with 17.8 million TEUs at the twin ports. Let's estimate how many transloaded containers there would be and where they could possibly go.

Table from DEIR, below (DEIR, at 1-23). *Note it has inappropriate figures for near/off-dock rail throughput (that is, it does not account for 25% transloading).*

Table 1-5. 2009 San Pedro Bay Ports Direct Intermodal Cargo Forecast.

2009 San Pedro Bay Ports Direct Intermodal Cargo Forecast (shown in Million TEUs)							
Year	2008 (Actual)	2012	2016	2020	2023	2030	2035
Total San Pedro Bay Ports Cargo Volume	14.3	14.3	17.8	21.8	25.2	34.6	43.2
Total Direct Intermodal	6.1 (42.2%)	5.7 (40.0%)	7.1 (40.0%)	8.7 (40.0%)	10.1 (40.0%)	13.8 (40.0%)	17.3 (40.0%)
On-Dock Rail Throughput (share)	3.4 (23.7%)	3.7 (25.7%)	6.0 (33.4%)	7.3 (33.3%)	8.2 32.5%)	11.5 (33.3%)	12.9 (29.8%)
Near-/Off-Dock Rail Throughput (share)	2.7 (18.5%)	2.0 (14.3%)	1.2 (6.6%)	1.5 (6.7%)	1.9 (7.6%)	2.3 (6.7%)	4.4 (10.2%)

Using the forecasted cargo volumes in TEUs from Table I-5 above, the chart below converts TEUs to containers. Please note that a full 25% of import containers is transloaded but that ½ of that goes "east" and ½ of that stays north of the Ports. That means 12.5% of the cargo containers imported are transloaded to domestic containers before going to one of the rail yards north of the Ports that are shown in Figure 2.

Table 4. San Pedro Bay Ports Intermodal Forecast, 2009. ***Table adapted from Tioga Report, 2009.***[xvii]

Year	TEUs	1 container = 1.85 TEUs	Total containers/year	Total containers that are transloaded north of the Ports = 12.5%
2012	14.3 Million		7.73 Million	996,250
2016	17.8		9.62	1,202,500
2020	21.8		11.78	1,472,500
2023	25.2		13.62	1,702,500
2030	34.6		18.7	
2035	43.2		23.25	

In 2016 there will be 1,020,500 transloaded containers heading north of the Ports to a rail yard, using the 25% of Port imports figure supplied by John Doherty of ACTA. If these containers ALL went to Hobart, they would more than "replace" the 1.1 million international cargo containers that were "diverted" to the SCIG in that year. The SCIG will handle 1.1 million containers in 2016 according to the DEIR's Executive Summary.

In scenario, the Hobart Yard would have the opportunity to be full again by 2016 – and there would be just as many trucks on the I-710 and other local freeways as there are today. In fact, counting the trucks carrying 1.1 million containers to the SCIG and potentially 1.0 million containers to Hobart – there would be TWICE as many trucks on the roads as there are now. No reduction in air pollution. No "health savings." Increased cancer risk. Increased noise.

In this scenario, the capacity of the Hobart Yard is 1,500,000. With 1,020,500 transloaded containers, there would still be space for 479,500 pure domestic containers.

BASED ON FUTURE CARGO FORECASTS, HOW QUICKLY COULD THE HOBART YARD ACTUALLY FILL UP WITH TRANSLOADED AND DOMESTIC CONTAINERS AFTER THE BNSF SCIG OPENS?

Scenario 3

But what if some of the transloaded containers went to the UP LATC or the UP Commerce Yards. Does that dramatically change the forecast for Hobart? First, these yards are significantly smaller as Table 5 demonstrates. In this Scenario, let's assume that there is a domestic to transload "split" of 50/50 at the two UP yards (noting also that UP Commerce handles 26% international containers and Hobart would handle 5 percent international cargo.) Let's go back to Scenario 1, in which Hobart in 2010 had 1,090,000 actual lifts, 59% of which were international. For that Scenario, we used what we consider faulty information in the SCIG DEIR—that is that only "pure domestic containers" are handled at the Hobart Yard. Therefore we "assumed" that the remaining 41% of the containers handled in 2010 were "pure domestic containers." For this Scenario, however, we look at Hobart having a more realistic 50-50 split of domestic containers and transloaded containers in 2010. (See Table 3 above). That would mean that the "pure domestic containers at Hobart in 2010 were ½ of 446,900 or 223,450. (Again, refer to Table 3 above).

We start with the 223,450 pure domestic containers as calculated above, and add a 3% increase per year. Handling of pure domestic containers is rising at a much slower rate than is transloading so we have added a small growth rate for pure domestic containers. 2010 pure domestic containers at Hobart were calculated at 223,450. If this number rose by 3% every year until 2016, there would be approximately 266,810 "pure domestic containers" handled by Hobart in 2016. There would leave 958,000 spaces for transloaded containers at Hobart.

Table 5. Future Space for Transloaded Containers at the UP and BNSF Rail Yards North of the Ports, if International Containers Leave Hobart for the SCIG

Yard	Ca-pacity in 2016	Int'l con-tainers?	If 50/50 domestic and transloaded	Space for trans-loads	Transloaded containers available in 2016 1,202,500	In 2016, total transloaded containers = 1,202,500 based on cargo projections in DEIR SCIG
UP LATC	250,000	0	125,000	125,000		125,000
UP Commerce	510,000	26% = 132,600 *Leaving 377,400 slots*	188,700	188,700		188,700
Hobart Eastern	200,000		BNSF and CARB say that this yard handles "only local domestic" containers	0		
Hobart	1.5 million	75,000 (5%)	266,810	1.16 million		958,000
					There would be more transloaded containers available for Hobart than there is even space for, if we assume a 50-50 split of domestic and transloaded at Hobart.	**958,000 transload spaces would be available for Hobart to have the oppor-tunity to fill**
	Scenario 3: Again, in 2016 the SCIG will have 1.1 million "lifts" according the DEIR. In 2016, there will be 1,202,500 transloaded containers available for the three rail yards, two of which are small compared to Hobart. Hobart would have space for at least 958,000 of these containers.					

	SCIG would have diverted 1.1 million containers and Hobart would have been able by 2016 to "fill" 958,000 of those slots, leaving a difference of only 142,000 containers. By early 2017, Hobart would have the opportunity to have MORE transloaded containers than the 1.1 million "diverted" to the SCIG. **In this scenario, by early 2017, there will be more transloaded containers on the I-710 and adjacent roads heading to Hobart than were so-called "eliminated" by diversion of international containers to the SCIG.**

Please also note: The LATC and Up Commerce handle a small % of international containers but these might move to the UP ICTF if it is approved and opens. This somewhat limits their ability to take a full load of transloaded containers, leaving more containers potentially needing to go to the Hobart Yard.

The DEIR says that the Hobart Yard will handle only domestic containers in the future, *thereby "…eliminat[ing] a part (estimated at 95%) of existing and future intermodal truck trips between the Port and the BNSF's Hobart Yard?" (DEIR at 3.10-25).* **Where in the DEIR is documentation provided for that statement?**

The simple answer is that we can find no documentation for this statement anywhere in the 4000+ page SCIG DEIR. We can, however, find many assertions to that effect in the DEIR and in the press.

BNSF president and CEO Matthew Rose described the advantages of the SCIG at a 2006 Town Hall Los Angeles keynote address, by noting how much shorter truck trips would be for containers currently going to the Hobart Yard once they are able to travel to the SCIG. He stated:

> *"… The Hobart Yard … is 20 miles away from the ports and handles, this year [2006], about 1.4 million containers and trailers. You can imagine if we could shift that volume near-dock or on-dock the impact that we could just have in terms of reducing congestion and improving air quality."*[xviii]
>
> - Matthew K. Rose, Chairman, President and CEO, Burlington Northern Santa Fe Corp.

Mr. Rose also added:[xix]

> **"Hobart is the largest inland intermodal facility in the world, and we look forward to being able to continue that as well."**

Despite Mr. Rose's assertions that the Hobart Yard will continue to thrive, the DEIR states over and over again that when the SCIG opens, truck trips on the I-710 Freeway from the Ports will be dramatically reduced. (See for example *DEIR*, at 2-11; 3.10-30; 3.10-25; 4-60; and 7-33.) The only reference to the future of Hobart Yard, however, is that it will handle 5% international cargo containers and otherwise handle "domestic" containers. (DEIR 3.10-25). The only documentation provided for assertions about what will happen to the Hobart Yard with/without the SCIG project appears to be a reference to "Personal communication, J. Hovland, 2009." "J. Hovland" is apparently John Hovland, director of marketing and facilities management for BNSF Railway in Fort Worth, Texas.

None of the following types of potential documentation about what could happen to the BNSF Hobart Yard are included in the DEIR:

- No memo from BNSF's J. Hovland about the future of the BNSF Hobart Yard.

- No memos describing exactly what BNSF plans to do with the Hobart Yard if the SCIG is approved.
- No affidavits from BNSF about its future plans for the Hobart Yard.
- No affidavits or memos from BNSF that state that the Hobart Yard will only be handling "pure" domestic containers (ones with goods that did not originate at the Ports)
- No affirmative statement saying that BNSF Hobart will not be accepting any international cargo in <u>transloaded</u> containers at the Hobart Yard if/when the SCIG is built.

Thus, the assertion that BNSF Hobart will "eliminate 95% of existing and future intermodal truck trips between the Port and the BNSF's Hobart Yard" is undocumented and untested.

This assertion presented as fact in the DEIR is also an **untested assumption** which is used in all of the DEIR's and Health Risk Assessment's (HRA) analyses and conclusions about truck volumes, near-roadway pollution, noise, EJ, air quality, and diesel cancer risk – an assumption that trucks from the Ports will no longer travel 24 miles to the Hobart yard if the SCIG is built. Using this untested assumption, the DEIR has calculated dramatic "health savings" and "pollution" savings that would result from "eliminating trucks" from the Ports to Hobart. The author has analyzed data on truck trips, transload volumes and traffic and concludes that the assertion utilized in all the DEIR and HRA analyses is incorrect and the assumptions based on it make the subsequent analyzes upon questionable, as will be demonstrated below.

HOW MANY MILES WOULD A <u>TRANSLOADED CONTAINER</u> TYPICALLY TRAVEL TO GET TO THE HOBART YARD?

Such a calculation includes miles covered by a truck driving an international container from the Ports to a typical transload center and then having another truck carrying the transloaded domestic container to the Hobart Yard. As we can see from Figure 1 in this report, showing transload centers, there are hundreds of transload centers between the Port and Hobart Yard. Let's use an example of one that is in South Gate, as pictured below in Figure 3 from the McGMAP report:

Figure 3. Maersk Transloading Facility in South Gate, CA



If the SCIG is built, there will be empty space at the Hobart Yard that could have the opportunity to handle transloaded containers. Calculations of the potential volume of transloaded containers that could originate at the Ports and end up at the Hobart Yard demonstrate that Hobart can continue to thrive as an intermodal rail yard with a large number of both domestic and transloaded containers from the Ports. Much of the goods originate at the Ports and make their way by truck up the I-710 Freeway (or other freeways) to the Hobart Yard – after having been transloaded into domestic containers, making <u>at least a 24-mile trip</u> before reaching Hobart. *See Table 6.*

See Table 6 below. Three very typical routes from the Port of L.A. to a transload center and then on to the Hobart Yard with a domestic container all would entail MORE truck miles traveled than the straight route from the POLA up the I-710 Freeway to the Hobart Yard with an international container. That means that if the international container lift load at Hobart went to the SCIG but the empty slots were replaced with a similar number of transloaded container lifts, the number of truck miles traveled would actually increase, including on local area freeways. Note the routes and mileages below.

Table 6. Distances of Direct Rail Container Trips versus Transloaded Container Trips from the Port of Los Angeles to the BNSF Hobart Yard

Starting Point	Destination #1	Destination #2	Total Miles Traveled	Miles saved or added compared to 24.3 miles on the I-710 or other local area freeways
Port of Los Angeles	To BNSF Hobart, 3770 East Washington Blvd., Commerce, CA		24.3 miles	
Port of Los Angeles	To South Gate Transload Facility	South Gate Maersk logistics facility at 5011 Firestone Place, South Gate, CA 90280 to Hobart Yard in Commerce	25.7 miles	+ 1.4 miles
Port of Los Angeles	To logistics facility in Santa Fe Springs at 11204 Norwalk Blvd Santa Fe Springs, CA 90670	Santa Fe Springs transload facility (Gale/Triangle) to Hobart Yard in Commerce	33.8 miles	+8.1 miles
Port of Los Angeles	To logistics facility in Carson, CA	Carson, CA to Hobart Yard in Commerec	26.6 miles	+2.3 miles including 7 miles on the I-110; 4 miles on the I-405 and 13 miles on the

				I-710.

Google Map of route from POLA to Carson logistics facility to Hobart Yard: 1 mile on surface streets; 7.1 miles on I-110; 1.4 miles on surface streets; 3.9 on the I-405; and 13.2 on the I-710. That adds up to about 26.6 miles.

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500 Pier a Street, Wilmington, CA 90744 - (310) 732-3700

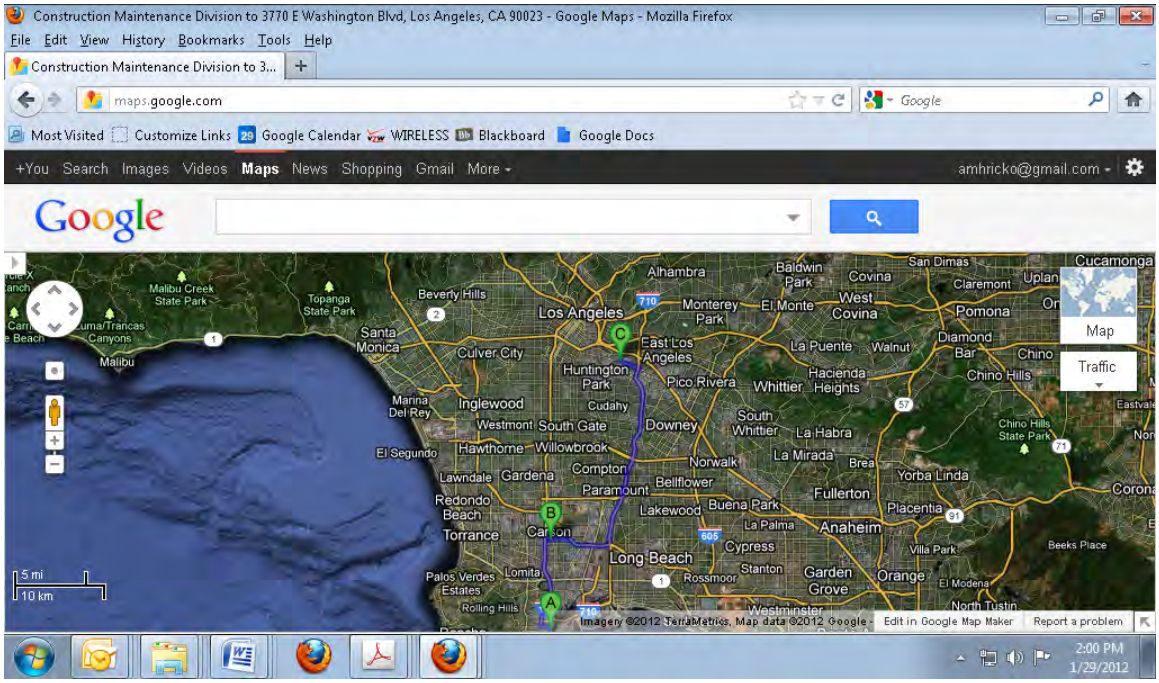
1. Head **north** on **S Palos Verdes St** toward **W 5th St** go 0.2 mi
   About 1 min total 0.2 mi
2. Turn left onto **W 1st St** go 0.6 mi
   About 2 mins total 0.8 mi
3. Turn right onto **N Gaffey St** go 0.2 mi
   total 1.0 mi
4. Slight right onto **I-110 N** go 5.8 mi
   About 5 mins total 6.8 mi
5. Take the exit toward **Carson St** go 0.1 mi
   total 6.9 mi
6. Take exit **7** toward **S Figueroa St** go 0.2 mi
   total 7.1 mi
7. Turn left onto **S Figueroa St** go 0.2 mi
   About 1 min total
   7.3 mi
8. Turn right onto **W Carson St** go 0.2 mi
   About 1 min total 7.6 mi

Total: **7.6 mi** – about **12 mins**

Carson, CA total 0.0 mi

9. Head **east** on **W Carson St** toward **Moneta Ave** go 1.5 mi
   About 4 mins total 1.5 mi
10. Turn right to merge onto **I-405 S** toward **San Diego** go 2.4 mi
    About 3 mins total 3.9 mi
11. Take the **I-710 N** exit toward **Pasadena** go 0.3 mi
    total
    4.2 mi
12. Continue on the ramp and merge onto **I-710 N** go 13.2 mi
    About 13 mins total 17.4 mi
13. Take exit **17C** for **Washington Blvd** toward **Commerce** go 0.2 mi
    total 17.6 mi
14. Merge onto **Hepworth Ave** go 56 ft
    total 17.6 mi
15. Turn right onto **E Washington Blvd** go 1.5 mi
    Destination will be on the left total 19.1 mi
    About 3 mins

Total: **19.1 mi** – about **23 mins**
3770 E Washington Blvd, Los Angeles, CA 90023



In other words, if transloaded containers replace the former international container slots that are "diverted" to the SCIG, then there would be more truck miles with the transloaded containers than currently exist with the international containers at Hobart – because transloaded containers always have to make a diversion to a transload center before going to Hobart.

A WORD ABOUT SEMANTICS

When people's lives and health are at stake, we cannot afford playing with semantics over what is inside of a 53-foot container and where the cargo inside originated.

What is a 40 foot container with goods originating at the Ports called? -- An "international"container

What is a 53 foot container with goods originating at the Ports called? – A "domestic" container.

What is INSIDE each of these containers? – goods that originated in another country, e.g., China, Vietnam, Korea!

A 53-foot container with goods from the Ports inside it cannot be camouflaged in the BNSF SCIG DEIR as though industry leaders at the Port of Los Angeles, BNSF Railway, Environ and other DEIR consultants are not aware of the transloading phenomenon and of exactly how far trucks travelled to get that container to the Hobart Yard from where the goods entered at the Ports.

To reiterate, many retailers these days are finding that using 53 foot containers and using the transloading process provides them more flexibility in getting their products, provide additional transit time to make decisions about where the transloaded domestic containers are heading, and they hold more contents, making them cheaper to ship on rail than 40-foot containers.[xx] The CEO of a company with transloading facilities, one located in Santa Fe Springs, told the author that transloading containers which originated at the Ports into 53-foot domestic containers and driving them to the BNSF Hobart Yard is a regular part of their business.[xxi] Since transloading is a surging trend and Hobart is the country's largest intermodal rail yard, Hobart is undoubtedly already handling more and more of these transloaded containers – and they would arrive on trucks that have traveled at least 24 miles to get to the Hobart yard because of their diversion to a transload center.

How does this reconcile with all the analyses in the DEIR? It does not. The analyses (air quality, HRA, noise, cumulative impacts, and more) in the entire DEIR need to be redone

with accurate information about transloading and affidavits about what will happen to the Hobart Yard once the SCIG opens.
We conclude that the DEIR fails to recognize that in the future the Hobart Yard could potentially retain a robust business handling transloaded containers that originated at the Port of L.A. and Long Beach that are full of international cargo. The DEIR further confuses the issue by the choice of words. It says the Hobart will be "95% international container free" when SCIG opens. It does not say that Hobart will be "95% free of international goods that originated at the Ports." The DEIR would have one believe that all of the containers handled by Hobart now and in the future are "pure domestic containers" with locally made products inside them, thereby ignoring the reality of the transload business (and of the U.S. economy).

Finally, we attach below a series of claims that have been made over and over again about the so-called diversion of trucks off the 710 Freeway that the SCIG will allegedly create. The DEIR needs to redo the DEIR and validate and test the assertions and assumptions upon which it makes these claims. The public's health in Wilmington, Carson and Long Beach depends on it – as does the health of the thousands of residents who live along the I-710 Freeway.

EXAMPLES OF CLAIMS BETWEEN 2005-2011 THAT THERE WILL BE PUBLIC HEALTH BENEFITS DUE TO ELIMINATING TRUCK TRAFFIC ON THE I-710 BY BUILDING THE SCIG

Even before the initial environmental review process began in 2005, BNSF made assertions about the public health benefits that the SCIG would bring, issuing a press release about the anticipated public health and quality of life benefits of the SCIG, quoting then Mayor of Los Angeles James Hahn:

> *"This near dock rail facility will eliminate nearly 1 million truck trips per year, benefiting our commuters, our communities and our environment."*
>
> - Former Los Angeles Mayor James Hahn. Quotation in BNSF press release: "BNSF's Proposed Near-Dock Facility Receives Support from L.A. Mayor Hahn and Councilwoman Hahn," February 10, 2005 [1]

In July 2007, the BNSF SCIG's promotional website, entitled *Communities Matter*, promised that the SCIG "will help reduce traffic on local highways" and "improve air quality."[2] As noted above, BNSF specifically claimed that the SCIG will ease the impact of trucks on the region's air quality and congestion, including the I-710 (Long Beach) Freeway. That freeway leads from the Ports to the BNSF Hobart Yard, the largest intermodal facility in the U.S., located in City of Commerce. As mentioned earlier, BNSF president and CEO Matthew Rose described the advantages of the SCIG at a 2006 Town Hall Los Angeles keynote address, by noting how much shorter truck trips would be for containers currently going to the Hobart Yard when they will go to the BNSF SCIG:

> *"… The Hobart Yard … is 20 miles away from the ports and handles, this year [2006], about 1.4 million containers and trailers. You can imagine if we could shift that volume near-dock or on-dock the impact that we could just have in terms of reducing congestion and improving air quality."*[xxii]
>
> - Matthew K. Rose, Chairman, President and CEO, Burlington Northern Santa Fe Corp.

Shifting millions of containers from the Hobart Yard to <u>on-dock rail</u> would indeed be advantageous, because on-dock rail does not involve the use of trucks to move containers off the port property. On-dock rail means that a container is taken off a ship and goes directly onto a train to its destination – no truck involved, thereby reducing air pollution.

Moving the containers to near-dock rail, on the other hand, requires trucking each container five miles one way to the near-dock SCIG facility, creating air pollution.

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[1] http://www.bnsf.com/employees/communications/bnsf_today/2005/02/2005-02-10-d.html
[2] Burlington Northern Santa Fe Railway's Southern California International Gateway website www.communitiesmatter.com/why.html.

But it is actually the rest of CEO Rose's statement (and the earlier statement of former Mayor James Hahn) about the SCIG that has captured the attention and admiration of many elected officials and even Port staff – BNSF's claim that the SCIG would take more than a million trucks off the I-710 Freeway, trucks that normally would have traveled from the Ports to the BNSF Hobart Yard in Commerce. From the Port's web site in 2007 (and still there in 2012):

> *"Today, port related containers moving between the BNSF railyard and the ports travel on the I-710 freeway. Once this facility [the SCIG] is fully operational, it is expected that one million port-related trucks could be eliminated from the I-710 freeway per year. Estimated year of completion is 2009*." (Citation: POLA website accessed 7-17-2007 and again on 1-29-2012).

It is important to note that the BNSF assertions over the past 5-7 years have been accepted even more widely than stated above. In fact, from the Governor's office to State of California advisory councils, to the Southern California Association of Governments, and to various industry stakeholders, the BNSF claims have been stated and re-stated as "fact."

The Governor's Goods Movement Action Plan selected SCIG –because it would eliminate trucks on the I-710:

"It would "reduce truck trips on Interstate 710." [3] "... SCIG ... will eliminate over a million truck trips per year on I-710."

- Gill V. Hicks, transportation consultant
  Chairman of California Marine and Intermodal Transportation System Advisory Council (CALMITSAC). Quotation in a BNSF press release, May 8, 2007: "BNSF Enhances Proposed Southern California International Gateway"[4]

"Such a facility could eliminate one million truck trips annually from the 710 Freeway..."

- Southern California Association of Governments
  Southern California Regional Strategy for Goods Movement: A Plan for Action. February 2005 (Amended March 2005)[5]

"Authorities estimate the [SCIG rail] yard could take as many as 1 million trucks off local roadways, including the Long Beach (710) freeway, annually."

- "Rail yard planners offer cleaner solutions"
  Long Beach Press Telegram May 8, 2007 [6]

"It is simple: take a million older trucks a year off the 710 Freeway and replace them with clean trucks delivering containers to rail much closer to the ports."

- Elizabeth Warren

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[3] Goods Movement Action Plan, January 2007 http://www.arb.ca.gov/gmp/docs/gmap-1-11-07.pdf.
[4] Add citation
[5] Southern California Regional Goods Movement Policy Paper , page 22. www.scag.ca.gov/goodsmove/reportsmove.htm
[6] http://www.bnsf.com/employees/communications/bnsf_today/2007/05/2007-05-08-b.html

Executive Director, FuturePorts
"BNSF Railway Enhances Proposed Southern California International Gateway" BNSF E-Release May 2007 [7]

Moreover, the Los Angeles Chamber of Commerce endorsement letter for the SCIG highlights:

> *"the significant air quality, traffic and safety improvements" that will have a "direct effect on improving the quality of life for communities in the port areas as well as those along the Interstate 710 Corridor and other freeways."* [8]

The claim that the SCIG will result in a million fewer trucks on the I-710 and other local freeways, thereby improving air quality and reducing the burden on southeast L.A. communities along the I-710 goods movement corridor, has been so widely asserted and repeated that it appears to be "fact;" it is now commonly accepted as "the truth." But the SCIG DEIR simply failed to evaluate the unverified assertions and untested assumptions behind those statements.

[7] http://www.communitiesmatter.com/erelease/0507/index.html
[8] Russell J. Hammer, President & CEO of the Los Angeles Chamber of Commerce; in a letter to BNSF Railway, June 16, 2005 http://www.communitiesmatter.com/SCIGletter0605.pdf

UNTESTED ASSERTIONS HAVE APPEARED ON THE PORT OF LOS ANGELES WEBSITE FOR YEARS

Despite statements by elected officials, newspaper reports and BNSF officials at multiple corporate levels, along with statements in the DEIR, no documentation to support the claims above has yet been provided. For more than seven years, even the Port of Los Angeles has accepted this as "fact" on its public web site:

Accessed July 16, 2007 on POLA website:

"Today, port related containers moving between the BNSF railyard and the ports travel on the I-710 freeway. Once this facility is fully operational, it is expected that one million port-related trucks could be eliminated from the I-710 freeway per year."

Accessed January 29, 2012 on the POLA website:

"Southern California International Gateway"

The Port of Los Angeles is developing a new near dock rail facility, which will be operated by Burlington Northern Santa Fe (BNSF). This facility will be used to handle Port related intermodal containers. The proposed site for this facility is Port of Los Angeles property north of Pacific Coast Highway, south of Sepulveda Boulevard and west of the SR103. Today, port related containers moving between the BNSF railyard and the ports travel on the I-710 freeway. Once this facility is fully operational, it is expected that one million port-related trucks could be eliminated from the I-710 freeway per year. Estimated year of completion is 2009."

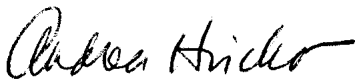
Since the statements were made before the BNSF SCIG Draft EIR/EIS was even completed, and since it has not yet been finalized by the Port, it might be reasonable to question whether the above web site statements might even be considered prejudicial.

CONCLUSION

The author of these comments concludes that the DEIR should be sent back, be redone and be recirculated for comment. She requests that the recirculated DEIR include an evaluation of whether the capacity that will be opened up at Hobart by building SCIG will be filled with additional freight truck trips to Hobart with transloaded containers that originated at the Ports – and that the impacts of that traffic and air pollution be re-considered in the new DEIR. The author also requests that the DEIR consultants document BNSF and other industry data about where containers are heading, and conduct interviews with key transloading center executives to develop an accurate picture of what is happening in southern California with regard to transloading practices. This is critical to an accurate BNSF SCIG DEIR, and it is needed to replace the virtually non-existent review of transloading that exists in the current DEIR and the undocumented statements about the fate of BNSF Hobart Yard after the SCIG opens, if it does. All analyses in a

revised DEIR for air quality, cancer risk, other health risks, noise, cumulative impacts, traffic, etc. will need to be redone once transloading statistics are included.

Thank you for your consideration.



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US transloading growth reshaping cargo routing

Bill Mongelluzzo, Senior Editor | Mar 03, 2017 6:05PM EST

LONG BEACH, California — Increased transloading of merchandise imports from marine containers to domestic containers and trailers at major US seaports — rising from 52 percent of total intermodal volume through Los Angeles-Long Beach to 58 percent in five years — is reshaping containerized supply chains.

Data accumulated by industry analysts and industrial real estate experts reveal that this trend is underway, and they project that growth in transloading will continue unabated as a result of the convergence of the big-ship phenomenon and rapid growth in e-commerce fulfillment. The ability of importers to determine the final destination of the merchandise after the container reaches the US port, rather than two weeks earlier when it is loaded on the vessel in Asia, gives retailers more flexibility in routing. Beneficial cargo owners must further study their supply chains to determine the best routing for their needs.

Ports must invest in the marine terminal infrastructure and tall cranes needed to handle bigger and bigger ships. Industrial real estate developers must scramble to find suitable locations near major ports for transloading activities, and also for locations near urban cores to process last-mile deliveries for e-commerce fulfillment.

Seaports will continue to be where the action is in supply chain logistics. “The greatest concentration of this demand is in Southern California,” Rob Leachman, professor at the Institute of Transportation Studies at the University of California, Berkeley, told the 17th Annual TPM Conference this week in Long Beach. “The next greatest concentration is at ports that serve the other two, three, or four corners,” he said.

There are four to five load-center gateways for the the North American container trades. The so-called five-corner strategy of logistics involves the Pacific Northwest, which includes the

Northwest Seaport Alliance of Seattle and Tacoma and the British Columbia ports of Vancouver and Prince Rupert, Los Angeles-Long Beach, Houston, the South Atlantic ports of Savannah and Charleston, and the mid- and North Atlantic ports of Norfolk and New York-New Jersey.

In 2015, Los Angeles-Long Beach handled 50.7 percent of US containerized imports from Asia, other West Coast ports handled 12.2 percent, British Columbia had 4.4 percent, the Gulf ports 2.2 percent, South Atlantic ports 13.8 percent, and the Northeast 16.7 percent, Leachman said.

Cargo routing for imports from Asia, by far the largest sourcing area for merchandise imports, is affected greatly by cargo value. The highest-value imports such as electronic goods are concentrated in Los Angeles-Long Beach. Importers are willing to pay higher intermodal transportation costs to the interior in order to get high-cost or seasonal merchandise to the eastern half of the country as quickly as possible. Medium and low-cost imports are spread over the five corners to get the product closer to the consuming market at the lowest possible cost.

For example, Leachman found that 63.9 percent of electronics imports and 57.8 percent of auto parts imports enter the country through Southern California, but Los Angeles-Long Beach handles 47.4 percent of the lower-cost consumer goods such as furniture imports. By contrast, East and Gulf Coast ports do best when lower all-in transportation costs via all-water services from Asia provide access to population centers in their regions. The Northeast, South Atlantic, and Gulf ports combined handle more than 50 percent of the lowest cost containerized merchandise where price, rather than time-to-market, is the determining factor in cargo routing.

In supply chain logistics terms, the tendency of retailers to “push” their containers through seaports to the final destinations is growing less rapidly — or in some cases not at all — than pushing the 40-foot marine containers to large import distribution warehouses, transloading the merchandise into 53-foot domestic containers and trailers, and “pulling” the merchandise to regional distribution centers.

Leachman said this trend, coupled with growing e-commerce demand, is driving more freight to the push-pull model. “Push-pull is growing faster than overall imports, and push is growing slower than overall imports or even declining,” he said.

The trend toward more transloading was confirmed by Larry Gross, president of Gross Transportation and a partner at FTR. “Transloading is playing a larger role,” Gross said, but the “intermodal-unfriendly” west-to-east routing of intact containers will probably not be a growth sector in the coming years.

For example, in Southern California, which is the transloading capital of the country, transloading’s share of intermodal freight increased from 52 percent in 2011 to 58 percent in 2016, whereas intact intermodal’s share dropped from 47 percent in 2011 to 42 percent.

The merchandise imports will be carried by ever-larger ships. According to Drewry Shipping Consultants, 78 percent of the new vessel deliveries in 2017 will be vessels with capacities of 10,000 twenty-foot-equivalent units or higher, and more than half will be ships of 14,000 TEUs

capacity or greater. The message for the major gateway ports is that they better be able to handle these ships or they will lose market share.

Los Angeles-Long Beach has been handling weekly calls of vessels of 10,000 TEUs or greater for the past several years, and this has sent the ports and their terminal operators into a frenzy of marine terminal upgrades and the purchase of taller ship-to-shore cranes to be able to handle these vessels fully loaded.

Noel Hacegaba, managing director of commercial operations in Long Beach, said infrastructure and equipment comprise only half of the equation. Those big ships generate such a large surge of container discharges and reloads, 10,000 or more container exchanges per vessel call, that improved cargo-handling processes, immediate dray-offs of containers from the terminals, a focus on improved chassis availability, and enhanced data-sharing among all port users is at least as important as infrastructure investment, Hacegaba said.

Terminal efficiency takes on even greater importance with the surge of e-commerce fulfillment and the need for speed that consumers have created in receiving their shipments. Walter Kemmsies, managing director, economist, and chief strategist at Jones Lang LaSalle airports and seaports division, said a "looming conflict" could be in the making as the bigger ships call at fewer ports, take longer to unload, and generate more congestion at the gateways, but consumers want their purchases shipped to them in a day or less. This trend calls for import distribution centers to carry larger inventories so the merchandise can be pushed to intermediary facilities for delivery to consumers.

Kemmsies noted that e-commerce accounts for only 10 percent of retail sales, but about half of the new construction of industrial properties is for e-commerce. The growing demands of e-commerce fulfillment are beginning to affect the logistics strategy that has been present since the 2008 to 2009 economic recession. During the lean times, reducing transportation and inventory-carrying costs were most important. Now, the greatest fear of logistics managers is a "stock out" notification that upsets consumers and can lead to the dismissal of those employees in charge of having the right merchandise on hand when and where it is needed, he said. Therefore, costly investments in carrying additional inventory and building intermediate warehouses on costly land in urban core areas are more important than cost-cutting.

The implications of these trends for developers and users of industrial real estate are changes in the mix of distribution facility sizes, as well as the siting of those facilities, at the major gateways and in secondary and tertiary markets. Leachman said demand for national distribution centers of 500,000 to 1 million square feet in locations that serve ports will be strong, but so too will be demand for 1-million-plus sq ft e-commerce fulfillment centers and import warehouses.

Also emerging rapidly from the growth in e-commerce development is a need for intermediate facilities located between the large import and regional distribution facilities and the urban core. These facilities break down the shipments to the package level for shipment directly to the consumers' homes or to retail stores that are increasingly becoming pickup locations for merchandise ordered online.

E-commerce fulfillment in urban areas can be handled at facilities of 100,000 to 200,000 square feet, which are often found at in-fill sites. They can be older warehouses or former manufacturing sites that can be repurposed for e-commerce. This trend has grown so rapidly that in some of the larger, denser urban areas, developers are finding it increasingly difficult to locate these facilities, said Matt Mullarkey, senior vice president of strategic planning at CenterPoint Properties. The cost of land and labor obviously increase the closer developers get to the urban core, but the need for timely delivery of merchandise in the last mile makes location more important than those factors, he said.

The confluence of the big-ship phenomenon, the increase in transloading, and the last-mile requirements of e-commerce have retailers and other importers reviewing their supply chain strategies and possibly modifying them, Leachman said. Shippers must consider cost, efficiency, and time to market in order to determine the best path to each location they serve, he said.

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National Center for Sustainable Transportation

POLICY BRIEF

Increasing Highway Capacity Unlikely to Relieve Traffic Congestion

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Issue

Reducing traffic congestion is often proposed as a solution for improving fuel efficiency and reducing greenhouse gas (GHG) emissions. Traffic congestion has traditionally been addressed by adding additional roadway capacity via constructing entirely new roadways, adding additional lanes to existing roadways, or upgrading existing highways to controlled-access freeways. Numerous studies have examined the effectiveness of this approach and consistently show that adding capacity to roadways fails to alleviate congestion for long because it actually increases vehicle miles traveled (VMT).

An increase in VMT attributable to increases in roadway capacity where congestion is present is called "induced travel". The basic economic principles of supply and demand explain this phenomenon: adding capacity decreases travel time, in effect lowering the "price" of driving; and when prices go down, the quantity of driving goes up.[1] Induced travel counteracts the effectiveness of capacity expansion as a strategy for alleviating traffic congestion and offsets in part or in whole reductions in GHG emissions that would result from reduced congestion.

Key Research Findings

The quality of the evidence linking highway capacity expansion to increased VMT is high. All studies reviewed used time-series data and sophisticated econometric techniques to estimate the effect of increased capacity on congestion and VMT. All studies also controlled for other factors that might also affect VMT, including population growth, increases in income, other demographic factors, and changes in transit service.[2]

Increased roadway capacity induces additional VMT in the short-run and even more VMT in the long-run. A capacity expansion of 10% is likely to increase VMT by 3% to 6% in the short-run and 6% to 10% in the long-run. Increased capacity can lead to increased VMT in the short-run in several ways: if people shift from other modes to driving, if drivers make longer trips (by choosing longer routes and/or more distant destinations), or if drivers make more frequent trips.[3,4,5] Longer-term effects may also occur if households and businesses move to more distant locations or if development patterns become more dispersed in response to the capacity increase. One study concludes that the full impact of capacity expansion on VMT materializes within five years[6] and another concludes that the full effect takes as long as 10 years.[7]

Capacity expansion leads to a net increase in VMT, not simply a shifting of VMT from one road to another. Some argue that increased capacity does not generate new VMT but rather that drivers simply shift from slower and more congested roads to the new or newly expanded roadway. Evidence does not support this argument. One study found "no conclusive evidence that increases in state highway lane-miles have affected traffic on other roads"[8] while a more recent study concluded that "increasing lane kilometers for one type of road diverts little traffic from other types of roads".[9]

Increases in GHG emissions attributable to capacity expansion are substantial. One study predicted that the growth in VMT attributable to increased lane miles would produce an additional 43 million metric tons of CO_2 emissions in 2012 nationwide.[10]

Capacity expansion does not increase employment or other economic activity. Economic development and job creation are often cited as compelling reasons for expanding the capacity of roadways. However, most studies of the impact of capacity expansion on development in a metropolitan region find no net increase in employment or other economic activity, though investments do influence where within a region development occurs.[11, 12]

Conversely, reductions in roadway capacity tend to produce social and economic benefits without worsening traffic congestion. The removal of elevated freeway segments in San Francisco coupled with improvements to the at-grade Embarcadero and Octavia Boulevards has sparked an on-going revitalization of the surrounding areas while producing a significant drop in traffic.[13] Many cities in Europe have adopted the strategy of closing streets in the central business district to vehicle traffic as an approach to economic revitalization,[14] and this strategy is increasingly being adopted in cities the U.S., from New York City to San Francisco.

Further Reading

This policy brief is drawn from the "Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions" policy brief and technical background memo prepared for the California Air Resources Board (CARB) by Susan Handy (University of California, Davis) and Marlon Boarnet (University of Southern California), which can be found on CARB's website along with briefs and memos on 22 other land use and transportation strategies that impact vehicle use and GHG emissions. Website link: http://arb.ca.gov/cc/sb375/policies/policies.htm

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Closing the Induced Vehicle Travel Gap Between Research and Practice

Ronald T. Milam, Marc Birnbaum, Chris Ganson, Susan Handy, and Jerry Walters

Several studies have rigorously documented the induced travel effect, in which added highway capacity leads to added vehicle travel. Despite the evidence, transportation planning practice does not fully account for this phenomenon, with the result that estimates of the potential congestion-reducing benefits of added highway capacity may be overstated and estimates of potential environmental impacts understated. In 2015, the California Department of Transportation (Caltrans) sponsored a review of applicable induced vehicle travel research that could inform transportation analysis guidance in response to new laws in California such as Senate Bill 743 (S.B. 743), which prohibits the use of vehicle level of service (LOS) and similar measures as the sole basis for determining significant transportation impacts under the California Environmental Quality Act. Instead, vehicle miles traveled was selected to replace LOS under S.B. 743, and along with the new metric there will be a requirement to account for induced travel effects in analysis of roadway capacity expansion projects. The Caltrans review revealed an inconsistent lexicon in academic research and among practitioners, questions about research applicability, limitations in the sensitivity of travel forecasting models, and confusion about the appropriate use of induced vehicle travel elasticities from research. This paper summarizes the Caltrans review and shares the findings to advance understanding of induced vehicle travel effects and suggest steps for additional research.

"If you build it, they will come." This adaptation of the famous line from the 1989 movie "Field of Dreams" has been invoked in countless contexts. In the transportation context, it summarizes what happens when new highway lanes are built: more cars come. Several studies have documented this phenomenon (*1*), that is, the induced travel effect or, more specifically, the induced vehicle travel effect. However, despite the evidence, transportation planning practice does not fully account for the phenomenon, with the result that estimates of the potential congestion-reducing benefits of added highway capacity may be overstated and estimates of potential environmental impacts understated.

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Transportation Research Record: Journal of the Transportation Research Board, No. 2653, 2017, pp. 10–16.
http://dx.doi.org/10.3141/2653-02

In 2015, the California Department of Transportation (Caltrans) sponsored a review of research on the induced travel effect to inform transportation analysis guid ance in response to new laws in California, such as Senate Bill 743. This bill prohibited the use of vehicle level of service (LOS) and similar measures as the sole basis for determining significant transportation impacts under the California Environmental Quality Act. Instead, vehicle miles traveled (VMT) was chosen to replace LOS under Senate Bill 743, and a companion to this new metric is a requirement to account for induced travel effects in analysis of projects that expand roadway capacity.

The Caltrans review found an inconsistent lexicon in academic research and among practitioners, questions about research applicability, limitations in the sensitivity of travel forecasting models, and confusion about the appropriate use of induced vehicle travel elasticities from research. This paper summarizes the review and includes definitions and background, a summary of the evidence for the magnitude of the induced travel effect, new research questions, and a discussion of the sensitivity of travel demand forecasting models to the induced travel effect. The paper concludes with a discussion of overall findings, desired research, and project analysis applications.

DEFINITIONS AND BACKGROUND

What is induced travel and how is it defined? A literature review identified many terms describing induced travel effects. Sorting these terms out will give practitioners a common understanding of the technical definitions. For the purposes of this paper, which focuses on practitioner guidance, the following terms are defined:

- Latent demand is the travel that would occur if the cost were lower (e.g., times were faster), that is, the travel that does not occur because costs are high (e.g., times are slow).
- Induced travel is the additional travel that occurs when the cost is lower (e.g., as a result of a capacity expansion that reduces travel times), that is, the additional travel that is induced by the lower costs that result from capacity expansion.
- Induced vehicle travel is additional vehicle travel that occurs when the cost is lower; this is a subset of all induced travel. For the purposes of this paper, the VMT level is used to measure additional vehicle travel.

Figure 1 shows the influence of roadway capacity expansion on vehicle traffic growth over time for a specific roadway segment.

Without new capacity, traffic growth, especially during peak hours, is constrained. Once capacity is added, traffic growth returns. A portion of the traffic growth is related to latent demand converting to

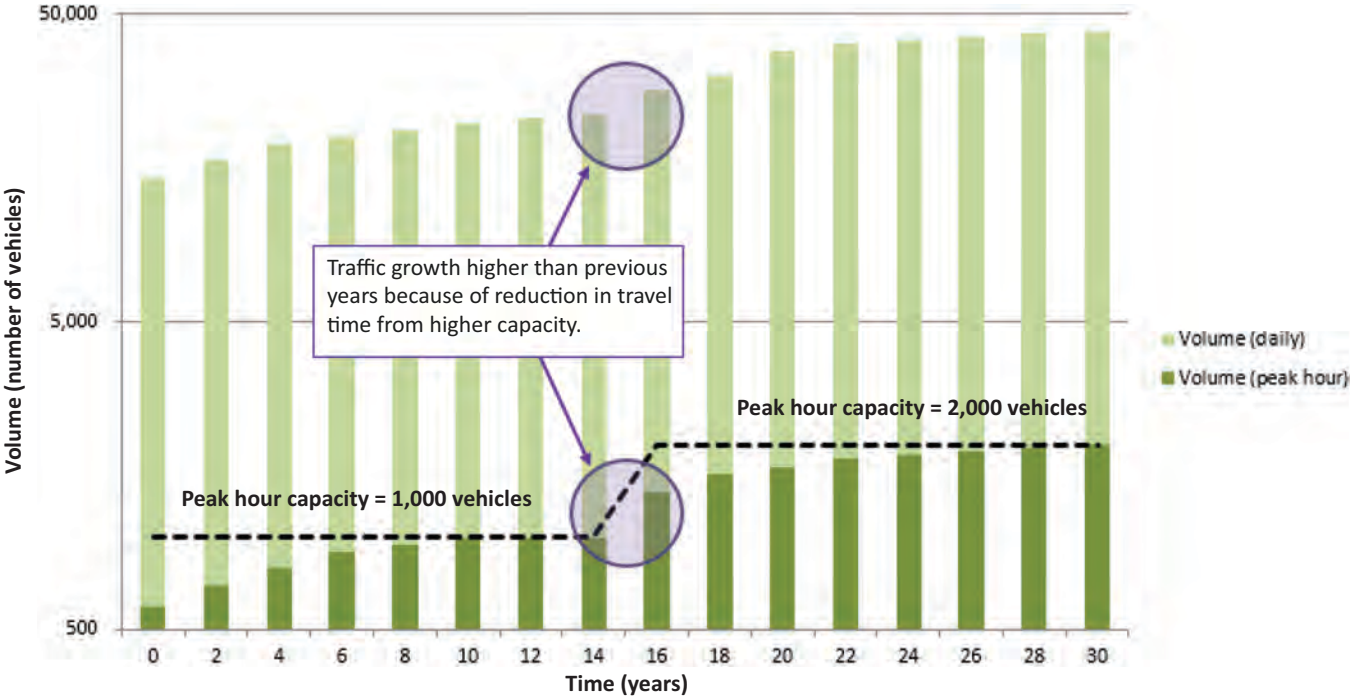


FIGURE 1 Example of induced travel: influence of capacity expansion on vehicle traffic growth.

actual vehicle travel on the network because of travel time improvements associated with the capacity increase. This conversion is the basis of the term "induced." Over the long term, traffic growth will reflect other factors, such as population and employment growth. Induced vehicle travel can include increased personal and commercial driving as a result of new or modified activities, shifts from non-auto modes to driving, and diversions from other roadways, all of which increase the level of VMT.

The induced travel effect occurs in situations in which traffic volumes are near capacity, so that congestion levels are high and travel times are longer than under free-flow conditions. In this situation, traffic growth is naturally constrained, as the long travel times deter travel and some demand for travel goes unmet—this is the latent demand. If new capacity is added and travel times improve, more people are likely to travel on this route—they are able to satisfy their latent demand (*2*). In the long term, traffic growth will reflect population and employment growth, which may be influenced by the added highway capacity.

Induced travel can be explained in terms of supply and demand. An increase in highway capacity represents a shift in the supply curve to the right: for the same volume of traffic, costs are lower (Figure 2). When the supply curve shifts to the right, it intersects the demand curve at a new point, at a higher travel volume than before. This increase is the induced vehicle travel. The greater the increase in supply, the greater the increase in travel volume, all else equal.

For an understanding of how capacity expansion increases the level of VMT, the individual components of how travelers respond to travel time reductions and within what time frames those changes

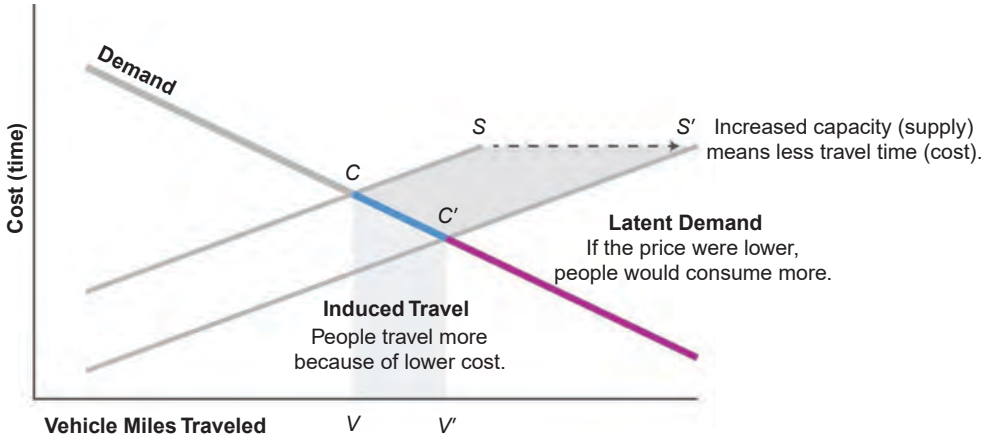


FIGURE 2 Supply and demand relationships for induced travel (*C* = initial cost; *C′* = new cost; *S* = initial supply/capacity; *S′* = new supply/capacity; *V* = initial VMT; *V′* = new VMT).

occur can be broken down. Travel time savings (as well as cost savings and reliability improvement) to a traveler can result in a change of route, change of schedule, change in activities that generate new trips (e.g., including unchaining previous trip tours), change in mode of travel, change to a more distant destination, and change in land development patterns. Of these effects, departure time changes do not represent new trips or new VMT levels but should be considered in transportation analysis because the effect can contribute to higher peak period travel demands. The other factors can affect the amount of VMT generally within the following periods:

- Short-term responses:
  1. New vehicle trips that would otherwise would not be made,
  2. Longer vehicle trips to more distant destinations,
  3. Shifts from other modes to driving, and
  4. Shifts from one driving route to another.
- Longer-term responses:
  5. Changes in land use development patterns (these are often more-dispersed, low-density patterns that are auto dependent) and
  6. Changes in overall growth.

The longer-term responses (Items 5 and 6) are sometimes referred to as induced growth, which leads to induced demand. In addition, Cervero defined induced investment to describe the phenomenon by which the increased vehicle traffic associated with highway investments leads public agencies to invest in projects that expand vehicle capacity (*3*). This phenomenon leads to a feedback loop that makes it difficult to solve congestion through roadway capacity expansion alone.

Despite the evidence supporting induced vehicle travel as a real and measurable effect, transportation planning practitioners have often challenged the concept and have not recognized the limitations of current travel forecasting models to fully account for these effects. Current travel forecasting models fall short when there is the lack of a feedback mechanism to trip generation and land use allocation. Trip generation models are largely static, and land use or socioeconomic forecasts are a fixed input in most model applications. The feedback mechanism would ideally respond to changes in the accessibility and travel time effects associated with capacity expansion projects to avoid downward biases in VMT forecasts, as discussed further below.

One outcome of the inconsistent consideration of induced travel in analysis of capacity expansion projects is legal challenges by interest groups typically opposed to the project (*4*). Often at the core of legal challenges are competing views related to induced vehicle travel in evaluation of the merits or impacts of a transportation capacity expansion project. In several cases, the courts have concluded that induced vehicle travel should be accounted for in environmental impact analysis since induced vehicle travel effects can reduce the benefits of capacity expansion and worsen air quality and greenhouse gas emissions.

Accurate assessment of induced vehicle travel requires a thorough understanding of how travel conditions are influenced by capacity constraints in the network. The change in travel times (and thus costs) caused by the project will influence the travel response. Capacity enhancements tend to have greater effects on induced travel under the following conditions:

- Low average speeds, high delays, and long travel times (often extending across parallel facilities);
- Clear evidence of peak spreading to multiple hours;
- Traffic growth that is lower than population and employment growth (when not a result of smart growth actions);
- Atypically high percentage of nondiscretionary trips (i.e., discretionary trips have been discouraged);
- Low fuel and parking prices (making travel time a higher proportion of total cost); and
- Observed trip routing distorted away from congested areas.

Even without these factors, induced vehicle travel effects may occur. For example, constructing a 65-mph freeway parallel to an existing uncongested 45-mph arterial could cause higher VMT levels from route shifts, travel to more distant destinations, or both. The new freeway route could require a longer travel distance, but the higher speed of the facility would offer a faster travel time and greater access to destinations further away.

Depending on the situation, projects for increasing vehicle capacity may differ in the types of travel they induce as well. In extreme cases, where congestion levels are substantial and alternative travel modes unavailable, induced travel may include work or school trips that tend to have less discretion and therefore the highest value to drivers. In others, where base conditions are not extreme or where modal alternatives exist, the travel response may induce lower-value vehicle trips with less economic benefit.

EVIDENCE FOR THE INDUCED TRAVEL EFFECT

Most research into the induced travel effect focuses on measuring the amount of induced vehicle travel (i.e., changes in VMT levels) with respect to changes in transportation network supply and it is expressed with an elasticity metric. Elasticity is the percentage change in a variable resulting from a percentage change in another variable. For VMT levels with respect to lane-miles, it is defined as the percentage change in total VMT resulting from a percentage change in lane-miles (number of lanes times centerline miles). The evidence has been reviewed in several publications (*2, 5, 6*).

The published research on induced vehicle travel represents a variety of study conditions, methodologies, and results. Studies vary across a range of factors, including terminology, time frame, geographic location and size, means of measuring variables, quality of data, and the type of statistical model used to determine the association between capacity change and change in VMT levels. Two studies differ in notable ways. Cervero used a path analysis to account for the two-way relationship between travel demand and supply (*3*). That study translated the addition of lane-miles into changes in travel speeds, which are the key cause of induced vehicle travel. The study also accounted for induced investment that can occur in response to growing travel over time or to anticipated increases in real estate values conferred by improved access to transportation. A limitation of Cervero's research is that it focused on corridors and did not directly measure the full networkwide effects that are often desirable for environmental impact analysis related to air quality and greenhouse gas emissions.

Duranton and Turner measured induced vehicle travel effects for urbanized areas throughout the United States by using a comprehensive data set based on metropolitan statistical areas (MSAs) (*1*). This study captures networkwide effects and considers induced vehicle travel effects on major urban roads and nonurban Interstates and more carefully distinguishes between induced vehicle travel and sources of traffic growth that may have been independent of the added road supply.

Overall, the elasticity of VMT levels to lane-miles from published research referenced in the review papers ranges from 0.0 to 0.68 for short-term effects and from 0.29 to 1.1 for long-term effects. Duranton and Turner, whose study is the most recent, estimated a long-term elasticity of approximately 1.0 for Interstate highways and major roadways within metropolitan areas (*1*). Two papers measured the elasticity of VMT levels to travel time as –0.3 to –0.5 for short-term effects and –0.4 to –1.0 for long-term effects (*1*). After reviewing the available studies, Handy and Boarnet recommended that an elasticity value close to 1.0 is the best estimate for the long-run effect of highway capacity on VMT levels (*5*). Elasticity values as summarized in Handy and Boarnet are presented in Table 1.

Based on the elasticities for the long-term condition, the congestion-relief effects of added lane-miles diminish over time and can result in higher long-term VMT levels and greater reliance on auto travel. This limited conclusion may not fully consider the two-way relationship between demand and supply. As Cervero notes, "Many induced-demand studies have suffered from methodological problems that, I believe, have distorted their findings" (*7,* p. 22). Cervero mentions that one of the problems is dealing with causality, and he asks, "Are rising traffic volumes caused by more road capacity? Or, might added road capacity be even more strongly caused by historical growth in traffic?" (*7,* p. 22). This question, known as simultaneity bias, was addressed by Cervero in his analysis; he concluded, "To the degree that the path model better captures causal relationships than previous studies, many past elasticity estimates could very well be inflated" (*3,* p. 159).

Other researchers, however, have also controlled for this bias, as explained by Handy and Boarnet (*5*):

> the studies use different approaches to addressing simultaneity bias, the possibility that VMT growth causes capacity expansions at the same time that capacity expansions cause VMT growth. Most common is the use of two-stage least squares regression with instrumental variables (Noland and Cowart 2000; Duranton and Turner 2011). This approach involves "instrumenting" the independent variable of interest (i.e., lane-miles) with an estimator based on exogenous variables that do not directly affect the dependent variable (i.e., VMT). (*5,* Technical Background Document, p. 5)

Even after accounting for the effect that VMT growth has on the construction of new capacity, research studies still found significant influence of capacity expansion on VMT levels (*5, 8*). However, the aggregate nature of the data and research analysis raises other questions about the specific sources of the added VMT. The research studies generally control for the following variables:

- Population growth,
- Changes in income, and
- Other exogenous variables (demographic, auto ownership, etc.).

Most of the research does not explain how much specific sources contribute to added VMT. An exception is the work of Duranton and Turner, who identified the following four potential sources as contributing to the added VMT (*1*):

- Increase in household driving—11% to 46%,
- Increase in commercial driving—18% to 28%,
- Migration (increase in population)—5% to 15%, and
- Diversion of traffic from other routes—0% to 10%.

This information is needed for understanding the potential underestimation of VMT that may occur in travel forecasting models. To capture all these potential sources, models need feedback processes that allow changes in accessibility and travel time to influence personal and commercial driving as well as long-term land use locations. The forecasting models should be able to isolate VMT levels associated with planned population and employment growth versus the induced VMT levels that may arise from not anticipating the full effect of network changes. As to the magnitude of the values, further investigation is warranted as explained below.

How Do Increases in Household Driving Contribute to the Increase in VMT Levels from New Capacity Expansion?

According to the national and California household travel surveys, per-household (and per-person) vehicle trip rates have remained relatively constant over time, so the increase largely would be associated with longer trips. Because the Duranton–Turner research used

TABLE 1 Impact of Capacity Expansion on VMT (*5*)

Study	Study Location (study type)	Study Years	Change in VMT/ Change in Lane-Miles	Time Period
Duranton and Turner (*1*)	United States (MSAs)	1983–2003	1.03	10 years
Cervero (*3*)	California (freeway corridors)	1980–1994	0.10 0.39	Short term Long term
Cervero and Hansen[a]	California (urban counties)	1976–1997	0.59 0.79	Short term (1 year) Intermediate (5 years)
Noland[b]	United States (states—all roadway types)	1984–1996	0.30 to 0.60 0.70 to 1.00	Short term Long term
Noland and Cowart[c]	United States (metro areas—freeways and arterials)	1982–1996	0.28 0.90	Short term Long term
Hansen and Huang (*10*)	California (metro areas—state-owned highways)	1973–1990	0.20 0.60 to 0.70 0.90	Short term Long-term counties Long-term metro areas

[a]Cervero, R., and M. Hansen. Induced Travel Demand and Induced Road Investment: A Simultaneous Equation Analysis. *Journal of Transport Economics and Policy,* Vol. 36, No. 3, 2002, pp. 469–490.
[b]Noland, R. B. Relationships Between Highway Capacity and Induced Vehicle Travel. *Transportation Research Part A,* Vol. 35, No. 1, 2001, pp. 47–72.
[c]Noland, R. B., and W. A. Cowart. Analysis of Metropolitan Highway Capacity and the Growth in Vehicle Miles of Travel. *Transportation,* Vol. 27, 2000, pp. 363–390.

data from 1983 to 2003, when VMT per capita was increasing, the finding may be reasonable but is generally applicable under similar circumstances. As shown in Figure 3, trends in VMT per capita in the past few years have included a mix of declines and increases.

If trip length changes are the main contributor to increased VMT levels from roadway capacity expansion, then enhancements or adjustments to travel forecasting model may require more than a feedback process to trip generation and long-term land use patterns. Further investigation of changes in trip length would be needed to inform trip distribution or destination choice models. Current distribution models are often limited by trip length frequency patterns established in the model's calibration year.

Is Road Supply Expansion Alone Sufficient to Accelerate the Overall Rate of Population and Employment Growth Within an Entire MSA?

Other researchers have suggested that roadway capacity expansion influences the geographic distribution of future population and employment growth within an MSA, but they did not provide evidence that road supply expansion could increase regional population and employment growth. This possibility has implications for forecasting VMT changes at regional scales versus project scales. Duranton and Turner suggested that an increase in MSA population explained between 5% and 15% of the increase in VMT levels from road supply expansion (*1*). This finding suggests that population and employment growth forecasts used in regional transportation plans should not be fixed. Instead, the forecasts would depend on the amount of roadway capacity expansion. Further, the location of capacity expansion projects would influence both the regional and project-scale allocation of population and employment growth.

Does the Use of Aggregate Data Based on Lane-Miles Instead of on Travel Time Changes Skew Elasticity Findings?

Although an increase in lane-miles is a supply change, not all lane-mile changes have the same influence on travel times, which is the key variable for influencing traveler response. Thus, do travel forecasting models provide a better estimate of short-term induced travel effects while elasticities found in research provide a better estimate of long-term effects?

The elasticity estimates demonstrate that VMT levels increase with lane-miles such that induced travel effects should be captured in transportation analysis when relevant to the technical questions under investigation. However, how best to account for induced vehicle travel effects does not have a single answer, especially considering recent VMT per capita trends and the myriad disruptive technology, demographic, and social trends. Also, almost all the research studies focused on Interstate or major roadways (i.e., arterials), although some differentiated between roadway widenings versus new roadway construction. Thus, little information is available on how the effects of induced vehicle travel may vary across the following roadway project types:

- High-occupancy vehicle lanes,
- High-occupancy toll lanes,
- Tolled lanes,
- Auxiliary lanes,
- Limited-access highways versus arterials, and
- Transportation systems management strategies:
  - Ramp metering and
  - Variable speed limits.

There is a lack of specific studies associated with these project types, but the induced vehicle travel research findings generally would apply to the extent that these project types reduce travel time. However, managed and tolled facilities may be designed to manage demand and could be used to keep VMT levels constant (or possibly reduce VMT levels), which Cervero points out is the key factor influencing travel changes (*3*).

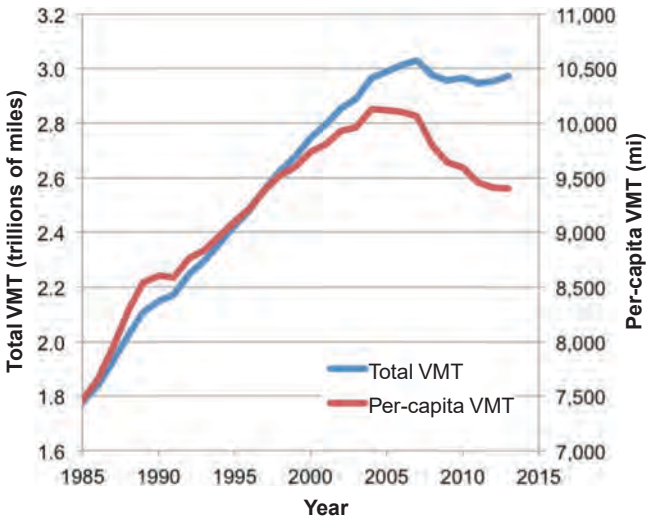


FIGURE 3 VMT trends. (Source: State Smart Transportation Initiative, FHWA, U.S. Census Bureau.)

TRAVEL MODEL SENSITIVITY

Schiffer et al. conducted a model sensitivity study in response to the lawsuit over the Legacy Parkway highway project in Salt Lake City, Utah (*6*). The sensitivity study was required as part of the settlement agreement among the Sierra Club, FHWA, FTA, and the Utah Department of Transportation. The study documented the measured change in VMT levels associated with roadway capacity expansion projects and the ability of travel forecasting models to capture induced vehicle travel effects fully. Today's travel forecasting models are not likely to have sufficient capability to predict induced demand and induced vehicle travel effects. Naess et al. noted that, "Although the phenomenon of induced traffic has been theorized for more than 60 years and is now widely accepted among transport researchers, the traffic-generating effects of road capacity expansion are still often neglected in transport modeling" (*9,* p. 291).

This deficiency in travel forecasting models is well understood among researchers and modeling experts and has been emphasized in various modeling literature. Litman said, "To predict generated traffic, transport models must incorporate 'feedback,' which reflects the impacts congestion has on travel behavior, and long-term changes in transport and land use patterns" (*2,* p. 13). He expanded on this statement by referencing other authors and concluded, "Most current traffic models can predict route and mode shifts, and some can predict changes in scheduling and destination, but few adjust trip frequency and most ignore the effects transport decisions have on land use development patterns" (*2,* p. 13).

The limitations of travel forecasting models to fully account for induced vehicle travel effects is a common argument used when forecast validity is questioned. Schiffer et al. addressed this topic and described what components of induced vehicle travel can be expected to be addressed in four-step travel forecasting models (*6*). Most urban area travel forecasting models include features to capture induced vehicle travel effects, but sensitivity testing is often necessary to verify the effectiveness of the features.

To assess sensitivity or accuracy of an individual travel forecasting model, testing should start with the following basic checklist of questions:

1. Newly generated trips. Does the model contain a feedback process by which person-trip generation is influenced by travel time estimates informed by network modifications (i.e., does trip generation vary with the level of roadway congestion)?
2. Longer trips. Does the model contain a feedback process by which trip distribution is influenced by changes in travel time? Is this influence limited by trip length patterns estimated for the calibration year?
3. Modal split. Does the model contain a mode choice process by which modal split is influenced by changes in travel time by mode?
4. Route diversions. Does the model contain a trip assignment process by which route choice is influenced by changes in travel time? This effect may not change the amount of overall travel, but it can be important for accurately forecasting location-specific traffic volumes for use in traffic operations analysis.
5. Time-of-day shifts. Does the model contain a temporal process by which departure time is influenced by changes in travel time? This effect is related to travel changes between time periods, not to the amount of overall travel; however, this effect can be important for accurately forecasting peak period traffic volumes for use in traffic operations analysis.
6. Land use development pattern shifts. Does the model contain a process by which long-term land use patterns are influenced by changes in accessibility and travel time?

In addition to sensitivity tests, questions could address travel time reliability, long-term auto ownership and availability rates (e.g., auto availability has expanded substantially with carsharing, microrentals, and transportation network companies), and public transit quality. All these factors can influence the induced vehicle travel effects and how travel changes in response to network modifications. Another form of testing is backcasts, for evaluating a model's ability to capture long-term effects on VMT levels. If a travel forecasting model can be shown to predict correctly increasing VMT per capita and total VMT for a period when historical growth in VMT levels exceeded population and employment growth, then the model has demonstrated the ability to predict long-term effects.

The most common limitations in current models (both four-step and activity based) is that feedback processes do not exist for long-term land use changes or trip generation when these models are used for project-level applications. Departure times may be fixed according to the use of preset periods representing a 24-h day. Although this does not adversely affect the total amount of travel for the 24-h day, it can influence the demand within individual periods. Trip distribution, mode choice, and trip assignment components of current practice models generally can capture the induced vehicle travel effects associated with Tests 2, 3, and 4 when feedback loops exist, have sufficient sensitivity, and are properly executed. However, model sensitivity testing must be done to verify that these components of the model have been properly specified and calibrated. A model structure may include an appropriate feedback structure, but testing is necessary to verify that the structure has been properly executed in the model environment and that errors have not been introduced in the model coding or data. Verifying that the model responds in the correct direction and magnitude is an important part of this testing. Another important check is the amount of variability or noise exhibited by the model that could distort the traffic and VMT estimates. In a regional context, and for some projects even at a corridor scale, the project impacts on travel could be relatively small, and model insensitivity or oversensitivity could significantly bias the estimate of VMT change relative to the VMT base.

CONCLUSIONS

Elasticity results demonstrate that the addition of lane-miles (especially in urban congested areas) causes increases in VMT levels that often dampen the ability of capacity expansion projects to relieve congestion and thereby generate higher levels of emissions. Handy and Boarnet supported this conclusion, noting that the quality of the evidence linking highway capacity expansion to VMT increases is relatively high (*5*). With long-term induced travel elasticity estimates reaching 1.0, a common conclusion, as stated by Duranton and Turner, is that "the extension [expansion] of most major roads is met with a proportional increase in traffic" (*1*). Their findings distinguished among the various sources of the traffic increase and indicated that the largest contributor to increases in VMT levels was more personal and commercial driving. Other contributors included route shifts and higher levels of population growth.

Research by Hansen and Huang (*10*) that used California-specific data reached similar conclusions about the overall long-term elasticities, although Cervero (*3*) revealed a lower long-term elasticity of about 0.80, of which only 0.39 was attributable to increased driving and growth with use of a methodology that also explained some of the two-way relationships between induced travel and induced growth and investment (*10*). According to Cervero, the path analysis approach, which was based on a long-term data set covering 14 years, revealed the following:

> The path analysis showed that for every 100 percent increase in capacity there'd be an eighty percent increase in travel, reflecting increased travel speeds and land use shifts along improved corridors. However, only around half the increases in speed and growth in building permits was due to the added capacity. Factors like employment and income growth accounted for the other half. Accordingly, the traffic gains that one can attribute to the added capacity is actually around half of eighty percent, or forty percent. (*7,* p. 26)

Other important findings in the research are as follows:

1. The induced vehicle travel effect size depends on the size of the geographic area and the size of the network change. The influence of an individual project is relative to its proportion of the larger network.
2. The induced vehicle travel effect size is influenced by other costs associated with driving, such as parking and fuel prices. When fuel prices are lower, the induced travel effects of expanded capacity tend to be higher as travel time becomes a greater share of travel costs in this situation (*5, 8*).
3. The induced vehicle travel effect is influenced by the starting level of congestion.

Beyond these conclusions, additional research is needed to evaluate further the following topics:

- Replicating the Duranton–Turner research at the metropolitan planning organization or county level (*1*),
- Isolating the specific contributing sources of added VMT (including determining whether new vehicle trips are related to creation of a trip that did not previously occur or the unchaining of a trip),
- Evaluating the effects of induced vehicle travel according to speed or travel time changes instead of lane-miles,
- Evaluating the effects of induced vehicle travel across facility and project types, and
- Evaluating the effects of induced vehicle travel under various levels of congestion and VMT per capita trends.

Although such research would be desirable, the research findings to date provide sufficient evidence that induced vehicle travel effects occur, are measurable, and should be accounted for in transportation analysis when relevant to the technical questions under investigation. Given the strength of the research findings, the next challenge is to connect the research to transportation planning practice and modeling so that effects of highway capacity on VMT levels are accurately captured.

PROJECT ANALYSIS APPLICATIONS

Beyond the research, how to address induced demand and induced vehicle travel in project analysis remains a significant question. Data and modeling limitations must be recognized and accounted for in the analytical process to avoid underestimates of induced travel effects. If a travel forecasting model is found to have limitations related to one or more of the induced vehicle travel components above, corrective actions can compensate for the limitation. Depending on project circumstances, this may be a qualitative or quantitative response. Project circumstances include the type of project, analysis purpose (alternatives analysis, design, or environmental impact analysis), resources, schedule, and controversy. When making a decision about the appropriate method, analysts should be aware of the expectations established in technical guidelines and environmental case law. In general, almost all the effects of induced vehicle travel can be accounted for with advanced travel forecasting models that account for the feedback effects of travel time (or travel cost) savings on travel behavior and long-term land use allocation. Failure to account for the feedback effects will result in underestimation of induced vehicle travel effects. Nevertheless, it is not always possible, feasible, or desirable to apply advanced models fully and appropriately for every transportation analysis.

At a minimum, induced vehicle travel effects should be acknowledged and discussed for capacity expansion projects that will reduce travel times. Acknowledgment should disclose any limitations related to the forecasting that may have not been sensitive to induced vehicle travel effects and how those effects could influence the analysis results. This effort could include a qualitative discussion or even simple elasticity-based estimates of VMT levels derived from the project's lane-mile changes. Disclosures should refer to the research findings on the subject presented above or to the most recent and relevant research available. This recommendation applies to regional and project scale analysis.

Quantification of induced vehicle travel effects becomes particularly important when capacity constraints are severe. The process for quantification will depend on the available travel forecasting models and their sensitivity to induced vehicle travel effects. A first level of quantification would calculate the model-produced elasticity of VMT levels to lane-miles under short-term and long-term conditions. For example, the short-term evaluation could compare the net change in VMT levels divided by the net change in lane-miles between the no-build and build scenarios with the research elasticity estimates of short-term responses such as those produced by Cervero (*3*). If the model fails to capture the full change expected in VMT levels, the VMT forecasts could be adjusted according to the elasticity differences. For long-term conditions, the elasticity values from research studies could be used as a benchmark for comparison. The research analysis controls for variables such as population growth, while travel demand models use population growth as a key variable in forecasting VMT levels. Hence, the travel demand model forecast of VMT levels should be higher than an estimate derived from long-term elasticity values found in the research.

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The Standing Committee on Transportation Planning Applications peer-reviewed this paper.

Updating Transportation Metrics

Chris Ganson
Governor's Office of Planning and Research

1. What do we want from transportation?
2. Problems with automobility-focused planning
3. Distinguishing performance measures and measures of impact
4. Greenhouse gas emissions reduction
5. Problems with using LOS in CEQA
6. SB 743 and the shift to VMT
7. Caltrans role in implementing SB 743
8. Questions/Discussion

What do we *really* want from transportation?

What we want from transportation

- **Mobility**





What we want from transportation

- **Access to destinations**





What we want from transportation

- **Access to destinations**
  - **Economic opportunity**
  - **Social opportunity**





What we want from transportation

- Access to destinations:

Mobility

and

Proximity





What we want from transportation

- Access to destinations:

Mobility

- **Speed**
- **Delay**
- **TTI Index**

and

Proximity

- Distance
- Stores per square mile
- Intersections per square mile

What we want from transportation

- Access to destinations:

Mobility

- Speed
- Delay
- TTI Index

and

Proximity

- **Distance**
- **Stores per square mile**
- **Jobs within 10 miles**

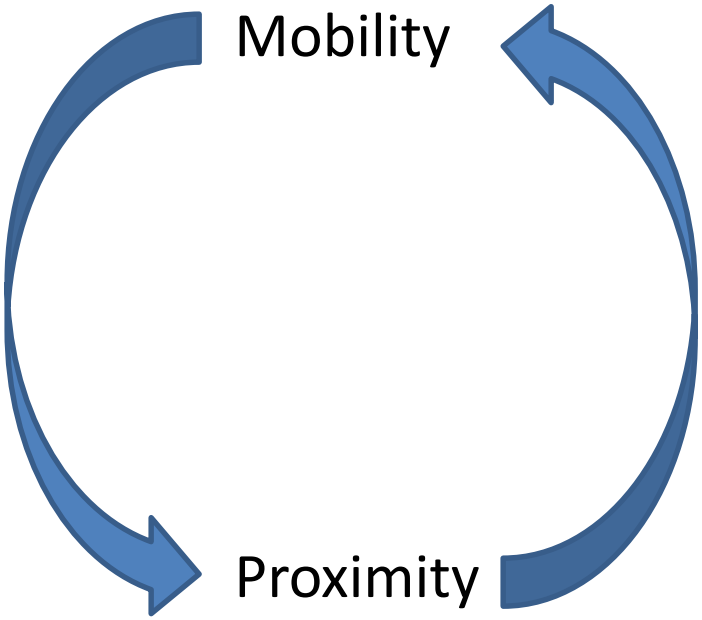
What we want from transportation

Metrics of **access to destinations**

- **Time to destination**
- **Number of jobs reachable within 20 minute drive**
- **Number of stores reachable within 10 minute walk**
- **Walkscore**

Problems with mobility-focused planning

Problems with mobility-focused planning



Problems with mobility-focused planning

Mobility



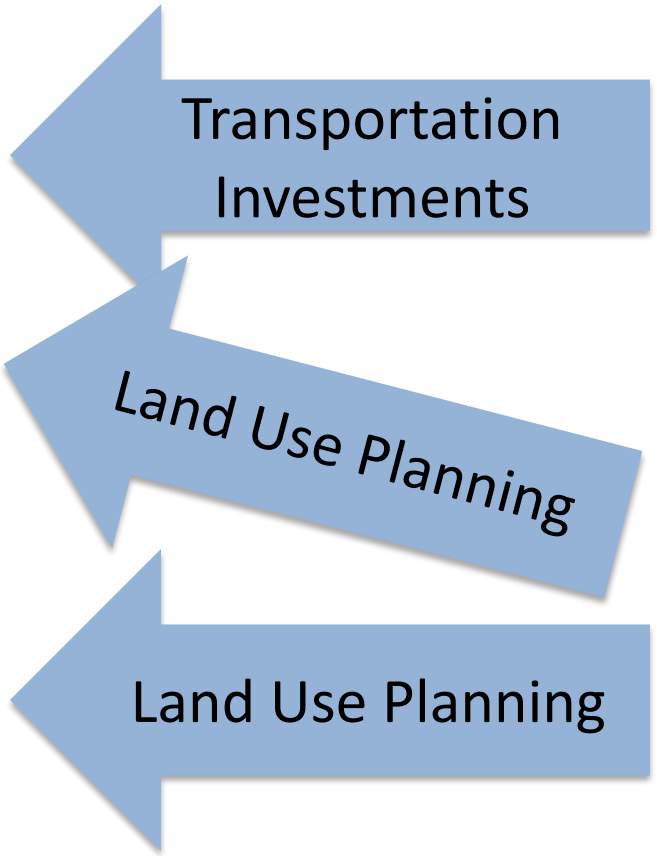
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Problems with mobility-focused planning

Mobility

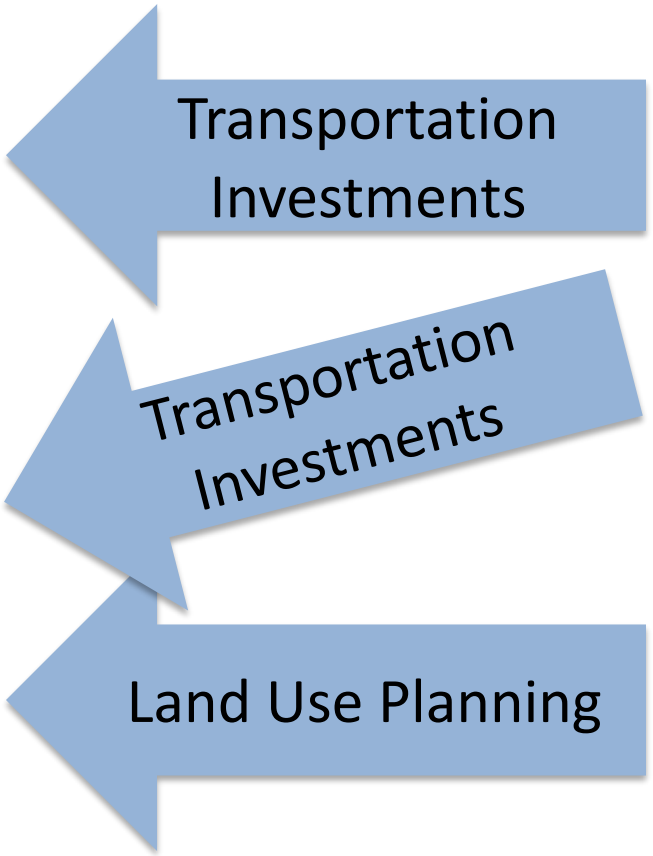
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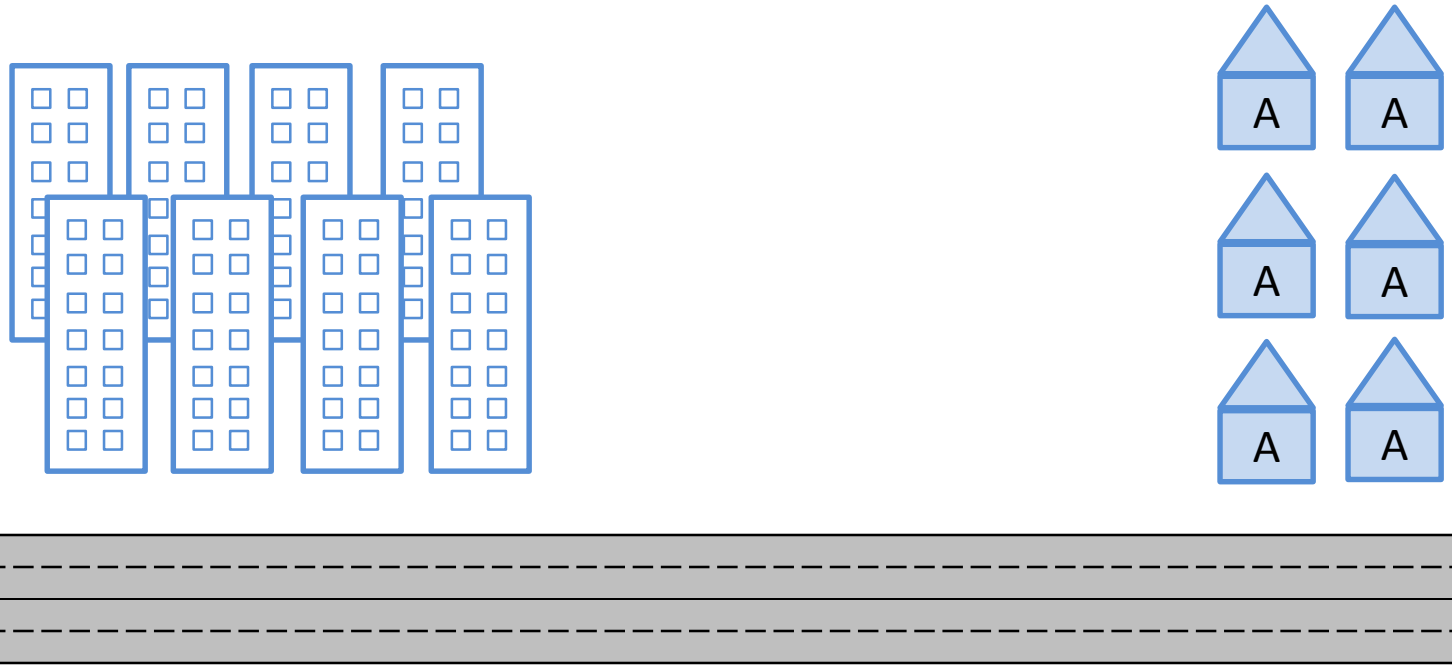
Problems with mobility-focused planning

Mobility

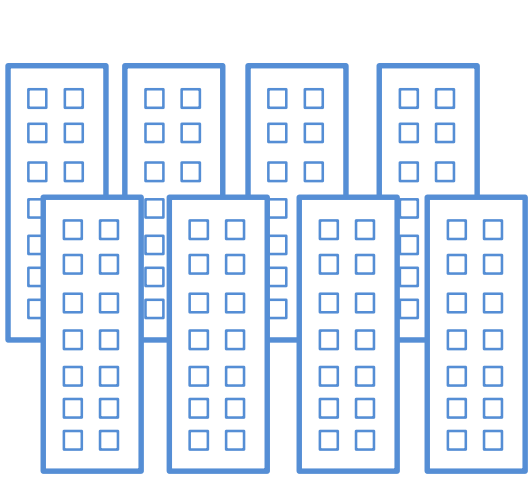
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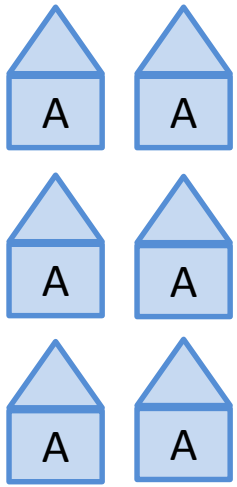


Problems with mobility-focused planning



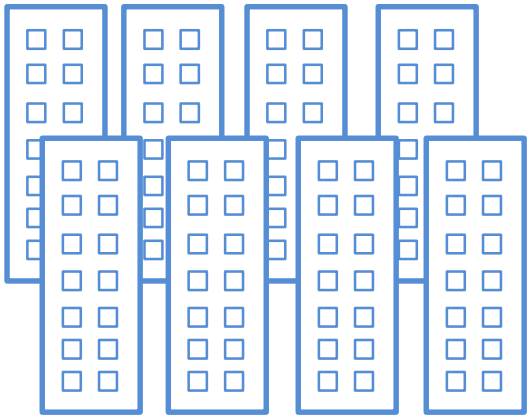
Problems with mobility-focused planning

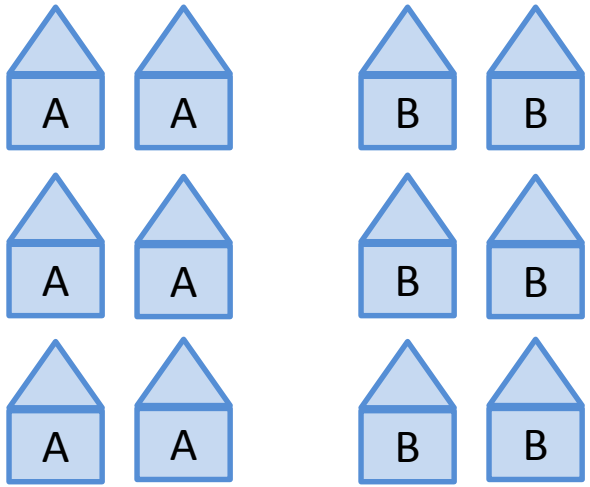




Added Capacity – Just accommodating the A's…

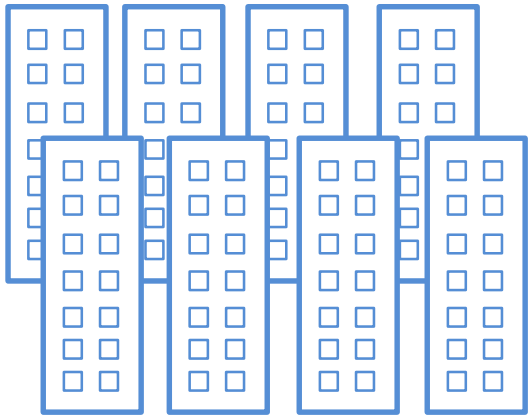
Problems with mobility-focused planning

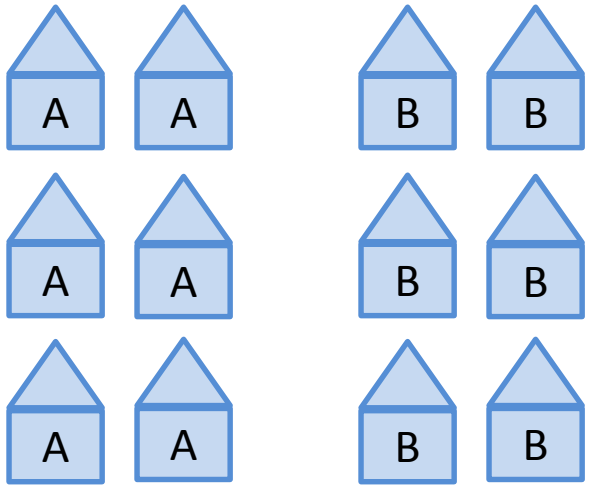




But what accommodates the A's also accommodates the B's…

Problems with mobility-focused planning





But what accommodates the A's also accommodates the B's…

Traffic re-congests until it finds the equilibrium delay

Problems with mobility-focused planning

Denver 1982		Denver 2007
1.09	Travel Time Index	1.31
50.6 minutes	Average travel time	49.6 minutes
46.4 mins	Travel time without traffic	37.9 minutes
4.2 mins	Extra rush hour delay	11.7 minutes





Distinguishing Performance measures from measures of impact

What do we want from transportation?

- **Provide access to destinations**
  - **Economic opportunity**
  - **Social opportunity**

What do we want from transportation?

- Provide access to destinations
  - Economic opportunity
  - Social opportunity

- **Minimize other harm**
  - **Environment**
  - **Health**

- **Maximize other benefit**
  - **Health (e.g. active transport)**

- **Minimize cost**
  - **Public**
  - **Private**

What do we want from transportation?

- Provide access to destinations
  - Economic opportunity
  - Social opportunity

Performance Measures

- Minimize other harm
  - Environment
  - Health
- Maximize other benefit
  - Health (e.g. active transport)
- Minimize cost
  - Public
  - Private

Measures of Impact

What do we want from transportation?

- Provide access to destinations
  - Economic opportunity
  - Social opportunity

Performance Measures

- Minimize other harm
  - Environment
  - Health
- Maximize other benefit
  - Health (e.g. active transport)
- Minimize cost
  - Public
  - Private

Measures of Impact

CEQA

Greenhouse Gas Emissions

Greenhouse Gasses

Transportation's Share of Total CA GHGs

- Tailpipe emissions: 38%
- Incl. petroleum refining: ~ half
- Incl. roadway construction and maintenance vehicle manufacture: > half



Targets

- 1990 levels by 2020 (AB 32)
- 40% reduction by 2030 (EO B-30-15)
- 80% reduction by 2050 (EO S-3-05)
- 80% reduction *from transportation* by 2050 (EO B-16-12)



Greenhouse Gasses

Ways to reduce transportation GHGs:

- Vehicle Efficiency
- Fuel Carbon Content
- VMT



2030, 2050 Goals Very Challenging

VMT Reduction

- SB 375
- SB 391
- Infill Priority (AB 857)
- CEQA

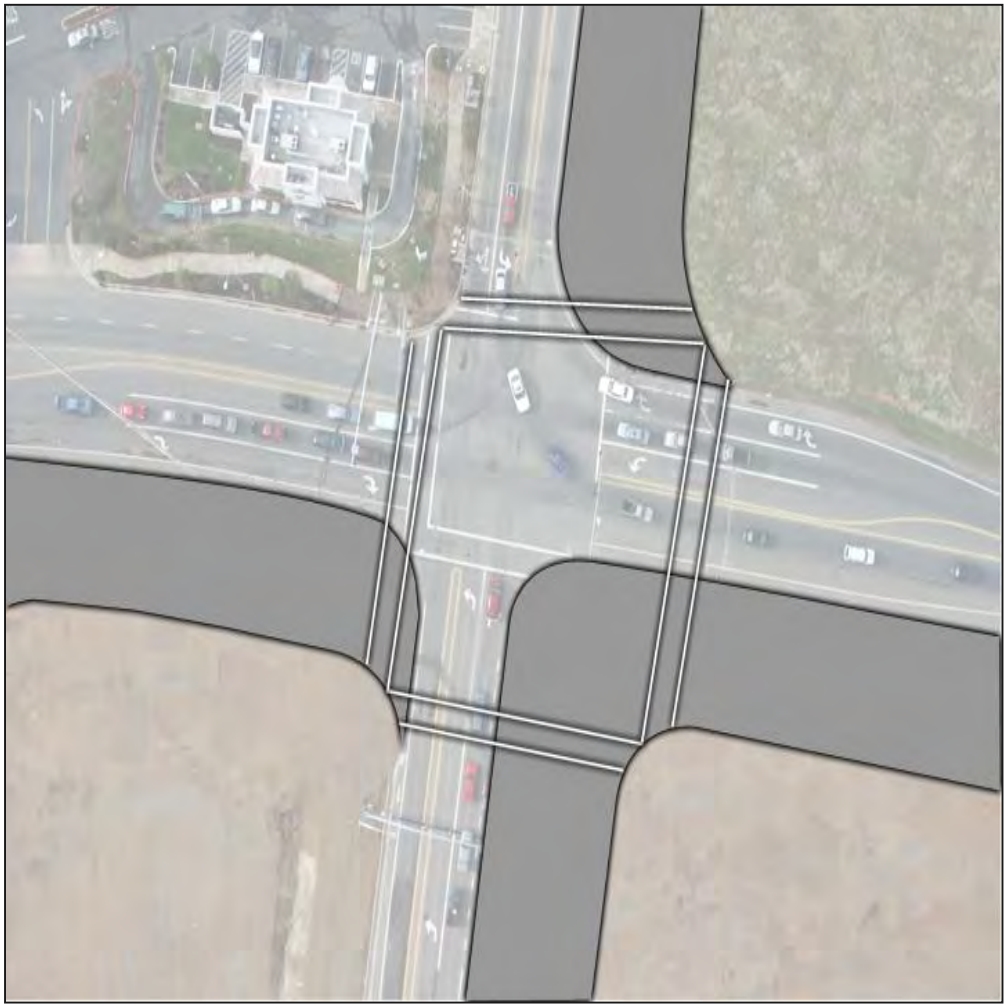


Problems with using LOS in CEQA

Transportation Analyses in CEQA

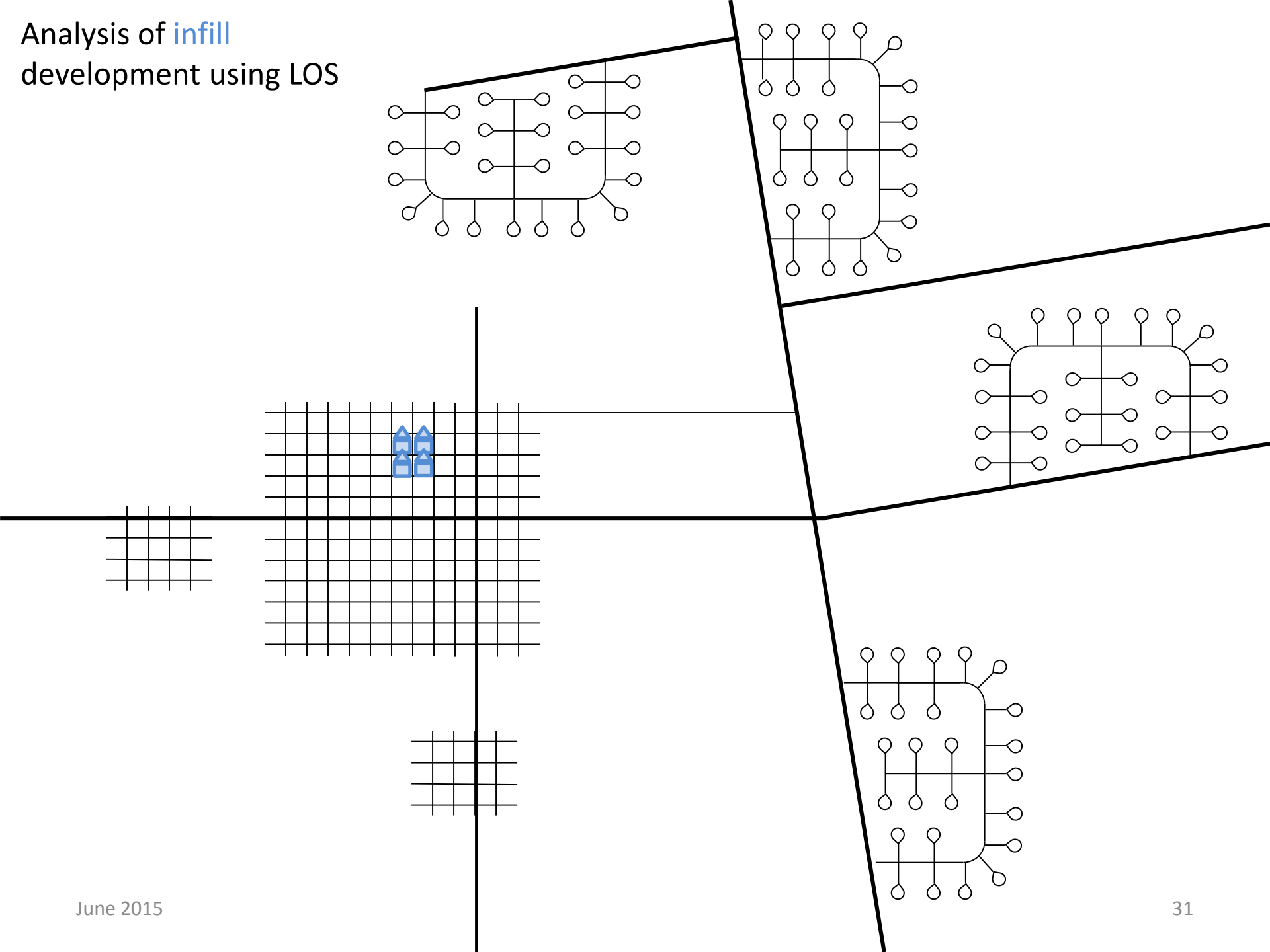
California Environmental Quality Act

Metric of Transportation Impact: Automobile Level of Service Standards (LOS)



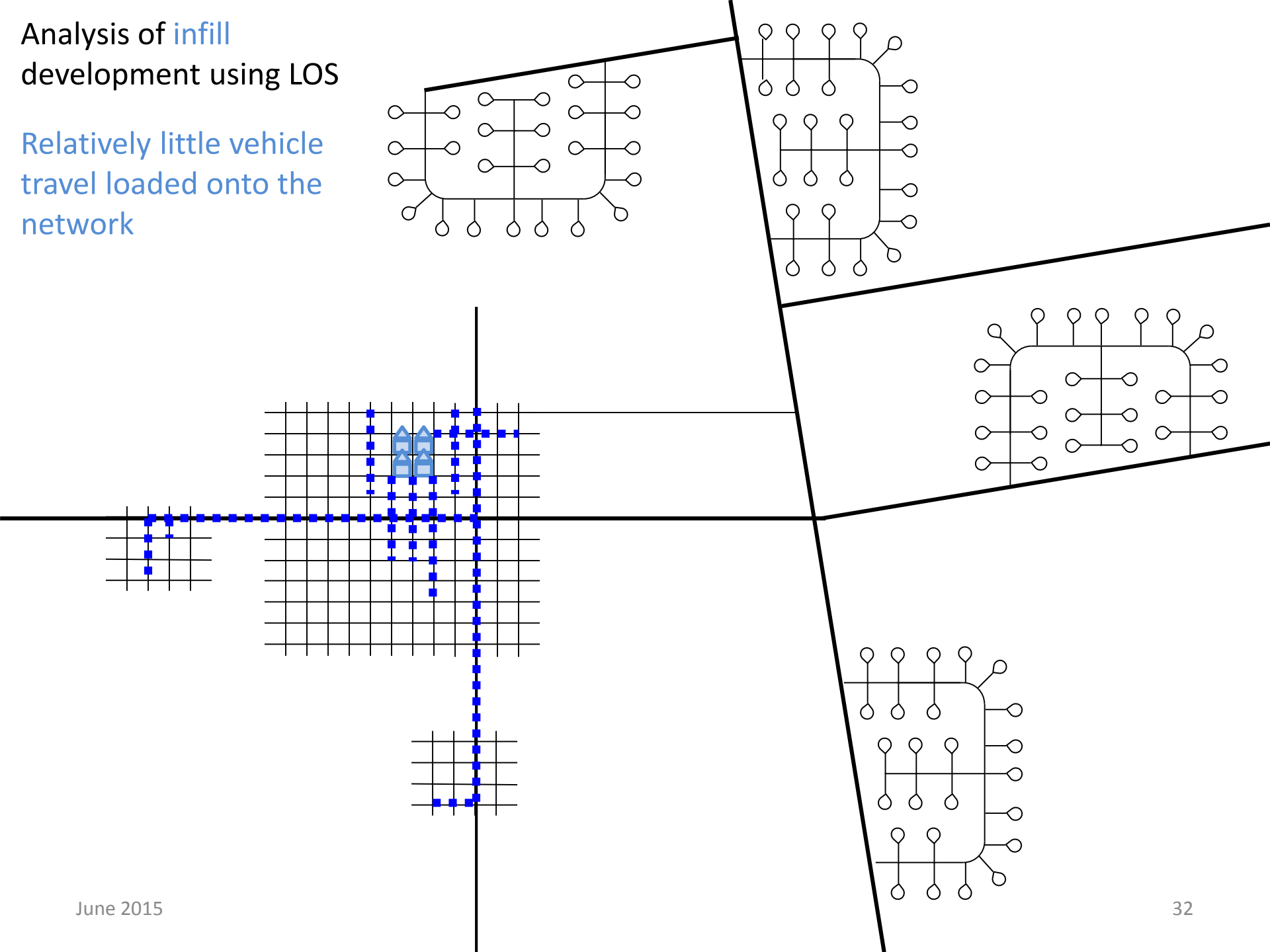
Source: Fehr and Peers

Analysis of infill development using LOS



Analysis of infill development using LOS

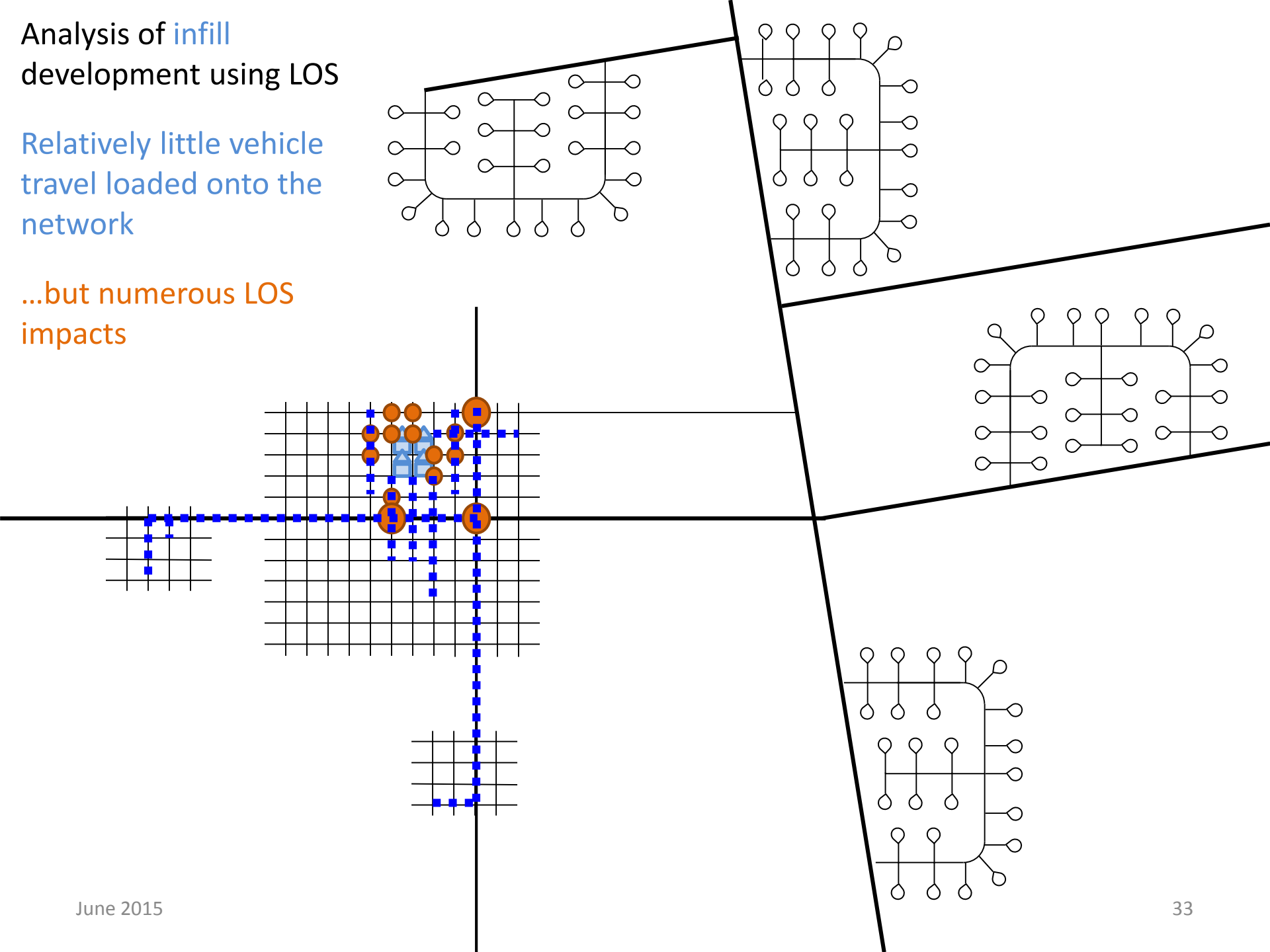
Relatively little vehicle travel loaded onto the network



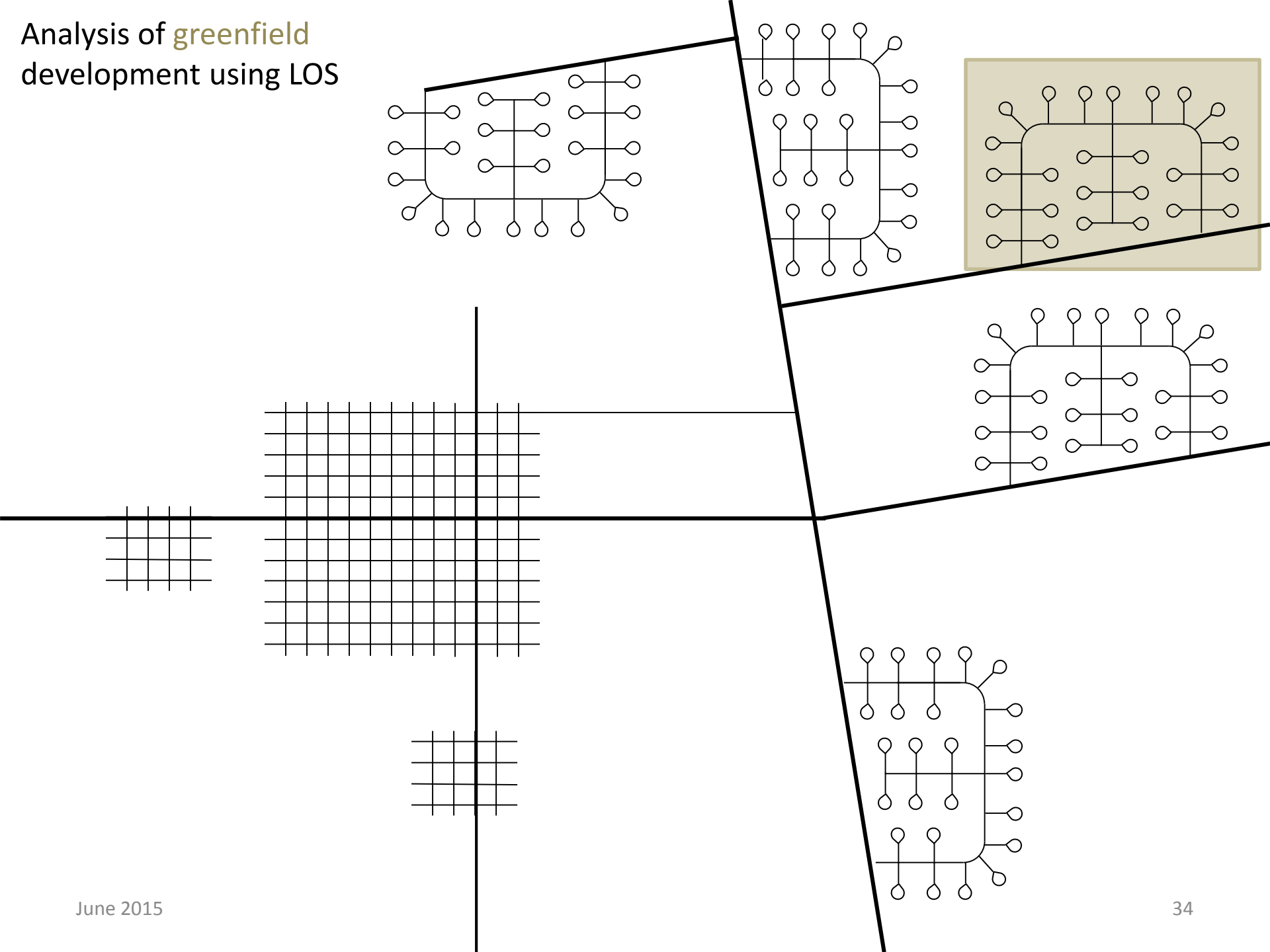
Analysis of infill development using LOS

Relatively little vehicle travel loaded onto the network

…but numerous LOS impacts

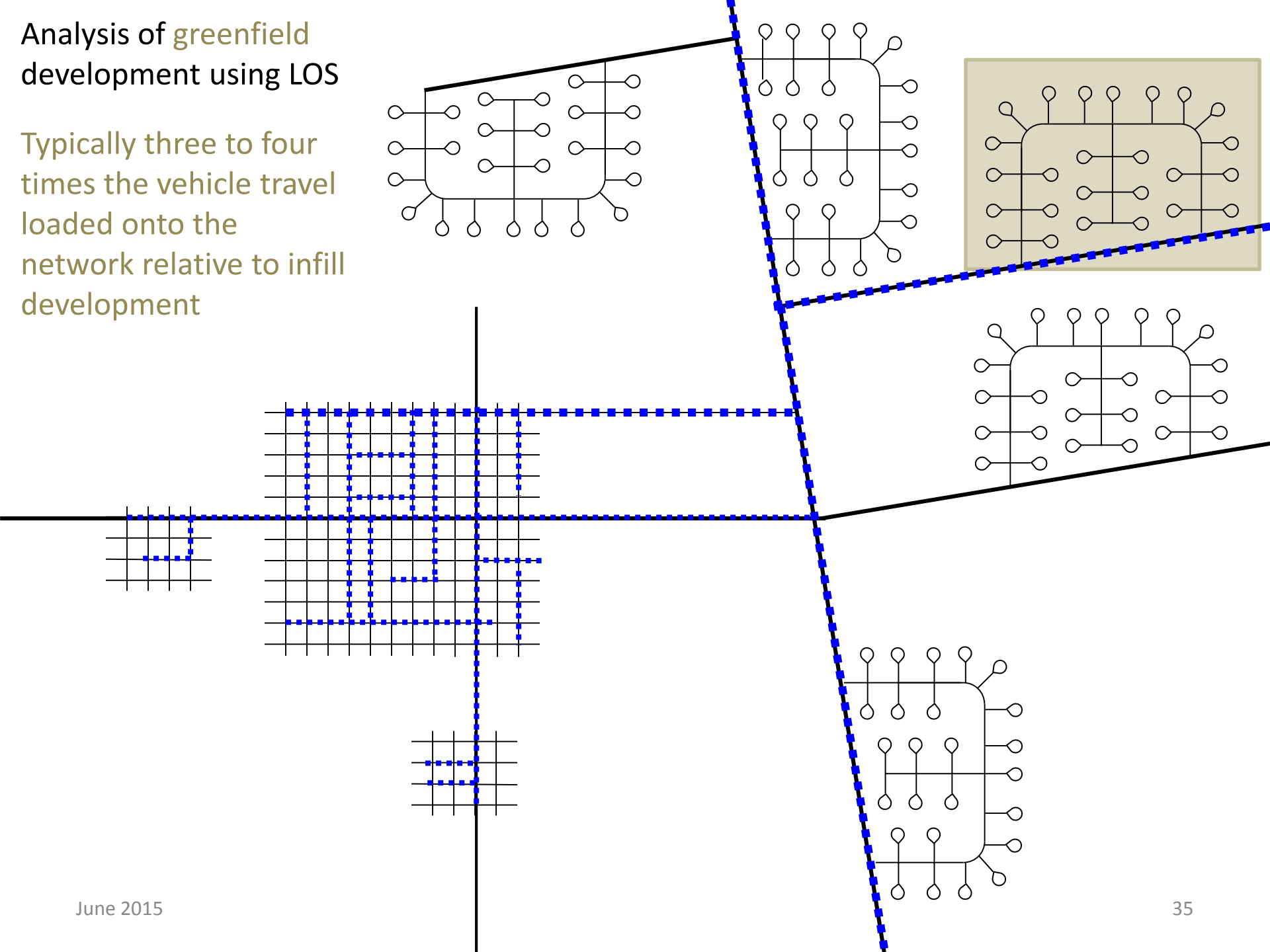


Analysis of greenfield development using LOS



Analysis of greenfield development using LOS

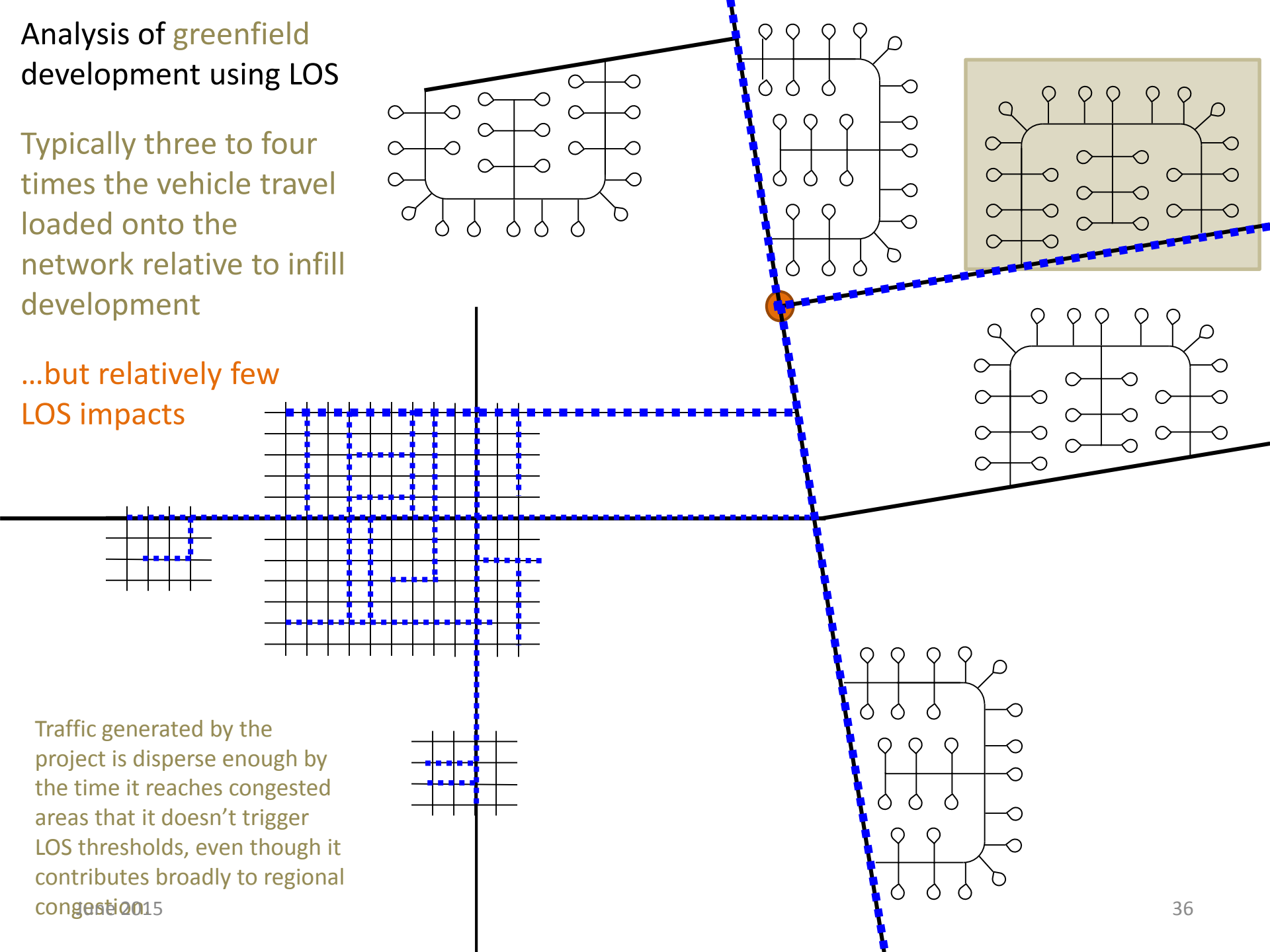
Typically three to four times the vehicle travel loaded onto the network relative to infill development



Analysis of greenfield development using LOS

Typically three to four times the vehicle travel loaded onto the network relative to infill development

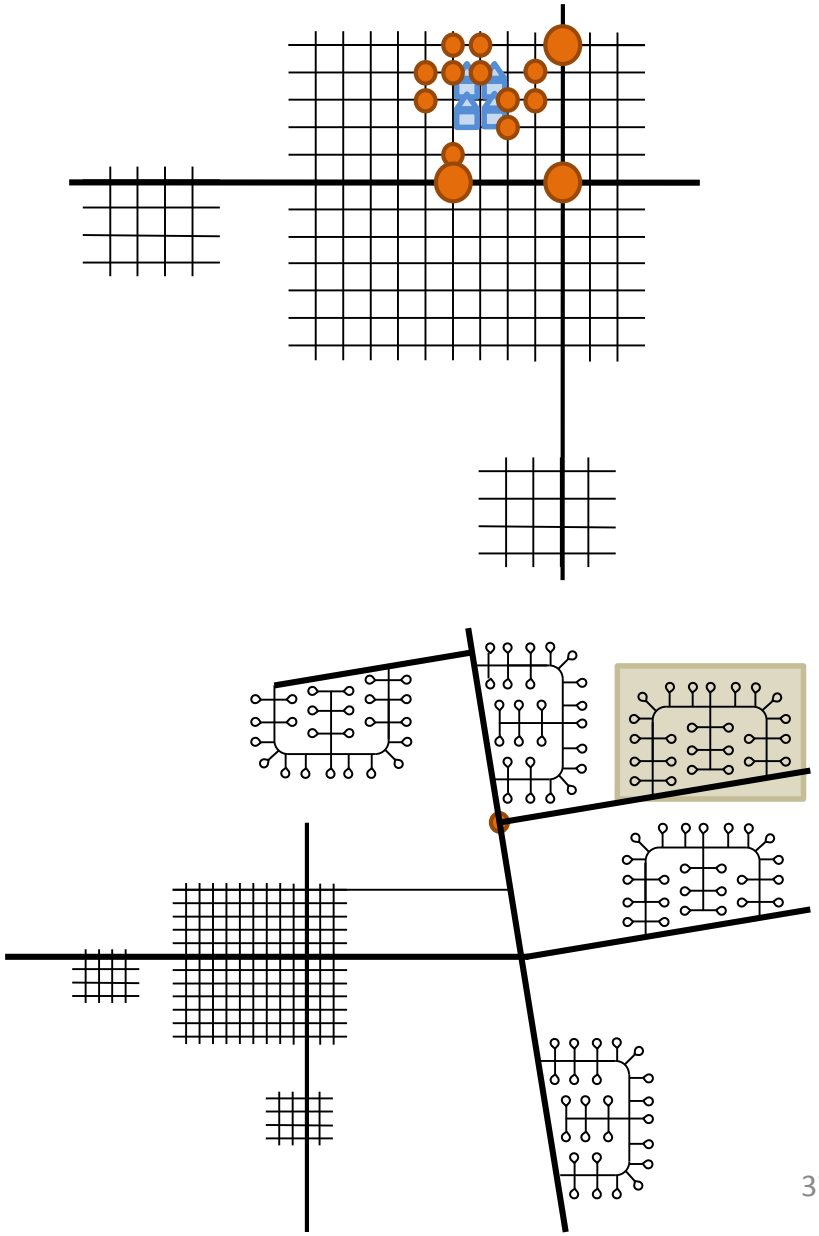
…but relatively few LOS impacts



Traffic generated by the project is disperse enough by the time it reaches congested areas that it doesn't trigger LOS thresholds, even though it contributes broadly to regional congestion

Problems with LOS as a Measure of Transportation Impact

1. **Punishes last-in, inhibits infill, pushes development outward**
2. "Solves" local congestion, exacerbates regional congestion
3. Inhibits transit
4. Inhibits active transport
5. Measures mobility, not access; shows failure when we succeed
6. Measures mobility poorly; fails to optimize network even for autos
7. Forces more road construction than we can afford to maintain
8. Hard to calculate and inaccurate



Problems with LOS as a Measure of Transportation Impact

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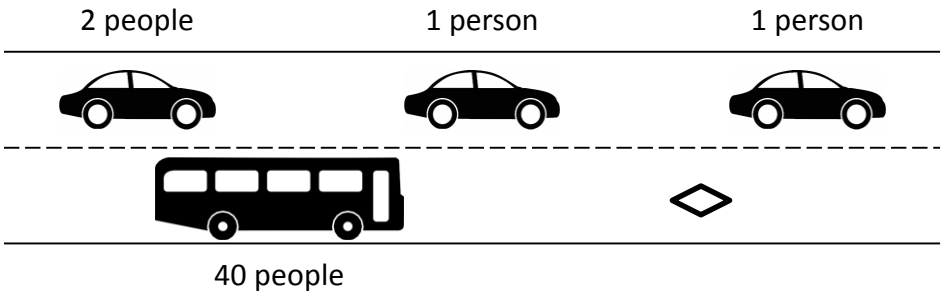




David Paul Morris / SFC

Problems with LOS as a Measure of Transportation Impact

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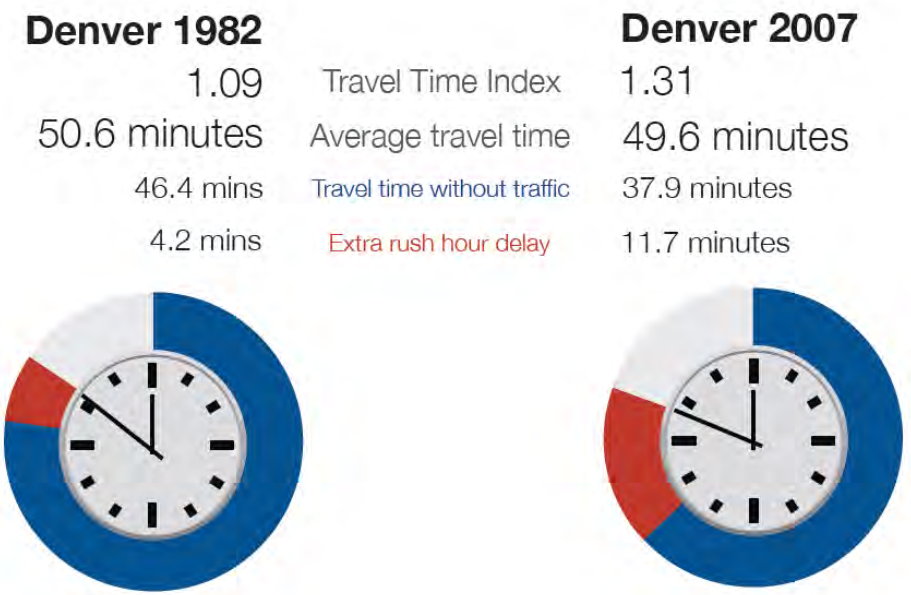
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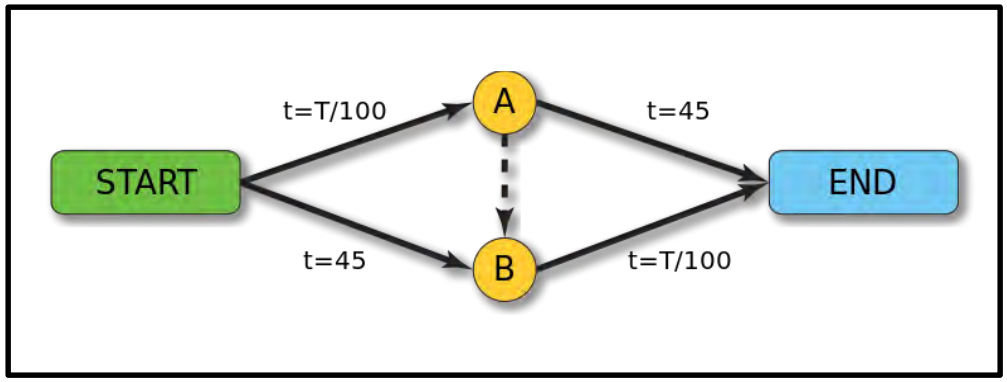
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Braess's Paradox

Problems with LOS as a Measure of Transportation Impact

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3. Inhibits transit
4. Inhibits active transport
5. Measures mobility, not access; shows failure when we succeed
6. Measures mobility poorly; fails to optimize network even for autos
7. **Forces more road construction than we can afford to maintain**
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Problems with LOS as a Measure of Transportation Impact

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6. Measures mobility poorly; fails to optimize network even for autos
7. Forces more road construction than we can afford to maintain
8. **Hard to calculate and inaccurate**

Table V.M-13
Intersection Critical Movement Analysis (CMA) and Level of Service (LOS) Summary
Existing (2001) and Future (2005) Conditions

No.	Intersection	Peak Hour	Existing CMA	Existing LOS	Without Project CMA	Without Project LOS	With Project CMA	With Project LOS	With Project Impact	With Project + Mitigation CMA	With Project + Mitigation LOS	With Project + Mitigation Impact
1.	Sunset Boulevard & Beverly Glen Boulevard (E.)	AM	0.894	D	1.038	F	1.037	F	-0.001	1.036	F	-0.002
		PM	1.023	F	1.225	F	1.216	F	-0.009	1.215	F	-0.010
2.	Sunset Boulevard & Beverly Glen Boulevard (W.)	AM	1.189	F	1.385	F	1.388	F	0.003	1.385	F	0.000
		PM	1.062	F	1.264	F	1.251	F	-0.013	1.249	F	-0.015
3.	Wilshire Boulevard & Beverly Glen Boulevard	AM	0.868	D	1.030	F	1.030	F	0.000	1.029	F	-0.001
		PM	0.884	D	1.140	F	1.133	F	-0.007	1.133	F	-0.007
4.	Santa Monica Boulevard (N.) & Overland Avenue	AM	0.861	D	1.076	F	1.080	F	0.004	1.078	F	0.002
		PM	0.814	D	1.082	F	1.054	F	-0.028	1.054	F	-0.028
5.	Santa Monica Boulevard (S.) & Overland Avenue	AM	0.478	A	0.358	A	0.358	A	0.000	0.358	A	0.000
		PM	0.428	A	0.465	A	0.465	A	0.000	0.465	A	0.000
6.	Santa Monica Boulevard (N.) & Beverly Glen Boulevard	AM	0.849	D	1.099	F	1.107	F	0.008	1.104	F	0.005
		PM	0.823	D	1.139	F	1.130	F	-0.009	1.128	F	-0.011
7.	Santa Monica Boulevard (S.) & Beverly Glen Boulevard	AM	0.849	D	0.464	A	0.464	A	0.000	0.464	A	0.000
		PM	0.884	D	0.575	A	0.575	A	0.000	0.575	A	0.000
8.	Santa Monica Boulevard (S.) & Century Park West	AM	0.325	A	1.006	F	1.007	F	0.001	1.005	F	-0.001
		PM	0.397	A	0.984	E	0.969	E	-0.015	0.966	E	-0.018
9.	Santa Monica Boulevard (N.) & Club View Drive	AM	0.613	B	0.213	A	0.213	A	0.000	0.213	A	0.000
		PM	0.707	C	0.408	A	0.408	A	0.000	0.408	A	0.000
10.	Santa Monica Boulevard (N.) & Avenue Of The Stars	AM	0.825	D	1.191	F	1.205	F	0.014 *	1.199	F	0.008
		PM	0.755	C	0.967	E	0.956	E	-0.011	0.955	E	-0.012
11.	Santa Monica Boulevard (S.) & Avenue Of The Stars	AM	0.506	A	NA		NA			NA		
		PM	0.544	A	NA		NA			NA		
12.	Santa Monica Boulevard (N.) & Century Park East	AM	0.759	C	0.950	E	0.955	E	0.005	0.953	E	0.003
		PM	0.666	B	0.846	D	0.805	D	-0.041	0.804	D	-0.042
13.	Santa Monica Boulevard (S.) & Century Park East	AM	0.771	C	NA		NA			NA		
		PM	0.648	B	NA		NA			NA		
14.	Santa Monica Boulevard (N.) & Wilshire Boulevard	AM	1.096	F	1.261	F	1.263	F	0.002	1.263	F	0.002
		PM	1.046	F	1.294	F	1.288	F	-0.006	1.287	F	-0.007

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Changing the Paradigm of Traffic Impact Studies:

How Typical Traffic Studies Inhibit Sustainable Transportation

"The practice of focusing on automobile level of service (LOS) and traffic flow as part of environmental clearance has, ironically, actually inhibited sustainable transportation"

tation, that is, transit, bicycling, and walking. This paper describes the problems with current practices and suggests how transportation studies should be used to improve mobility and livability for all.

"Three implicit assumptions [in the use of LOS]:

1. Cars are more important than people
2. We should provide roadway capacity in excess of what is actually needed
3. New development should occur in suburban and exurban locations, rather than in established areas"

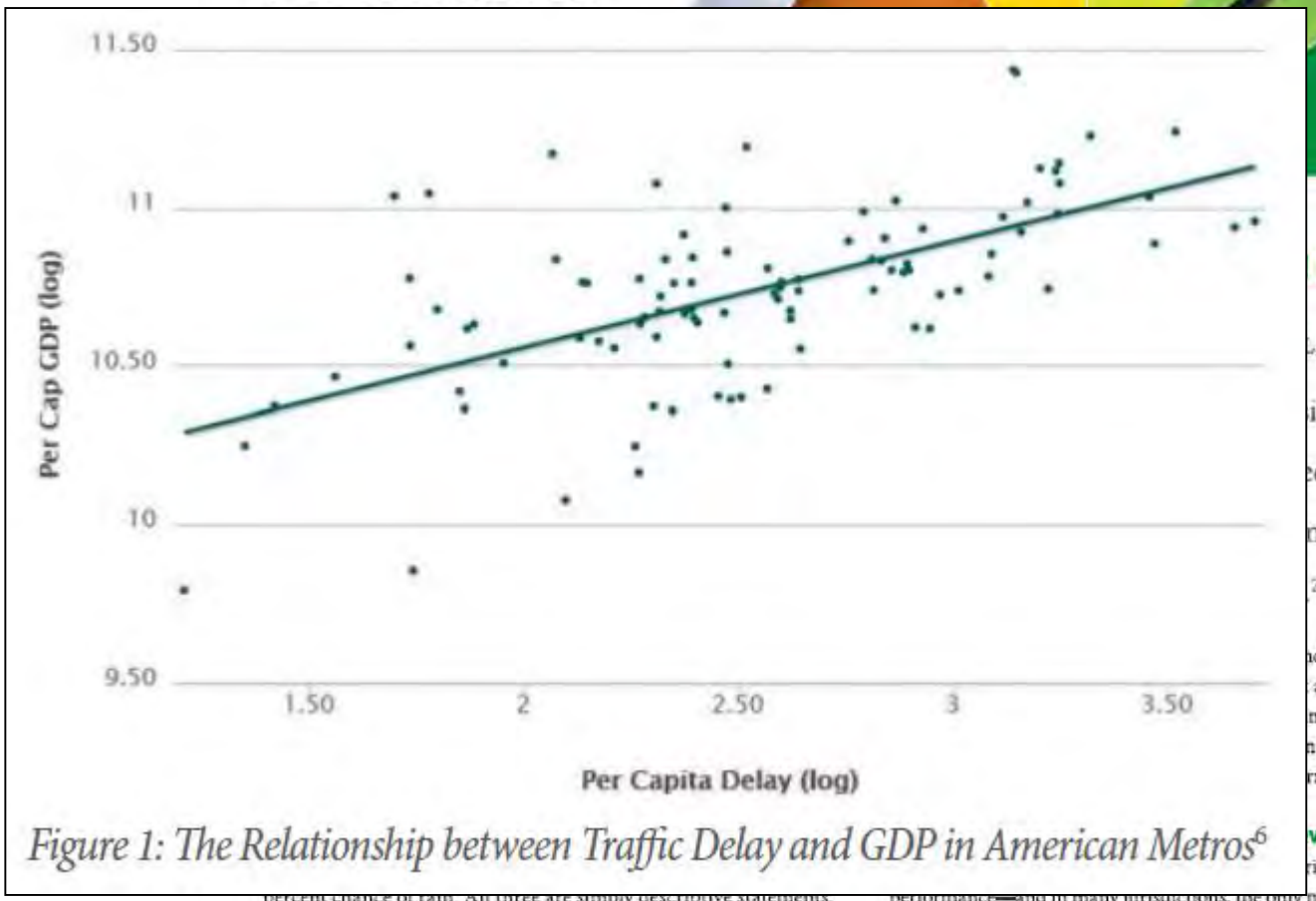


Figure 1: The Relationship between Traffic Delay and GDP in American Metros[6]

SB 743 and the shift to VMT

SB 743

- Prohibits the use of LOS in CEQA
  - Clarifies: auto delay ≠ env. impact
- Directs OPR to replace it with a metric that:
  1. Reduces GHGs
  2. Improves multimodal network
  3. Increases mixed use development
- OPR Implementation
  - Preliminary Evaluation of Alternative Transportation Metrics
  - Consensus on Vehicle Miles Travel (VMT)





Benefits of VMT as a Measure of Transportation Impact

1. Removes barriers to infill
2. Easier to model
3. Already used (e.g. for GHGs)
4. More accurate
5. Sees the big picture
6. Mitigation doesn't undo itself by inducing more car travel
7. Mitigation reduces long run maintenance burden
8. Mitigation forwards other environmental and human health factors

Impacts of High VMT Development

Environment

- Emissions
  - GHG
  - Regional pollutants
- Energy use
  - Transportation energy
  - Building energy
- Water
  - Water use
  - Runoff – flooding
  - Runoff – pollution
- Consumption of open space
  - Sensitive habitat
  - Agricultural land

Health

- Collisions
- Physical activity
- Emissions
  - GHGs
  - Regional pollutants
- Mental health

Cost

- Increased costs to state and local government
  - Roads
  - Other infrastructure
  - Schools
  - Services
- Increased private transportation cost
- Increased building costs (due to parking costs)
- Reduced productivity per acre due to parking
- Housing supply/demand mismatch → future blight

Implementation of VMT: Geography/Extent

Urban

- Lots of mitigation options, greatest *percent* VMT reduction
- VMT reduction benefits environment, health, cost here
- Streamline infill, transit, active transportation projects

Suburban

- Many mitigation options; greatest *absolute* VMT reduction
- VMT reduction benefits environment, health, cost here too

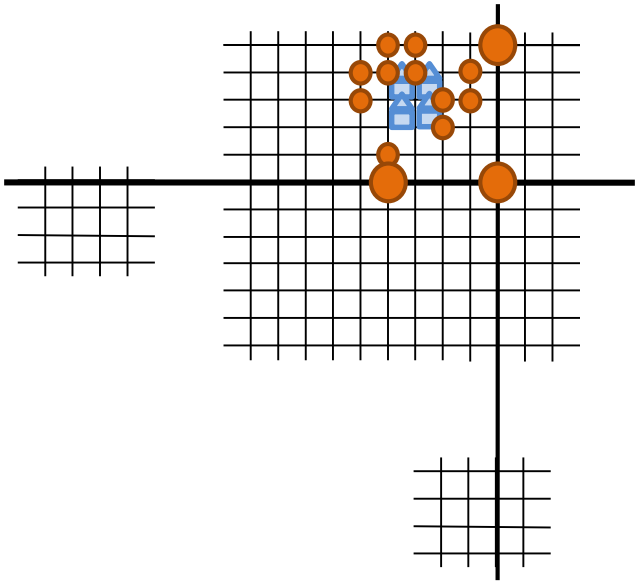
Rural

- Many mitigation options at the plan level, some at the project level
- Reducing VMT benefits environment, health, cost here too
- VMT mitigation helps maintain small town character, equity

Implementation: Land Use Projects

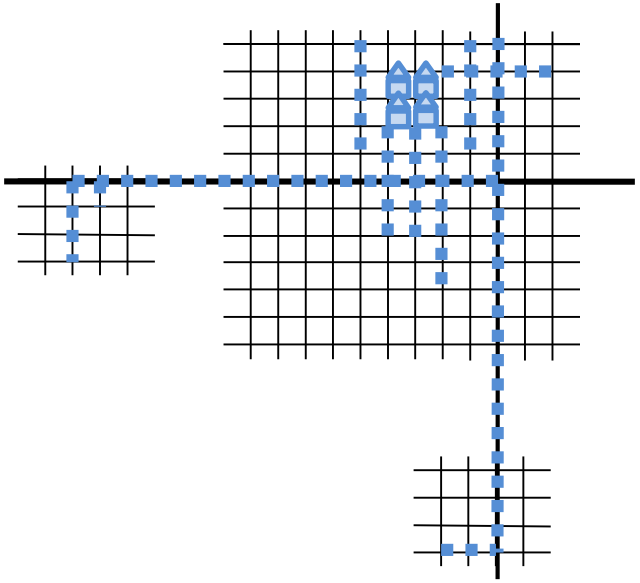
Old:

Analyze nearby intersections; if impact, add auto capacity or reduce project size



New:

VMT loaded onto the roadway network; if impact, adjust project to be more travel efficient (e.g. add TDM) or pay into VMT-reducing mitigation program



Implementation: Transit and Active Transport Projects

Old: Transit, active transportation projects slow automobile traffic, trigger LOS-based “impact to transportation”

New: Transit, active transportation presumed to reduce VMT unless demonstrated otherwise





Implementation: Roadway Expansion Projects

Old: Widen nearby intersections from rerouted/induced vehicle travel to mitigate LOS impacts; Induced VMT analysis required for GHG calculation

New: Estimate induced VMT; solution is to manage lanes, deploy ITS, or provide TDM



Implementation: Roadway Expansion Projects

Roadway expansion reduces travel time, which leads to:

1. Longer trips (↑ VMT)
2. Mode shift toward automobile (↑ VMT)
3. Newly generated trips (↑ VMT)
4. Route changes (can ↑ or ↓ or VMT)
5. More disperse land use development (↑ VMT)

All the result of basic supply and demand

Implementation: Roadway Expansion Projects

Empirical Study

- 20 academic studies quantify induced vehicle travel
- Long-run elasticities typically 0.6 to 1.0
- Recent California Air Resources Board Assessment:
  - Policy Brief

    http://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief-4-21-14.pdf
  - Background Technical Document
    http://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_bkgd-4-21-14.pdf
  - ARB declares literature review “Highest Confidence” for induced travel research

Implementation: Roadway Expansion Projects

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Implementation: Roadway Expansion Projects

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Implementation: Roadway Expansion Projects

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Fulton, L., Noland, R., Meszler, D., and Thomas, J. (2000). "A Statistical Analysis of Induced Travel Effects in the U.S. Mid-Atlantic Region." *Journal of Transportation and Statistics 3*, no. 1: 1-14.

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Noland, R. and Cowart, W. (2000). "Analysis of Metropolitan Highway Capacity and the Growth in Vehicle Miles of Travel." *Transportation 27*, no. 4: 362-390.

Implementation: Roadway Expansion Projects

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Hansen, M. and Huang, Y. (1997). "Road Supply and Traffic in California Urban Areas." *Transportation Research Part A: Policy and Practice 31*, no. 3: 205-218.

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Implementation: Roadway Expansion Projects

How to estimate induced VMT

A travel demand model can estimate:

1. Longer trips
2. Mode shift toward automobile
3. Newly generated trips [in some cases]
4. Route changes

But not:

5. Land use changes

Implementation: Roadway Expansion Projects

How to estimate land use change (and VMT implications):

- Employ a land use model
- Employ an expert panel, e.g. using Delphi method
- Examine gap between modeled and typical empirical results; adjust and/or explain model results

Caltrans role in implementing SB 743

Caltrans' Role in Implementing SB 743

1. Rethinking approach on mitigating impacts to the state highway system

2. Measuring the effects of transportation investments

3. Developing the tools and models, undertaking research

Caltrans' Role in Implementing SB 743

1. **Rethinking approach on mitigating impacts to the state highway system**

Opportunity:

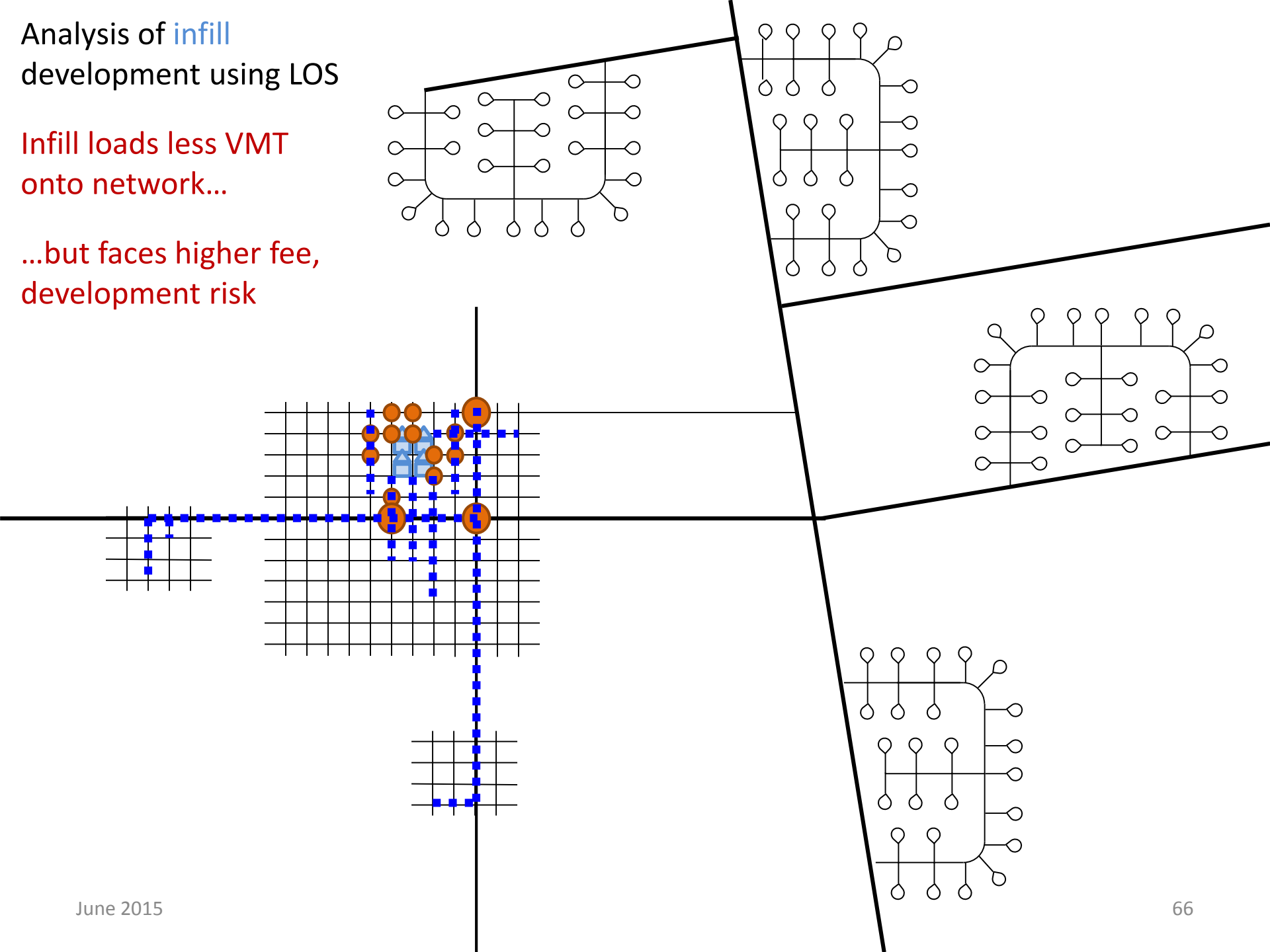
- Better, less costly solutions
- Improve *Access to Destinations*

E.g. shifting cost and risk burden away from infill development

Analysis of infill development using LOS

Infill loads less VMT onto network…

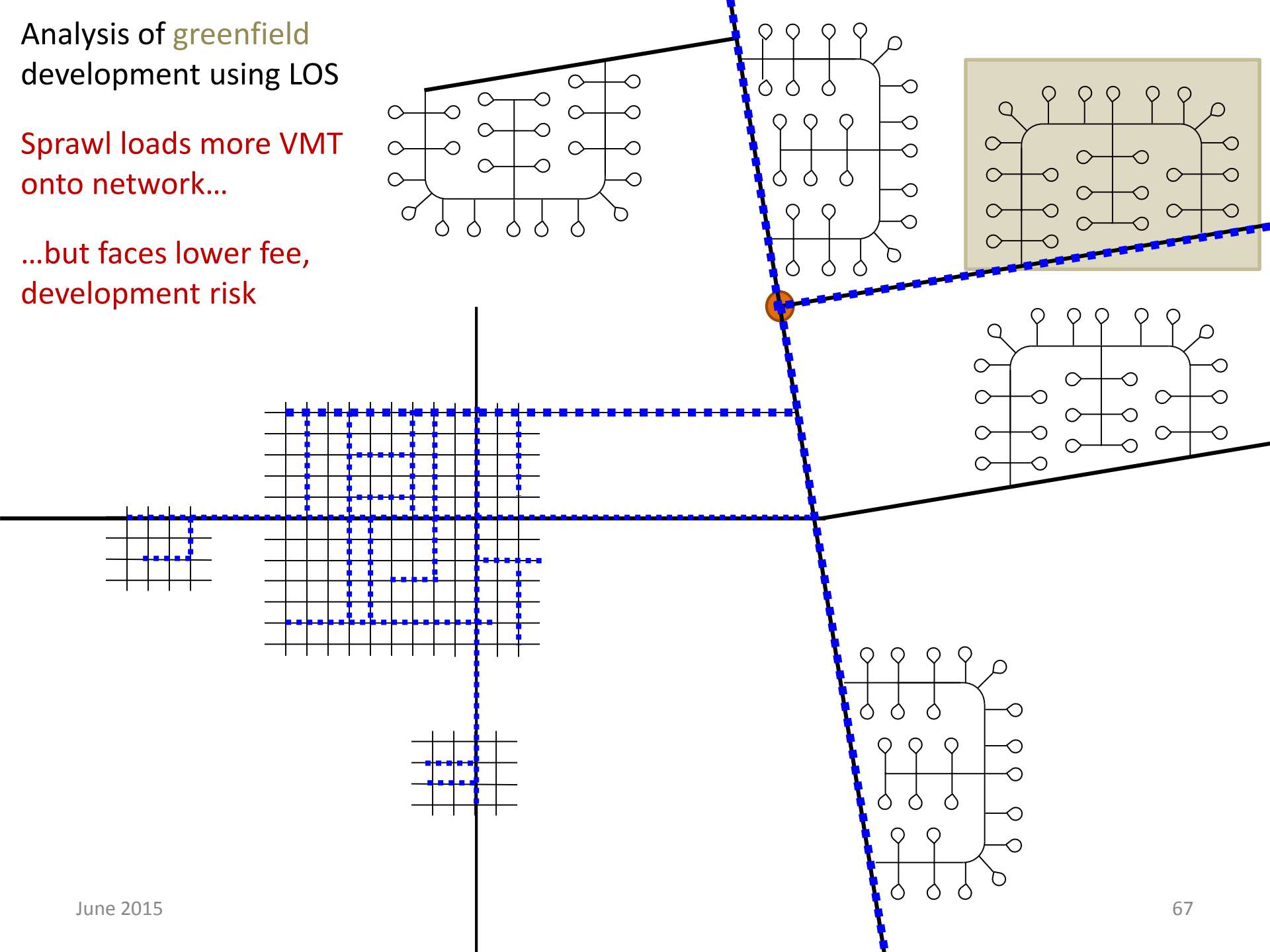
…but faces higher fee, development risk



Analysis of greenfield development using LOS

Sprawl loads more VMT onto network…

…but faces lower fee, development risk



Denver 1982		Denver 2007
1.09	Travel Time Index	1.31
50.6 minutes	Average travel time	49.6 minutes
46.4 mins	Travel time without traffic	37.9 minutes
4.2 mins	Extra rush hour delay	11.7 minutes





Caltrans' Role in Implementing SB 743

1. **Rethinking approach on mitigating impacts to the state highway system**

Pathways:

- Develop VMT-based impact fee program
- Develop improved analysis capabilities, and/or…
- Improve coordination with local and regional entities

Venues:

- OPR – CalSTA – Caltrans working group
- TAG-**TISG**
  - Interim guidance
  - Full guidance

Caltrans' Role in Implementing SB 743

2. Measuring the effects of transportation investments

Opportunity:

- Improve legal adequacy of CEQA documents
- Accurate estimates of traffic outcomes of projects
- Accurate estimates of GHG outcomes of projects
- Accurate estimates of other environmental outcomes of projects

Venues:

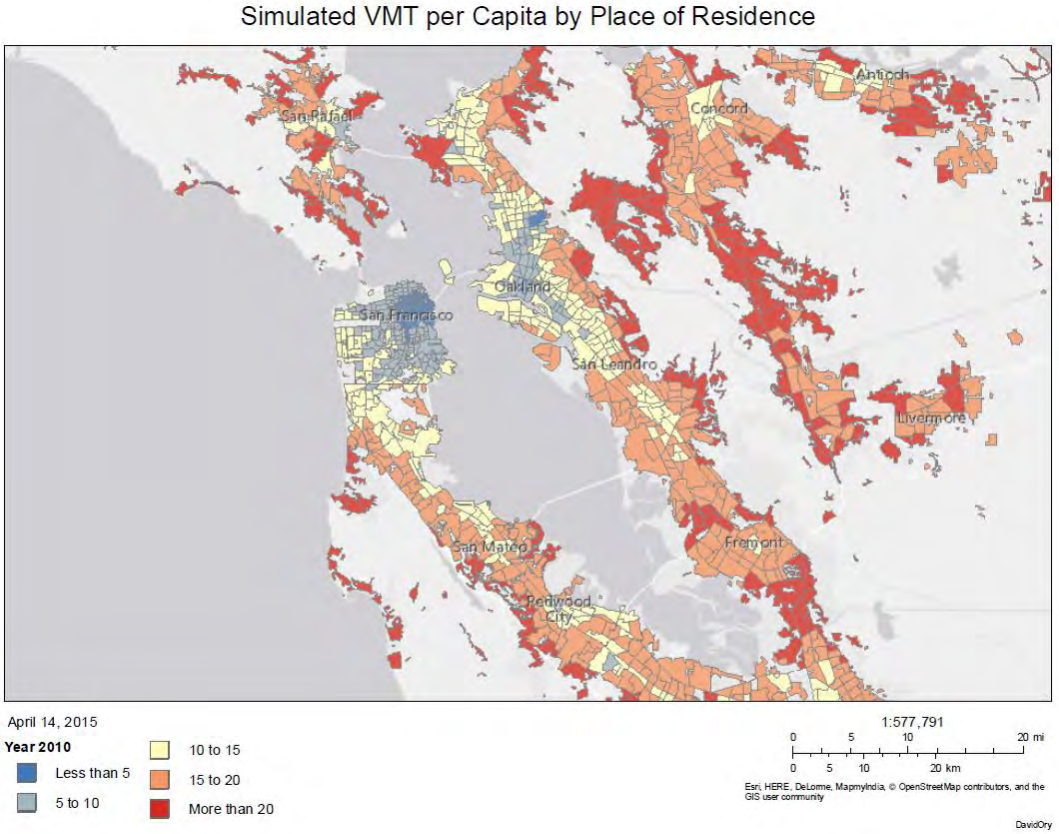
- OPR – CalSTA – Caltrans working group
- **TAG**-TISG
- Coordination between CEQA Guidelines and Caltrans Guidelines

Caltrans' Role in Implementing SB 743

3. Developing the tools and models, undertaking research

Example:

- California Statewide Travel Demand Model



Caltrans' Role in Implementing SB 743

$Billions in transportation investments → $Trillions in land use investments

Thanks!

chris.ganson@opr.ca.gov

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IP-39-1

The commenter's support of Alternative 7 and opposition to additional travel lanes for vehicles is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for more information regarding the identification of the Preferred Alternative (Alternative 1 No Build), and to Section 1.3 of this appendix for more information regarding the ZE-only option.

IP-39-2

A subsection titled "Public Health Considerations" is included in each resource topic section in Chapter 3.0 at the end of the Environmental Consequences sections.

IP-39-3

It should be clarified that one of the purpose and need statements identified for the project is to "improve air quality and public health", rather than the project will unequivocally improve air quality and public health. Overall, air quality would be improved with the exception of small, near-roadway areas that would see an increase in pollutants. As was stated in Section 1.1 of the RDEIR/SDEIS, the *Major Corridor Study* was undertaken to address the I-710 Corridor's mobility and safety needs and to explore possible solutions for transportation improvements. This study concluded in 2005 and identified a community-based Locally Preferred Strategy of ten general purpose lanes next to four separated freight-movement lanes. The *Major Corridor Study* itself was also referenced in Section 1.1 but is not included in the RDEIR/SDEIS, which is a project-level environmental document. Alternative 1 (No Build) has been identified as the Preferred Alternative and therefore, the programmatic element of the build alternatives that would have provided funding for ZE/NZE trucks for use on the I-710 Corridor even in the absence of a dedicated freight corridor will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

The RDEIR/SDEIS did not fail to take into account the Tier 2 Community Impact Report and other recommendations resulting from the *Major Corridor Study*. Following an alternatives screening analysis performed after public scoping for the Draft EIR/EIS in 2008, the Locally Preferred Strategy became the basis for Alternatives 6A, 6B, and 6C evaluated in the Draft EIR/EIS circulated for public review in 2012. Since the release of the Draft EIR/EIS in 2012, more information regarding truck traffic patterns, other projects within the area, and public and agency requests required further development of the alternatives under consideration. More information

regarding the alternatives' development process was included in Section 2.5, Alternatives Considered but Eliminated from Further Discussion, of the RDEIR/SDEIS.

IP-39-4

Contrary to that indicated in this comment, inclusion of the BNSF Railroad Southern California International Gateway (SCIG) and UP Railroad near-dock intermodal Container Transfer Facility (CTF) projects are appropriate to include for the 2035 No Build Alternative, as it was a part of a collaborative process with the I-710 Technical Advisory Committee, as documented in the RDEIR/SDEIS (p. 1-31).

IP-39-5

Contrary to that indicated in this comment, the RDEIR/SDEIS did not make an assumption that the BNSF Hobart Yard would "essentially be empty." Inclusion of the BNSF Railroad Southern California International Gateway (SCIG) project is appropriate to include for the 2035 No Build Alternative, as it was a part of a collaborative process with the I-710 Technical Advisory Committee, as documented in the RDEIR/SDEIS (p. 1-31). As discussed on p.1-31 of the RDEIR/SDEIS, in 2013, the assumptions related to goods movement within the SCAG region were further developed and updated to more closely align with the changed economic conditions, drawing on the Updated Cargo Forecast (2009), the 2012 RTP Travel Demand Forecast Model (2012), the San Pedro Bay Ports estimates of marine terminal capacity (2013), Port cargo market shares (2013), and truck trip distribution (2013). The Model Input Data and Key Assumptions Technical Memorandum for Goods Movement (May 2013) was then reviewed and discussed by the I-710 Technical Advisory Committee and the Port growth assumptions were approved for use in traffic forecasting performed in support of this RDEIR/SDEIS. These assumptions include a 2035 total annual cargo container throughput at both Ports of 41.4 million 20-foot equivalent units (TEUs), and the construction and/or implementation of both the BNSF Railroad Southern California International Gateway (SCIG) near-dock intermodal yard and the expansion of the UP Railroad near-dock Intermodal Container Transfer Facility (ICTF).

Regarding the 2016 court decision that found that the SCIG EIR/EIS violated CEQA, a superseding January 12, 2018, Appeals Court decision reversed most of the objections in the 2016 court decision (e.g., confirming the adequacy of the final EIR regarding emissions at the Hobart railyard, greenhouse gas emissions, noise and traffic impact) and identified ways to resolve the one remaining CEQA issue (i.e., re-analysis of modeled particulate matter concentrations at a certain location). On April 11, 2018, the California Supreme Court denied a petition to review the Court of Appeal's January 2018 decision.

IP-39-6

The traffic forecasting for the I-710 *Major Corridor Study* was performed in 2002 for the future year 2030 while the traffic forecasting for the RDEIR/SDEIS was performed in 2013 for the future year 2035. During the 11 years between these traffic forecasts, the inputs to the traffic forecasting model inevitably changed, as did the traffic forecasting methodology. For instance, the economic recession of 2008-2014 changed the current values and future forecasts of population and employment and economic activity, both of which affect the traffic volume forecasts. In addition, changes in auto trip origin and destination patterns since the *Major Corridor Study* have contributed to the reduction in forecast auto traffic volumes on I-710 in the RDEIR/SDEIS. With respect to truck trips, SCAG and the Ports have observed and incorporated into the traffic forecasting models a better representation of changes in Port cargo mode shifts and trip destinations, as well as the continued changes in logistics, such as transloading. Therefore, traffic forecasts from these two studies cannot be directly compared.

IP-39-7

At the time of the commencement of technical studies, including detailed traffic forecasting, in support of the I-710 Corridor Project RDEIR/SDEIS, the Project Team reviewed the status of each of the SCIG and ICTF projects and came to the conclusion that they were reasonably foreseeable projects and in order to represent a likely future scenario, should be included in the No Build scenario. Because of the lead time necessary for the complex traffic modeling efforts on the I-710 Corridor Project, it was not possible to revise the No Build scenario and re-run the model, and all subsequence analyses that depend upon the traffic model, and still meet the schedule established for the project. In addition, in January 2018 the California Courts of Appeal ruled that the Port of Los Angeles and BNSF were in compliance with the majority of CEQA requirements in the SCIG Final EIR, with the exception of the air quality analysis of ambient air concentrations and associated cumulative impacts of such pollutant concentrations. The court further ordered that work on the project be suspended until such time that these deficiencies are addressed. On April 11, 2018, the California Supreme Court denied a petition to review the Court of Appeal's January 2018 decision. However, the Project Team maintains that there is sufficient evidence and rationale for retaining the SCIG project in the No Build scenario.

A Sensitivity Test was conducted that removed the SCIG and ICTF Expansion Projects from the I-710 Corridor traffic model to evaluate the effects on the I-710 Corridor transportation travel patterns. These sensitivity tests can be reviewed in more detail in the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017). In general, viewed from daily conditions for total vehicles, removal of the SCIG and ICTF expansion projects from the No Build scenario resulted in only a slight overall change in vehicles, with additional trucks using I-710 displacing some autos.

IP-39-8

Please refer to Response to Comment IP-39-7 for more information regarding the inclusion of ICTF in the No Build scenario.

IP-39-9

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS does not take into account the rise in transloading activity; in fact, an increase in transloading activity within the I-710 Corridor is cited as one of the major reasons why the project funding partners decided to move forward with a revised set of build alternatives analyzed in a recirculated draft document. Section 2.2.2 of the RDEIR/SDEIS, Revised Alternatives Development and Refinements, outlined the various changes and new information that merited revision to the build alternatives and a recirculated environmental document; specifically: "These updates to the regional traffic model provided a more comprehensive understanding of the traffic patterns and behavior within the Study Area and beyond, particularly related to goods movement…In addition to the potential effects of the SCIG and ICTF projects on truck travel patterns, more has been learned about Port cargo behaviors and their origins and destinations, particularly with regards to cargo transloading."

It is important to note that production of the complex technical analyses included in the RDEIR/SDEIS, many of which build and depend on each other, require a substantial amount of lead time, and the RDEIR/SDEIS traffic analyses analyzed an existing conditions year of 2012/2013. The difference in year alone could account for the difference in percentage of transloaded cargo; however, in any case, it is more than reasonable that differences in methodology and assumptions account for the percentage difference between the RDEIR/SDEIS and the cited article. Traffic and cargo assumptions for the RDEIR/SDEIS were determined in coordination with the Ports and SCAG and disclosed in the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017).

IP-39-10

It is important to note that although Senate Bill (SB) 743 was passed by the California State Legislature in 2013, a first draft of State CEQA Guidelines implementing SB 743 was not released until August 2014, and a revised Technical Advisory was released by the Governor's Office of Planning and Research in April 2018. The new State CEQA Guidelines sections created by SB 743 went into full effect statewide on January 1, 2020.[14] As stated in Response to Comment IP-39-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, it is not necessary for Caltrans to evaluate vehicle miles traveled (VMT) in the Final EIR/EIS. However, information regarding VMT as well as Vehicle Hours of Delay (VHD) was provided for the 2012

[14] Governor's Office of Planning and Research. SB 743 Frequently Asked Questions. Website: https://opr.ca.gov/ceqa/sb-743/faq.html#lead-agencies-begin (accessed October 29, 2022).

Baseline, the 2035 No Build Alternative, and the 2035 build alternatives in Table 4.3-1 of the RDEIR/SDEIS and is also provided in this Final EIR/EIS.

The issue of induced demand is very complex, involving various travel behavior responses, residential and business location decisions, and other factors that influence regional population and economic growth. While some of these responses may represent new trips, much of the observed increase in traffic comes from trips that were already being made before the increase in highway capacity, or reflect predictable behavior that is accounted for in travel demand forecasts. Accordingly, Caltrans' guidance on this topic of induced demand maintains that each project should be evaluated on a case-by-case basis.

"Induced travel" is characterized as the additional demand for travel that occurs as a result of a decrease in the generalized cost of travel, including both travel-time and out-of-pocket costs. I-710 is part of a highly congested metropolitan roadway network and is located within an urbanized area that is essentially built out. Given the high levels of congestion on I-710 in the peak periods, the I-710 travel demand forecast model is particularly sensitive to changes in travel times. The proposed improvements included in the build alternatives would improve speeds and would reduce travel times on I-710, which in turn would attract more traffic to the facility relative to the No Build Alternative. The predicted shifts in traffic were accounted for in the analysis presented in Section 3.5 of the RDEIR/SDEIS for both Alternatives 5C and 7.

IP-39-11

Please refer to Response to Comment IP-39-10 regarding SB 743. In the context of the cited example, improved level of service is an appropriate measure to apply to characterize improvement in vehicular travel time and mobility for surrounding communities at the local street interchanges with I-710 that are serving those communities.

IP-39-12

Detailed final design, construction, and staging plans and equipment location and timing is typically not determined until after a Final EIR/EIS is approved, should a build alternative be selected as the Preferred Alternative. Without location-specific construction activity information, modeling of location-specific air quality impacts was not possible and assumptions about those locations and the intensity/duration of construction activity at those locations would cause any dispersion modeling results (ambient or mobile source air toxics) to be speculative and misleading. However, a preliminary construction staging analysis was performed in order to demonstrate that the build alternatives could feasibly be constructed. The construction emissions scenarios presented in the AQ/GHG/HRA Technical Study (2017) and summarized in Section 3.24, Construction Impacts, of the RDEIR/SDEIS assumed a conservative (i.e., worst-case scenario) emissions analysis, drawn from the construction staging scenarios, in order to identify and disclose the range of potential impacts resulting from the build alternatives.

IP-39-13

Please refer to Response to Comment IP-39-7 for more information regarding the inclusion of SCIG and ICTF in the No Build Alternative scenario and the validity of the air quality analysis results.

IP-39-14

The Community Impact Assessment and Section 3.3.3.5 of the RDEIR/SDEIS accurately state that diesel-related mobile source air toxics (MSAT) emissions would decrease while total particulate matter emissions would increase. MSAT is the toxic components of gaseous and particulate emissions from on-road vehicle exhaust that may have chronic and acute health impacts. There are over 1,000 MSAT compounds, including DPM. Total traffic-related particulate matter emissions consist of (1) exhaust emissions (DPM), and (2) direct brake and tire wear and entrained road dust emissions (particulate matter from roadways lifted into the air by vehicle motion). Because particulate matter emissions are comprised of two components, it is possible for MSATs to decrease and for total particulate matter to increase if the increase in direct brake and tire wear and entrained road dust emissions outweighs the decrease in exhaust emissions.

IP-39-15

At this time, the definition of sensitive receptor, which was developed using various data sources as described in Section 3.2.7 of the AQ/GHG/HRA Revised Protocol (Appendix A of the AQ/GHG/HRA technical study), will not be expanded. However, should a build alternative be selected as the Preferred Alternative, facilities that would not receive filtration systems under Measures AQ-2 or C-8 (for more detail, please refer to Sections 3.13.4 and 3.3.3.8 of this Final EIR/EIS) may be eligible for Community Health Benefit Program funding, which could be used to implement these types of projects that meet specific criteria. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

It is important to note that the Project Team worked closely with SCAQMD on various aspects of project planning, including the Community Health Benefit Program Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program. SCAQMD comments and responses to those comments are included in this appendix, coded as R-3.

IP-39-16

Caltrans Traffic Noise Analysis Protocol is the Statewide methodology for determining reasonable (i.e., cost does not exceed total reasonable allowance) and feasible (i.e., achieving greater than a 5 dBA noise reduction) soundwalls. Caltrans Headquarters, and not Caltrans District 7, is responsible for establishing the protocol. However, as detailed in Section 3.14, Noise, of the

RDEIR/SDEIS, the build alternatives proposed soundwalls along I-710 in East Los Angeles, Paramount, and Long Beach. Proposed soundwalls are discussed in Section 3.14, Noise, and depicted on Figures 3.14-2 and 3.14-3 of the RDEIR/SDEIS. The excerpt from the Community Impact Assessment specifically refers to locations with environmental justice populations where soundwalls were found to not be reasonable and feasible. At those locations, additional mitigation is proposed (Measure C-6 in Section 9.3.9.1 of the Community Impact Assessment) for the build alternatives. Should a build alternative be selected as the Preferred Alternative, Measure C-6 would provide for interior noise abatement or other abatement measures at specific locations to reduce noise impacts to environmental justice populations resulting from the build alternatives where soundwalls were deemed acoustically not feasible. However, since the No Build Alternative was selected as the Preferred Alternative, soundwalls will not be constructed and Measure C-6 will not be implemented.

IP-39-17

It is unclear from this comment as to which technical analyses within the Community Impact Assessment that the commenter deemed incomplete at the time of release of the RDEIS/SDEIS. All technical analyses that were performed in support of the RDEIR/SDEIS were completed prior to circulation of the RDEIR/SDEIS.

IP-39-18

Caltrans and Metro acknowledge that the Project Committee voted that the Health Impact Assessment commissioned by the Gateway Cities COG be included in the Draft EIR/EIS analysis; however, it should be clarified that the Project Committee (along with the other committees that comprise the overall community outreach framework established for the project) is strictly an advisory body, and any decision or directive promulgated by the Project Committee does not bind Caltrans or Metro to a course of action. As NEPA and CEQA lead agency, ultimately, Caltrans has the final decision on inclusion of materials within the RDEIR/SDEIS and the Final EIR/EIS.

Neither FHWA nor Caltrans currently has an approved methodology addressing the health impacts of freeways, and these types of assessments are an emerging practice in the transportation sector in the United States. Currently, State Departments of Transportation generally have not yet begun to implement HIAs or related tools for transportation planning, with some exceptions. For example, San Francisco's Department of Public Health has employed the use of HIAs in evaluating the health impacts of transportation projects. The State of Massachusetts passed a law requiring HIAs on new transportation projects, and at least one is known to be complete (the McGrath Highway Corridor HIA). In addition, Caltrans Division of Research and Innovation is actively investigating the use of HIAs for transportation planning and

potential applicability to Caltrans projects.[15] However, it should also be noted that there are limitations associated with the preparation and use of Health Impact Assessments. According to an article published in 2000 in the British Medical Journal, "Currently there is neither an accepted gold standard nor even a simple, reliable, and evaluated method for carrying out health impact assessment" and "Several issues are unresolved in the methodology of health impact assessment…causal pathways are so complex that it is not often possible to say if an outcome will definitely be good or bad for the health of a population…The current evidence base for many health determinants is inadequate for accurately informing a process of assessment."[16] Hence, the preparation of an Air Quality/Health Risk Assessment for the I-710 Corridor Project was an effort to respond to the requests of the I-710 Corridor communities to study health-related impacts, while also ensuring the empirical analyses performed in support of the EIR/EIS process are factual and based on sound scientific, analytical, and/or engineering judgment.

IP-39-19

The environmental process as defined by NEPA and CEQA identify two major checkpoints wherein members of the public can submit information that will become part of the administrative record: public scoping, which was held for the Draft EIR/EIS from August 15 to September 30, 2008, and public circulation of a draft environmental document, held from June 29 to September 28, 2012, for the Draft EIR/EIS and from July 21 to October 23, 2017 for the RDEIR/SDEIS. All of the materials received during these periods have become part of the administrative record for the project. There is no legal requirement to include materials submitted to other agencies or organizations prior to the commencement of the environmental document process in the administrative record for the EIR/EIS.

IP-39-20

A great deal of material, including reports, studies, and meeting minutes was generated since the initiation of the *Major Corridor Study* in 2001, and through the initiation and development of the 2012 Draft EIR/EIS and RDEIR/SDEIS. Although the earlier materials may not be exhaustively available online, it does appear from the comment that the materials were made available upon request at the Gateway Cities COG's office. There is no legal requirement to provide all project-related materials online, particularly if they may be out of date or otherwise superseded.

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[15] Caltrans Division of Research and Innovation. Preliminary Investigation. 2011. Transportation-Related Use of Health Impact Assessments and Similar Tools. August 5, 2011. Website: http://www.dot.ca.gov/research/researchreports/preliminary_investigations/docs/public_health_preliminary_investigation_8-5-11_revised.pdf (accessed June 25, 2018).

[16] U.S. National Library of Medicine National Institutes of Health. Health Impact Assessment. May 20, 2000. Website: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1118057/ (accessed June 28, 2018).

IP-40

Brad Jensen

From: ctwilliams2012@yahoo.com
Sent: Monday, October 23, 2017 10:38 AM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Dr. Clyde T. Williams
Organization: Citizens Coalitions for A Safe Community
Phone: 3235289682
Mailing Address: 4117 Barret Road
City, State: Los Angeles
Zip: 90032-1712
Comment/Question:
SEPARATE EMAIL TO RK/DG WILL INCLUDE FORMATTED COPY MORE TO COME

3.7-15/2 Additionally, the Archaeological Sensitivity Study (2017) was conducted to identify areas with a higher potential occurrence of...historic archaeological resources within the original and Supplemental APEs. This study incorporated data from pedestrian surveys of accessible, undeveloped portions of the Supplemental APE; a review of historical maps and aerial photos; literature research; and a "proximity analysis."
3.12-3/3 The ISA included a search of government records to obtain a listing of properties or known incidents from State, Federal, or local regulatory databases for hazardous waste sites within the ISA Study Area, review of reasonably ascertainable historical information sources (aerial photographs,...of the proposed right-of-way for the build alternatives to identify readily visible contamination. Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search limited to within a one-mile radius...of the I-710 Corridor Project for facilities listed by regulatory agencies as potentially having environmental concerns.
Apdx H. List of Technical Studies. Archaeological Sensitivity Study for the Interstate 710 Corridor Project (Confidential Report) (LSA Associates, Inc., February 2017. Appendix to Supplemental Archaeological Survey Report).
No reference to borings reviews nor to 1923 available photos, mention is made of only 1928.
REVISE/PROVIDE thorough review of 1923 aerial photos for historic structures and potential users/facilities with or without visible contamination, e.g., crude oil tanks, vehicle/ship fuelling and car gasoline stations. IP-40-1

*You received this message because Dr. Clyde T. Williams submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-40-1

The earliest aerial photographs provided by EDR, Inc. are dated 1928. The scope of the ISA included review of the historical information provided by EDR, Inc.

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Brad Jensen

From: CTWILLIAMS2012@YAHOO.COM
Sent: Monday, October 23, 2017 10:50 AM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Dr. Clyde T Williams
Organization: Citizens Coalitions for A Safe Community
Phone: 3232218277
Mailing Address: 4117 Barret Road
City, State: Los Angeles
Zip: 90032-1712
Comment/Question:
I hAve been denied Access to this input...

IP-41-1

*You received this message because Dr. Clyde T Williams submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-41-1

The commenter was able to provide comments through the online submittal form. Please refer to Responses to Comments IP-40, IP-42, and IP-43.

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Brad Jensen

From: CTWILLIAMS2012@YAHOO.COM
Sent: Monday, October 23, 2017 11:08 AM
To: carmen.lo@lsa.net
Cc: Brad Jensen;
Subject: mbimediaadmin@gmail.com I-710 Corridor Project Feedback

From: Dr. Clyde T Williams
Organization: Citizens Coalitions for A Safe Community
Phone: 3235289682
Mailing Address: 4117 Barrett Road
City, State: Los Angeles
Zip: 90032-1712
Comment/Question:
SEPARATE EMAIL TO RK/DG WILL INCLUDE FORMATTED COPY MORE TO COME

3.13-44/3 The only areas where [NOx] increases occur are in the locations of the Southern California International Gateway (SCIG) Project in in the Port area and the SR-710 North Study (a portion of SR-710 north of Interstate 10 [I-10]). These two proposed projects are included in the 2035 I-710 Traffic Model, as they would be constructed by that time. Traffic (vehicles, cars, autos, and trucks) loadings are not provided for I-710, north of SR-60, andd SR-710 and reported truck traffic does not reflect projection of 180,000 vehicles/d and estimated 80+K cars and 80+K trucks-passenger car equivalence of 2.2-2.5 (= 35,000+ 53-ft trailer, heavy-duty trucks).
DEFINE/PROVIDE "truck traffic" for current, projected, and maximum capacity for SCIG and SR-60, and I-10, and "SR-710" AND Traffic Model - model flow chart and inputs/outputs for all relevant runs/operations for SCIG and SR-710 AND SR-60. IP-42-1

3.13-48/1 The only [PM/2.5] increases...occur in the Port areas where the proposed SCIG Project...and a portion of SR-710 north of I-10...proposed SR-710 North Study project would be located in 2035.
Traffic generated air pollutants are mentioned BUT not indicated in air quality considerations and modeling but traffic loadings are not provided for I-710, north of SR-60, andd SR-710 and reported truck traffic does not reflect projection of 180,000 vehicles/d and estimated 80+K cars and 80+K trucks-passenger car equivalence of 2.2-2.5 (= 35,000+ 53-ft trailer, heavy-duty trucks). IP-42-2
DEFINE/PROVIDE "air pollutants" for current, projected, and maximum capacity for SCIG and SR-60, and I-10, and "SR-710" AND Traffic Model - model flow chart and inputs/outputs for all relevant runs/operations for SCIG and SR-710 AND SR-60.

3.25-5/FIGURE 3.25-1 I-710 Corridor Project Cumulative Projects Study Area Alameda Corridor Projects not located within extent of map IP-42-3
T-2: SR710 North Study
T-18: SR60 Freeway Improvement Project
LD-87 : SR-710 Surplus Property Sales
Tables 3.25-1 & -2 :...SR 710 North Study (previously...SR-710 Project...) Confusing inclusion/exclusion of SR-710, SR-60, and SCIG.
REVISE/PROVIDE: as worst case condition, add all and include thorough traffic generations and associated noise, vibration, and air pollutants. IP-42-4

3.25-46/2 ...Preferred Alternative (Alternative 4B)...According to the Draft EIR/EIS prepared for the SR 710 North Study (formerly...SR-710 Project in the 2012...), all four of the SR 710 North Study Build Alternatives, including the Freeway Tunnel Alternative, would have direct, construction-related impacts on existing land uses and would require the acquisition and conversion of land currently planned for nontransportation uses into transportation uses. None of the

land use impacts associated with the SR 710 North Study Build Alternatives would affect the same cities as the I-710 Corridor Project.

3.25-47/1 Further, none of those inconsistencies specifically involve the I-710 Corridor Project. Although environmental documents are not available for the other listed projects,...that these projects would have an impact on State, regional, and/or local plans, implementation of avoidance, minimization, and/or mitigation measures would be required to comply with CEQA and/or NEPA. Therefore, the I-710 Corridor Project would not substantially contribute to a cumulative effect related to consistency with State, regional, and local plans because the project is generally consistent with area General Plan goals and policies, and because each General Plan amendment associated with any of the cumulative impacts would be evaluated by the city with jurisdiction over the proposed change.

3.25-49/3 REASONABLY FORESEEABLE ACTIONS. Reasonably foreseeable actions would occur in the areas that are planned for development or redevelopment, which include areas adjacent to the I-710 Corridor Project. Projects with the potential to contribute to cumulative growth-related effects in the RSA include: ....
SR 710 North Study
California High Speed Rail Project

3.25-51/1 The SR 710 North Study Build Alternatives and the California High Speed Rail Project would also enhance mobility and circulation in the region to accommodate existing and future population growth....future demand for goods movement...., the I-710 Corridor Project build alternatives would not contribute to cumulative adverse impacts related to growth.

3.25-56/4 The SCIG Project would result in disproportionate effects on minority and low-income populations as a result of significant unavoidable impacts related to aesthetics, cultural resources, and noise. Impacts...would be reduced through avoidance, minimization, and/or mitigation measures....may result in cumulative impacts in the RSA....projects in which no environmental documents are available (the I-5 Widening and HOV Lane Project and the California High Speed Rail Project), impacts to environmental justice communities could occur that would contribute to a cumulative impact.

3.25-57/4 Projects in which environmental documents are not available (the I-5 Widening and HOV Lane Project and the California High Speed Rail Project) could require acquisition and relocation of residential and nonresidential properties. According to the SR 710 North Study...58/1...

3.25-106/1 Although environmental documents are not available for..., and SR 710 North Study projects, any impacts to habitat for species dependent on riparian/riverine and aquatic habitats would be avoided, minimized, and/or mitigated in order to comply with CEQA and/or NEPA.
3.25-110/2 As stated in the Draft EIR/EIS for the SR 710 North Study,...The SR 710 North Study Draft EIR/EIS also indicates that the TSM/TDM Alternative...

SEPARATE EMAIL TO RK/DG WILL INCLUDE FORMATTED COPY MORE TO COME

3.7-15/2 Additionally, the Archaeological Sensitivity Study (2017) was conducted to identify areas with a higher potential occurrence of...historic archaeological resources within the original and Supplemental APEs. This study incorporated data from pedestrian surveys of accessible, undeveloped portions of the Supplemental APE; a review of historical maps and aerial photos; literature research; and a â€œproximity analysis.â€
3.12-3/3 The ISA included a search of government records to obtain a listing of properties or known incidents from State, Federal, or local regulatory databases for hazardous waste sites within the ISA Study Area, review of reasonably ascertainable historical information sources (aerial photographs,...of the proposed right-of-way for the build alternatives to identify readily visible contamination. Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search limited to within a one-mile radius...of the I-710 Corridor Project for facilities listed by regulatory agencies as potentially having environmental concerns.

Apdx H. List of Technical Studies. Archaeological Sensitivity Study for the Interstate 710 Corridor Project (Confidential Report) (LSA Associates, Inc., February 2017. Appendix to Supplemental Archaeological Survey Report).
No reference to borings reviews nor to 1923 available photos, mention is made of only 1928.
REVISE/PROVIDE thorough review of 1923 aerial photos for historic structures and potential users/facilities with or without visible contamination, e.g., crude oil tanks, vehicle/ship fuelling and car gasoline stations. IP-42-5

CTW

*You received this message because Dr. Clyde T Williams submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-42-1

The purpose of the traffic and air quality analyses presented in the RDEIR/SDEIS was to identify and disclose the potential impacts associated with the proposed project, including truck traffic, NOx, and $PM_{2.5}$. The build alternatives only include the proposed transportation improvements to the I-710 Corridor between Ocean Blvd. and SR-60 as described in Chapter 2.0, Project Alternatives of this Final EIR/EIS. Both SCIG and the SR-710 North Project are projects that have been incorporated in the future No Build Alternative in the analysis of the I-710 Corridor Project. This information is included as part of the No Build Alternative so that readers of the RDEIR/SDEIS can isolate and thus better understand the effects of the proposed build alternatives, as well as cumulative effects. SCIG and the SR-710 North Project are separate, stand-alone projects and the commenter should consult the environmental documents prepared for those projects to understand in detail the truck traffic and air quality impacts of the "current, projected, and maximum: capacity for SCIG and SR-710" for each.

IP-42-2

Please refer to Response to Comment IP-42-1 regarding the SCIG and SR-710 North projects.

IP-42-3

This comment requests that Figure 3.25-1 in Section 3.25 be revised to include the SR-710 North Project, the SR-60 Freeway Improvement Project, and SR-710 Surplus Property Sales. Several reasonably foreseeable projects that are discussed in Section 3.25 are not depicted in Figure 3.25-1 because they have no discrete location, their location is unknown, or they are not located within the extent of the map. Although these projects are not shown on Figure 3.25-1, they were incorporated into the cumulative impact analysis.

IP-42-4

This comment appears to suggest that the SR-710 North Project, the SR-60 Freeway Improvement Project, and the Southern California International Gateway (SCIG) Project are not included in the cumulative impact analysis in Section 3.25 of the RDEIR/SDEIS. These projects are not included in Figure 3.25-1 either because they have no discrete location, their location is unknown, or they are not located within the extent of the map. However, these projects are included in Table 3.25-1 and considered in the overall cumulative impact analysis.

IP-42-5

The earliest aerial photographs provided by EDR, Inc. are dated 1928. The scope of the ISA included review of the historical information provided by EDR, Inc.

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Brad Jensen IP-43

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To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Dr. Clyde T Williams
Organization: Citizens Coalitions for A Safe Community
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Zip: 90032-1712
Comment/Question:
DATE: Monday, October 23, 2017
TO: Caltrans
http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/

CC: Ronald Kosinski, Caltrans Distr. 7, Div. Envir. Planning,
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Subject:I-710 Corridor Project Recirculated Draft EIR/ Supplemental Draft EIS
RE: Public Comments

The RDEIR/SDEIS is incomplete and inadequate and must be withdrawn, revised, and recirculated, again. | IP-43-1

SPECIFIC COMMENTS.

es1-1/1 Within the I-710 Corridor Project Study Area (Study Area), the I-710 serves as the principal transportation connection for goods movement between POLA and POLB,...and the Burlington Northern Santa Fe (BNSF Railroad)/Union Pacific Railroad (UP Railroad) rail yards in...Commerce and Vernon.
DEFINE/PROVIDE "Goods Movement" rather than container, cargo, or freight movements. PROVIDE current and projected numerical levels for each. | IP-43-2
DEFINE/PROVIDE "rail yards" for the Study Area and for area of I-210/SR-134 x I-605 x SR-1 x I-110/I-5, e.g., UPRR Piggy-Back/LA-Central. PROVIDE current and projected numerical levels for each. | IP-43-3
PROVIDE current and projected numerical levels for each.
PROVIDE consistent abbreviation throughout document, e.g., UPRR & BNSF or BNSFRR. | IP-43-4

es1-2/Figure The Study Area for the I-710 Corridor
PROVIDE functional basis for the SA boundary, especially the 710 corridor to I-10 and Valley Blvd. | IP-43-5

es4-1/3 Highway congestion causes delays affecting personal mobility and goods movement and results in increased economic costs. Los Angeles Countyâ€™s goods movement system serves as a gateway for both international and

domestic commerce, especially within the Study Area, where POLA, POLB, and the BNSF/UP Railroad intermodal rail yards are located.
DEFINE/PROVIDE "Economic Costs" and "International Commerce" and "Domestic Commerce" related to the "Goods Movement System". IP-43-6
PROVIDE current and projected numerical levels for each.

es4-1/4 S.2.1.5 - Modal Interrelationships and System Linkages ...I-710 Corridor serves regional, statewide, and national needs for...the goods movement industry...is the principal transportation connection between POLB/POLA and the BNSF/UP Railroad intermodal rail yards...
DEFINE/PROVIDE for "Regional", "State", and "National" "goods movement industry". IP-43-7
PROVIDE current and projected numerical levels for each.

es4-1/Figure S.2.1.5-Modal Interrelationships and System Linkages Unnumbered graphic flow chart.
Goods are moved to and from the ports by both trains and trucks.
Figure not copiable, summarized as follows-

National Markets	Local Markets	State/SW Markets	National Markets
Rail			
	Off Dock Rail	Warehouse Transfer	National, State & Local Markets
Rail	Near Dock Rail		Rail Yard Destination

Ship To Train On Dock Rail Cranes Ships	Ship To Transfer (Drayage) Truck Cranes Ships	Ship To Regional Trucks Cranes Ships

DEFINE/PROVIDE for each linkage this In-Bound "Good", cargo, freight, and containers. IP-43-8
PROVIDE current and projected numerical levels for each Linkage, below.
Only for IN-BOUND, not including out-bound loaded and empties, PROVIDE same for "out-bound".
PROVIDE current, post-construction, and future 2035-40 numerical estimates/projections of sizes/weights of containers and non-containerized bulk goods/cargos/freights for each node in figure. IP-43-9

DEFINE/PROVIDE
- Off Dock-, Near Dock-, & On Dock-Rail
- Berth/Dock, Terminal and Port
- Current container throughput (in-/out-) for each dock/berth, terminal, and ports.

IP-43-10

- Rail Yard Destinations - #/ft of transfer and aggregation tracks located in each "yard".
  - South of SR-134 and west of I-605
- Current/Most Recent container throughput (in-/out- & lengths, 20-53ft; not TEUs) for each "yard".
- Transfer (Drayage) & Regional Trucks, including class/power, ages, fleet, and trailer sizes/lengths.
- Current container In-/Out- by length, NOT TEUs) for each dock/berth, terminal, and ports.

es4-2/1 BNSF and UP Railroads provide freight movement to destinations throughout the United States. Together, POLB/POLA is one of the largest container ports in the world, and port activity is projected to nearly triple in volume by 2035. The I-710 Corridor also provides key interstate commerce connections to east-west freeways (I-405, SR-91, I-105, I-5, SR-60, and Interstate 10 [I 10])....no improvements are planned to these facilities except for possible improvements to I-5 (from Interstate 605 [I-605] through the I-710 interchange)....
DEFINE/PROVIDE and make consistent use for freight/containers and highway designations.
BNSF/UP RR; I-10 or I 10 or Interstate 605, or I-5 vs I 10????. IP-43-11
Port - singular...San Pedro Ports, PoLA & PoLB.

Freight, goods, cargos, or containers.
Triple Volume: containers, tons, $$$, total, in-, out-bound containers/tons.
"Possible" improvements for E-W roads, clarify for SR-710 and SR-60...yes or no. IP-43-11

es4-2/3 S.2.2 - Project Purpose The purpose of the I-710 Corridor Project is as follows:...4 â€¢ Accommodate projected traffic volumes 5 â€¢ Address increased traffic volumes resulting from projected growth in population and employment, and in economic activities related to goods movement.
DEFINE/PROVIDE and make consistent use for underlinedterms/phrases.
Singular with five (sub)purposes. Purposes-&-needs are for NEPA; Objectives are for CEQA documents.
Compare Purposes, Needs, Goals, and "Objectives"; e.g., Objectives: numerical and scheduled interim targets required to achieve Project Goals. IP-43-12

2-22/6 In 2013, the Gateway Cities COG and Metro developed an â€œI-710 Project Zero-Emission Truck Commercialization Studyâ€ in order to evaluate the ZE truck technologies which might meet the needs of the I-710 Corridor Project and drayage users, and develop a business and commercialization plan. The study concluded that â€œzero-emission capable drayage....
DEFINE/PROVIDE and make consistent use for underlined terms/phrases.
"Might"???
Purposes & NEEDS are for NEPA; Objectives are for CEQA documents. IP-43-13

2-59/2 The power systems...could include, but are not limited to, road-connected wayside power..., as well as ZE hybrid power sources...A pure fuel-cell truck (with auxiliary battery) would also qualify as a ZE truck....currently being demonstrated in California,...particularly in drayage operations. The freight corridor in Alternative 7 is ZE â€œtechnology neutralâ€ ...of ZE heavy-duty truck in commercial mass production....
DEFINE/PROVIDE and make consistent use for underlined terms/phrases, e.g., "Freight", "Goods", "Cargo", "Mass", "Drayage", "Heavy Duty",.... IP-43-14

SR-710
1-1/1 The existing I-710 freeway mainline...South of Pacific Coast Hwy. (State Route 1 [SR-1]), the facility is designated as State Route 710, whereas north of Pacific Coast Hwy., the facility is designated as I-710. Figure 1.1-1 shows the regional location.
DEFINE/PROVIDE: Mainline and "regional location" and its relationship to later "SCAG" region. IP-43-15
Error "SR-710" south of SR-1, typically given as SR-47/I-710, Seaside Freeway, & Ocean Blvd.. IP-43-16
1-3/Fig.1.1-1 "Project Location" as a box in legend, not single line on image. IP-43-17
No rail context is provided, although text states 710 Project depends of "maximum" diversion of containers to rail systems, and therefore truck elements depend on railroad. IP-43-18

1-5/ FIGURE 1.1-2 Project Study Area - Study area usually provided prior to the "Project" line.
Westerly boundary includes all of the Alameda Corridor within Study. REVISE/PROVIDE. IP-43-19

Containers/Projections
1-21/1 With regard to future demand for cargo containers to be transported to and from the Ports by rail instead of truck, the I-710 Railroad Goods Movement Study (February 2009) found that while railroads have employed a variety of operational strategies to meet increased container demand from the Ports, including longer trains with higher utilization rates, the railroad system will not be able to handle all of the cargo demand even with the rail system operating at maximum capacity. Therefore, any additional containers would be transported via truck, which increases travel demand by truck on I-710.
This reference is out-of-date and superseded by later studies. REVISE/PROVIDE projections of 2016-17 references and comparisons of all referenced projections. PROVIDE projections for all containers.
Define/schedule/quantify "railroad system...maximum capacity" and "additional containers" including in-/out-bound and loaded/unloaded-empty containers. IP-43-20

1-30/4 Today, the POLB and POLA, the railroads, and the trucking industry provide goods movement not just within the Study Area, but also for the SCAG region, California, and the nation as a whole. Growth at the Ports to accommodate increased cargo demand is constrained primarily by...1-31/1...port facilities, as well as the efficiency with which containers can be unloaded from ships and reloaded onto trucks and/or the railroads...together handled 14 million annual TEUs in 2015 and are projected to grow to handle approximately 41.4 million TEUs by 2035.\7 The I-710 Corridor Project Initial Feasibility Analysis (IFA) was prepared in December 2008...select a cargo forecast ...In 2013, the assumptions related to goods movement within the SCAG region were further developed and updated to more closely align with the changed economic conditions, drawing on the Updated Cargo Forecast (2009), the 2012 RTP Travel Demand Forecast Model (2012), the San Pedro Bay Ports estimates of marine terminal capacity (2013), port cargo market shares (2013), and truck trip distribution (2013). The Model Input Data and Key Assumptions Technical Memorandum for Goods Movement (May 2013) was then reviewed and discussed by the I-710 Technical Advisory Committee and the Port growth assumptions were approved for use in traffic forecasting performed in support of this RDEIR/SDEIS. These assumptions include a 2035 total annual cargo container throughput at both ports of 41.4 million TEUs, and the construction and/or implementation of both the BNSF Railroad Southern California International Gateway (SCIG) near-dock intermodal yard and the expansion of the UP Railroad near-dock Intermodal Container Transfer Facility (ICTF). Informed assumptions were also made about the behavior of cargo, including the
ratio of inbound to outbound containers,
on-dock and off-dock cargo shares,
cargo origin and destinations, and
cargo transloading (wherein cargo in international containers is transferred to domestic truck trailers at transload centers or warehousing located within the region).
DEFINE/PROVIDE:

1-30/4 For more detail regarding the key assumptions underlying the future forecast of traffic volumes, please refer to the following reports: I-710 EIR/EIS Initial Feasibility Analysis (December 2008), the I-710 Railroad Goods Movement Study Technical Memorandum (February 2009), the Data and Key Assumptions Technical Memorandum for Goods Movement (May 2013), and the I-710 Corridor Project Travel Demand Modeling Methodology Report (June 2017).
DEFINE/PROVIDE "key

IP-43-21

1-30/4 Since the development of these assumptions, a comprehensive long-term unconstrained cargo forecast for the San Pedro Bay Ports was completed in February 2016 (Mercator 2016). This information was not available in time for incorporation into the technical analyses that informed this RDEIR/SDEIS (i.e., the travel demand forecasting was completed in 2014-15). The Mercator projection forecasts slower overall growth for the Ports than was forecast in previous studies, with the expected â€œbase caseâ€ scenario reaching approximately 34.3 million TEUs by 2035, and 41.1 million TEUs by 2040. However, the difference of 0.3 million TEU between the unconstrained Mercator forecast and the throughput assumption utilized for the I- 710 Corridor Project is not anticipated to substantially affect the traffic or other analyses performed for the project, as both scenarios project growth at the Ports beyond their current...
This reference is limited to only the Executive Summary without publicly available. REVISE and PROVIDE projections in the full report and reference.
DEFINE/PROVIDE:

IP-43-22

1-32/2 Based on the port cargo demand forecasts and how much of that cargo can be handled through maximum utilization of the railroad system (including expanded on-dock rail facilities at the Ports), there is still a high demand for movement of cargo containers by truck on the highway system, specifically I-710.

3.7-15/2 Additionally, the Archaeological Sensitivity Study (2017) was conducted to identify areas with a higher potential occurrence of prehistoric and historic archaeological resources within the original and Supplemental APEs. This study incorporated data from pedestrian surveys of accessible, undeveloped portions of the Supplemental APE; a review of historical maps and aerial photos; literature research; and a â€œproximity analysis.â€
DEFINE "I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand".

IP-43-23

As no project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd ave., compared to SR-60.
REVISE/PROVIDE throughout document. IP-43-24

3.12-3/4 The ISA included a search of government records to obtain a listing of properties or known incidents from State, Federal, or local regulatory databases for hazardous waste sites within the ISA Study Area, review of reasonably ascertainable historical information sources (aerial photographs,...), and a site survey of the proposed right-of-way for the build alternatives to identify readily visible contamination.
Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search limited to within a one-mile radius (i.e., ASTM International [ASTM] standard) of the I-710 Corridor Project for facilities listed by regulatory agencies as potentially having environmental concerns. Due to the amount of properties identified in the records search (over 1,000 properties), no file reviews were conducted at the various State, Federal, or local regulatory agencies. IP-43-25
DEFINE REVISE/PROVIDE for "reasonable" and "ascertainable" throughout document.
First part of paragraph contradicts (a search wasconducted) the latter say NO REVIEW; REVISE/PROVIDE. IP-43-26
EDR aerial photos include 1923 (USArmy Air Serv.), also on wall of LA City Hall, Rm 525B) which were used by LA Plan.Dpt. for both historic resources and haz-mat...but not here.
aerial photos of pre-highway construction uses and potenti "I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand". IP-43-27
As no project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd Ave., compared to SR-60. IP-43-28

3.10-1/1 3.10 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY The information...based on the following documents:
Geotechnical Final Report (January 2010)
Geotechnical Memorandum (...Transportation Division of Engineering Services, Geotechnical Services [May 2010]), for the northern portion of the Study Area Water Quality Assessment Report (March 2017).
DEFINE - "documents" vs "Technical Reports" and "References" in appendices IP-43-29
These reports are out-of-date...Geotechnical Final Report (URS, January 2010) is in Appendix H and has not been updated in 5+ years.
REVISE/PROVIDE up-to-date geotechnical setting, seismicity, and geological context. IP-43-30

3.10-7/4 No laboratory data is available regarding the expansion potential of site soils; however, based on review of the existing bridge Logs of Test Borings (LOTBs) for sites within the project area, the soils...are not highly expansive, but some fine grained soils susceptible to high degrees of expansion do exist.
DEFINE/REVISE/PROVIDE LOTBs, "highly expansive", "some fine grained soils", "susceptible to high degrees of expansion", "do exist"[locations] I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand". IP-43-31

3.10-7/5 Collapsible soils...metastable soil structures that are susceptible to collapse upon saturation.....Since no laboratory data is available regarding the collapsibility of soils in the area, it is not known if collapsible soils are present; however, the area is not known from existing mapping to have collapsible soils.
DEFINE "metastable" and "collapsible" soil and provide known examples with Study Area. IP-43-32
PROVIDE listing and coverage of relevant "existing mapping".
REQUIRE relevant measures to mitigate the lack of appropriate mapping and DATA. IP-43-33

3.10-9 Figure 3.10-1 Fault Zones Source: ESRI (2015); AECOM (2016)
3.11-5 Figure 3.11-1 Geologic Map Source: Saucedo, et al. (2003); Yerkes and Campbell (2005)
Two figures differ for Newport Fault Zone.
PROVIDE consistent coverage and locations of all known faults within the Study area. IP-43-34

3.10-11/Table 3.10-1 : Potential Seismic Sources
Fault Approximate Closest Distance to the Study Area (miles)

...maximum earthquake magnitudes and other fault parameters...
Table 3.10-1...currently being considered for seismic design of the I-710 Corridor Project.
Source: URS. I-710 Corridor Project Geotechnical Final Report (January 2010).
FN\1 Maximum moment magnitude earthquake reported by Caltrans (2009 ARS Online Website).
2 Distance noted is the closest distance to the surface trace of the fault...Caltrans (2009 ARS Online).
3 ...blind thrust fault that does not rupture the ground surface.
...distance to the upper limit of the rupture plane in the subsurface calculated using the fault location from Shaw et al. (2002) and the depth to top of rupture plane from Wills et al. (2008).
4 ...distance noted is the closest distance to the rupture plane in the subsurface calculated using the fault location provided in the Community Fault Model (2004)...depth to top of rupture plane from Wills et al. (2008).
DEFINE "potential" and "closest" vertically/horizontally and provide examples within Study Area; "currently being considered" with regard to ground acceleration for road and raised structures. | IP-43-35
PROVIDE listing/plotted epicenters of recorded seismic events - SCEqCtr. see listing below - and maps of projected surface and bedrock rupture planes. | IP-43-36
PROVIDE updated revised "I-710 Corridor Project Geotechnical Final Report" to mitigate the lack of appropriate mapping and DATA. | IP-43-37

3.10-11/2 The Newport-Inglewood Fault Zone consists of several fault segments and branch faults...in the project area: the Cherry Hill, the Pickler, the Northeast Flank, and the Reservoir Hill. The Cherry Hill Fault crosses the Study Area near the I-710/I-405 intersection.
DEFINE "several" and "segments"/"branch faults", "project area", and "Study area" for this and ALL faults within both the Project Area and Study Area, if different. | IP-43-38
PROVIDE listing/plotted fault segments, branches, and projections of ALL fault planes, especially in or adjacent to abandoned/producing oil fields. | IP-43-39

3.10-11/2 The Puente Hills Fault is a northerly dipping blind thrust fault...three distinct segments: Los Angeles, Santa Fe Springs, and Coyote Hills....Los Angeles segment trends beneath the Study Area,.... At its western end, the Santa Fe Springs segment...east of the I-710/I-105 interchange.
DEFINE/DELINEATE " dipping blind thrust fault", "distinct segments", and "Coyote Hills"/"branch faults", "project area", and "Study area" for this and ALL faults within Study Area. | IP-43-40
Coyote Hills is NOT shown in Fig. 3.10-1, but shown in Table 3.10/1. | IP-43-41
PROVIDE listing/plotted fault segments, branches, and projections of the Puente Hills Fault planes, especially in or adjacent to abandoned/producing oil fields and those associated with the Compton Fault. | IP-43-42

3.10-11/2 The Compton [C.-LosAlamitos & C.Blind Thrust] Fault extends northwest-southeast...At its closest point, this fault is less than one mile southwest of the southern end of the Study Area.
DEFINE/DELINATE "several" and "segments"/"branch faults", "project area", and "Study area" for the Compton Fault WITHIN the Study Area, not SW of END. | IP-43-43
PROVIDE listing/plotted fault segments, branches, and projections of the Compton fault planes, especially in or adjacent to abandoned/producing oil fields and those associated with the Compton Fault. | IP-43-44

3.10-12/1 The Palos Verdes Fault is a northwesterly trending fault that extends...southeasterly across the Palos Verdes Peninsula...offshore along the coast...Fault is...four miles southwest of the south end of the Study Area.
Not shown on Figure 3.10/1, but shown in Table 3.10/1. | IP-43-45
No discussion of Lower Elysian Park Blind shown in Figure 3.10/1 and Table 3.10/1. | IP-43-46
No mention of SCEqC recorded/located to these and others. | IP-43-47
DEFINE/DELINEATE "several" and "segments"/"branch faults", "project area", and "Study area" for this fault beyond the Study Area. | IP-43-48
PROVIDE listing/plotted fault segments, branches, and projections of ALL fault planes, especially south of the Study Area, SR-1, and shorelines. | IP-43-49

3.10-13/5 ...geotechnical constraints...include:

...ground accelerations due to...active faults and fault zones, including the Newport-Inglewood (Cherry Hills Fault), Puente Hills, Compton, and Palos Verdes Faults.
Fault rupture associated with the Cherry Hill segment of the Newport-Inglewood Fault Zone.
Liquefaction and seismically induced settlement in areas of shallow groundwater and loose alluvial soils.
Most of the Study Area is within an area identified as having the potential for liquefaction.
Earthquake-induced slope instability...liquefaction in areas of moderate to high liquefaction potential and near slopes such as the Los Angeles River.
DEFINE "acceleration", "active" and "segments"/"branch faults", "project area", and "Study area" for this and ALL faults within Study Area. | IP-43-50
PROVIDE listing/plotted fault segments, branches, and projections of ALL fault planes, especially in or adjacent to abandoned/producing oil fields. | IP-43-51

EXAMPLE from SCEqCenter - http://scedc.caltech.edu/.

```
#   YYY/MM/DD HH:mm          MAG     LAT      LON      DEPTHkm
1933/05/17 11:22:41.33 eq  l 3.39 l   33.97317 -118.43300   6.0
1933/05/18 16:32:07.70 eq  l 2.24 l   33.98783 -118.43183   6.0
1934/03/06 21:46:32.80 eq  l 2.60 l   33.97533 -118.45417   6.0
1934/03/08 20:34:41.29 eq  l 2.09 l   33.96500 -118.44633   6.0
1934/06/25 05:53:02.90 eq  l 2.72 h   33.98500 -118.45900   6.0
1934/08/26 05:39:54.37 eq  l 1.12 h   33.98950 -118.40967   6.0
1935/08/15 10:00:57.96 eq  l 2.25 l   33.96667 -118.44500  17.3

1936/10/25 21:52:00.00 eq  l 2.11 l   33.96567 -118.41050   6.0
1936/12/11 11:12:34.00 eq  l 1.88 l   33.98717 -118.41333   6.0
1939/07/22 16:29:38.30 eq  l 2.29 l   33.96250 -118.39350   0.0
1940/03/14 18:29:09.09 eq  l 2.42 l   33.97667 -118.40900   6.0
1945/02/06 22:56:11.30 eq  l 3.35 l   33.98883 -118.45500  13.5

1947/06/16 15:59:37.58 eq  l 2.51 l   33.99067 -118.44067  15.0
1947/07/10 07:16:28.11 eq  l 2.24 l   33.96100 -118.39383   6.0
1949/12/10 15:46:54.98 eq  l 3.15 l   33.98650 -118.49650
1949/12/13 05:25:07.24 eq  l 2.97 l   33.97900 -118.49783   6.0
1949/12/26 14:27:40.54 eq  l 2.80 l   33.96217 -118.43433   0.1
1950/11/12 05:05:33.38 eq  l 2.75 l   33.97500 -118.44000   1.2
1950/11/16 01:59:19.46 eq  l 2.96 l   33.97450 -118.40217  10.7 B  3342276   21    0
1950/11/17 03:46:41.58 eq  l 1.84 l   33.96933 -118.39200   0.2

1954/04/29 21:39:04.70 eq  l 1.55 h   33.97767 -118.39783   6.0 C  3299853    6    0
1954/06/24 07:16:33.18 eq  l 1.91 h   33.99067 -118.40000   2.5
1959/03/29 23:42:37.53 eq  l 2.53 l   33.97483 -118.48300   6.1 C  3297022   27    0
1964/05/26 19:38:32.91 eq  l 2.58 l   33.96700 -118.39567   0.0
1965/03/22 07:48:32.99 eq  l 2.26 l   33.98550 -118.45783   6.0 C  3330664    6    0
1970/03/01 05:44:23.11 eq  l 3.44 l   33.98783 -118.43083   6.0 C  3324644    9    0

1971/01/22 07:35:55.34 eq  l 1.88 h   33.98483 -118.41717   6.0 D  3323451    4    0
1971/12/03 21:31:28.96 eq  l 2.36 h   33.96283 -118.39767  11.3 B  3321746   14    0
1972/05/07 13:13:44.75 eq  l 2.44 l   33.96500 -118.47433   6.9 B  3321388   20    0
1973/12/09 15:36:14.42 eq  l 2.16 h   33.98167 -118.39817   3.7 A  3318748   24    0
1975/07/07 13:59:08.95 eq  l 2.97 l   33.96800 -118.39300  11.0 B  3022943   46    0
1975/07/22 12:24:34.09 eq  l 2.12 h   33.98800 -118.40600   2.4
```

1977/06/03 18:49:55.13 eq l 1.90 h 33.97300 -118.48683 13.2 C 9980338 30 0
1978/09/05 09:48:54.92 eq l 1.85 c 33.99000 -118.43283 5.6 C 3341610 11 41
1979/02/23 17:34:59.32 eq l 1.70 h 33.96383 -118.46350 6.0 C 3346300 14 45
1979/10/05 13:02:27.94 eq l 2.02 l 33.97283 -118.40417 13.1 A 3351885 20 88
1980/05/02 01:43:03.29 eq l 1.80 h 33.97633 -118.42667 8.7 C 3328497 12 50

1981/01/12 09:29:48.84 eq l 1.88 h 33.98317 -118.39483 2.9
1981/03/10 08:20:12.70 eq l 1.55 h 33.99117 -118.41283 4.8 C 531080 13 70
1981/10/24 23:43:19.36 eq l 1.63 c 33.96450 -118.46633 11.4 A 526069 17 53
1984/03/28 09:41:19.97 eq l 1.75 c 33.97900 -118.47800 12.5 C 35062 11 46
1985/03/02 04:53:48.71 eq l 2.42 c 33.98400 -118.44300 7.4 C 61880 18 152
1985/05/18 07:19:52.94 eq l 1.70 n 33.96100 -118.48500 12.1 B 66684 10 33

1986/05/10 11:42:44.65 eq l 2.38 c 33.97200 -118.44000 8.0 A 124131 26 89
1986/09/19 11:35:02.00 eq l 1.88 c 33.98700 -118.39900 6.1 C 709608 18 41
1986/09/29 14:57:16.27 eq l 1.91 h 33.98300 -118.40700 5.2 D 128724 6 0
1986/12/29 16:05:22.85 eq l 2.09 c 33.96700 -118.50000 13.1 A 715193 16 43
1987/05/12 17:18:59.24 eq l 2.10 c 33.96000 -118.48700 7.7 B 722018 18 51
1987/12/04 11:17:56.91 eq l 2.03 c 33.97400 -118.46900 5.9 A 737899 26 71
1988/06/11 04:56:40.69 eq l 2.34 c 33.97900 -118.44800 5.6 C 640836 21 102
1988/06/13 15:42:22.13 eq l 2.50 c 33.97200 -118.45100 12.7 A 640954 25 146
1989/07/16 21:35:00.87 eq l 2.21 c 33.97500 -118.39900 13.0 A 1034859 20 43
1989/10/13 01:03:49.52 eq l 2.42 l 33.97200 -118.43500 7.3 A 669460 40 188
1990/03/29 15:18:55.36 eq l 1.70 n 33.98900 -118.50000 4.9 C 1056326 9 17

1992/01/23 04:42:44.38 eq l 2.00 c 33.97100 -118.39600 3.0
1992/08/15 18:55:55.38 eq l 1.70 h 33.98600 -118.47000 8.1 C 3054426 11 48
1993/03/04 06:20:36.02 eq l 1.38 c 33.97900 -118.41800 4.2 A 3094647 13 46
1993/06/19 09:21:47.90 eq l 1.62 c 33.98900 -118.40100 6.5 C 3110534 19 97
1993/09/29 10:46:24.29 eq l 2.07 c 33.98900 -118.41700 5.9 C 2125058 50 338
1994/01/12 05:08:37.27 eq l 2.20 c 33.98700 -118.49900 7.0 C 3139977 47 215
1994/01/12 18:41:06.52 eq l 1.96 c 33.98600 -118.49200 12.3 A 3140041 15 92
1994/02/16 04:35:46.69 eq l 1.53 c 33.97500 -118.43700 12.5 A 3152624 11 57
1994/03/08 23:33:38.00 eq l 1.80 c 33.96700 -118.41300 12.7 A 3157387 45 185
1994/05/24 12:12:37.52 eq l 1.78 c 33.96100 -118.41800 15.0 A 3168897 18 193
1994/07/21 22:57:50.76 eq l 2.68 l 33.97300 -118.43900 11.9 A 3177034 103 399
1994/07/21 23:16:29.64 eq l 1.54 c 33.96600 -118.43800 12.7 A 3177035 24 88
1994/07/22 00:49:45.28 eq l 1.33 c 33.98300 -118.44000 1.1
1994/09/04 01:55:30.27 eq l 1.31 c 33.96700 -118.43100 10.3 A 3183243 12 91
1994/09/04 06:36:48.34 eq l 1.74 c 33.96800 -118.42200 7.8 A 3183263 28 218
1994/10/03 08:22:50.88 eq l 1.23 c 33.96800 -118.41600 0.9
1994/12/11 10:48:26.17 eq l 3.46 l 33.98900 -118.43500 14.0 A 3196283 84 421
1994/12/17 11:27:50.45 eq l 1.59 c 33.97600 -118.43100 12.8 A 3197237 20 229
1995/01/13 11:49:44.82 eq l 2.10 c 33.98600 -118.45300 14.5 A 3199948 37 262
1995/01/21 21:09:30.59 eq l 1.62 c 33.97200 -118.42500 13.0 A 3200852 34 173
1995/01/23 22:24:20.37 eq l 1.60 c 33.96100 -118.40000 13.7 A 3201029 16 85
1995/01/24 00:41:24.08 eq l 2.10 c 33.97500 -118.43500 13.2 A 3201045 47 215
1995/02/23 21:02:10.74 eq l 1.79 c 33.97400 -118.45400 11.1 A 3204443 17 180
1995/03/22 00:03:32.28 eq l 1.98 c 33.97100 -118.43800 13.0 A 3207480 29 215
1995/04/12 09:09:28.71 eq l 1.48 c 33.99000 -118.40700 12.6 A 3209709 38 157
1995/06/21 05:53:30.74 eq l 2.00 c 33.97800 -118.44100 11.3 A 3217086 42 240
1995/06/21 12:41:11.91 eq l 1.53 c 33.98300 -118.43600 13.2 A 3217106 18 126

1995/06/26 03:05:05.63 eq l 1.20 h 33.98100 -118.44100 13.2 A 3217575 8 66
1995/06/27 03:39:12.54 eq l 1.70 c 33.97500 -118.43800 12.8 A 3217726 35 216
1995/06/27 07:01:54.92 eq l 1.53 c 33.97700 -118.43800 13.3 A 3217739 31 149
1995/07/27 11:26:03.13 eq l 1.73 c 33.97000 -118.43000 14.4 A 3222279 26 215
1995/12/14 12:40:13.56 eq l 1.45 c 33.96300 -118.40600 2.7
1995/12/18 11:28:15.15 eq l 1.67 c 33.96100 -118.40500 13.8 A 7011812 46 180

1996/05/03 09:49:30.50 eq l 1.22 c 33.97900 -118.42900 10.3 A 3263602 16 54
1996/07/10 20:51:12.89 eq l 2.04 c 33.96300 -118.47000 13.8 A 3270197 22 163
1996/07/14 14:27:51.68 eq l 1.59 c 33.98100 -118.40200 11.3 A 3270512 25 121
1997/08/14 19:37:35.65 eq l 1.43 c 33.96100 -118.39700 11.4 A 9019897 22 85
1997/10/25 00:14:38.69 eq l 1.35 c 33.96000 -118.46800 12.0 D 9027999 14 75
1998/01/12 06:55:12.34 eq l 1.95 c 33.97000 -118.40800 12.5 A 9039552 40 168
1998/05/10 18:02:11.32 eq l 1.43 c 33.98800 -118.40700 5.3 C 9053398 19 73
1998/05/10 18:02:33.62 eq l 1.61 c 33.99000 -118.41000 5.2 C 3298802 21 73
1998/11/26 10:28:30.56 eq l 1.97 c 33.97000 -118.45100 13.1 B 9072400 21 145
1998/12/15 06:31:29.53 eq l 1.40 h 33.98600 -118.43300 14.5 A 9073676 14 100
1999/06/27 16:38:13.88 eq l 2.01 l 33.99100 -118.40000 13.4 A 9093643 29 198
2000/03/09 17:36:48.93 eq l 1.15 l 33.96800 -118.48000 -1.1
2000/04/25 11:11:10.29 eq l 1.67 l 33.98000 -118.45200 14.4 A 9148441 36 114
2000/09/16 13:24:41.33 eq l 3.08 l 33.97600 -118.41950 12.7 A 9163314 77 1873
2000/09/18 12:29:58.15 eq l 1.00 h 33.97900 -118.42900 13.9 A 9163470 14 264

2001/09/30 06:49:57.02 eq l 1.68 l 33.96383 -118.41450 16.4 A 9709749 29 386
2002/01/26 16:52:14.78 eq l 1.76 l 33.96583 -118.41033 13.0 A 12299456 29 421
2002/04/22 09:51:32.03 eq l 1.45 l 33.99083 -118.39317 15.3 A 12880132 22 332
2002/11/12 02:28:26.56 eq l 2.21 l 33.96483 -118.40867 15.5 A 13909816 46 714
2003/03/24 15:29:59.60 eq l 1.71 l 33.97000 -118.40500 12.8 A 13949560 27 439
2004/04/22 06:51:51.34 eq l 1.83 l 33.96817 -118.42100 14.0 A 14048596 32 463
2004/08/11 20:35:18.87 eq l 1.72 l 33.98000 -118.42683 13.9 A 10037393 35 489
2005/06/06 21:25:22.51 eq l 1.77 l 33.97783 -118.44917 15.7 A 14150296 26 380
2005/06/23 10:32:11.23 eq l 2.81 l 33.97967 -118.42483 15.6 A 14157476 113 1868
2005/11/10 17:55:58.59 eq l 1.56 l 33.98133 -118.40350 13.9 A 14197392 13 396
2005/11/14 06:32:05.52 eq l 1.60 l 33.96950 -118.40383 16.6 A 14197896 21 363

2007/09/01 21:20:56.66 eq l 1.60 l 33.97383 -118.42700 13.6 A 10275553 37 340
2008/01/12 05:47:18.51 eq l 1.91 l 33.97833 -118.45217 13.8 A 14342380 87 812
2008/03/27 12:13:16.91 eq l 2.43 l 33.98083 -118.40083 11.8 A 14358372 133 1247
2008/10/22 22:03:33.87 eq l 2.51 l 33.98917 -118.43083 11.8 A 10355397 63 1409
2009/01/24 03:42:44.05 eq l 3.30 l 33.97900 -118.46117 11.1 A 10373093 233 1775
2009/01/24 04:50:45.60 eq l 1.74 l 33.98033 -118.47317 12.5 A 10373097 70 464
2009/03/11 18:10:31.27 eq l 1.30 l 33.99017 -118.49467 4.9 C 10380741 18 278 XXXXXXXXXXX
2009/04/19 04:08:44.20 eq l 2.19 l 33.98317 -118.47000 12.1 A 10397393 80 1278
2009/04/19 05:02:37.64 eq l 1.18 l 33.98333 -118.47233 11.6 A 10397425 16 418
2009/04/29 09:59:31.49 eq l 1.10 l 33.98350 -118.47700 13.5 A 10402329 28 382
2009/06/07 09:02:58.77 eq l 2.25 l 33.98117 -118.42333 15.4 A 10121842 107 1411
2009/08/02 14:08:12.83 eq l 1.64 l 33.97400 -118.46833 10.4 A 14494568 38 1346
2009/09/18 05:47:26.23 eq l 1.35 l 33.97233 -118.47600 13.7 A 14511796 33 1791
2009/12/18 07:06:10.13 eq l 1.96 l 33.96733 -118.44067 15.5 B 14560756 16 112
2009/12/27 09:42:24.28 eq l 0.84 l 33.98267 -118.47100 12.9 B 14564428 12 1517
2009/12/27 12:39:47.21 eq l 1.63 l 33.98867 -118.45733 9.0 A 14564452 39 1764
2010/05/06 21:13:50.90 eq l 1.82 l 33.96000 -118.40167 13.8 A 14696876 33 1710

2010/09/09 11:37:56.12 eq | 1.61 | 33.98317 -118.46650 10.3 A 10794749 26 167

2011/04/10 11:29:43.87 eq | 1.30 | 33.96250 -118.40733 15.1 A 10922973 23 1611
2011/07/28 10:43:58.24 eq | 1.27 | 33.98483 -118.42817 13.8 A 10983221 26 1662
2011/09/21 05:00:00.28 eq | 1.63 | 33.98617 -118.48200 12.7 A 11009837 25 1756
2011/09/21 12:37:48.76 eq | 1.45 | 33.97567 -118.48983 13.8 A 11009973 31 1563
2011/12/21 17:06:22.68 eq | 2.43 | 33.97783 -118.41300 11.2 A 11045309 52 2075
2012/06/30 02:30:11.79 eq | 1.11 | 33.98750 -118.41500 9.7 C 11129050 19 1634
2012/07/25 10:18:41.86 eq | 3.55 w 33.96350 -118.40700 10.7 A 15182841 180 1701
2012/07/25 12:27:29.26 eq | 2.33 | 33.96283 -118.40483 10.4 A 15182873 53 1668
2012/07/25 12:46:23.85 eq | 1.41 | 33.96283 -118.39617 9.9 C 15182881 26 1623
2012/08/18 10:39:45.84 eq | 0.90 | 33.96083 -118.40200 11.1 B 15194513 21 1188
2012/08/20 14:02:40.07 eq | 2.05 | 33.96550 -118.39817 9.7 A 15195369 47 2113
2012/10/15 22:38:34.27 eq | 1.83 | 33.97083 -118.41917 8.3 A 15230857 40 1937
2012/11/20 10:50:17.57 eq | 1.27 | 33.96183 -118.41983 9.0 A 11206266 26 1700
2012/11/26 09:58:46.09 eq | 1.39 | 33.97500 -118.48967 11.6 B 11208690 20 1866
2012/12/15 03:01:53.75 eq | 1.35 | 33.96300 -118.41217 8.9 A 15264081 35 1899
2012/12/19 09:07:38.15 eq | 1.79 | 33.96400 -118.40117 10.4 A 15265761 26 1923
2013/04/05 16:14:15.72 eq | 1.81 | 33.96750 -118.42817 10.7 A 11279866 38 2002
2013/05/17 03:28:24.31 eq | 1.44 | 33.96367 -118.42000 11.9 A 15344505 36 1898
2013/07/01 04:32:01.72 eq | 2.72 | 33.96100 -118.41533 11.5 A 11328642 160 2230
2013/07/01 06:11:54.60 eq | 1.92 | 33.96533 -118.42333 10.7 A 11328674 51 2028
2013/07/01 06:16:10.55 eq | 1.38 | 33.96267 -118.41883 11.4 A 11328682 47 1683
2013/07/02 15:25:01.72 eq | 1.87 | 33.96767 -118.43333 10.6 A 11329234 33 2060
2013/07/21 16:44:38.48 eq | 1.93 | 33.96000 -118.42417 11.3 A 11337538 60 2056
2013/08/19 08:39:23.23 eq | 1.16 | 33.96217 -118.42500 11.8 A 15393633 34 1767
2013/09/05 11:13:00.11 eq | 1.59 | 33.97850 -118.40217 10.8 A 11359930 27 1595
2013/10/13 12:29:14.82 eq | 1.36 | 33.96233 -118.41150 8.7 A 11377146 31 1846
2013/11/14 04:56:45.03 eq | 1.63 | 33.96367 -118.42800 10.3 A 11391514 37 1901
2013/12/19 15:53:39.13 eq | 2.75 | 33.98233 -118.44567 9.2 A 15445609 109 2315
2014/01/03 19:47:59.92 eq | 3.01 | 33.98200 -118.45250 11.1 A 11409738 141 2330
2014/01/08 05:33:43.88 eq | 2.36 | 33.97883 -118.45317 11.1 A 11411490 109 2158
2014/01/18 19:19:14.61 eq | 1.17 | 33.97150 -118.43883 7.6 A 11415274 20 1676XXXXXXXX
2014/01/21 19:03:10.77 eq | 2.00 | 33.96500 -118.42233 11.8 A 11416290 48 2071
2014/03/08 04:16:31.44 eq | 3.13 | 33.96983 -118.42817 9.7 A 15473729 103 2331
2014/03/10 00:46:58.29 eq | 1.55 | 33.97117 -118.43200 9.0 A 15474385 29 1838
2014/04/18 12:21:33.79 eq | 1.39 | 33.97700 -118.40567 12.0 A 37213344 37 1736
2014/08/02 01:13:17.07 eq | 1.27 | 33.96917 -118.42150 10.5 A 15533657 26 2058
2014/10/02 04:04:25.76 eq | 1.72 | 33.97617 -118.44617 12.9 A 37046799 47 2237
2014/10/27 14:43:14.29 eq | 1.59 | 33.97983 -118.41383 11.1 A 37282872 21 2468
2015/03/22 18:26:40.93 eq | 1.51 | 33.96317 -118.43700 11.7 A 37345920 37 2091
2015/05/22 10:32:53.30 eq | 1.49 | 33.97217 -118.41750 9.8 A 37385160 44 1855
2015/05/27 12:52:48.75 eq | 1.51 | 33.96733 -118.41967 10.5 A 37388200 53 1967
2015/08/22 01:53:30.34 eq | 1.10 | 33.97717 -118.44233 14.7 A 37230927 28 1532
2015/09/05 04:55:33.01 eq | 2.69 | 33.99083 -118.42567 10.2 A 37237983 110 2897
2015/10/06 08:36:26.13 eq | 1.81 | 33.98800 -118.44000 10.0 A 37253751 94 2308
2015/10/06 08:38:24.50 eq | 1.14 | 33.98950 -118.44350 10.0 A 37253767 59 1693
2015/12/22 10:00:23.58 eq | 1.88 | 33.97650 -118.42883 9.5 A 37287519 100 2237

2016/03/07 23:02:04.00 eq | 1.29 | 33.97133 -118.42183 14.0 A 37315271 33 2003
2016/05/16 22:09:40.06 eq | 1.37 | 33.98983 -118.46083 11.8 A 37569096 25 1407
2016/07/20 18:59:05.96 eq | 1.61 | 33.99150 -118.43283 10.1 A 37419671 43 2359

2016/07/21 04:02:55.61 eq l 1.40 l 33.96133 -118.46800 16.6 B 37419959 20 2303
2016/10/20 07:41:50.51 eq l 1.31 l 33.96883 -118.42250 10.3 A 37720080 38 1895
2016/10/20 08:26:20.86 eq l 1.37 l 33.97150 -118.44150 9.5 A 37720112 58 1799
2017/01/26 23:08:46.30 eq l 1.83 l 33.97067 -118.40383 11.1 A 37574167 74 2399
2017/03/29 06:10:08.02 eq l 2.07 l 33.98150 -118.40233 10.2 A 37843624 139 2750
2017/04/07 01:40:53.57 eq l 1.57 l 33.97800 -118.42000 10.4 A 37851144 67 2492

1-10/Table 1.2-1: I-710 Average Daily (Two-Way) Traffic Volumes Auto Truck Total
Source: AECOM. I-710 Corridor Project Traffic Operations Analysis Report (March 2017).
Caltrans DEIR/DEIS 2016 & TSM/TDM as the Locally Preferred Alternative, 2017 used Vehicle/Annual average daily volume of 180,000 vpd with truck representing 80-90,000 cars and PCEs of 2.2-2.5 v/truck
DEFINE "Average Daily" (week-day: 260 days; or 365 days), Traffic or Vehicle volumes; "auto". IP-43-52
As no/few project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd Ave., compared to SR-60. IP-43-53
As no terminal segment of I-710 is included (with or without SR-710), the diversion of 9000-20,000 trucks appears as or more significant than the 11,000 - 10,000 trucks... and those for the I-5: 2000-3000 trucks.
REVISE/PROVIDE throughout document. IP-43-54

1-38/1 RAILROADS....rail network in the SCAG region, including the Study Area, is composed of BNSF and UP Railroad rail lines, terminals/yards, and on-dock rail terminals at the Ports. Rail routes include the Alameda Corridor, BNSF Railroadâ€™s San Bernardino Subdivision, and UP Railroadâ€™s Los Angeles and Alhambra Subdivisions.
No reference to Pacific Harbor Line, PHL. COMPARE/PROVIDE full description of current, projected, and maximum capacities...for both in-/out-bound. IP-43-55

1-38/1 The I-710 Railroad Goods Movement Study (2009)...projected demand in the movement of containerized freight...developing the 2035 travel demand forecasts for the I-710 Corridor Project...port cargo and operational characteristics of the railroads,...assumed that approximately 34.4 percent of the cargo growth (approximately 14.1 million annual TEUs) in 2035...either on-dock or off-dock intermodal terminals.\11...2015, the Alameda Corridor was operating 38 trains per day,\12...By 2035, the Alameda Corridor is projected to be operating 108 trains daily...sufficient capacity to handle the projected traffic. As of 2010, BNSF Railroadâ€™s San Bernardino Subdivision operated up to 99 trains per day (45 freight trains and 54 commuter trains) in its most heavily trafficked segments. By 2035, BNSFâ€™s San Bernardino Subdivision...operating up to 189 trains daily....\13 ...BNSF Railroad has constructed or has plans to construct three tracks on the San Bernardino Subdivision, sufficient capacity to handle the projected train volumes. The UP Railroad...with routing flexibility. According to the Regional Rail Simulation Update Summary Report...SCAGâ€™s November 2011..., 51 through-freight trains operated collectively over the subdivisions in 2010,...
GMS (2009) and SCAG 2011 are out-of-date...REMOVE/UPDATE for 2015-2017. IP-43-56
COMPARE/PROVIDE all referenced projections of cargo, freight, goods, and containers (for 20, 40, and 53-foot units) for 2009-2017 for all rail lines and yards and maximum right-of-way tracks or assumed x3 track sets. IP-43-57
DEFINE/PROVIDE "Goods Movement", and "movement of containerized freight",
DEFINE/PROVIDE "cargo growth" and "sufficient capacity", "projected train volumes [?=traffic?]" IP-43-58
PROVIDE comparisons of 20, 40, and 53ft. containers IP-43-59

1-38/1 \11 Some port cargo is â€œtransloadedâ€ , i.e., transferred from marine containers to larger domestic containers,...transloaded cargo moved by rail is above and beyond the 34.4 percent that is moved directly by rail.
\12 Alameda Corridor Transportation Authority. Website: http://www.acta.org/pdf/CorridorTrainCounts.pdf (accessed December 28, 2016).
\13 SCAG. 2013. On The Move: Southern California Delivers the Goods. Comprehensive Regional Goods Movement Plan and Implementation Strategy, final report. February. Website: http://www.freightworks.org/ DocumentLibrary/ CRGMPIS%20-%20Final%20%20-%20Chapter%204.pdf (accessed December 28, 2016).
DEFINE/PROVIDE "some", "cargo", "transferred/transloaded", "marine", "larger" [43, 48, 50, & 53ft compared to 20ft or TEUs], and "domestic" in the US, not just California. IP-43-60
Appendix E Glossary of Technical Terms & Appendix G List of Acronyms

Appendix H List of Technical Studies & Appendix M References
References/Citations, Definitions/Glossary, and Acronyms/Abbreviations are confused and not consistently used in document and are not conveniently placed within the document to assure public access.
COMBINE/REVISE/PROVIDE within the DEIR/DEIS text. IP-43-61

1-41/1 Given the needs within the I-710 Corridor and the projectâ€™s focus on goods movement as part of the project need, these are logical termini...and SR-60 is one of the major east-west freeways that connects to the I-710 and serves logistics centers in the Inland Empire. Under the No Build Alternative in 2035, approximately 31 percent of daily traffic transitions to SR-60 at the northern terminus...nearly one-third of the traffic exits I-710...and transportation demand decreases north of SR-60, terminating the project at SR-60 provides a rational endpoint.
DEFINE "I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand". IP-43-62
As no project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd Ave., compared to SR-60. IP-43-63
REVISE/PROVIDE throughout document.

3.6-2/5 3.6.2.3 TOPOGRAPHY The I-710 Corridor Project is situated within the central part of the Los Angeles Basin. The elevation of the I-710 Corridor Project varies from near sea level in the south to approximately 180 280 feet above mean sea level near SR-60...[USGS] 1994;
Elevation is incorrect and appears to be for I-5 rather than SR-60.
Google Earth Pro, 2017. SR-60:273-304ft; Whittier: 194-216ft; I-5: 162-182,198ft elev. IP-43-64
REVISE/PROVIDE throughout document.

3.6-121/1 3.7 CULTURAL RESOURCES The information...based on the following technical reports: Historical Resources Evaluation Report (HRER) (April 2012).
Referenced Technical Report is not provided/included in appendices - H/M, not available to Public.
H-3 Flood Control Facilities Report (AECOM, January 2017).
Geotechnical Final Report (URS, January 2010).
HRER ???
I-710 Corridor Aesthetics Master Plan (Caltrans, February 2014). IP-43-65
Initial Feasibility Analysis Study Report (URS, December 2008).

M-21 GPA Consulting. 2017. Section 4(f) and 6(f) Evaluation....
M-23 Kachour, Jenna. 2016. Draft Supplemental Historical Resources Evaluation Report for the Interstate 710 Corridor Project
REVISE/PROVIDE throughout document references and PROVIDE in appendices:

3.25-18 Table 3.25-1: Past, Present and Foreseeable Future Projects in the I-710 Corridor Study Area
T-81 East-West Freight Corridor Project Southern California Association of Governments (SCAG) The project would establish truck-only lanes along the SR-60 corridor between I-710 in Los Angeles County and I-15.... Such a system would address the growing truck traffic and safety issues on core highways through the region and serve key goods movement industries....add capacity in congested corridors, improve truck operations and safety by separating trucks and autos and provide a platform for the introduction and adoption of zero- and near zero-emission technologies. Corridor concept planning is ongoing. No environmental analysis...(Source: SCAG 2016 RTP/SCS, Goods Movement Transportation System Appendix â€“ accessed December 27, 2016)
DEFINE "Study area" as related to SR-60 as maps do not consistently include SR-60. IP-43-66
The Project does not include improvement from Third Ave. to SR-60 that would verify against the proposed Truck-Lanes. Current Pavement Rehabilitation suffers from same lack of truck-related projections north of Third Ave. Same for SR-710. IP-43-67
REVISE/PROVIDE throughout document for SR-60 and SR-710.

3.25-43/2-3 3.25.4.1 LAND USE The information in this section.... The Study Area includes the portion of I-710 from Ocean Blvd. in Long Beach to SR-60, a distance of approximately 18 19 miles.
DEFINE "Study area", Project area, and Project sites; 18 miles to I-5 and 19+ miles to SR-60. | IP-43-68
The Project includes "maximum rail diversion" and "Study Area" includes railroads.
REVISE/PROVIDE throughout document. | IP-43-69

3.25-43/3 ...At the freeway-to-freeway interchanges, the Study Area extends one mile east and west of I-710 for the I-405, SR-91, I-105, and Interstate 5 (I-5) interchanges....For the purpose of this analysis, the RSA for land use is the Study Area, which includes parts of the Cities of..., Los Angeles,....
DEFINE "Study area", Project area, and Project sites. | IP-43-70
The Project Study Area extends more than 5 miles east and west from the I-710 at interchanges and the ROW. SR-1 has the widest E-W Study Area and SR-60/I-105 have the narrowest east-west width.
The Project includes "maximum rail diversion" and "Study Area" includes railroads.
REVISE/PROVIDE throughout document. | IP-43-71

1-37/1 The Gerald Desmond Bridge Project will replace the existing...Bridge, which connects Terminal Island (POLB) to SR-710 with a new six-lane bridge....
CONFUSED SR 710 / SR710 / SR-710 or I-710.
REVISE: Terminal Island is both PoLA and PoLB or SPP but "eastern T....I.... (POLB)" | IP-43-72

1-38/1 RAILROADS. The present rail network in the SCAG region,...Study Area, is composed of BNSF and UP Railroad rail lines, terminals/yards, and on-dock rail terminals at the Ports. Rail routes include the Alameda Corridor, BNSF Railroadâ€™s San Bernardino Subdivision, and UP Railroadâ€™s Los Angeles and Alhambra Subdivisions.

3.13-44/3 The only areas where [NOx] increases occur are in the locations of the Southern California International Gateway (SCIG) Project in in the Port area and the SR-710 North Study (a portion of SR-710 north of Interstate 10 [I-10]). These two proposed projects are included in the 2035 I-710 Traffic Model, as they would be constructed by that time.
Traffic (vehicles, cars, autos, and trucks) loadings are not provided for I-710, north of SR-60, andd SR-710 and reported truck traffic does not reflect projection of 180,000 vehicles/d and estimated 80+K cars and 80+K trucks-passenger car equivalence of 2.2-2.5 (= 35,000+ 53-ft trailer, heavy-duty trucks).
DEFINE/PROVIDE "truck traffic" for current, projected, and maximum capacity for SCIG and SR-60, and I-10, and "SR-710" AND Traffic Model - model flow chart and inputs/outputs for all relevant runs/operations for SCIG and SR-710 AND SR-60. | IP-43-73

3.13-48/1 The only [PM/2.5] increases...occur in the Port areas where the proposed SCIG Project...and a portion of SR-710 north of I-10...proposed SR-710 North Study project would be located in 2035.
Traffic generated air pollutants are mentioned BUT not indicated in air quality considerations and modeling but traffic loadings are not provided for I-710, north of SR-60, andd SR-710 and reported truck traffic does not reflect projection of 180,000 vehicles/d and estimated 80+K cars and 80+K trucks-passenger car equivalence of 2.2-2.5 (= 35,000+ 53-ft trailer, heavy-duty trucks).
DEFINE/PROVIDE "air pollutants" for current, projected, and maximum capacity for SCIG and SR-60, and I-10, and "SR-710" AND Traffic Model - model flow chart and inputs/outputs for all relevant runs/operations for SCIG and SR-710 AND SR-60. | IP-43-74

3.25-5/FIGURE 3.25-1 I-710 Corridor Project Cumulative Projects
Study Area
Alameda Corridor
Projects not located within extent of map
T-2: SR710 North Study
T-18: SR60 Freeway Improvement Project
LD-87 : SR-710 Surplus Property Sales
Tables 3.25-1 & -2 :...SR 710 North Study (previously...SR-710 Project...)

Confusing inclusion/exclusion of SR-710, SR-60, and SCIG.
REVISE/PROVIDE: as worst case condition, add all and include thorough traffic generations and associated noise, vibration, and air pollutants. IP-43-75

3.7-15/2 Additionally, the Archaeological Sensitivity Study (2017) was conducted to identify areas with a higher potential occurrence of...historic archaeological resources within the original and Supplemental APEs. This study incorporated data from pedestrian surveys of accessible, undeveloped portions of the Supplemental APE; a review of historical maps and aerial photos; literature research; and a â€œproximity analysis.â€
3.12-3/3 The ISA included a search of government records to obtain a listing of properties or known incidents from State, Federal, or local regulatory databases for hazardous waste sites within the ISA Study Area, review of reasonably ascertainable historical information sources (aerial photographs,...of the proposed right-of-way for the build alternatives to identify readily visible contamination. Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search limited to within a one-mile radius...of the I-710 Corridor Project for facilities listed by regulatory agencies as potentially having environmental concerns.
Apdx H. List of Technical Studies. Archaeological Sensitivity Study for the Interstate 710 Corridor Project (Confidential Report) (LSA Associates, Inc., February 2017. Appendix to Supplemental Archaeological Survey Report).
No reference to borings reviews nor to 1923 available photos, mention is made of only 1928.
REVISE/PROVIDE thorough review of 1923 aerial photos for historic structures and potential users/facilities with or without visible contamination, e.g., crude oil tanks, vehicle/ship fuelling and car gasoline stations. IP-43-76

Cargo Container, not freight or goods container
3.2-6/FN
\3 Some port cargo is â€œtransloaded,â€ i.e., transferred from marine containers to larger domestic containers, and then moved by rail in these large containers. The transloaded cargo moved by rail is above and beyond the 34.4 percent that is moved directly by rail.
\4 Alameda Corridor Transportation Authority. Website: http://www.acta.org/pdf/CorridorTrainCounts.pdf (accessed December 28, 2016).
\5 Southern California Association of Governments (SCAG). 2013. On The Move: Southern California Delivers the Goods. Comprehensive Regional Goods Movement Plan and Implementation Strategy, Final Report. February 2013. Website: http://www.freightworks.org/DocumentLibrary/CRGMPIS%20-%20Final%20%20-%20Chapter %204.pdf (accessed December 28, 2016).
\6 SCAG Freightworks. Website: http://www.freightworks.org/DocumentLibrary/Comprehensive%20Regional%20Goods%20Movement%20Plan%20and%20Implementation%20Strategy%20-%20Regional%20Rail%20Simulation%20Update.pdf (accessed December 28, 2016).

3.2-7/5 I-710 Travel Demand Modeling Report (2017) AECOM
Secondary transload truck trips (cargo in 20- and 40-foot international containers is transferred to 53-foot domestic containers).
/6 The same report noted that about 80 percent of the primary port truck trips are destined to or originated from locations within 20 miles of the Ports.
Inconsistent terms and usage. IP-43-77

Appendix E Glossary of Technical Terms (PDF)
No definitions of Cargo, Containers, Freight, Goods IP-43-78

Appendix G List of Acronyms (PDF)
TEU TEU twenty-foot equivalent unit
International
US/ Domestic

Appendix H List of Technical Studies (PDF) 2 pages
NO Mercator 2016 IP-43-79

Appendix M References (PDF)
M-26 Mercator International, LLC and Oxford Economics. 2016 [=Mercator 2016]. Executive Summary for San Pedro Bay Long-term Unconstrained Cargo Forecast. January.
https://www.portoflosangeles.org/pdf/Official_Statement_2016_Series_A_B_C_Bonds.pdf
http://www.acta.org/revenue_finance/AR%20ACTA%20Notice%20Regarding%20Approval.pdf

Appendix N Index (PDF)
N-7 Freight corridor (FC) S-9, 2-59, 2-63, 2-85, 2-89, 2-94, 2-95, 3.1-56, 3.1-59, 3.1-60, 3.1-87, 3.1-89,...
No goods nor cargo / cargo containers | IP-43-80

*You received this message because Dr. Clyde T Williams submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-43-1

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS is inadequate and requires revising and recirculating. The RDEIR/SDEIS was prepared in accordance with Caltrans practices and procedures and various technical analyses were prepared in accordance with approved methodologies.

IP-43-2

“Goods movement” is utilized as a general term that describes container, cargo, and freight movements, both internationally and locally. Numerical and volume information was included in greater detail in Section 1.2.1.5, Modal Interrelationships and System Linkages, of the RDEIR/SDEIS, including current and projected volumes and mode shares.

IP-43-3

There are several different railyards referenced in the RDEIR/SDEIS. Near the northern terminus of the Study Area, the BNSF/UP Railroad intermodal yards are located within the cities of Commerce and Vernon. Near the Ports of Los Angeles and Long Beach, there are several near-dock and off-dock railyards, including Pier B and ICTF. Near-dock and off-dock railyards were described in more detail in Section 1.2.1.5, Modal Interrelationships and System Linkages, of the RDEIR/SDEIS, as well as shown on Figure 1.2-6. Also included in Section 1.2.1.5 was more information regarding existing and future capacity of the rail system.

IP-43-4

As part of the quality control process, the RDEIR/SDEIS underwent thorough technical editing and review. The acronym(s) used to describe each individual railyard or line can be found in Appendix G, List of Acronyms.

IP-43-5

As described in more detail in Section 1.1, Introduction, of the RDEIR/SDEIS, the Study Area (shown on Figure 1.1-2) “includes the portion of the I-710 Corridor from Ocean Blvd. in Long Beach to SR-60, a distance of approximately 19 miles and includes all or portions of the Ports, the Cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Lynwood, Maywood, Paramount, Signal Hill, South Gate, and Vernon, as well as unincorporated areas of Los Angeles County, including the communities of East Los Angeles, Boyle Heights, Wilmington, and San Pedro. At the freeway-to-freeway interchanges, the Study Area extends east and west of the I-710 mainline…this is the general Study Area for the I-710 Corridor Project. Specific study areas have been established for individual environmental analyses (e.g., health risk assessment zone of influence and community impact assessment focus area).” The general Study Area was developed to be broad enough to

geographically encompass project-related impacts and allow for a reasonable range of alternatives to be analyzed, but focused to provide an appropriate frame of reference and context for project-related impacts. It is also important to emphasize that different resources utilized different study areas for the various analyses, and this general Study Area is indeed general.

IP-43-6

Within the given context (Section S.2.1.4 of the Executive Summary, “Highway congestion causes delays affecting personal mobility and goods movement and results in increased economic costs”), increased economic costs is intended to generally describe the gains and losses of money, time, and/or resources. There are several ways to define and calculate this specific cost, and this reference in the RDEIR/SDEIS is not intended to refer to a specific number, but rather a general concept.

“International commerce” and “domestic commerce” within the given context (also Section S.2.1.4 of the Executive Summary, “Los Angeles County’s goods movement system serves as a gateway for both international and domestic commerce”) are defined, per Merriam-Webster (Merriam-Webster, Inc., 2018, available at www.merriam-webster.com, accessed December 2018), as follows: “international” meaning “of, relating to, or affecting two or more nations”; “domestic” meaning “of, relating to, or originating within a country and especially one’s own country”; and “commerce” meaning “the exchange or buying and selling of commodities on a large scale involving transportation from place to place”. Again, each of these terms is intended to be a general descriptor.

IP-43-7

Per Merriam-Webster (2018) and/or within the context of the RDEIR/SDEIS, the following definitions are provided:

> **Regional:** “of, relating to, characteristic of, or serving a region” and the region’s role in goods movement
>
> **State:** it is assumed the commenter is referencing the use of the word “statewide” in Section S.2.1.5; this references the State of California and its role in goods movement
>
> **National:** “of or relating to a nation”; referencing national goods movement in a general sense.

Because these definitions provided and the usage of them is meant in general and for contextual information, current and projected numerical levels for each is not provided here. Numerical and volume information was included in greater detail in Section 1.2.1.5, Modal Interrelationships and System Linkages, of the RDEIR/SDEIS, including current and projected volumes and mode shares.

IP-43-8

The referenced figure can also be found full sized in Chapter 1.0, Proposed Project, (Figure 1.2-5) and is a schematic, which illustrates the interface between container ships and various transportation infrastructures. It is not intended to show a particular data set and has no date associated with it; therefore, current and projected numerical information is not provided. Numerical and volume information was included in greater detail in Section 1.2.1.5, Modal Interrelationships and System Linkages, of the RDEIR/SDEIS, including current and projected volumes and mode shares.

IP-43-9

Similar to the Response to Comment IP-43-8, the referenced figure is a schematic that was included for illustrative and contextual purposes. Current, post-construction, and future 2035-40 numerical estimates/projections of sizes/weights of containers and non-containerized bulk goods/cargos/freights for each node in figure are therefore not provided. Relevant numerical and volume information was included in greater detail in Section 1.2.1.5, Modal Interrelationships and System Linkages, of the RDEIR/SDEIS, including current and projected volumes and mode shares.

IP-43-10

Off-, near-, and on-dock rail was defined in Section 1.2.1.5 of the RDEIR/SDEIS. Specific throughput data for all docks/berths and terminals are not publicly available. Relevant numerical and volume information at the Port level was included in greater detail in Section 1.2.1.5, Modal Interrelationships and System Linkages, of the RDEIR/SDEIS, including current and projected volumes and mode shares. Similarly, the requests for railyard track lengths in feet, container throughput per yard and per berth/terminal, and truck data at this granular level are not publicly available and are not relevant to the project-related analyses, and will not be provided.

IP-43-11

The highway designations the commenter is referring to is a standard editing practice to fully define a term or phrase prior to using an abbreviation or acronym. For example, as cited in the comment, Interstate 10 is defined and the shortened version (I-10) then used in parenthesis. The shortened version is used from that point forward in the document. The shortened versions of I-405, SR-91, I-105, I-5, and SR-60 were previously defined in the Executive Summary. Please also refer to Response to Comment IP-43-4 regarding the project's quality control process.

The POLA/POLB is referred to as one facility (one Port complex) appropriately because of the use of the word "Together" at the beginning of the noted sentence: "*Together*, POLA/POLB is one of the largest container ports in the world [italics added]".

Please refer to Response to Comment IP-43-10 for clarification regarding container data.

SR-710 is a north-south route rather than an east-west route, so no improvements to SR-710 are being discussed in the referenced section. No known improvements to SR-60 are planned in the "system linkage" context (as in, where SR-60 connects to I-710) that is discussed in the referenced section.

IP-43-12

It is unclear what "underlined terms/phrases" the commenter is referencing.

The commenter is correct in indicating that "Purpose and Need" statements are specific to NEPA, whereas "project objectives" are specific to CEQA. However, according to the Caltrans Standard Environmental Reference (Volume 1, Chapter 36, Environmental Impact Report), the CEQA Statement of Objectives and Purpose "is the same as the purpose and need statement under NEPA." Therefore, the purpose and need statement outlined in Section 1.2 of the RDEIR/SDEIS serves both purposes.

IP-43-13

It is unclear what "underlined terms/phrases" the commenter is referencing.

The referenced sentence in Section 2.3.2.1 of the RDEIR/SDEIS reads "In 2013, the Gateway Cities COG and Metro developed an "I-710 Project Zero-Emission Truck Commercialization Study" in order to evaluate the ZE truck technologies *which might meet the needs* of the I-710 Corridor Project and drayage users, and develop a business and commercialization plan [italics added]." This is simply meant to indicate that of the several current and future truck technologies that could be of use on the build alternatives, it is possible that not all may be appropriate for deployment on I-710, and the referenced Commercialization Study evaluated technologies that might meet the needs of the build alternatives.

Please refer to Response to Comment IP-43-12 for clarification on Purpose and Need and Objectives under NEPA and CEQA, respectively.

IP-43-14

The following definitions are provided, from Merriam Webster (2018):

Freight: "goods to be shipped"

Goods: "something manufactured or produced for sale"

Cargo: "the goods or merchandise conveyed in a ship, airplane, or vehicle"

> **Mass**: “a large quantity, amount, or number”
>
> **Drayage**: “the work or cost of traveling by dray [which is defined as “a vehicle used to haul goods”]”

Heavy Duty trucks are defined in more detail in the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017) and are separated into classes as follows: light heavy-duty (8,500 to 14,000 lbs gross vehicle weight), medium heavy-duty (14,001 to 33,000 lbs gross vehicle weight), and heavy heavy-duty (over 33,000 lbs gross vehicle weight).

IP-43-15

The I-710 freeway mainline is merely intended as a descriptor of the I-710 facility in general. Figure 1.1-1, the regional location of the project, intends to show the location of the I-710 mainline within a larger context (e.g., the overall region). The usage of the term “region” is intended to be general and not necessarily the same as that of the SCAG region, which is a larger area specifically consisting of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties.

IP-43-16

In January 2014, Section 622 (which stated that “Route 710 is from Route 1 to Route 210 in Pasadena”[17]) of the California Streets and Highways Code was amended to include Section 622.1, which states “Route 710 shall also include that portion of the freeway between Route 1 and the northern end of Harbor Scenic Dr., that portion of Harbor Scenic Dr. to Ocean Blvd., that portion of Ocean Blvd. west of its intersection with Harbor Scenic Dr. to its junction with Seaside Blvd., and that portion of Seaside Blvd. from the junction with Ocean Blvd. to Route 47.”[18] The referenced text in Section 1.1, Introduction, of this Final EIR/EIS, has been updated accordingly.

IP-43-17

The relatively thick line was used in the legend and on the map due to legibility. No change to the legend or the map itself will be made at this point.

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[17] California Legislative Information. Website: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=SHC&sectionNum=622 (accessed December 10, 2018).

[18] California Legislative Information. Website: https://leginfo.legislature.ca.gov/faces/codes _displaySection.xhtml?lawCode=SHC&sectionNum=622.1 (accessed December 10, 2018).

IP-43-18

It is important to note that the I-710 Corridor Project build alternatives do not "depend" on maximum diversion of goods to rail; rather, because based on Port cargo demand forecasts and how much of that cargo can be handled through maximum utilization of the railroad system (including expanded on-dock rail facilities at the Ports), there is still a high demand for movement of cargo containers by truck on the highway system, specifically I-710. Therefore, maximum diversion of goods to rail was used as an assumption underlying the traffic analysis performed for the project.

IP-43-19

No revisions to the referenced map will be made in response to this comment. The map is intended to provide the limits of the general Study Area and is not required to point out every facility within its limits, such as the Alameda Corridor. The location of the Alameda Corridor in relation to the I-710 mainline can be found on Figure 1.2-6 in Chapter 1.0, Proposed Project, of the Final EIR/EIS.

IP-43-20

"Additional" containers refers to the number of containers arriving/departing the Ports in 2035 beyond the number that the railroads will be able to carry, as the rail system in the region will have reached its operational capacity. The operational capacity is measured by the number of freight and passenger trains that can travel on a segment of track per day, within the operating rules and constraints governing the Class I railroads.

More recent studies (i.e., the *Southern California Association of Governments 2016 RTP/SCS Goods Movement Appendix* [April 2017]) have reaffirmed the key conclusions of the *I-710 Railroad Goods Movement Study* with regard to future container demand by rail exceeding the regional rail system capacity.

IP-43-21

This specific comment appears to be unfinished; however, the key assumptions being referred to in the title of the "Data and Key Assumptions Technical Memorandum for Goods Movement" (May 2013) are those assumptions that most affect the forecasts of goods movement in the I-710 Corridor which in turn inform the 2035 traffic forecasts developed for the RDEIR/SDEIS, and specifically relate to the key model input factors that are relevant to goods movement in the Study Area, including Port cargo throughput assumptions, split between inbound, outbound, and empty Port containers, distribution of Port truck trips by shift, distribution of Port cargo by market, distinguishing Port primary versus secondary Port truck trips, Port auto trips, goods movement intelligent transportation systems, truck capacities on the proposed freight corridor under

Alternative 7, and supply and demand at off-dock railyards. Not all metrics can be positively known or identified; therefore, intelligent and informed assumptions must be made. These 'key assumptions' are important to identify and disclose as they characterize traffic movement within the I-710 Corridor and inform the traffic modeling effort.

IP-43-22

The commenter is correct in indicating that the cited document (Mercator 2016) references only the Executive Summary for San Pedro Bay Long-Term Unconstrained Cargo Forecast (see Appendix M, References, for more information). At the time of preparation of the RDEIR/SDEIS, the full Mercator forecast was not publicly available and could not be obtained. However, sufficient information was included in the Executive Summary that was publicly available so that an informed judgment could be made regarding any substantive differences in the Mercator forecast and the forecast utilized in the traffic analysis for the I-710 Corridor Project.

IP-43-23

Please refer to Response to Comment IP-43-12 for more information regarding Purpose and Need. It is unclear from the comment what context the requests for definitions for "logistics centers", "daily traffic transitions" and "transportation demand" are in, as the phrases do not appear within the cited Section 3.7 (Cultural Resources). A more detailed discussion of goods movement within the I-710 Corridor can be found in Section 1.2.1.5, Modal Interrelationships and System Linkages, of the RDEIR/SDEIS.

IP-43-24

As shown in Figure 2.3-1, under both build alternatives, auxiliary lane and ramp improvements are proposed north of the I-5 interchange and just south of the SR-60 interchange. SR-60 was determined to be the northern logical termini for the project because, as described in Section 1.2.2.2, Independent Utility and Logical Termini, "SR-60 is one of the major east-west freeways that connects to the I-710 and serves logistics centers in the Inland Empire. Under the No Build Alternative in 2035, approximately 31 percent of daily traffic transitions to SR-60 at the northern terminus of the I-710 Corridor."

IP-43-25

As discussed in Section 3.12.2 of the RDEIR/SDEIS, reasonable and ascertainable historical information sources include aerial photographs, fire insurance maps, oil and gas maps, and topographic maps. It is important to note that Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, file reviews will not be completed to supplement

the ISA prior to completion of the Final EIR/EIS. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-43-26

Section 3.12 of the Final EIR/EIS has been updated to clarify that additional file reviews have been conducted to supplement the on-line database reviews and assessments prepared for the project.

IP-43-27

Please refer to Response to Comment IP-43-23 regarding Purpose and Need.

IP-43-28

Please refer to Response to Comment IP-43-24 regarding the logical termini for the project.

IP-43-29

“Documents” is a general term and can refer to both formal technical reports and references used. The technical studies listed in Appendix H of the RDEIR/SDEIS were specifically prepared in support of the I-710 Corridor Project RDEIR/SDEIS (or, in some cases, for the Draft EIR/EIS released for public circulation in 2012) and are summarized in each resource section. Appendix M, References, lists the sources of information that were also consulted in the preparation of, but not directly prepared for, the RDEIR/SDEIS.

IP-43-30

This comment requests an update to the 2010 Geotechnical Final Report prepared by URS. Refinements to seismicity and geological context are regularly updated by the Caltrans’ Office of Earthquake Engineering (OEE). Similarly, Caltrans has updated its Seismic Design Criteria (SDC) since preparation of the 2010 report. Along with site specific foundation investigations, should a build alternative be selected as the Preferred Alternative, the SDC would be used to design new or modified structures. Because the broad characterization of subsurface conditions made in the 2010 report would not change significantly as result of Caltrans’ updates, there are no changes to the report’s recommendations. Therefore, an updated geotechnical study to support the Final EIR/EIS is not needed. However, clarifications regarding Caltrans’ OEE and SDC updates have been made in Section 3.10 of this Final EIR/EIS. However, as stated in Response to Comment IP-43-25, the No Build Alternative has been selected as the Preferred Alternative. Therefore, final geotechnical and foundation reports will not be prepared

IP-43-31

Logs of test borings (LOTBs) are provided in the *Geotechnical Final Report* (January 2010), which is an appendix to the EIR/EIS. The following geological and soil definitions are from the National Soil Survey Center Natural Resources Conservation Service (NRCS) *U.S. Department of Agriculture Field Book for Describing and Sampling Soils* (September 2012). “Highly expansive soil” is soil that is prone to large volume changes (swelling and shrinking) that are directly related to changes in water content. “Fine-grained soil” is a soil that has greater surface area and total porosity that requires a correspondingly greater carbonate quantity to fill voids and form equivalent carbonate stages compared to a coarse-textured soil. “Susceptible to high degrees of expansion” means the soil in the area described is considered highly expansive soil. The soil types described in this section “do exist” and are further described and illustrated in the *Geotechnical Final Report* (January 2010).

The I-710 Corridor “project need” is defined in Section 1.2.1 (Need for I-710 Corridor Project), “goods movement” refers to the movement of goods throughout an urban area by rail, roads and ships. Goods movement related to the Study Area is further described in Section 1.2. “Logistics centers” refers to the hub of a specific area where all the activities relating to transport, logistics, and goods distribution for national and international transit are carried out on a commercial basis, by various operators. “Daily traffic transitions” are described in the *I-710 Corridor Project Traffic Operations Analysis Report* (March 2017) and the *Intersection Traffic Impact Analysis Report* (March 2017), and “transportation demand” is described in the *I-710 Corridor Project EIR/EIS Travel Demand Modeling Methodology* (November 2016), appendices to the EIR/EIS.

IP-43-32

“Metastable” and “collapsible” soils were described in Section 3.10.2.1 of the RDEIR/SDEIS: “Collapsible soils are characterized by having metastable [metastable being defined by Merriam-Webster (2018) as “having or characterized by only a slight margin of stability] soil structures that are susceptible to collapse upon saturation.” An NRCS Soil Distribution Map was erroneously omitted from the Geotechnical Report posted on the Caltrans website; this has been included. As discussed in Section 3.10.3, should a build alternative be selected as the Preferred Alternative, Measure GEO-1 would be implemented, and would requiring, prior to completion of final design, Caltrans to prepare a design-level geotechnical report in accordance with the *Guidelines for Preparing Geotechnical Design Reports* (Caltrans 2006). Design-level geotechnical reports would precede development of grading and/or construction plans, and would provide detailed, site-specific design recommendations. Studies at this stage would provide specific design recommendations to mitigate geologic hazards as they relate to grading and construction of the build alternatives. A geotechnical design report would document soil-related constraints and hazards such as slope instability, settlement liquefaction, or related secondary seismic impacts that may be present. However, as stated in Response to Comment IP-43-25, the No Build

Alternative has been selected as the Preferred Alternative. Therefore, Measures GEO-1 will not be implemented.

IP-43-33

The appropriate mapping and data were taken into account when evaluating the impacts and proposed avoidance, minimization, and/or mitigation measures for the build alternatives. Please also refer to Response to Comment IP-43-32.

IP-43-34

The commenter acknowledges that the figures are from different sources, hence the potential inconsistency. The map included in Section 3.11, Paleontology, of the RDEIR/SDEIS provides the locations of faults only for reference purposes. In addition, the two maps are illustrated at different scales. No edits to either map will be made at this time.

IP-43-35

As discussed in Section 3.10.2.3 of the RDEIR/SDEIS, the seismic sources listed in Table 3.10-1 are known potential sources controlling the seismic design of the I-710 Corridor Project build alternatives. The distances in Table 3.10-1 are the closest horizontal distances from the Study Area to the faults. The maximum earthquake magnitudes and other fault parameters shown in Table 3.10-1 are those currently being considered for seismic design of the I-710 Corridor Project build alternatives. However, as stated in Response to Comment IP-43-25, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no construction will occur and the Seismic Design Criteria will not be used.

IP-43-36

Active faults in the Study Area are mapped in Figure 3.10-1 of the RDEIR/SDEIS. As discussed in Section 3.10.3 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, Measure GEO-1 would be implemented, and would require that, prior to completion of final design, the California Department of Transportation (Caltrans) prepare a design-level geotechnical report in accordance with the *Guidelines for Preparing Geotechnical Design Reports* (Caltrans 2006). Structures would be designed using the Caltrans Seismic Design Criteria (SDC). The SDC would provide the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification would determine its seismic performance level and which methods would be used for estimating the seismic demands and structural capabilities. For more information, please refer to Caltrans Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria. It is important to note that the No Build Alternative has been selected as the Preferred Alternative and Measure GEO-1 will not be implemented.

IP-43-37

As discussed in Section 3.10.3 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, Measure GEO-1 would be implemented, and would require that, prior to completion of final design, Caltrans would prepare a design-level geotechnical report in accordance with the *Guidelines for Preparing Geotechnical Design Reports* (Caltrans 2006). Design-level geotechnical reports would precede development of grading and/or construction plans, and they would provide detailed, site-specific design recommendations. Studies at this stage would provide specific design recommendations to mitigate geologic hazards as they relate to grading and construction of the build alternatives. A geotechnical design report would document soil-related constraints and hazards such as slope instability, settlement liquefaction, or related secondary seismic impacts that may be present. The Caltrans Project Engineer would incorporate the measures recommended in the design-level geotechnical report in the final design and specifications of either build alternative. The Caltrans Resident Engineer would require the construction contractor to implement the measures recommended in the design-level geotechnical report as included in the specifications of either build alternative. The I-710 Corridor Project Geotechnical Final Report was prepared in accordance with Caltrans guidance and will not be updated at this time. It is important to note that the No Build Alternative has been selected as the Preferred Alternative and Measure GEO-1 will not be implemented.

IP-43-38

The area of study for this report for the I-710 Corridor includes I-710 between Ocean Blvd. in the City of Long Beach and Noakes St. in the City of Commerce. At the freeway-to-freeway interchanges, the Study Area extends up to one mile east and west of I-710 for the I-405, SR-91, and I-105 interchanges. It also includes the major arterials such as E. Washington Blvd., S. Atlantic Blvd., Bandini Blvd., Slauson Ave., Gage Ave., Florence Ave., Firestone Blvd., Imperial Hwy., Rosecrans Ave., Compton Blvd., Alondra Blvd., Artesia Blvd., Long Beach Blvd., Del Amo Blvd., W. Wardlow Rd., W. Willow St., W. Pacific Coast Hwy., W. Anaheim St., 7th St., and Ocean Blvd. Figure 3.10-1 in Section 3.10 of the EIR/EIR depicts the fault zones within the Study Area. Segmentation is the breaking up of a fault along its length into several smaller faults, resulting in “fault segments” and “branch faults.”

IP-43-39

Please refer to Response to Comment IP-43-38 regarding fault zones. Active faults in the Study Area were mapped in Figure 3.10-1 of the RDEIR/SDEIS.

IP-43-40

If the fault plane terminates before it reaches the Earth’s surface, it is referred to as a blind thrust fault. Because of the lack of surface evidence, blind thrust faults are difficult to detect until they

rupture. As stated in Section 3.10.3, the Puente Hills Fault consists of three distinct segments: Los Angeles, Santa Fe Springs, and Coyote Hills. The West Coyote Hills are a low mountain range in northern Orange County, California. Branch faults are where two faults either separate or merge. The Study Area is mapped in Figure 3.10-1 of the RDEIR/SDEIS. The project area includes only the area where project improvements under the build alternatives would be completed.

IP-43-41

Table 3.10-1 does not include “Coyote Hills.” No change will be made to Figure 3.10-1 at this time.

IP-43-42

Please refer to Response to Comment IP-43-38 regarding fault zones.

IP-43-43

Please refer to Response to Comment IP-43-38 regarding fault zones.

IP-43-44

Refer to Response to Comment IP-43-38 regarding fault zones.

IP-43-45

Because the Palos Verdes Fault is approximately four miles southwest of the south end of the Study Area, it has not been included on Figure 3.10-1. It is still discussed in Section 3.10.

IP-43-46

Discussion of Lower Elysian Park blind, consistent with that included in section 3.4 (p. 3-5) of the 2010 Geotechnical Final Report, has been included in Section 3.10 of this Final EIR/EIS.

IP-43-47

Please refer to Response to Comment IP-43-36 regarding seismic demands and structural capabilities.

IP-43-48

Please refer to Response to Comment IP-43-38 regarding fault zones.

IP-43-49

Relevant fault information for the environmental analysis associated with the build alternatives was included on Figure 3.10-1 in Section 3.10 of the RDEIR/SDEIS.

IP-43-50

Ground acceleration is the acceleration of the ground during an earthquake. As defined in Figure 3.10-1 of the RDEIR/SDEIS, active faults are considered to have been active during Holocene time and to have a relatively high potential for surface rupture. A fault segment is a fault that is broken up into smaller faults. Branch faults are where two faults either separate or merge. Active faults in the Study Area are mapped in Figure 3.10-1 of the RDEIR/SDEIS. The project area includes only the area where project improvements under the build alternatives would be completed. Caltrans considers all quaternary faults in computing seismic hazards.

IP-43-51

Active faults in the Study Area are mapped in Figure 3.10-1 of the RDEIR/SDEIS.

IP-43-52

Caltrans annual average daily traffic (AADT) is defined as the total volume for the year divided by 365 days.[19] It is uncertain what the commenter is referring to regarding “Traffic or Vehicle volumes.” “Auto” is defined by Merriam-Webster (2018) as “automobile; a usually four-wheeled automotive vehicle designed for passenger transportation.” Average daily weekday volumes presented in Table 1.2-1 of the RDEIR/SDEIS represent traffic levels for a typical weekday (i.e., Monday through Friday, excluding holidays) as opposed to Saturday, Sunday, or Holiday levels. It is not intended to be an annualized average, which would be a metric labeled as Average Annual Daily Traffic or AADT. When collecting traffic counts, only Tuesdays, Wednesdays, and Thursdays are utilized to represent an average weekday. Calculations used to convert average weekday to an annual estimate vary depending upon the transportation mode or topic area under discussion. For example, to convert from an average weekday to yearly service estimate, one might use a multiplier of 312 days for transit service, or one might apply a multiplier of 250 days per year for trucks serving specific commercial enterprises that operate only on weekdays, excluding holidays.

[19] Caltrans. 2012. Traffic Census Program. 2012 Traffic Volumes. Website: http://www.dot.ca.gov/trafficops/census/volumes2012/ (accessed October 15, 2018).

IP-43-53

Please refer to Response to Comment IP-43-24 regarding the logical termini of the project.

IP-43-54

The forecasted increase in daily truck volumes on the I-710 segment between SR-60 and I-10 is 11,000 trucks per day for the No Build Alternative in 2035 compared to the 2012 Baseline. This is consistent with the forecasted increases in truck volumes for the segments of I-710 from the I-105 to the I-10, which range between 10,000-11,000 truck trips per day. Therefore, the increase in truck volume on this segment, while higher on a percentage basis than the neighboring segments, is no more significant than the forecasted increase in truck volumes on other segments of the I-710.

IP-43-55

Pacific Harbor Line, Inc., or PHL, provides rail transportation, maintenance and dispatching services to the Ports of Long Beach and Los Angeles. It provides the rail operations interface between the on-dock rail facilities at the Port terminals and the two Class 1 railroads serving the Ports via the Alameda Corridor. The information requested for PHL is at a level of detail greater than was needed to assess the I-710 Corridor Project in the RDEIR/SDEIS. Therefore, it has not been included in the study. Please refer to Section 1.9 of this appendix for more information regarding the Alameda Corridor and its interface with the I-710.

IP-43-56

The 2012 SCAG RTP/SCS was in effect at the outset of development of the EIR/EIS and the planning assumptions will be kept consistent. The I-710 Railroad Goods Movement Study was finalized in 2009 and has not been updated; however, more recent data were provided in the *I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology Technical Memorandum* (June 2017).

IP-43-57

The detailed information requested for projections of freight and container volumes for the years 2009 through 2017 were not required to assess the benefits, impacts, and costs of the I-710 Corridor Project build alternatives, which is based on information for a 2012 Baseline year and a 2035 forecast horizon year. The relevant freight demand information for those two years is included in the *Technical Memorandum – I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology* (June 2017).

IP-43-58

Please refer to Responses to Comments IP-43-2 and IP-43-7 regarding definitions for the referenced terms. A more detailed discussion of goods movement within the I-710 Corridor can be found in Section 1.2.1.5, Modal Interrelationships and System Linkages, of the RDEIR/SDEIS.

IP-43-59

Because containers come in various sizes for various purposes, a TEU (a 20-foot equivalent unit) is an industry-standard reference[20] and is generally used as an inexact unit of cargo capacity for descriptive purposes. Generally, a 40-foot container equals two TEUs. A 53-foot container is equivalent to 2.65 TEUs.

IP-43-60

The definition of the term transload is included in Appendix E and the definition of the term TEU is included in Appendix G of the RDEIR/SDEIS. Marine containers refer to those containers that are transported via ship, which are now typically 40 feet long and hence equal two TEUs. Larger domestic container refers to a standard 53-foot long cargo trailer that is in predominant use in the U.S. The cargo volume in three marine containers can generally fit into two domestic containers.

IP-43-61

Prior to approval, the RDEIR/SDEIS underwent a thorough editing process to ensure readability and usage of proper citations, references, and acronyms. The full text of references, a glossary of technical terms, and a list of acronyms/abbreviations were included as appendices to the RDEIR/SDEIS (Appendices M, E, and G, respectively). Appendix M, References, lists the sources of information that were also consulted in the preparation of, but not directly prepared for, the RDEIR/SDEIS. Appendix E, Glossary of Technical Terms, provides a full list of definitions for phrases and terms that may not be immediately known to the lay reader. Appendix G, List of Acronyms, provides a full list of acronyms used in the document. It should be noted that the definitions of each acronym used in the document were defined when the acronym was first used. Providing all definitions and references immediately within the body of the document would make the document cumbersome and repetitive.

[20] World Shipping Council. Partners in Trade. 2018. About the Industry. Containers. Website: http://www.worldshipping.org/about-the-industry/containers (accessed August 2, 2018).

IP-43-62

Please refer to Response to Comment IP-43-23 regarding the definitions of "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand".

IP-43-63

Please refer to Response to Comment IP-43-24 regarding the logical termini for the project.

IP-43-64

The following correction will be made to the text in Section 3.6.2.3 of the RDEIR/SDEIS:

> The elevation of the I-710 Corridor Project varies from near sea level in the south to approximately 280 feet above mean sea level near SR-60 (United States Geological Survey [USGS] 1994).

IP-43-65

The referenced documents are technical or engineering studies prepared in support of the project. Appendices H and M provide a list of the technical studies and a list of references consulted in the preparation of, but not directly prepared for, the RDEIR/SDEIS. Standalone technical studies listed in Appendix H were available for download from Caltrans' website at http://www.dot.ca.gov/d7/env-docs/docs/710corr-eir/. The technical studies were not included in the body of the document, nor the appendices, due to their large file sizes and the fact that doing so would make the document much longer and more cumbersome for the reader. It should also be noted that a select few technical studies contained confidential information and were therefore not made available to the general public.

IP-43-66

Please refer to Response to Comment IP-43-24 regarding the logical termini of the project.

IP-43-67

It is unclear what the commenter is requesting regarding improvements between Third Ave. and SR-60. However, the Preferred Alternative (Alternative 1 No Build) does not include the construction of a separate, freight-only corridor.

IP-43-68

The general Study Area was depicted on Figure 1.1-2. It is important to note that specific study areas have been established for individual environmental analyses (e.g., health risk assessment zone of influence, and community impact assessment focus area). "Project sites" within the

referenced context simply means the locations of the various projects analyzed in the cumulative analysis. The distance provided is an estimate.

IP-43-69

Please refer to Responses to Comments IP-43-18 and IP-43-19 regarding the maximum diversion of goods to rail and the map depicting the general Study Area for the project.

IP-43-70

Please refer to Response to Comment IP-43-5 for more information regarding the Study Area. Within the context of the referenced section, “project area” and “project site” are meant to be a generalized description of the location of a project and the potential area of impacts related to a relevant project.

IP-43-71

Please refer to Responses to Comments IP-43-18 and IP-43-19 regarding the maximum diversion of goods to rail and the map depicting the general Study Area for the project.

IP-43-72

Terminal Island as a whole straddles the two Ports and is partially between the City of Long Beach limits and the City of Los Angeles limits. The portion that touches the Gerald Desmond Bridge as described in the noted sentence is part of the Port and City of Long Beach. Therefore, no change has been made to this sentence at this time.

IP-43-73

The purpose of the traffic and air quality analyses presented in the RDEIR/SDEIS was to identify and disclose the potential impacts associated with the proposed project, including truck traffic, NO_X, and $PM_{2.5}$. The build alternatives only include the proposed transportation improvements to the I-710 Corridor between Ocean Blvd. and SR-60 as described in Chapter 2.0, Project Alternatives, of this Final EIR/EIS. Both SCIG and the SR-710 North Project are projects that have been incorporated in the future No Build Conditions (Alternative 1) in the analysis of the I-710 Corridor Project. This information is included as part of the No Build Alternative so that readers of the RDEIR/SDEIS can isolate and thus better understand the effects of the proposed I-710 Corridor Project build alternatives, including the cumulative effects. SCIG and the SR-710 North Project are separate, stand-alone projects and the commenter should consult the environmental documents prepared for those projects to understand in detail the truck traffic and air quality impacts of the “current, projected, and maximum: capacity for SCIG and SR-710” for each.

IP-43-74

Please refer to Response to Comment IP-43-73 regarding the SCIG and SR-710 north projects.

IP-43-75

Please refer to Response to Comment IP-42-4 regarding noise, vibration, and air pollutants.

IP-43-76

The earliest aerial photographs provided by EDR, Inc. are dated 1928. The scope of the ISA included review of the historical information provided by EDR, Inc.

IP-43-77

Primary Port truck trips refer to trips with one trip end at the Ports. Secondary transload truck trips refer to trips by trucks hauling a 53-foot domestic container from a transload facility to an intermodal railyard, another facility within the Los Angeles region, or to a destination outside of the region.

IP-43-78

Cargo, containers, freight and goods are not considered technical terms. Terms listed in the noted appendix (Appendix E, Glossary of Technical Terms) are limited to those that are technical in nature or have a context-specific definition.

IP-43-79

As described in more detail in Response to Comment IP-43-22, the Mercator report was not a technical study prepared in support of the I-710 Corridor Project, and is therefore correctly listed only in Appendix M, References.

IP-43-80

General phrases and words such as goods and cargo containers were not included in the index. Including every noun or phrase within the index would likely render it ineffective, and the index is not intended to be a concordance (a comprehensive list of every word that appears within the document).

Brad Jensen

From: CTWILLIAMS2012@YAHOO.COM
Sent: Monday, October 23, 2017 12:59 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: T Williams
Organization: Sierra Club Transport. Comte.
Phone: 3232218277
Mailing Address: 4117 Barrett Road
City, State: Los Angeles
Zip: 90032-1712
Comment/Question:
DATE: Monday, October 23, 2017
TO: Caltrans
http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/

CC: Ronald Kosinski, Caltrans Distr. 7, Div. Envir. Planning,
100 S. Main St., MS 16-A Los Angeles, CA 90012
Ron.Kosinski@dot.ca.gov
Garrett Damrath, Caltrans Distr.7, Div. Envir. Planning,
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Ca. Senate, Distr. , Kevin DeLeon
Los Angeles County Supervisors, Distr.1 firstdistrict@bos.lacounty.gov
Los Angeles County Supervisors, Distr.4 fourthdistrict@bos.lacounty.gov

Subject:I-710 Corridor Project Recirculated Draft EIR/ Supplemental Draft EIS
RE: Public Comments

The RDEIR/SDEIS is incomplete and inadequate and must be withdrawn, revised, and recirculated, again. IP-44-1

SPECIFIC COMMENTS.

es1-1/1 Within the I-710 Corridor Project Study Area (Study Area), the I-710 serves as the principal transportation connection for goods movement between POLA and POLB,...and the Burlington Northern Santa Fe (BNSF Railroad)/Union Pacific Railroad (UP Railroad) rail yards in...Commerce and Vernon.
DEFINE/PROVIDE "Goods Movement" rather than container, cargo, or freight movements. PROVIDE current and projected numerical levels for each. IP-44-2
DEFINE/PROVIDE "rail yards" for the Study Area and for area of I-210/SR-134 x I-605 x SR-1 x I-110/I-5, e.g., UPRR Piggy-Back/LA-Central. PROVIDE current and projected numerical levels for each. IP-44-3
PROVIDE current and projected numerical levels for each.
PROVIDE consistent abbreviation throughout document, e.g., UPRR & BNSF or BNSFRR. IP-44-4

es1-2/Figure The Study Area for the I-710 Corridor
PROVIDE functional basis for the SA boundary, especially the 710 corridor to I-10 and Valley Blvd. IP-44-5

es4-1/3 Highway congestion causes delays affecting personal mobility and goods movement and results in increased economic costs. Los Angeles Countyâ€™s goods movement system serves as a gateway for both international and

domestic commerce, especially within the Study Area, where POLA, POLB, and the BNSF/UP Railroad intermodal rail yards are located.
DEFINE/PROVIDE "Economic Costs" and "International Commerce" and "Domestic Commerce" related to the "Goods Movement System". IP-44-6
PROVIDE current and projected numerical levels for each.

es4-1/4 S.2.1.5 - Modal Interrelationships and System Linkages ...I-710 Corridor serves regional, statewide, and national needs for...the goods movement industry...is the principal transportation connection between POLB/POLA and the BNSF/UP Railroad intermodal rail yards...
DEFINE/PROVIDE for "Regional", "State", and "National" "goods movement industry". IP-44-7
PROVIDE current and projected numerical levels for each.

es4-1/Figure S.2.1.5-Modal Interrelationships and System Linkages Unnumbered graphic flow chart.
Goods are moved to and from the ports by both trains and trucks.
Figure not copiable, summarized as follows-

National Markets	Local Markets	State/SW Markets	National Markets
Rail			
	Off Dock Rail	Warehouse Transfer	National, State & Local Markets
Rail	Near Dock Rail		Rail Yard Destination

Ship To Train On Dock Rail Cranes Ships	Ship To Transfer (Drayage) Truck Cranes Ships	Ship To Regional Trucks Cranes Ships

DEFINE/PROVIDE for each linkage this In-Bound "Good", cargo, freight, and containers. IP-44-8
PROVIDE current and projected numerical levels for each Linkage, below.
Only for IN-BOUND, not including out-bound loaded and empties, PROVIDE same for "out-bound".
PROVIDE current, post-construction, and future 2035-40 numerical estimates/projections of sizes/weights of containers and non-containerized bulk goods/cargos/freights for each node in figure. IP-44-9

DEFINE/PROVIDE
- Off Dock-, Near Dock-, & On Dock-Rail
- Berth/Dock, Terminal and Port
- Current container throughput (in-/out-) for each dock/berth, terminal, and ports.
- Rail Yard Destinations - #/ft of transfer and aggregation tracks located in each "yard". IP-44-10
  - South of SR-134 and west of I-605
- Current/Most Recent container throughput (in-/out- & lengths, 20-53ft; not TEUs) for each "yard".
- Transfer (Drayage) & Regional Trucks, including class/power, ages, fleet, and trailer sizes/lengths.
- Current container In-/Out- by length, NOT TEUs) for each dock/berth, terminal, and ports.

es4-2/1 BNSF and UP Railroads provide freight movement to destinations throughout the United States. Together, POLB/POLA is one of the largest container ports in the world, and port activity is projected to nearly triple in volume by 2035. The I-710 Corridor also provides key interstate commerce connections to east-west freeways (I-405, SR-91, I-105, I-5, SR-60, and Interstate 10 [I 10])....no improvements are planned to these facilities except for possible improvements to I-5 (from Interstate 605 [I-605] through the I-710 interchange)....
DEFINE/PROVIDE and make consistent use for freight/containers and highway designations.
BNSF/UP RR; I-10 or I 10 or Interstate 605, or I-5 vs I 10????. IP-44-11
Port - singular...San Pedro Ports, PoLA & PoLB.

Freight, goods, cargos, or containers.
Triple Volume: containers, tons, $$$, total, in-, out-bound containers/tons.
"Possible" improvements for E-W roads, clarify for SR-710 and SR-60...yes or no. IP-44-11

es4-2/3 S.2.2 - Project Purpose The purpose of the I-710 Corridor Project is as follows:...4 â€¢ Accommodate projected traffic volumes 5 â€¢ Address increased traffic volumes resulting from projected growth in population and employment, and in economic activities related to goods movement.
DEFINE/PROVIDE and make consistent use for underlinedterms/phrases.
Singular with five (sub)purposes. Purposes-&-needs are for NEPA; Objectives are for CEQA documents.
Compare Purposes, Needs, Goals, and "Objectives"; e.g., Objectives: numerical and scheduled interim targets required to achieve Project Goals. IP-44-12

2-22/6 In 2013, the Gateway Cities COG and Metro developed an â€œI-710 Project Zero-Emission Truck Commercialization Studyâ€ in order to evaluate the ZE truck technologies which might meet the needs of the I-710 Corridor Project and drayage users, and develop a business and commercialization plan. The study concluded that â€œzero-emission capable drayage....
DEFINE/PROVIDE and make consistent use for underlined terms/phrases.
"Might"???
Purposes & NEEDS are for NEPA; Objectives are for CEQA documents. IP-44-13

2-59/2 The power systems...could include, but are not limited to, road-connected wayside power..., as well as ZE hybrid power sources...A pure fuel-cell truck (with auxiliary battery) would also qualify as a ZE truck....currently being demonstrated in California,...particularly in drayage operations. The freight corridor in Alternative 7 is ZE â€œtechnology neutralâ€ ...of ZE heavy-duty truck in commercial mass production....
DEFINE/PROVIDE and make consistent use for underlined terms/phrases, e.g., "Freight", "Goods", "Cargo", "Mass", "Drayage", "Heavy Duty",.... IP-44-14

SR-710
1-1/1 The existing I-710 freeway mainline...South of Pacific Coast Hwy. (State Route 1 [SR-1]), the facility is designated as State Route 710, whereas north of Pacific Coast Hwy., the facility is designated as I-710. Figure 1.1-1 shows the regional location.
DEFINE/PROVIDE: Mainline and "regional location" and its relationship to later "SCAG" region. IP-44-15
Error "SR-710" south of SR-1, typically given as SR-47/I-710, Seaside Freeway, & Ocean Blvd.. IP-44-16
1-3/Fig.1.1-1 "Project Location" as a box in legend, not single line on image. IP-44-17
No rail context is provided, although text states 710 Project depends of "maximum" diversion of containers to rail systems, and therefore truck elements depend on railroad. IP-44-18

1-5/ FIGURE 1.1-2 Project Study Area - Study area usually provided prior to the "Project" line.
Westerly boundary includes all of the Alameda Corridor within Study. REVISE/PROVIDE. IP-44-19

Containers/Projections
1-21/1 With regard to future demand for cargo containers to be transported to and from the Ports by rail instead of truck, the I-710 Railroad Goods Movement Study (February 2009) found that while railroads have employed a variety of operational strategies to meet increased container demand from the Ports, including longer trains with higher utilization rates, the railroad system will not be able to handle all of the cargo demand even with the rail system operating at maximum capacity. Therefore, any additional containers would be transported via truck, which increases travel demand by truck on I-710.
This reference is out-of-date and superseded by later studies. REVISE/PROVIDE projections of 2016-17 references and comparisons of all referenced projections. PROVIDE projections for all containers.
Define/schedule/quantify "railroad system...maximum capacity" and "additional containers" including in-/out-bound and loaded/unloaded-empty containers. IP-44-20

1-30/4 Today, the POLB and POLA, the railroads, and the trucking industry provide goods movement not just within the Study Area, but also for the SCAG region, California, and the nation as a whole. Growth at the Ports to accommodate increased cargo demand is constrained primarily by...1-31/1...port facilities, as well as the efficiency with which containers can be unloaded from ships and reloaded onto trucks and/or the railroads...together handled 14 million annual TEUs in 2015 and are projected to grow to handle approximately 41.4 million TEUs by 2035.\7 The I-710 Corridor Project Initial Feasibility Analysis (IFA) was prepared in December 2008...select a cargo forecast ...In 2013, the assumptions related to goods movement within the SCAG region were further developed and updated to more closely align with the changed economic conditions, drawing on the Updated Cargo Forecast (2009), the 2012 RTP Travel Demand Forecast Model (2012), the San Pedro Bay Ports estimates of marine terminal capacity (2013), port cargo market shares (2013), and truck trip distribution (2013). The Model Input Data and Key Assumptions Technical Memorandum for Goods Movement (May 2013) was then reviewed and discussed by the I-710 Technical Advisory Committee and the Port growth assumptions were approved for use in traffic forecasting performed in support of this RDEIR/SDEIS. These assumptions include a 2035 total annual cargo container throughput at both ports of 41.4 million TEUs, and the construction and/or implementation of both the BNSF Railroad Southern California International Gateway (SCIG) near-dock intermodal yard and the expansion of the UP Railroad near-dock Intermodal Container Transfer Facility (ICTF). Informed assumptions were also made about the behavior of cargo, including the
ratio of inbound to outbound containers,
on-dock and off-dock cargo shares,
cargo origin and destinations, and
cargo transloading (wherein cargo in international containers is transferred to domestic truck trailers at transload centers or warehousing located within the region).
DEFINE/PROVIDE:

1-30/4 For more detail regarding the key assumptions underlying the future forecast of traffic volumes, please refer to the following reports: I-710 EIR/EIS Initial Feasibility Analysis (December 2008), the I-710 Railroad Goods Movement Study Technical Memorandum (February 2009), the Data and Key Assumptions Technical Memorandum for Goods Movement (May 2013), and the I-710 Corridor Project Travel Demand Modeling Methodology Report (June 2017).
DEFINE/PROVIDE "key

IP-44-21

1-30/4 Since the development of these assumptions, a comprehensive long-term unconstrained cargo forecast for the San Pedro Bay Ports was completed in February 2016 (Mercator 2016). This information was not available in time for incorporation into the technical analyses that informed this RDEIR/SDEIS (i.e., the travel demand forecasting was completed in 2014-15). The Mercator projection forecasts slower overall growth for the Ports than was forecast in previous studies, with the expected â€œbase caseâ€ scenario reaching approximately 34.3 million TEUs by 2035, and 41.1 million TEUs by 2040. However, the difference of 0.3 million TEU between the unconstrained Mercator forecast and the throughput assumption utilized for the I- 710 Corridor Project is not anticipated to substantially affect the traffic or other analyses performed for the project, as both scenarios project growth at the Ports beyond their current...
This reference is limited to only the Executive Summary without publicly available. REVISE and PROVIDE projections in the full report and reference.
DEFINE/PROVIDE:

IP-44-22

1-32/2 Based on the port cargo demand forecasts and how much of that cargo can be handled through maximum utilization of the railroad system (including expanded on-dock rail facilities at the Ports), there is still a high demand for movement of cargo containers by truck on the highway system, specifically I-710.

3.7-15/2 Additionally, the Archaeological Sensitivity Study (2017) was conducted to identify areas with a higher potential occurrence of prehistoric and historic archaeological resources within the original and Supplemental APEs. This study incorporated data from pedestrian surveys of accessible, undeveloped portions of the Supplemental APE; a review of historical maps and aerial photos; literature research; and a â€œproximity analysis.â€
DEFINE "I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand".

IP-44-23

As no project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd ave., compared to SR-60.
REVISE/PROVIDE throughout document. IP-44-24

3.12-3/4 The ISA included a search of government records to obtain a listing of properties or known incidents from State, Federal, or local regulatory databases for hazardous waste sites within the ISA Study Area, review of reasonably ascertainable historical information sources (aerial photographs,...), and a site survey of the proposed right-of-way for the build alternatives to identify readily visible contamination.
Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search limited to within a one-mile radius (i.e., ASTM International [ASTM] standard) of the I-710 Corridor Project for facilities listed by regulatory agencies as potentially having environmental concerns. Due to the amount of properties identified in the records search (over 1,000 properties), no file reviews were conducted at the various State, Federal, or local regulatory agencies. IP-44-25
DEFINE REVISE/PROVIDE for "reasonable" and "ascertainable" throughout document.
First part of paragraph contradicts (a search wasconducted) the latter say NO REVIEW; REVISE/PROVIDE. IP-44-26
EDR aerial photos include 1923 (USArmy Air Serv.), also on wall of LA City Hall, Rm 525B) which were used by LA Plan.Dpt. for both historic resources and haz-mat...but not here. IP-44-27
aerial photos of pre-highway construction uses and potenti "I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand".
As no project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd Ave., compared to SR-60. IP-44-28

3.10-1/1 3.10 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY The information...based on the following documents:
Geotechnical Final Report (January 2010)
Geotechnical Memorandum (...Transportation Division of Engineering Services, Geotechnical Services [May 2010]), for the northern portion of the Study Area Water Quality Assessment Report (March 2017).
DEFINE - "documents" vs "Technical Reports" and "References" in appendices IP-44-29
These reports are out-of-date...Geotechnical Final Report (URS, January 2010) is in Appendix H and has not been updated in 5+ years. IP-44-30
REVISE/PROVIDE up-to-date geotechnical setting, seismicity, and geological context.

3.10-7/4 No laboratory data is available regarding the expansion potential of site soils; however, based on review of the existing bridge Logs of Test Borings (LOTBs) for sites within the project area, the soils...are not highly expansive, but some fine grained soils susceptible to high degrees of expansion do exist.
DEFINE/REVISE/PROVIDE LOTBs, "highly expansive", "some fine grained soils", "susceptible to high degrees of expansion", "do exist"[locations] I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand". IP-44-31

3.10-7/5 Collapsible soils...metastable soil structures that are susceptible to collapse upon saturation.....Since no laboratory data is available regarding the collapsibility of soils in the area, it is not known if collapsible soils are present; however, the area is not known from existing mapping to have collapsible soils.
DEFINE "metastable" and "collapsible" soil and provide known examples with Study Area. IP-44-32
PROVIDE listing and coverage of relevant "existing mapping".
REQUIRE relevant measures to mitigate the lack of appropriate mapping and DATA. IP-44-33

3.10-9 Figure 3.10-1 Fault Zones Source: ESRI (2015); AECOM (2016)
3.11-5 Figure 3.11-1 Geologic Map Source: Saucedo, et al. (2003); Yerkes and Campbell (2005)
Two figures differ for Newport Fault Zone.
PROVIDE consistent coverage and locations of all known faults within the Study area. IP-44-34

3.10-11/Table 3.10-1 : Potential Seismic Sources
Fault Approximate Closest Distance to the Study Area (miles)

...maximum earthquake magnitudes and other fault parameters...
Table 3.10-1...currently being considered for seismic design of the I-710 Corridor Project.
Source: URS. I-710 Corridor Project Geotechnical Final Report (January 2010).
FN\1 Maximum moment magnitude earthquake reported by Caltrans (2009 ARS Online Website).
2 Distance noted is the closest distance to the surface trace of the fault...Caltrans (2009 ARS Online).
3 ...blind thrust fault that does not rupture the ground surface.
...distance to the upper limit of the rupture plane in the subsurface calculated using the fault location from Shaw et al. (2002) and the depth to top of rupture plane from Wills et al. (2008).
4 ...distance noted is the closest distance to the rupture plane in the subsurface calculated using the fault location provided in the Community Fault Model (2004)...depth to top of rupture plane from Wills et al. (2008).
DEFINE "potential" and "closest" vertically/horizontally and provide examples within Study Area; "currently being considered" with regard to ground acceleration for road and raised structures. | IP-44-35
PROVIDE listing/plotted epicenters of recorded seismic events - SCEqCtr. see listing below - and maps of projected surface and bedrock rupture planes. | IP-44-36
PROVIDE updated revised "I-710 Corridor Project Geotechnical Final Report" to mitigate the lack of appropriate mapping and DATA. | IP-44-37

3.10-11/2 The Newport-Inglewood Fault Zone consists of several fault segments and branch faults...in the project area: the Cherry Hill, the Pickler, the Northeast Flank, and the Reservoir Hill. The Cherry Hill Fault crosses the Study Area near the I-710/I-405 intersection.
DEFINE "several" and "segments"/"branch faults", "project area", and "Study area" for this and ALL faults within both the Project Area and Study Area, if different. | IP-44-38
PROVIDE listing/plotted fault segments, branches, and projections of ALL fault planes, especially in or adjacent to abandoned/producing oil fields. | IP-44-39

3.10-11/2 The Puente Hills Fault is a northerly dipping blind thrust fault...three distinct segments: Los Angeles, Santa Fe Springs, and Coyote Hills....Los Angeles segment trends beneath the Study Area,.... At its western end, the Santa Fe Springs segment...east of the I-710/I-105 interchange.
DEFINE/DELINEATE " dipping blind thrust fault", "distinct segments", and "Coyote Hills"/"branch faults", "project area", and "Study area" for this and ALL faults within Study Area. | IP-44-40
Coyote Hills is NOT shown in Fig. 3.10-1, but shown in Table 3.10/1. | IP-44-41
PROVIDE listing/plotted fault segments, branches, and projections of the Puente Hills Fault planes, especially in or adjacent to abandoned/producing oil fields and those associated with the Compton Fault. | IP-44-42

3.10-11/2 The Compton [C.-LosAlamitos & C.Blind Thrust] Fault extends northwest-southeast...At its closest point, this fault is less than one mile southwest of the southern end of the Study Area.
DEFINE/DELINATE "several" and "segments"/"branch faults", "project area", and "Study area" for the Compton Fault WITHIN the Study Area, not SW of END. | IP-44-43
PROVIDE listing/plotted fault segments, branches, and projections of the Compton fault planes, especially in or adjacent to abandoned/producing oil fields and those associated with the Compton Fault. | IP-44-44

3.10-12/1 The Palos Verdes Fault is a northwesterly trending fault that extends...southeasterly across the Palos Verdes Peninsula...offshore along the coast...Fault is...four miles southwest of the south end of the Study Area.
Not shown on Figure 3.10/1, but shown in Table 3.10/1. | IP-44-45
No discussion of Lower Elysian Park Blind shown in Figure 3.10/1 and Table 3.10/1. | IP-44-46
No mention of SCEqC recorded/located to these and others. | IP-44-47
DEFINE/DELINEATE "several" and "segments"/"branch faults", "project area", and "Study area" for this fault beyond the Study Area. | IP-44-48
PROVIDE listing/plotted fault segments, branches, and projections of ALL fault planes, especially south of the Study Area, SR-1, and shorelines. | IP-44-49

3.10-13/5 ...geotechnical constraints...include:

...ground accelerations due to...active faults and fault zones, including the Newport-Inglewood (Cherry Hills Fault), Puente Hills, Compton, and Palos Verdes Faults.
Fault rupture associated with the Cherry Hill segment of the Newport-Inglewood Fault Zone.
Liquefaction and seismically induced settlement in areas of shallow groundwater and loose alluvial soils.
Most of the Study Area is within an area identified as having the potential for liquefaction.
Earthquake-induced slope instability...liquefaction in areas of moderate to high liquefaction potential and near slopes such as the Los Angeles River.
DEFINE "acceleration", "active" and "segments"/"branch faults", "project area", and "Study area" for this and ALL faults within Study Area. | IP-44-50
PROVIDE listing/plotted fault segments, branches, and projections of ALL fault planes, especially in or adjacent to abandoned/producing oil fields. | IP-44-51

EXAMPLE from SCEqCenter - http://scedc.caltech.edu/.

```
#    YYY/MM/DD HH:mm           MAG     LAT      LON      DEPTHkm
1933/05/17 11:22:41.33 eq  l 3.39 l   33.97317 -118.43300   6.0
1933/05/18 16:32:07.70 eq  l 2.24 l   33.98783 -118.43183   6.0
1934/03/06 21:46:32.80 eq  l 2.60 l   33.97533 -118.45417   6.0
1934/03/08 20:34:41.29 eq  l 2.09 l   33.96500 -118.44633   6.0
1934/06/25 05:53:02.90 eq  l 2.72 h   33.98500 -118.45900   6.0
1934/08/26 05:39:54.37 eq  l 1.12 h   33.98950 -118.40967   6.0
1935/08/15 10:00:57.96 eq  l 2.25 l   33.96667 -118.44500  17.3

1936/10/25 21:52:00.00 eq  l 2.11 l   33.96567 -118.41050   6.0
1936/12/11 11:12:34.00 eq  l 1.88 l   33.98717 -118.41333   6.0
1939/07/22 16:29:38.30 eq  l 2.29 l   33.96250 -118.39350   0.0
1940/03/14 18:29:09.09 eq  l 2.42 l   33.97667 -118.40900   6.0
1945/02/06 22:56:11.30 eq  l 3.35 l   33.98883 -118.45500  13.5

1947/06/16 15:59:37.58 eq  l 2.51 l   33.99067 -118.44067  15.0
1947/07/10 07:16:28.11 eq  l 2.24 l   33.96100 -118.39383   6.0
1949/12/10 15:46:54.98 eq  l 3.15 l   33.98650 -118.49650
1949/12/13 05:25:07.24 eq  l 2.97 l   33.97900 -118.49783   6.0
1949/12/26 14:27:40.54 eq  l 2.80 l   33.96217 -118.43433   0.1
1950/11/12 05:05:33.38 eq  l 2.75 l   33.97500 -118.44000   1.2
1950/11/16 01:59:19.46 eq  l 2.96 l   33.97450 -118.40217  10.7 B  3342276   21    0
1950/11/17 03:46:41.58 eq  l 1.84 l   33.96933 -118.39200   0.2

1954/04/29 21:39:04.70 eq  l 1.55 h   33.97767 -118.39783   6.0 C  3299853    6    0
1954/06/24 07:16:33.18 eq  l 1.91 h   33.99067 -118.40000   2.5
1959/03/29 23:42:37.53 eq  l 2.53 l   33.97483 -118.48300   6.1 C  3297022   27    0
1964/05/26 19:38:32.91 eq  l 2.58 l   33.96700 -118.39567   0.0
1965/03/22 07:48:32.99 eq  l 2.26 l   33.98550 -118.45783   6.0 C  3330664    6    0
1970/03/01 05:44:23.11 eq  l 3.44 l   33.98783 -118.43083   6.0 C  3324644    9    0

1971/01/22 07:35:55.34 eq  l 1.88 h   33.98483 -118.41717   6.0 D  3323451    4    0
1971/12/03 21:31:28.96 eq  l 2.36 h   33.96283 -118.39767  11.3 B  3321746   14    0
1972/05/07 13:13:44.75 eq  l 2.44 l   33.96500 -118.47433   6.9 B  3321388   20    0
1973/12/09 15:36:14.42 eq  l 2.16 h   33.98167 -118.39817   3.7 A  3318748   24    0
1975/07/07 13:59:08.95 eq  l 2.97 l   33.96800 -118.39300  11.0 B  3022943   46    0
1975/07/22 12:24:34.09 eq  l 2.12 h   33.98800 -118.40600   2.4
```

1977/06/03 18:49:55.13 eq l 1.90 h 33.97300 -118.48683 13.2 C 9980338 30 0
1978/09/05 09:48:54.92 eq l 1.85 c 33.99000 -118.43283 5.6 C 3341610 11 41
1979/02/23 17:34:59.32 eq l 1.70 h 33.96383 -118.46350 6.0 C 3346300 14 45
1979/10/05 13:02:27.94 eq l 2.02 l 33.97283 -118.40417 13.1 A 3351885 20 88
1980/05/02 01:43:03.29 eq l 1.80 h 33.97633 -118.42667 8.7 C 3328497 12 50

1981/01/12 09:29:48.84 eq l 1.88 h 33.98317 -118.39483 2.9
1981/03/10 08:20:12.70 eq l 1.55 h 33.99117 -118.41283 4.8 C 531080 13 70
1981/10/24 23:43:19.36 eq l 1.63 c 33.96450 -118.46633 11.4 A 526069 17 53
1984/03/28 09:41:19.97 eq l 1.75 c 33.97900 -118.47800 12.5 C 35062 11 46
1985/03/02 04:53:48.71 eq l 2.42 c 33.98400 -118.44300 7.4 C 61880 18 152
1985/05/18 07:19:52.94 eq l 1.70 n 33.96100 -118.48500 12.1 B 66684 10 33

1986/05/10 11:42:44.65 eq l 2.38 c 33.97200 -118.44000 8.0 A 124131 26 89
1986/09/19 11:35:02.00 eq l 1.88 c 33.98700 -118.39900 6.1 C 709608 18 41
1986/09/29 14:57:16.27 eq l 1.91 h 33.98300 -118.40700 5.2 D 128724 6 0
1986/12/29 16:05:22.85 eq l 2.09 c 33.96700 -118.50000 13.1 A 715193 16 43
1987/05/12 17:18:59.24 eq l 2.10 c 33.96000 -118.48700 7.7 B 722018 18 51
1987/12/04 11:17:56.91 eq l 2.03 c 33.97400 -118.46900 5.9 A 737899 26 71
1988/06/11 04:56:40.69 eq l 2.34 c 33.97900 -118.44800 5.6 C 640836 21 102
1988/06/13 15:42:22.13 eq l 2.50 c 33.97200 -118.45100 12.7 A 640954 25 146
1989/07/16 21:35:00.87 eq l 2.21 c 33.97500 -118.39900 13.0 A 1034859 20 43
1989/10/13 01:03:49.52 eq l 2.42 l 33.97200 -118.43500 7.3 A 669460 40 188
1990/03/29 15:18:55.36 eq l 1.70 n 33.98900 -118.50000 4.9 C 1056326 9 17

1992/01/23 04:42:44.38 eq l 2.00 c 33.97100 -118.39600 3.0
1992/08/15 18:55:55.38 eq l 1.70 h 33.98600 -118.47000 8.1 C 3054426 11 48
1993/03/04 06:20:36.02 eq l 1.38 c 33.97900 -118.41800 4.2 A 3094647 13 46
1993/06/19 09:21:47.90 eq l 1.62 c 33.98900 -118.40100 6.5 C 3110534 19 97
1993/09/29 10:46:24.29 eq l 2.07 c 33.98900 -118.41700 5.9 C 2125058 50 338
1994/01/12 05:08:37.27 eq l 2.20 c 33.98700 -118.49900 7.0 C 3139977 47 215
1994/01/12 18:41:06.52 eq l 1.96 c 33.98600 -118.49200 12.3 A 3140041 15 92
1994/02/16 04:35:46.69 eq l 1.53 c 33.97500 -118.43700 12.5 A 3152624 11 57
1994/03/08 23:33:38.00 eq l 1.80 c 33.96700 -118.41300 12.7 A 3157387 45 185
1994/05/24 12:12:37.52 eq l 1.78 c 33.96100 -118.41800 15.0 A 3168897 18 193
1994/07/21 22:57:50.76 eq l 2.68 l 33.97300 -118.43900 11.9 A 3177034 103 399
1994/07/21 23:16:29.64 eq l 1.54 c 33.96600 -118.43800 12.7 A 3177035 24 88
1994/07/22 00:49:45.28 eq l 1.33 c 33.98300 -118.44000 1.1
1994/09/04 01:55:30.27 eq l 1.31 c 33.96700 -118.43100 10.3 A 3183243 12 91
1994/09/04 06:36:48.34 eq l 1.74 c 33.96800 -118.42200 7.8 A 3183263 28 218
1994/10/03 08:22:50.88 eq l 1.23 c 33.96800 -118.41600 0.9
1994/12/11 10:48:26.17 eq l 3.46 l 33.98900 -118.43500 14.0 A 3196283 84 421
1994/12/17 11:27:50.45 eq l 1.59 c 33.97600 -118.43100 12.8 A 3197237 20 229
1995/01/13 11:49:44.82 eq l 2.10 c 33.98600 -118.45300 14.5 A 3199948 37 262
1995/01/21 21:09:30.59 eq l 1.62 c 33.97200 -118.42500 13.0 A 3200852 34 173
1995/01/23 22:24:20.37 eq l 1.60 c 33.96100 -118.40000 13.7 A 3201029 16 85
1995/01/24 00:41:24.08 eq l 2.10 c 33.97500 -118.43500 13.2 A 3201045 47 215
1995/02/23 21:02:10.74 eq l 1.79 c 33.97400 -118.45400 11.1 A 3204443 17 180
1995/03/22 00:03:32.28 eq l 1.98 c 33.97100 -118.43800 13.0 A 3207480 29 215
1995/04/12 09:09:28.71 eq l 1.48 c 33.99000 -118.40700 12.6 A 3209709 38 157
1995/06/21 05:53:30.74 eq l 2.00 c 33.97800 -118.44100 11.3 A 3217086 42 240
1995/06/21 12:41:11.91 eq l 1.53 c 33.98300 -118.43600 13.2 A 3217106 18 126

1995/06/26 03:05:05.63 eq l 1.20 h 33.98100 -118.44100 13.2 A 3217575 8 66
1995/06/27 03:39:12.54 eq l 1.70 c 33.97500 -118.43800 12.8 A 3217726 35 216
1995/06/27 07:01:54.92 eq l 1.53 c 33.97700 -118.43800 13.3 A 3217739 31 149
1995/07/27 11:26:03.13 eq l 1.73 c 33.97000 -118.43000 14.4 A 3222279 26 215
1995/12/14 12:40:13.56 eq l 1.45 c 33.96300 -118.40600 2.7
1995/12/18 11:28:15.15 eq l 1.67 c 33.96100 -118.40500 13.8 A 7011812 46 180

1996/05/03 09:49:30.50 eq l 1.22 c 33.97900 -118.42900 10.3 A 3263602 16 54
1996/07/10 20:51:12.89 eq l 2.04 c 33.96300 -118.47000 13.8 A 3270197 22 163
1996/07/14 14:27:51.68 eq l 1.59 c 33.98100 -118.40200 11.3 A 3270512 25 121
1997/08/14 19:37:35.65 eq l 1.43 c 33.96100 -118.39700 11.4 A 9019897 22 85
1997/10/25 00:14:38.69 eq l 1.35 c 33.96000 -118.46800 12.0 D 9027999 14 75
1998/01/12 06:55:12.34 eq l 1.95 c 33.97000 -118.40800 12.5 A 9039552 40 168
1998/05/10 18:02:11.32 eq l 1.43 c 33.98800 -118.40700 5.3 C 9053398 19 73
1998/05/10 18:02:33.62 eq l 1.61 c 33.99000 -118.41000 5.2 C 3298802 21 73
1998/11/26 10:28:30.56 eq l 1.97 c 33.97000 -118.45100 13.1 B 9072400 21 145
1998/12/15 06:31:29.53 eq l 1.40 h 33.98600 -118.43300 14.5 A 9073676 14 100
1999/06/27 16:38:13.88 eq l 2.01 l 33.99100 -118.40000 13.4 A 9093643 29 198
2000/03/09 17:36:48.93 eq l 1.15 l 33.96800 -118.48000 -1.1
2000/04/25 11:11:10.29 eq l 1.67 l 33.98000 -118.45200 14.4 A 9148441 36 114
2000/09/16 13:24:41.33 eq l 3.08 l 33.97600 -118.41950 12.7 A 9163314 77 1873
2000/09/18 12:29:58.15 eq l 1.00 h 33.97900 -118.42900 13.9 A 9163470 14 264

2001/09/30 06:49:57.02 eq l 1.68 l 33.96383 -118.41450 16.4 A 9709749 29 386
2002/01/26 16:52:14.78 eq l 1.76 l 33.96583 -118.41033 13.0 A 12299456 29 421
2002/04/22 09:51:32.03 eq l 1.45 l 33.99083 -118.39317 15.3 A 12880132 22 332
2002/11/12 02:28:26.56 eq l 2.21 l 33.96483 -118.40867 15.5 A 13909816 46 714
2003/03/24 15:29:59.60 eq l 1.71 l 33.97000 -118.40500 12.8 A 13949560 27 439
2004/04/22 06:51:51.34 eq l 1.83 l 33.96817 -118.42100 14.0 A 14048596 32 463
2004/08/11 20:35:18.87 eq l 1.72 l 33.98000 -118.42683 13.9 A 10037393 35 489
2005/06/06 21:25:22.51 eq l 1.77 l 33.97783 -118.44917 15.7 A 14150296 26 380
2005/06/23 10:32:11.23 eq l 2.81 l 33.97967 -118.42483 15.6 A 14157476 113 1868
2005/11/10 17:55:58.59 eq l 1.56 l 33.98133 -118.40350 13.9 A 14197392 13 396
2005/11/14 06:32:05.52 eq l 1.60 l 33.96950 -118.40383 16.6 A 14197896 21 363

2007/09/01 21:20:56.66 eq l 1.60 l 33.97383 -118.42700 13.6 A 10275553 37 340
2008/01/12 05:47:18.51 eq l 1.91 l 33.97833 -118.45217 13.8 A 14342380 87 812
2008/03/27 12:13:16.91 eq l 2.43 l 33.98083 -118.40083 11.8 A 14358372 133 1247
2008/10/22 22:03:33.87 eq l 2.51 l 33.98917 -118.43083 11.8 A 10355397 63 1409
2009/01/24 03:42:44.05 eq l 3.30 l 33.97900 -118.46117 11.1 A 10373093 233 1775
2009/01/24 04:50:45.60 eq l 1.74 l 33.98033 -118.47317 12.5 A 10373097 70 464
2009/03/11 18:10:31.27 eq l 1.30 l 33.99017 -118.49467 4.9 C 10380741 18 278 XXXXXXXXXXX
2009/04/19 04:08:44.20 eq l 2.19 l 33.98317 -118.47000 12.1 A 10397393 80 1278
2009/04/19 05:02:37.64 eq l 1.18 l 33.98333 -118.47233 11.6 A 10397425 16 418
2009/04/29 09:59:31.49 eq l 1.10 l 33.98350 -118.47700 13.5 A 10402329 28 382
2009/06/07 09:02:58.77 eq l 2.25 l 33.98117 -118.42333 15.4 A 10121842 107 1411
2009/08/02 14:08:12.83 eq l 1.64 l 33.97400 -118.46833 10.4 A 14494568 38 1346
2009/09/18 05:47:26.23 eq l 1.35 l 33.97233 -118.47600 13.7 A 14511796 33 1791
2009/12/18 07:06:10.13 eq l 1.96 l 33.96733 -118.44067 15.5 B 14560756 16 112
2009/12/27 09:42:24.28 eq l 0.84 l 33.98267 -118.47100 12.9 B 14564428 12 1517
2009/12/27 12:39:47.21 eq l 1.63 l 33.98867 -118.45733 9.0 A 14564452 39 1764
2010/05/06 21:13:50.90 eq l 1.82 l 33.96000 -118.40167 13.8 A 14696876 33 1710

2010/09/09 11:37:56.12 eq | 1.61 | 33.98317 -118.46650 10.3 A 10794749 26 167

2011/04/10 11:29:43.87 eq | 1.30 | 33.96250 -118.40733 15.1 A 10922973 23 1611
2011/07/28 10:43:58.24 eq | 1.27 | 33.98483 -118.42817 13.8 A 10983221 26 1662
2011/09/21 05:00:00.28 eq | 1.63 | 33.98617 -118.48200 12.7 A 11009837 25 1756
2011/09/21 12:37:48.76 eq | 1.45 | 33.97567 -118.48983 13.8 A 11009973 31 1563
2011/12/21 17:06:22.68 eq | 2.43 | 33.97783 -118.41300 11.2 A 11045309 52 2075
2012/06/30 02:30:11.79 eq | 1.11 | 33.98750 -118.41500 9.7 C 11129050 19 1634
2012/07/25 10:18:41.86 eq | 3.55 w 33.96350 -118.40700 10.7 A 15182841 180 1701
2012/07/25 12:27:29.26 eq | 2.33 | 33.96283 -118.40483 10.4 A 15182873 53 1668
2012/07/25 12:46:23.85 eq | 1.41 | 33.96283 -118.39617 9.9 C 15182881 26 1623
2012/08/18 10:39:45.84 eq | 0.90 | 33.96083 -118.40200 11.1 B 15194513 21 1188
2012/08/20 14:02:40.07 eq | 2.05 | 33.96550 -118.39817 9.7 A 15195369 47 2113
2012/10/15 22:38:34.27 eq | 1.83 | 33.97083 -118.41917 8.3 A 15230857 40 1937
2012/11/20 10:50:17.57 eq | 1.27 | 33.96183 -118.41983 9.0 A 11206266 26 1700
2012/11/26 09:58:46.09 eq | 1.39 | 33.97500 -118.48967 11.6 B 11208690 20 1866
2012/12/15 03:01:53.75 eq | 1.35 | 33.96300 -118.41217 8.9 A 15264081 35 1899
2012/12/19 09:07:38.15 eq | 1.79 | 33.96400 -118.40117 10.4 A 15265761 26 1923
2013/04/05 16:14:15.72 eq | 1.81 | 33.96750 -118.42817 10.7 A 11279866 38 2002
2013/05/17 03:28:24.31 eq | 1.44 | 33.96367 -118.42000 11.9 A 15344505 36 1898
2013/07/01 04:32:01.72 eq | 2.72 | 33.96100 -118.41533 11.5 A 11328642 160 2230
2013/07/01 06:11:54.60 eq | 1.92 | 33.96533 -118.42333 10.7 A 11328674 51 2028
2013/07/01 06:16:10.55 eq | 1.38 | 33.96267 -118.41883 11.4 A 11328682 47 1683
2013/07/02 15:25:01.72 eq | 1.87 | 33.96767 -118.43333 10.6 A 11329234 33 2060
2013/07/21 16:44:38.48 eq | 1.93 | 33.96000 -118.42417 11.3 A 11337538 60 2056
2013/08/19 08:39:23.23 eq | 1.16 | 33.96217 -118.42500 11.8 A 15393633 34 1767
2013/09/05 11:13:00.11 eq | 1.59 | 33.97850 -118.40217 10.8 A 11359930 27 1595
2013/10/13 12:29:14.82 eq | 1.36 | 33.96233 -118.41150 8.7 A 11377146 31 1846
2013/11/14 04:56:45.03 eq | 1.63 | 33.96367 -118.42800 10.3 A 11391514 37 1901
2013/12/19 15:53:39.13 eq | 2.75 | 33.98233 -118.44567 9.2 A 15445609 109 2315
2014/01/03 19:47:59.92 eq | 3.01 | 33.98200 -118.45250 11.1 A 11409738 141 2330
2014/01/08 05:33:43.88 eq | 2.36 | 33.97883 -118.45317 11.1 A 11411490 109 2158
2014/01/18 19:19:14.61 eq | 1.17 | 33.97150 -118.43883 7.6 A 11415274 20 1676XXXXXXXX
2014/01/21 19:03:10.77 eq | 2.00 | 33.96500 -118.42233 11.8 A 11416290 48 2071
2014/03/08 04:16:31.44 eq | 3.13 | 33.96983 -118.42817 9.7 A 15473729 103 2331
2014/03/10 00:46:58.29 eq | 1.55 | 33.97117 -118.43200 9.0 A 15474385 29 1838
2014/04/18 12:21:33.79 eq | 1.39 | 33.97700 -118.40567 12.0 A 37213344 37 1736
2014/08/02 01:13:17.07 eq | 1.27 | 33.96917 -118.42150 10.5 A 15533657 26 2058
2014/10/02 04:04:25.76 eq | 1.72 | 33.97617 -118.44617 12.9 A 37046799 47 2237
2014/10/27 14:43:14.29 eq | 1.59 | 33.97983 -118.41383 11.1 A 37282872 21 2468
2015/03/22 18:26:40.93 eq | 1.51 | 33.96317 -118.43700 11.7 A 37345920 37 2091
2015/05/22 10:32:53.30 eq | 1.49 | 33.97217 -118.41750 9.8 A 37385160 44 1855
2015/05/27 12:52:48.75 eq | 1.51 | 33.96733 -118.41967 10.5 A 37388200 53 1967
2015/08/22 01:53:30.34 eq | 1.10 | 33.97717 -118.44233 14.7 A 37230927 28 1532
2015/09/05 04:55:33.01 eq | 2.69 | 33.99083 -118.42567 10.2 A 37237983 110 2897
2015/10/06 08:36:26.13 eq | 1.81 | 33.98800 -118.44000 10.0 A 37253751 94 2308
2015/10/06 08:38:24.50 eq | 1.14 | 33.98950 -118.44350 10.0 A 37253767 59 1693
2015/12/22 10:00:23.58 eq | 1.88 | 33.97650 -118.42883 9.5 A 37287519 100 2237

2016/03/07 23:02:04.00 eq | 1.29 | 33.97133 -118.42183 14.0 A 37315271 33 2003
2016/05/16 22:09:40.06 eq | 1.37 | 33.98983 -118.46083 11.8 A 37569096 25 1407
2016/07/20 18:59:05.96 eq | 1.61 | 33.99150 -118.43283 10.1 A 37419671 43 2359

2016/07/21 04:02:55.61 eq l 1.40 l 33.96133 -118.46800 16.6 B 37419959 20 2303
2016/10/20 07:41:50.51 eq l 1.31 l 33.96883 -118.42250 10.3 A 37720080 38 1895
2016/10/20 08:26:20.86 eq l 1.37 l 33.97150 -118.44150 9.5 A 37720112 58 1799
2017/01/26 23:08:46.30 eq l 1.83 l 33.97067 -118.40383 11.1 A 37574167 74 2399
2017/03/29 06:10:08.02 eq l 2.07 l 33.98150 -118.40233 10.2 A 37843624 139 2750
2017/04/07 01:40:53.57 eq l 1.57 l 33.97800 -118.42000 10.4 A 37851144 67 2492

1-10/Table 1.2-1: I-710 Average Daily (Two-Way) Traffic Volumes Auto Truck Total
Source: AECOM. I-710 Corridor Project Traffic Operations Analysis Report (March 2017).
Caltrans DEIR/DEIS 2016 & TSM/TDM as the Locally Preferred Alternative, 2017 used Vehicle/Annual average daily volume of 180,000 vpd with truck representing 80-90,000 cars and PCEs of 2.2-2.5 v/truck
DEFINE "Average Daily" (week-day: 260 days; or 365 days), Traffic or Vehicle volumes; "auto". IP-44-52
As no/few project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd Ave., compared to SR-60. IP-44-53
As no terminal segment of I-710 is included (with or without SR-710), the diversion of 9000-20,000 trucks appears as or more significant than the 11,000 - 10,000 trucks... and those for the I-5: 2000-3000 trucks. IP-44-54
REVISE/PROVIDE throughout document.

1-38/1 RAILROADS....rail network in the SCAG region, including the Study Area, is composed of BNSF and UP Railroad rail lines, terminals/yards, and on-dock rail terminals at the Ports. Rail routes include the Alameda Corridor, BNSF Railroadâ€™s San Bernardino Subdivision, and UP Railroadâ€™s Los Angeles and Alhambra Subdivisions.
No reference to Pacific Harbor Line, PHL. COMPARE/PROVIDE full description of current, projected, and maximum capacities...for both in-/out-bound. IP-44-55

1-38/1 The I-710 Railroad Goods Movement Study (2009)...projected demand in the movement of containerized freight...developing the 2035 travel demand forecasts for the I-710 Corridor Project...port cargo and operational characteristics of the railroads,...assumed that approximately 34.4 percent of the cargo growth (approximately 14.1 million annual TEUs) in 2035...either on-dock or off-dock intermodal terminals.\11...2015, the Alameda Corridor was operating 38 trains per day,\12...By 2035, the Alameda Corridor is projected to be operating 108 trains daily...sufficient capacity to handle the projected traffic. As of 2010, BNSF Railroadâ€™s San Bernardino Subdivision operated up to 99 trains per day (45 freight trains and 54 commuter trains) in its most heavily trafficked segments. By 2035, BNSFâ€™s San Bernardino Subdivision...operating up to 189 trains daily....\13 ...BNSF Railroad has constructed or has plans to construct three tracks on the San Bernardino Subdivision, sufficient capacity to handle the projected train volumes. The UP Railroad...with routing flexibility. According to the Regional Rail Simulation Update Summary Report...SCAGâ€™s November 2011..., 51 through-freight trains operated collectively over the subdivisions in 2010,...
GMS (2009) and SCAG 2011 are out-of-date...REMOVE/UPDATE for 2015-2017. IP-44-56
COMPARE/PROVIDE all referenced projections of cargo, freight, goods, and containers (for 20, 40, and 53-foot units) for 2009-2017 for all rail lines and yards and maximum right-of-way tracks or assumed x3 track sets. IP-44-57
DEFINE/PROVIDE "Goods Movement", and "movement of containerized freight",
DEFINE/PROVIDE "cargo growth" and "sufficient capacity", "projected train volumes [?=traffic?]" IP-44-58
PROVIDE comparisons of 20, 40, and 53ft. containers IP-44-59

1-38/1 \11 Some port cargo is â€œtransloadedâ€ , i.e., transferred from marine containers to larger domestic containers,...transloaded cargo moved by rail is above and beyond the 34.4 percent that is moved directly by rail.
\12 Alameda Corridor Transportation Authority. Website: http://www.acta.org/pdf/CorridorTrainCounts.pdf (accessed December 28, 2016).
\13 SCAG. 2013. On The Move: Southern California Delivers the Goods. Comprehensive Regional Goods Movement Plan and Implementation Strategy, final report. February. Website: http://www.freightworks.org/ DocumentLibrary/ CRGMPIS%20-%20Final%20%20-%20Chapter%204.pdf (accessed December 28, 2016).
DEFINE/PROVIDE "some", "cargo", "transferred/transloaded", "marine", "larger" [43, 48, 50, & 53ft compared to 20ft or TEUs], and "domestic" in the US, not just California. IP-44-60
Appendix E Glossary of Technical Terms & Appendix G List of Acronyms

Appendix H List of Technical Studies & Appendix M References
References/Citations, Definitions/Glossary, and Acronyms/Abbreviations are confused and not consistently used in document and are not conveniently placed within the document to assure public access.
COMBINE/REVISE/PROVIDE within the DEIR/DEIS text. IP-44-61

1-41/1 Given the needs within the I-710 Corridor and the projectâ€™s focus on goods movement as part of the project need, these are logical termini...and SR-60 is one of the major east-west freeways that connects to the I-710 and serves logistics centers in the Inland Empire. Under the No Build Alternative in 2035, approximately 31 percent of daily traffic transitions to SR-60 at the northern terminus...nearly one-third of the traffic exits I-710...and transportation demand decreases north of SR-60, terminating the project at SR-60 provides a rational endpoint.
DEFINE "I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand". IP-44-62
As no project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd Ave., compared to SR-60. IP-44-63
REVISE/PROVIDE throughout document.

3.6-2/5 3.6.2.3 TOPOGRAPHY The I-710 Corridor Project is situated within the central part of the Los Angeles Basin. The elevation of the I-710 Corridor Project varies from near sea level in the south to approximately 180 280 feet above mean sea level near SR-60...[USGS] 1994;
Elevation is incorrect and appears to be for I-5 rather than SR-60.
Google Earth Pro, 2017. SR-60:273-304ft; Whittier: 194-216ft; I-5: 162-182,198ft elev. IP-44-64
REVISE/PROVIDE throughout document.

3.6-121/1 3.7 CULTURAL RESOURCES The information...based on the following technical reports: Historical Resources Evaluation Report (HRER) (April 2012).
Referenced Technical Report is not provided/included in appendices - H/M, not available to Public.
H-3 Flood Control Facilities Report (AECOM, January 2017).
Geotechnical Final Report (URS, January 2010).
HRER ???
I-710 Corridor Aesthetics Master Plan (Caltrans, February 2014). IP-44-65
Initial Feasibility Analysis Study Report (URS, December 2008).

M-21 GPA Consulting. 2017. Section 4(f) and 6(f) Evaluation....
M-23 Kachour, Jenna. 2016. Draft Supplemental Historical Resources Evaluation Report for the Interstate 710 Corridor Project
REVISE/PROVIDE throughout document references and PROVIDE in appendices:

3.25-18 Table 3.25-1: Past, Present and Foreseeable Future Projects in the I-710 Corridor Study Area
T-81 East-West Freight Corridor Project Southern California Association of Governments (SCAG) The project would establish truck-only lanes along the SR-60 corridor between I-710 in Los Angeles County and I-15.... Such a system would address the growing truck traffic and safety issues on core highways through the region and serve key goods movement industries....add capacity in congested corridors, improve truck operations and safety by separating trucks and autos and provide a platform for the introduction and adoption of zero- and near zero-emission technologies. Corridor concept planning is ongoing. No environmental analysis...(Source: SCAG 2016 RTP/SCS, Goods Movement Transportation System Appendix â€“ accessed December 27, 2016)
DEFINE "Study area" as related to SR-60 as maps do not consistently include SR-60. IP-44-66
The Project does not include improvement from Third Ave. to SR-60 that would verify against the proposed Truck-Lanes. Current Pavement Rehabilitation suffers from same lack of truck-related projections north of Third Ave. Same for SR-710. IP-44-67
REVISE/PROVIDE throughout document for SR-60 and SR-710.

3.25-43/2-3 3.25.4.1 LAND USE The information in this section.... The Study Area includes the portion of I-710 from Ocean Blvd. in Long Beach to SR-60, a distance of approximately 18 19 miles.
DEFINE "Study area", Project area, and Project sites; 18 miles to I-5 and 19+ miles to SR-60. | IP-44-68
The Project includes "maximum rail diversion" and "Study Area" includes railroads.
REVISE/PROVIDE throughout document. | IP-44-69

3.25-43/3 ...At the freeway-to-freeway interchanges, the Study Area extends one mile east and west of I-710 for the I-405, SR-91, I-105, and Interstate 5 (I-5) interchanges....For the purpose of this analysis, the RSA for land use is the Study Area, which includes parts of the Cities of..., Los Angeles,....
DEFINE "Study area", Project area, and Project sites. | IP-44-70
The Project Study Area extends more than 5 miles east and west from the I-710 at interchanges and the ROW. SR-1 has the widest E-W Study Area and SR-60/I-105 have the narrowest east-west width.
The Project includes "maximum rail diversion" and "Study Area" includes railroads.
REVISE/PROVIDE throughout document. | IP-44-71

1-37/1 The Gerald Desmond Bridge Project will replace the existing...Bridge, which connects Terminal Island (POLB) to SR-710 with a new six-lane bridge....
CONFUSED SR 710 / SR710 / SR-710 or I-710.
REVISE: Terminal Island is both PoLA and PoLB or SPP but "eastern T....I.... (POLB)" | IP-44-72

1-38/1 RAILROADS. The present rail network in the SCAG region,...Study Area, is composed of BNSF and UP Railroad rail lines, terminals/yards, and on-dock rail terminals at the Ports. Rail routes include the Alameda Corridor, BNSF Railroadâ€™s San Bernardino Subdivision, and UP Railroadâ€™s Los Angeles and Alhambra Subdivisions.

3.13-44/3 The only areas where [NOx] increases occur are in the locations of the Southern California International Gateway (SCIG) Project in in the Port area and the SR-710 North Study (a portion of SR-710 north of Interstate 10 [I-10]). These two proposed projects are included in the 2035 I-710 Traffic Model, as they would be constructed by that time.
Traffic (vehicles, cars, autos, and trucks) loadings are not provided for I-710, north of SR-60, andd SR-710 and reported truck traffic does not reflect projection of 180,000 vehicles/d and estimated 80+K cars and 80+K trucks-passenger car equivalence of 2.2-2.5 (= 35,000+ 53-ft trailer, heavy-duty trucks).
DEFINE/PROVIDE "truck traffic" for current, projected, and maximum capacity for SCIG and SR-60, and I-10, and "SR-710" AND Traffic Model - model flow chart and inputs/outputs for all relevant runs/operations for SCIG and SR-710 AND SR-60. | IP-44-73

3.13-48/1 The only [PM/2.5] increases...occur in the Port areas where the proposed SCIG Project...and a portion of SR-710 north of I-10...proposed SR-710 North Study project would be located in 2035.
Traffic generated air pollutants are mentioned BUT not indicated in air quality considerations and modeling but traffic loadings are not provided for I-710, north of SR-60, andd SR-710 and reported truck traffic does not reflect projection of 180,000 vehicles/d and estimated 80+K cars and 80+K trucks-passenger car equivalence of 2.2-2.5 (= 35,000+ 53-ft trailer, heavy-duty trucks).
DEFINE/PROVIDE "air pollutants" for current, projected, and maximum capacity for SCIG and SR-60, and I-10, and "SR-710" AND Traffic Model - model flow chart and inputs/outputs for all relevant runs/operations for SCIG and SR-710 AND SR-60. | IP-44-74

3.25-5/FIGURE 3.25-1 I-710 Corridor Project Cumulative Projects
Study Area
Alameda Corridor
Projects not located within extent of map
T-2: SR710 North Study
T-18: SR60 Freeway Improvement Project
LD-87 : SR-710 Surplus Property Sales
Tables 3.25-1 & -2 :...SR 710 North Study (previously...SR-710 Project...)

Confusing inclusion/exclusion of SR-710, SR-60, and SCIG.
REVISE/PROVIDE: as worst case condition, add all and include thorough traffic generations and associated noise, vibration, and air pollutants. IP-44-75

3.7-15/2 Additionally, the Archaeological Sensitivity Study (2017) was conducted to identify areas with a higher potential occurrence of...historic archaeological resources within the original and Supplemental APEs. This study incorporated data from pedestrian surveys of accessible, undeveloped portions of the Supplemental APE; a review of historical maps and aerial photos; literature research; and a â€œproximity analysis.â€
3.12-3/3 The ISA included a search of government records to obtain a listing of properties or known incidents from State, Federal, or local regulatory databases for hazardous waste sites within the ISA Study Area, review of reasonably ascertainable historical information sources (aerial photographs,...of the proposed right-of-way for the build alternatives to identify readily visible contamination. Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search limited to within a one-mile radius...of the I-710 Corridor Project for facilities listed by regulatory agencies as potentially having environmental concerns.
Apdx H. List of Technical Studies. Archaeological Sensitivity Study for the Interstate 710 Corridor Project (Confidential Report) (LSA Associates, Inc., February 2017. Appendix to Supplemental Archaeological Survey Report).
No reference to borings reviews nor to 1923 available photos, mention is made of only 1928.
REVISE/PROVIDE thorough review of 1923 aerial photos for historic structures and potential users/facilities with or without visible contamination, e.g., crude oil tanks, vehicle/ship fuelling and car gasoline stations. IP-44-76

Cargo Container, not freight or goods container
3.2-6/FN
\3 Some port cargo is â€œtransloaded,â€ i.e., transferred from marine containers to larger domestic containers, and then moved by rail in these large containers. The transloaded cargo moved by rail is above and beyond the 34.4 percent that is moved directly by rail.
\4 Alameda Corridor Transportation Authority. Website: http://www.acta.org/pdf/CorridorTrainCounts.pdf (accessed December 28, 2016).
\5 Southern California Association of Governments (SCAG). 2013. On The Move: Southern California Delivers the Goods. Comprehensive Regional Goods Movement Plan and Implementation Strategy, Final Report. February 2013. Website: http://www.freightworks.org/DocumentLibrary/CRGMPIS%20-%20Final%20%20-%20Chapter %204.pdf (accessed December 28, 2016).
\6 SCAG Freightworks. Website: http://www.freightworks.org/DocumentLibrary/Comprehensive%20Regional%20Goods%20Movement%20Plan%20and%20Implementation%20Strategy%20-%20Regional%20Rail%20Simulation%20Update.pdf (accessed December 28, 2016).

3.2-7/5 I-710 Travel Demand Modeling Report (2017) AECOM
Secondary transload truck trips (cargo in 20- and 40-foot international containers is transferred to 53-foot domestic containers).
/6 The same report noted that about 80 percent of the primary port truck trips are destined to or originated from locations within 20 miles of the Ports.
Inconsistent terms and usage. IP-44-77

Appendix E Glossary of Technical Terms (PDF)
No definitions of Cargo, Containers, Freight, Goods IP-44-78

Appendix G List of Acronyms (PDF)
TEU TEU twenty-foot equivalent unit
International
US/ Domestic

Appendix H List of Technical Studies (PDF) 2 pages
NO Mercator 2016 IP-44-79

Appendix M References (PDF)
M-26 Mercator International, LLC and Oxford Economics. 2016 [=Mercator 2016]. Executive Summary for San Pedro Bay Long-term Unconstrained Cargo Forecast. January.
https://www.portoflosangeles.org/pdf/Official_Statement_2016_Series_A_B_C_Bonds.pdf
http://www.acta.org/revenue_finance/AR%20ACTA%20Notice%20Regarding%20Approval.pdf

Appendix N Index (PDF)
N-7 Freight corridor (FC) S-9, 2-59, 2-63, 2-85, 2-89, 2-94, 2-95, 3.1-56, 3.1-59, 3.1-60, 3.1-87, 3.1-89,...
No goods nor cargo / cargo containers | IP-44-80

*You received this message because Dr. Clyde T Williams submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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Brad Jensen IP-45

From: ylw105@yahoo.com
Sent: Monday, October 23, 2017 1:04 PM
To: carmen.lo@lsa.net
Cc: Brad Jensen; mbimediaadmin@gmail.com
Subject: I-710 Corridor Project Feedback

From: Yueling Williams
Organization: Citizens Coalitions for A Safe Community
Phone: 3232218277
Mailing Address: 4115 Barrett Road
City, State: Los Angeles
Zip: 90032-1712
Comment/Question:
DATE: Monday, October 23, 2017
TO: Caltrans
http://www.mbimedia.com/uploads/docs/surveys/LSA/I-710/

CC: Ronald Kosinski, Caltrans Distr. 7, Div. Envir. Planning,
100 S. Main St., MS 16-A Los Angeles, CA 90012
Ron.Kosinski@dot.ca.gov
Garrett Damrath, Caltrans Distr.7, Div. Envir. Planning,
100 S. Main St., MS 16-A Los Angeles, CA 90012
Garrett.Damath@dot.ca.gov
Ca. Senate, Distr. , Kevin DeLeon
Los Angeles County Supervisors, Distr.1 firstdistrict@bos.lacounty.gov
Los Angeles County Supervisors, Distr.4 fourthdistrict@bos.lacounty.gov

Subject:I-710 Corridor Project Recirculated Draft EIR/ Supplemental Draft EIS
RE: Public Comments

The RDEIR/SDEIS is incomplete and inadequate and must be withdrawn, revised, and recirculated, again. IP-45-1

SPECIFIC COMMENTS.

es1-1/1 Within the I-710 Corridor Project Study Area (Study Area), the I-710 serves as the principal transportation connection for goods movement between POLA and POLB,...and the Burlington Northern Santa Fe (BNSF Railroad)/Union Pacific Railroad (UP Railroad) rail yards in...Commerce and Vernon.
DEFINE/PROVIDE "Goods Movement" rather than container, cargo, or freight movements. PROVIDE current and projected numerical levels for each. IP-45-2
DEFINE/PROVIDE "rail yards" for the Study Area and for area of I-210/SR-134 x I-605 x SR-1 x I-110/I-5, e.g., UPRR Piggy-Back/LA-Central. PROVIDE current and projected numerical levels for each. IP-45-3
PROVIDE current and projected numerical levels for each.
PROVIDE consistent abbreviation throughout document, e.g., UPRR & BNSF or BNSFRR. IP-45-4

es1-2/Figure The Study Area for the I-710 Corridor
PROVIDE functional basis for the SA boundary, especially the 710 corridor to I-10 and Valley Blvd. IP-45-5

es4-1/3 Highway congestion causes delays affecting personal mobility and goods movement and results in increased economic costs. Los Angeles Countyâ€™s goods movement system serves as a gateway for both international and

domestic commerce, especially within the Study Area, where POLA, POLB, and the BNSF/UP Railroad intermodal rail yards are located.
DEFINE/PROVIDE "Economic Costs" and "International Commerce" and "Domestic Commerce" related to the "Goods Movement System". IP-45-6
PROVIDE current and projected numerical levels for each.

es4-1/4 S.2.1.5 - Modal Interrelationships and System Linkages ...I-710 Corridor serves regional, statewide, and national needs for...the goods movement industry...is the principal transportation connection between POLB/POLA and the BNSF/UP Railroad intermodal rail yards...
DEFINE/PROVIDE for "Regional", "State", and "National" "goods movement industry". IP-45-7
PROVIDE current and projected numerical levels for each.

es4-1/Figure S.2.1.5-Modal Interrelationships and System Linkages Unnumbered graphic flow chart.
Goods are moved to and from the ports by both trains and trucks.
Figure not copiable, summarized as follows-

National Markets	Local Markets	State/SW Markets	National Markets
Rail			
	Off Dock Rail	Warehouse Transfer	National, State & Local Markets
Rail	Near Dock Rail		Rail Yard Destination

Ship To Train On Dock Rail Cranes Ships	Ship To Transfer (Drayage) Truck Cranes Ships	Ship To Regional Trucks Cranes Ships

DEFINE/PROVIDE for each linkage this In-Bound "Good", cargo, freight, and containers. IP-45-8
PROVIDE current and projected numerical levels for each Linkage, below.
Only for IN-BOUND, not including out-bound loaded and empties, PROVIDE same for "out-bound".
PROVIDE current, post-construction, and future 2035-40 numerical estimates/projections of sizes/weights of containers and non-containerized bulk goods/cargos/freights for each node in figure. IP-45-9

DEFINE/PROVIDE
- Off Dock-, Near Dock-, & On Dock-Rail
- Berth/Dock, Terminal and Port
- Current container throughput (in-/out-) for each dock/berth, terminal, and ports.
- Rail Yard Destinations - #/ft of transfer and aggregation tracks located in each "yard". IP-45-10
  - South of SR-134 and west of I-605
- Current/Most Recent container throughput (in-/out- & lengths, 20-53ft; not TEUs) for each "yard".
- Transfer (Drayage) & Regional Trucks, including class/power, ages, fleet, and trailer sizes/lengths.
- Current container In-/Out- by length, NOT TEUs) for each dock/berth, terminal, and ports.

es4-2/1 BNSF and UP Railroads provide freight movement to destinations throughout the United States. Together, POLB/POLA is one of the largest container ports in the world, and port activity is projected to nearly triple in volume by 2035. The I-710 Corridor also provides key interstate commerce connections to east-west freeways (I-405, SR-91, I-105, I-5, SR-60, and Interstate 10 [I 10])....no improvements are planned to these facilities except for possible improvements to I-5 (from Interstate 605 [I-605] through the I-710 interchange)....
DEFINE/PROVIDE and make consistent use for freight/containers and highway designations. IP-45-11
BNSF/UP RR; I-10 or I 10 or Interstate 605, or I-5 vs I 10????.
Port - singular...San Pedro Ports, PoLA & PoLB.

Freight, goods, cargos, or containers.
Triple Volume: containers, tons, $$$, total, in-, out-bound containers/tons.
"Possible" improvements for E-W roads, clarify for SR-710 and SR-60...yes or no. IP-45-11

es4-2/3 S.2.2 - Project Purpose The purpose of the I-710 Corridor Project is as follows:...4 â€¢ Accommodate projected traffic volumes 5 â€¢ Address increased traffic volumes resulting from projected growth in population and employment, and in economic activities related to goods movement.
DEFINE/PROVIDE and make consistent use for underlinedterms/phrases.
Singular with five (sub)purposes. Purposes-&-needs are for NEPA; Objectives are for CEQA documents.
Compare Purposes, Needs, Goals, and "Objectives"; e.g., Objectives: numerical and scheduled interim targets required to achieve Project Goals. IP-45-12

2-22/6 In 2013, the Gateway Cities COG and Metro developed an â€œI-710 Project Zero-Emission Truck Commercialization Studyâ€ in order to evaluate the ZE truck technologies which might meet the needs of the I-710 Corridor Project and drayage users, and develop a business and commercialization plan. The study concluded that â€œzero-emission capable drayage....
DEFINE/PROVIDE and make consistent use for underlined terms/phrases.
"Might"???
Purposes & NEEDS are for NEPA; Objectives are for CEQA documents. IP-45-13

2-59/2 The power systems...could include, but are not limited to, road-connected wayside power..., as well as ZE hybrid power sources...A pure fuel-cell truck (with auxiliary battery) would also qualify as a ZE truck....currently being demonstrated in California,...particularly in drayage operations. The freight corridor in Alternative 7 is ZE â€œtechnology neutralâ€ ...of ZE heavy-duty truck in commercial mass production....
DEFINE/PROVIDE and make consistent use for underlined terms/phrases, e.g., "Freight", "Goods", "Cargo", "Mass", "Drayage", "Heavy Duty",.... IP-45-14

SR-710
1-1/1 The existing I-710 freeway mainline...South of Pacific Coast Hwy. (State Route 1 [SR-1]), the facility is designated as State Route 710, whereas north of Pacific Coast Hwy., the facility is designated as I-710. Figure 1.1-1 shows the regional location.
DEFINE/PROVIDE: Mainline and "regional location" and its relationship to later "SCAG" region. IP-45-15
Error "SR-710" south of SR-1, typically given as SR-47/I-710, Seaside Freeway, & Ocean Blvd.. IP-45-16
1-3/Fig.1.1-1 "Project Location" as a box in legend, not single line on image. IP-45-17
No rail context is provided, although text states 710 Project depends of "maximum" diversion of containers to rail systems, and therefore truck elements depend on railroad. IP-45-18

1-5/ FIGURE 1.1-2 Project Study Area - Study area usually provided prior to the "Project" line.
Westerly boundary includes all of the Alameda Corridor within Study. REVISE/PROVIDE. IP-45-19

Containers/Projections
1-21/1 With regard to future demand for cargo containers to be transported to and from the Ports by rail instead of truck, the I-710 Railroad Goods Movement Study (February 2009) found that while railroads have employed a variety of operational strategies to meet increased container demand from the Ports, including longer trains with higher utilization rates, the railroad system will not be able to handle all of the cargo demand even with the rail system operating at maximum capacity. Therefore, any additional containers would be transported via truck, which increases travel demand by truck on I-710.
This reference is out-of-date and superseded by later studies. REVISE/PROVIDE projections of 2016-17 references and comparisons of all referenced projections. PROVIDE projections for all containers.
Define/schedule/quantify "railroad system...maximum capacity" and "additional containers" including in-/out-bound and loaded/unloaded-empty containers. IP-45-20

1-30/4 Today, the POLB and POLA, the railroads, and the trucking industry provide goods movement not just within the Study Area, but also for the SCAG region, California, and the nation as a whole. Growth at the Ports to accommodate increased cargo demand is constrained primarily by...1-31/1...port facilities, as well as the efficiency with which containers can be unloaded from ships and reloaded onto trucks and/or the railroads...together handled 14 million annual TEUs in 2015 and are projected to grow to handle approximately 41.4 million TEUs by 2035.\7 The I-710 Corridor Project Initial Feasibility Analysis (IFA) was prepared in December 2008...select a cargo forecast ...In 2013, the assumptions related to goods movement within the SCAG region were further developed and updated to more closely align with the changed economic conditions, drawing on the Updated Cargo Forecast (2009), the 2012 RTP Travel Demand Forecast Model (2012), the San Pedro Bay Ports estimates of marine terminal capacity (2013), port cargo market shares (2013), and truck trip distribution (2013). The Model Input Data and Key Assumptions Technical Memorandum for Goods Movement (May 2013) was then reviewed and discussed by the I-710 Technical Advisory Committee and the Port growth assumptions were approved for use in traffic forecasting performed in support of this RDEIR/SDEIS. These assumptions include a 2035 total annual cargo container throughput at both ports of 41.4 million TEUs, and the construction and/or implementation of both the BNSF Railroad Southern California International Gateway (SCIG) near-dock intermodal yard and the expansion of the UP Railroad near-dock Intermodal Container Transfer Facility (ICTF). Informed assumptions were also made about the behavior of cargo, including the
ratio of inbound to outbound containers,
on-dock and off-dock cargo shares,
cargo origin and destinations, and
cargo transloading (wherein cargo in international containers is transferred to domestic truck trailers at transload centers or warehousing located within the region).
DEFINE/PROVIDE:

1-30/4 For more detail regarding the key assumptions underlying the future forecast of traffic volumes, please refer to the following reports: I-710 EIR/EIS Initial Feasibility Analysis (December 2008), the I-710 Railroad Goods Movement Study Technical Memorandum (February 2009), the Data and Key Assumptions Technical Memorandum for Goods Movement (May 2013), and the I-710 Corridor Project Travel Demand Modeling Methodology Report (June 2017).
DEFINE/PROVIDE "key

IP-45-21

1-30/4 Since the development of these assumptions, a comprehensive long-term unconstrained cargo forecast for the San Pedro Bay Ports was completed in February 2016 (Mercator 2016). This information was not available in time for incorporation into the technical analyses that informed this RDEIR/SDEIS (i.e., the travel demand forecasting was completed in 2014-15). The Mercator projection forecasts slower overall growth for the Ports than was forecast in previous studies, with the expected â€œbase caseâ€ scenario reaching approximately 34.3 million TEUs by 2035, and 41.1 million TEUs by 2040. However, the difference of 0.3 million TEU between the unconstrained Mercator forecast and the throughput assumption utilized for the I- 710 Corridor Project is not anticipated to substantially affect the traffic or other analyses performed for the project, as both scenarios project growth at the Ports beyond their current...
This reference is limited to only the Executive Summary without publicly available. REVISE and PROVIDE projections in the full report and reference.
DEFINE/PROVIDE:

IP-45-22

1-32/2 Based on the port cargo demand forecasts and how much of that cargo can be handled through maximum utilization of the railroad system (including expanded on-dock rail facilities at the Ports), there is still a high demand for movement of cargo containers by truck on the highway system, specifically I-710.

3.7-15/2 Additionally, the Archaeological Sensitivity Study (2017) was conducted to identify areas with a higher potential occurrence of prehistoric and historic archaeological resources within the original and Supplemental APEs. This study incorporated data from pedestrian surveys of accessible, undeveloped portions of the Supplemental APE; a review of historical maps and aerial photos; literature research; and a â€œproximity analysis.â€
DEFINE "I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand".

IP-45-23

As no project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd ave., compared to SR-60.
REVISE/PROVIDE throughout document. IP-45-24

3.12-3/4 The ISA included a search of government records to obtain a listing of properties or known incidents from State, Federal, or local regulatory databases for hazardous waste sites within the ISA Study Area, review of reasonably ascertainable historical information sources (aerial photographs,...), and a site survey of the proposed right-of-way for the build alternatives to identify readily visible contamination.
Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search limited to within a one-mile radius (i.e., ASTM International [ASTM] standard) of the I-710 Corridor Project for facilities listed by regulatory agencies as potentially having environmental concerns. Due to the amount of properties identified in the records search (over 1,000 properties), no file reviews were conducted at the various State, Federal, or local regulatory agencies. IP-45-25
DEFINE REVISE/PROVIDE for "reasonable" and "ascertainable" throughout document.
First part of paragraph contradicts (a search wasconducted) the latter say NO REVIEW; REVISE/PROVIDE. IP-45-26
EDR aerial photos include 1923 (USArmy Air Serv.), also on wall of LA City Hall, Rm 525B) which were used by LA Plan.Dpt. for both historic resources and haz-mat...but not here.
aerial photos of pre-highway construction uses and potenti "I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand". IP-45-27
As no project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd Ave., compared to SR-60. IP-45-28

3.10-1/1 3.10 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY The information...based on the following documents:
Geotechnical Final Report (January 2010)
Geotechnical Memorandum (...Transportation Division of Engineering Services, Geotechnical Services [May 2010]), for the northern portion of the Study Area Water Quality Assessment Report (March 2017).
DEFINE - "documents" vs "Technical Reports" and "References" in appendices IP-45-29
These reports are out-of-date...Geotechnical Final Report (URS, January 2010) is in Appendix H and has not been updated in 5+ years.
REVISE/PROVIDE up-to-date geotechnical setting, seismicity, and geological context. IP-45-30

3.10-7/4 No laboratory data is available regarding the expansion potential of site soils; however, based on review of the existing bridge Logs of Test Borings (LOTBs) for sites within the project area, the soils...are not highly expansive, but some fine grained soils susceptible to high degrees of expansion do exist.
DEFINE/REVISE/PROVIDE LOTBs, "highly expansive", "some fine grained soils", "susceptible to high degrees of expansion", "do exist"[locations] I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand". IP-45-31

3.10-7/5 Collapsible soils...metastable soil structures that are susceptible to collapse upon saturation.....Since no laboratory data is available regarding the collapsibility of soils in the area, it is not known if collapsible soils are present; however, the area is not known from existing mapping to have collapsible soils.
DEFINE "metastable" and "collapsible" soil and provide known examples with Study Area. IP-45-32
PROVIDE listing and coverage of relevant "existing mapping".
REQUIRE relevant measures to mitigate the lack of appropriate mapping and DATA. IP-45-33

3.10-9 Figure 3.10-1 Fault Zones Source: ESRI (2015); AECOM (2016)
3.11-5 Figure 3.11-1 Geologic Map Source: Saucedo, et al. (2003); Yerkes and Campbell (2005)
Two figures differ for Newport Fault Zone.
PROVIDE consistent coverage and locations of all known faults within the Study area. IP-45-34

3.10-11/Table 3.10-1 : Potential Seismic Sources
Fault Approximate Closest Distance to the Study Area (miles)

...maximum earthquake magnitudes and other fault parameters...

Table 3.10-1...currently being considered for seismic design of the I-710 Corridor Project.

Source: URS. I-710 Corridor Project Geotechnical Final Report (January 2010).

FN\1 Maximum moment magnitude earthquake reported by Caltrans (2009 ARS Online Website).

2 Distance noted is the closest distance to the surface trace of the fault...Caltrans (2009 ARS Online).

3 ...blind thrust fault that does not rupture the ground surface.

...distance to the upper limit of the rupture plane in the subsurface calculated using the fault location from Shaw et al. (2002) and the depth to top of rupture plane from Wills et al. (2008).

4 ...distance noted is the closest distance to the rupture plane in the subsurface calculated using the fault location provided in the Community Fault Model (2004)...depth to top of rupture plane from Wills et al. (2008).

DEFINE "potential" and "closest" vertically/horizontally and provide examples within Study Area; "currently being considered" with regard to ground acceleration for road and raised structures. | IP-45-35

PROVIDE listing/plotted epicenters of recorded seismic events - SCEqCtr. see listing below - and maps of projected surface and bedrock rupture planes. | IP-45-36

PROVIDE updated revised "I-710 Corridor Project Geotechnical Final Report" to mitigate the lack of appropriate mapping and DATA. | IP-45-37

3.10-11/2 The Newport-Inglewood Fault Zone consists of several fault segments and branch faults...in the project area: the Cherry Hill, the Pickler, the Northeast Flank, and the Reservoir Hill. The Cherry Hill Fault crosses the Study Area near the I-710/I-405 intersection.

DEFINE "several" and "segments"/"branch faults", "project area", and "Study area" for this and ALL faults within both the Project Area and Study Area, if different. | IP-45-38

PROVIDE listing/plotted fault segments, branches, and projections of ALL fault planes, especially in or adjacent to abandoned/producing oil fields. | IP-45-39

3.10-11/2 The Puente Hills Fault is a northerly dipping blind thrust fault...three distinct segments: Los Angeles, Santa Fe Springs, and Coyote Hills....Los Angeles segment trends beneath the Study Area,.... At its western end, the Santa Fe Springs segment...east of the I-710/I-105 interchange.

DEFINE/DELINEATE " dipping blind thrust fault", "distinct segments", and "Coyote Hills"/"branch faults", "project area", and "Study area" for this and ALL faults within Study Area. | IP-45-40

Coyote Hills is NOT shown in Fig. 3.10-1, but shown in Table 3.10/1. | IP-45-41

PROVIDE listing/plotted fault segments, branches, and projections of the Puente Hills Fault planes, especially in or adjacent to abandoned/producing oil fields and those associated with the Compton Fault. | IP-45-42

3.10-11/2 The Compton [C.-LosAlamitos & C.Blind Thrust] Fault extends northwest-southeast...At its closest point, this fault is less than one mile southwest of the southern end of the Study Area.

DEFINE/DELINATE "several" and "segments"/"branch faults", "project area", and "Study area" for the Compton Fault WITHIN the Study Area, not SW of END. | IP-45-43

PROVIDE listing/plotted fault segments, branches, and projections of the Compton fault planes, especially in or adjacent to abandoned/producing oil fields and those associated with the Compton Fault. | IP-45-44

3.10-12/1 The Palos Verdes Fault is a northwesterly trending fault that extends...southeasterly across the Palos Verdes Peninsula...offshore along the coast...Fault is...four miles southwest of the south end of the Study Area.

Not shown on Figure 3.10/1, but shown in Table 3.10/1. | IP-45-45

No discussion of Lower Elysian Park Blind shown in Figure 3.10/1 and Table 3.10/1. | IP-45-46

No mention of SCEqC recorded/located to these and others. | IP-45-47

DEFINE/DELINEATE "several" and "segments"/"branch faults", "project area", and "Study area" for this fault beyond the Study Area. | IP-45-48

PROVIDE listing/plotted fault segments, branches, and projections of ALL fault planes, especially south of the Study Area, SR-1, and shorelines. | IP-45-49

3.10-13/5 ...geotechnical constraints...include:

...ground accelerations due to...active faults and fault zones, including the Newport-Inglewood (Cherry Hills Fault), Puente Hills, Compton, and Palos Verdes Faults.
Fault rupture associated with the Cherry Hill segment of the Newport-Inglewood Fault Zone.
Liquefaction and seismically induced settlement in areas of shallow groundwater and loose alluvial soils.
Most of the Study Area is within an area identified as having the potential for liquefaction.
Earthquake-induced slope instability...liquefaction in areas of moderate to high liquefaction potential and near slopes such as the Los Angeles River.
DEFINE "acceleration", "active" and "segments"/"branch faults", "project area", and "Study area" for this and ALL faults within Study Area. | IP-45-50
PROVIDE listing/plotted fault segments, branches, and projections of ALL fault planes, especially in or adjacent to abandoned/producing oil fields. | IP-45-51

EXAMPLE from SCEqCenter - http://scedc.caltech.edu/.

```
#    YYY/MM/DD HH:mm           MAG     LAT      LON      DEPTHkm
1933/05/17 11:22:41.33 eq  l 3.39 l   33.97317 -118.43300   6.0
1933/05/18 16:32:07.70 eq  l 2.24 l   33.98783 -118.43183   6.0
1934/03/06 21:46:32.80 eq  l 2.60 l   33.97533 -118.45417   6.0
1934/03/08 20:34:41.29 eq  l 2.09 l   33.96500 -118.44633   6.0
1934/06/25 05:53:02.90 eq  l 2.72 h   33.98500 -118.45900   6.0
1934/08/26 05:39:54.37 eq  l 1.12 h   33.98950 -118.40967   6.0
1935/08/15 10:00:57.96 eq  l 2.25 l   33.96667 -118.44500  17.3

1936/10/25 21:52:00.00 eq  l 2.11 l   33.96567 -118.41050   6.0
1936/12/11 11:12:34.00 eq  l 1.88 l   33.98717 -118.41333   6.0
1939/07/22 16:29:38.30 eq  l 2.29 l   33.96250 -118.39350   0.0
1940/03/14 18:29:09.09 eq  l 2.42 l   33.97667 -118.40900   6.0
1945/02/06 22:56:11.30 eq  l 3.35 l   33.98883 -118.45500  13.5

1947/06/16 15:59:37.58 eq  l 2.51 l   33.99067 -118.44067  15.0
1947/07/10 07:16:28.11 eq  l 2.24 l   33.96100 -118.39383   6.0
1949/12/10 15:46:54.98 eq  l 3.15 l   33.98650 -118.49650
1949/12/13 05:25:07.24 eq  l 2.97 l   33.97900 -118.49783   6.0
1949/12/26 14:27:40.54 eq  l 2.80 l   33.96217 -118.43433   0.1
1950/11/12 05:05:33.38 eq  l 2.75 l   33.97500 -118.44000   1.2
1950/11/16 01:59:19.46 eq  l 2.96 l   33.97450 -118.40217  10.7 B  3342276   21    0
1950/11/17 03:46:41.58 eq  l 1.84 l   33.96933 -118.39200   0.2

1954/04/29 21:39:04.70 eq  l 1.55 h   33.97767 -118.39783   6.0 C  3299853    6    0
1954/06/24 07:16:33.18 eq  l 1.91 h   33.99067 -118.40000   2.5
1959/03/29 23:42:37.53 eq  l 2.53 l   33.97483 -118.48300   6.1 C  3297022   27    0
1964/05/26 19:38:32.91 eq  l 2.58 l   33.96700 -118.39567   0.0
1965/03/22 07:48:32.99 eq  l 2.26 l   33.98550 -118.45783   6.0 C  3330664    6    0
1970/03/01 05:44:23.11 eq  l 3.44 l   33.98783 -118.43083   6.0 C  3324644    9    0

1971/01/22 07:35:55.34 eq  l 1.88 h   33.98483 -118.41717   6.0 D  3323451    4    0
1971/12/03 21:31:28.96 eq  l 2.36 h   33.96283 -118.39767  11.3 B  3321746   14    0
1972/05/07 13:13:44.75 eq  l 2.44 l   33.96500 -118.47433   6.9 B  3321388   20    0
1973/12/09 15:36:14.42 eq  l 2.16 h   33.98167 -118.39817   3.7 A  3318748   24    0
1975/07/07 13:59:08.95 eq  l 2.97 l   33.96800 -118.39300  11.0 B  3022943   46    0
1975/07/22 12:24:34.09 eq  l 2.12 h   33.98800 -118.40600   2.4
```

1977/06/03 18:49:55.13 eq l 1.90 h 33.97300 -118.48683 13.2 C 9980338 30 0
1978/09/05 09:48:54.92 eq l 1.85 c 33.99000 -118.43283 5.6 C 3341610 11 41
1979/02/23 17:34:59.32 eq l 1.70 h 33.96383 -118.46350 6.0 C 3346300 14 45
1979/10/05 13:02:27.94 eq l 2.02 l 33.97283 -118.40417 13.1 A 3351885 20 88
1980/05/02 01:43:03.29 eq l 1.80 h 33.97633 -118.42667 8.7 C 3328497 12 50

1981/01/12 09:29:48.84 eq l 1.88 h 33.98317 -118.39483 2.9
1981/03/10 08:20:12.70 eq l 1.55 h 33.99117 -118.41283 4.8 C 531080 13 70
1981/10/24 23:43:19.36 eq l 1.63 c 33.96450 -118.46633 11.4 A 526069 17 53
1984/03/28 09:41:19.97 eq l 1.75 c 33.97900 -118.47800 12.5 C 35062 11 46
1985/03/02 04:53:48.71 eq l 2.42 c 33.98400 -118.44300 7.4 C 61880 18 152
1985/05/18 07:19:52.94 eq l 1.70 n 33.96100 -118.48500 12.1 B 66684 10 33

1986/05/10 11:42:44.65 eq l 2.38 c 33.97200 -118.44000 8.0 A 124131 26 89
1986/09/19 11:35:02.00 eq l 1.88 c 33.98700 -118.39900 6.1 C 709608 18 41
1986/09/29 14:57:16.27 eq l 1.91 h 33.98300 -118.40700 5.2 D 128724 6 0
1986/12/29 16:05:22.85 eq l 2.09 c 33.96700 -118.50000 13.1 A 715193 16 43
1987/05/12 17:18:59.24 eq l 2.10 c 33.96000 -118.48700 7.7 B 722018 18 51
1987/12/04 11:17:56.91 eq l 2.03 c 33.97400 -118.46900 5.9 A 737899 26 71
1988/06/11 04:56:40.69 eq l 2.34 c 33.97900 -118.44800 5.6 C 640836 21 102
1988/06/13 15:42:22.13 eq l 2.50 c 33.97200 -118.45100 12.7 A 640954 25 146
1989/07/16 21:35:00.87 eq l 2.21 c 33.97500 -118.39900 13.0 A 1034859 20 43
1989/10/13 01:03:49.52 eq l 2.42 l 33.97200 -118.43500 7.3 A 669460 40 188
1990/03/29 15:18:55.36 eq l 1.70 n 33.98900 -118.50000 4.9 C 1056326 9 17

1992/01/23 04:42:44.38 eq l 2.00 c 33.97100 -118.39600 3.0
1992/08/15 18:55:55.38 eq l 1.70 h 33.98600 -118.47000 8.1 C 3054426 11 48
1993/03/04 06:20:36.02 eq l 1.38 c 33.97900 -118.41800 4.2 A 3094647 13 46
1993/06/19 09:21:47.90 eq l 1.62 c 33.98900 -118.40100 6.5 C 3110534 19 97
1993/09/29 10:46:24.29 eq l 2.07 c 33.98900 -118.41700 5.9 C 2125058 50 338
1994/01/12 05:08:37.27 eq l 2.20 c 33.98700 -118.49900 7.0 C 3139977 47 215
1994/01/12 18:41:06.52 eq l 1.96 c 33.98600 -118.49200 12.3 A 3140041 15 92
1994/02/16 04:35:46.69 eq l 1.53 c 33.97500 -118.43700 12.5 A 3152624 11 57
1994/03/08 23:33:38.00 eq l 1.80 c 33.96700 -118.41300 12.7 A 3157387 45 185
1994/05/24 12:12:37.52 eq l 1.78 c 33.96100 -118.41800 15.0 A 3168897 18 193
1994/07/21 22:57:50.76 eq l 2.68 l 33.97300 -118.43900 11.9 A 3177034 103 399
1994/07/21 23:16:29.64 eq l 1.54 c 33.96600 -118.43800 12.7 A 3177035 24 88
1994/07/22 00:49:45.28 eq l 1.33 c 33.98300 -118.44000 1.1
1994/09/04 01:55:30.27 eq l 1.31 c 33.96700 -118.43100 10.3 A 3183243 12 91
1994/09/04 06:36:48.34 eq l 1.74 c 33.96800 -118.42200 7.8 A 3183263 28 218
1994/10/03 08:22:50.88 eq l 1.23 c 33.96800 -118.41600 0.9
1994/12/11 10:48:26.17 eq l 3.46 l 33.98900 -118.43500 14.0 A 3196283 84 421
1994/12/17 11:27:50.45 eq l 1.59 c 33.97600 -118.43100 12.8 A 3197237 20 229
1995/01/13 11:49:44.82 eq l 2.10 c 33.98600 -118.45300 14.5 A 3199948 37 262
1995/01/21 21:09:30.59 eq l 1.62 c 33.97200 -118.42500 13.0 A 3200852 34 173
1995/01/23 22:24:20.37 eq l 1.60 c 33.96100 -118.40000 13.7 A 3201029 16 85
1995/01/24 00:41:24.08 eq l 2.10 c 33.97500 -118.43500 13.2 A 3201045 47 215
1995/02/23 21:02:10.74 eq l 1.79 c 33.97400 -118.45400 11.1 A 3204443 17 180
1995/03/22 00:03:32.28 eq l 1.98 c 33.97100 -118.43800 13.0 A 3207480 29 215
1995/04/12 09:09:28.71 eq l 1.48 c 33.99000 -118.40700 12.6 A 3209709 38 157
1995/06/21 05:53:30.74 eq l 2.00 c 33.97800 -118.44100 11.3 A 3217086 42 240
1995/06/21 12:41:11.91 eq l 1.53 c 33.98300 -118.43600 13.2 A 3217106 18 126

1995/06/26 03:05:05.63 eq l 1.20 h 33.98100 -118.44100 13.2 A 3217575 8 66
1995/06/27 03:39:12.54 eq l 1.70 c 33.97500 -118.43800 12.8 A 3217726 35 216
1995/06/27 07:01:54.92 eq l 1.53 c 33.97700 -118.43800 13.3 A 3217739 31 149
1995/07/27 11:26:03.13 eq l 1.73 c 33.97000 -118.43000 14.4 A 3222279 26 215
1995/12/14 12:40:13.56 eq l 1.45 c 33.96300 -118.40600 2.7
1995/12/18 11:28:15.15 eq l 1.67 c 33.96100 -118.40500 13.8 A 7011812 46 180

1996/05/03 09:49:30.50 eq l 1.22 c 33.97900 -118.42900 10.3 A 3263602 16 54
1996/07/10 20:51:12.89 eq l 2.04 c 33.96300 -118.47000 13.8 A 3270197 22 163
1996/07/14 14:27:51.68 eq l 1.59 c 33.98100 -118.40200 11.3 A 3270512 25 121
1997/08/14 19:37:35.65 eq l 1.43 c 33.96100 -118.39700 11.4 A 9019897 22 85
1997/10/25 00:14:38.69 eq l 1.35 c 33.96000 -118.46800 12.0 D 9027999 14 75
1998/01/12 06:55:12.34 eq l 1.95 c 33.97000 -118.40800 12.5 A 9039552 40 168
1998/05/10 18:02:11.32 eq l 1.43 c 33.98800 -118.40700 5.3 C 9053398 19 73
1998/05/10 18:02:33.62 eq l 1.61 c 33.99000 -118.41000 5.2 C 3298802 21 73
1998/11/26 10:28:30.56 eq l 1.97 c 33.97000 -118.45100 13.1 B 9072400 21 145
1998/12/15 06:31:29.53 eq l 1.40 h 33.98600 -118.43300 14.5 A 9073676 14 100
1999/06/27 16:38:13.88 eq l 2.01 l 33.99100 -118.40000 13.4 A 9093643 29 198
2000/03/09 17:36:48.93 eq l 1.15 l 33.96800 -118.48000 -1.1
2000/04/25 11:11:10.29 eq l 1.67 l 33.98000 -118.45200 14.4 A 9148441 36 114
2000/09/16 13:24:41.33 eq l 3.08 l 33.97600 -118.41950 12.7 A 9163314 77 1873
2000/09/18 12:29:58.15 eq l 1.00 h 33.97900 -118.42900 13.9 A 9163470 14 264

2001/09/30 06:49:57.02 eq l 1.68 l 33.96383 -118.41450 16.4 A 9709749 29 386
2002/01/26 16:52:14.78 eq l 1.76 l 33.96583 -118.41033 13.0 A 12299456 29 421
2002/04/22 09:51:32.03 eq l 1.45 l 33.99083 -118.39317 15.3 A 12880132 22 332
2002/11/12 02:28:26.56 eq l 2.21 l 33.96483 -118.40867 15.5 A 13909816 46 714
2003/03/24 15:29:59.60 eq l 1.71 l 33.97000 -118.40500 12.8 A 13949560 27 439
2004/04/22 06:51:51.34 eq l 1.83 l 33.96817 -118.42100 14.0 A 14048596 32 463
2004/08/11 20:35:18.87 eq l 1.72 l 33.98000 -118.42683 13.9 A 10037393 35 489
2005/06/06 21:25:22.51 eq l 1.77 l 33.97783 -118.44917 15.7 A 14150296 26 380
2005/06/23 10:32:11.23 eq l 2.81 l 33.97967 -118.42483 15.6 A 14157476 113 1868
2005/11/10 17:55:58.59 eq l 1.56 l 33.98133 -118.40350 13.9 A 14197392 13 396
2005/11/14 06:32:05.52 eq l 1.60 l 33.96950 -118.40383 16.6 A 14197896 21 363

2007/09/01 21:20:56.66 eq l 1.60 l 33.97383 -118.42700 13.6 A 10275553 37 340
2008/01/12 05:47:18.51 eq l 1.91 l 33.97833 -118.45217 13.8 A 14342380 87 812
2008/03/27 12:13:16.91 eq l 2.43 l 33.98083 -118.40083 11.8 A 14358372 133 1247
2008/10/22 22:03:33.87 eq l 2.51 l 33.98917 -118.43083 11.8 A 10355397 63 1409
2009/01/24 03:42:44.05 eq l 3.30 l 33.97900 -118.46117 11.1 A 10373093 233 1775
2009/01/24 04:50:45.60 eq l 1.74 l 33.98033 -118.47317 12.5 A 10373097 70 464
2009/03/11 18:10:31.27 eq l 1.30 l 33.99017 -118.49467 4.9 C 10380741 18 278 XXXXXXXXXXX
2009/04/19 04:08:44.20 eq l 2.19 l 33.98317 -118.47000 12.1 A 10397393 80 1278
2009/04/19 05:02:37.64 eq l 1.18 l 33.98333 -118.47233 11.6 A 10397425 16 418
2009/04/29 09:59:31.49 eq l 1.10 l 33.98350 -118.47700 13.5 A 10402329 28 382
2009/06/07 09:02:58.77 eq l 2.25 l 33.98117 -118.42333 15.4 A 10121842 107 1411
2009/08/02 14:08:12.83 eq l 1.64 l 33.97400 -118.46833 10.4 A 14494568 38 1346
2009/09/18 05:47:26.23 eq l 1.35 l 33.97233 -118.47600 13.7 A 14511796 33 1791
2009/12/18 07:06:10.13 eq l 1.96 l 33.96733 -118.44067 15.5 B 14560756 16 112
2009/12/27 09:42:24.28 eq l 0.84 l 33.98267 -118.47100 12.9 B 14564428 12 1517
2009/12/27 12:39:47.21 eq l 1.63 l 33.98867 -118.45733 9.0 A 14564452 39 1764
2010/05/06 21:13:50.90 eq l 1.82 l 33.96000 -118.40167 13.8 A 14696876 33 1710

2010/09/09 11:37:56.12 eq | 1.61 | 33.98317 -118.46650 10.3 A 10794749 26 167

2011/04/10 11:29:43.87 eq | 1.30 | 33.96250 -118.40733 15.1 A 10922973 23 1611
2011/07/28 10:43:58.24 eq | 1.27 | 33.98483 -118.42817 13.8 A 10983221 26 1662
2011/09/21 05:00:00.28 eq | 1.63 | 33.98617 -118.48200 12.7 A 11009837 25 1756
2011/09/21 12:37:48.76 eq | 1.45 | 33.97567 -118.48983 13.8 A 11009973 31 1563
2011/12/21 17:06:22.68 eq | 2.43 | 33.97783 -118.41300 11.2 A 11045309 52 2075
2012/06/30 02:30:11.79 eq | 1.11 | 33.98750 -118.41500 9.7 C 11129050 19 1634
2012/07/25 10:18:41.86 eq | 3.55 w 33.96350 -118.40700 10.7 A 15182841 180 1701
2012/07/25 12:27:29.26 eq | 2.33 | 33.96283 -118.40483 10.4 A 15182873 53 1668
2012/07/25 12:46:23.85 eq | 1.41 | 33.96283 -118.39617 9.9 C 15182881 26 1623
2012/08/18 10:39:45.84 eq | 0.90 | 33.96083 -118.40200 11.1 B 15194513 21 1188
2012/08/20 14:02:40.07 eq | 2.05 | 33.96550 -118.39817 9.7 A 15195369 47 2113
2012/10/15 22:38:34.27 eq | 1.83 | 33.97083 -118.41917 8.3 A 15230857 40 1937
2012/11/20 10:50:17.57 eq | 1.27 | 33.96183 -118.41983 9.0 A 11206266 26 1700
2012/11/26 09:58:46.09 eq | 1.39 | 33.97500 -118.48967 11.6 B 11208690 20 1866
2012/12/15 03:01:53.75 eq | 1.35 | 33.96300 -118.41217 8.9 A 15264081 35 1899
2012/12/19 09:07:38.15 eq | 1.79 | 33.96400 -118.40117 10.4 A 15265761 26 1923
2013/04/05 16:14:15.72 eq | 1.81 | 33.96750 -118.42817 10.7 A 11279866 38 2002
2013/05/17 03:28:24.31 eq | 1.44 | 33.96367 -118.42000 11.9 A 15344505 36 1898
2013/07/01 04:32:01.72 eq | 2.72 | 33.96100 -118.41533 11.5 A 11328642 160 2230
2013/07/01 06:11:54.60 eq | 1.92 | 33.96533 -118.42333 10.7 A 11328674 51 2028
2013/07/01 06:16:10.55 eq | 1.38 | 33.96267 -118.41883 11.4 A 11328682 47 1683
2013/07/02 15:25:01.72 eq | 1.87 | 33.96767 -118.43333 10.6 A 11329234 33 2060
2013/07/21 16:44:38.48 eq | 1.93 | 33.96000 -118.42417 11.3 A 11337538 60 2056
2013/08/19 08:39:23.23 eq | 1.16 | 33.96217 -118.42500 11.8 A 15393633 34 1767
2013/09/05 11:13:00.11 eq | 1.59 | 33.97850 -118.40217 10.8 A 11359930 27 1595
2013/10/13 12:29:14.82 eq | 1.36 | 33.96233 -118.41150 8.7 A 11377146 31 1846
2013/11/14 04:56:45.03 eq | 1.63 | 33.96367 -118.42800 10.3 A 11391514 37 1901
2013/12/19 15:53:39.13 eq | 2.75 | 33.98233 -118.44567 9.2 A 15445609 109 2315
2014/01/03 19:47:59.92 eq | 3.01 | 33.98200 -118.45250 11.1 A 11409738 141 2330
2014/01/08 05:33:43.88 eq | 2.36 | 33.97883 -118.45317 11.1 A 11411490 109 2158
2014/01/18 19:19:14.61 eq | 1.17 | 33.97150 -118.43883 7.6 A 11415274 20 1676XXXXXXXX
2014/01/21 19:03:10.77 eq | 2.00 | 33.96500 -118.42233 11.8 A 11416290 48 2071
2014/03/08 04:16:31.44 eq | 3.13 | 33.96983 -118.42817 9.7 A 15473729 103 2331
2014/03/10 00:46:58.29 eq | 1.55 | 33.97117 -118.43200 9.0 A 15474385 29 1838
2014/04/18 12:21:33.79 eq | 1.39 | 33.97700 -118.40567 12.0 A 37213344 37 1736
2014/08/02 01:13:17.07 eq | 1.27 | 33.96917 -118.42150 10.5 A 15533657 26 2058
2014/10/02 04:04:25.76 eq | 1.72 | 33.97617 -118.44617 12.9 A 37046799 47 2237
2014/10/27 14:43:14.29 eq | 1.59 | 33.97983 -118.41383 11.1 A 37282872 21 2468
2015/03/22 18:26:40.93 eq | 1.51 | 33.96317 -118.43700 11.7 A 37345920 37 2091
2015/05/22 10:32:53.30 eq | 1.49 | 33.97217 -118.41750 9.8 A 37385160 44 1855
2015/05/27 12:52:48.75 eq | 1.51 | 33.96733 -118.41967 10.5 A 37388200 53 1967
2015/08/22 01:53:30.34 eq | 1.10 | 33.97717 -118.44233 14.7 A 37230927 28 1532
2015/09/05 04:55:33.01 eq | 2.69 | 33.99083 -118.42567 10.2 A 37237983 110 2897
2015/10/06 08:36:26.13 eq | 1.81 | 33.98800 -118.44000 10.0 A 37253751 94 2308
2015/10/06 08:38:24.50 eq | 1.14 | 33.98950 -118.44350 10.0 A 37253767 59 1693
2015/12/22 10:00:23.58 eq | 1.88 | 33.97650 -118.42883 9.5 A 37287519 100 2237

2016/03/07 23:02:04.00 eq | 1.29 | 33.97133 -118.42183 14.0 A 37315271 33 2003
2016/05/16 22:09:40.06 eq | 1.37 | 33.98983 -118.46083 11.8 A 37569096 25 1407
2016/07/20 18:59:05.96 eq | 1.61 | 33.99150 -118.43283 10.1 A 37419671 43 2359

2016/07/21 04:02:55.61 eq l 1.40 l 33.96133 -118.46800 16.6 B 37419959 20 2303
2016/10/20 07:41:50.51 eq l 1.31 l 33.96883 -118.42250 10.3 A 37720080 38 1895
2016/10/20 08:26:20.86 eq l 1.37 l 33.97150 -118.44150 9.5 A 37720112 58 1799
2017/01/26 23:08:46.30 eq l 1.83 l 33.97067 -118.40383 11.1 A 37574167 74 2399
2017/03/29 06:10:08.02 eq l 2.07 l 33.98150 -118.40233 10.2 A 37843624 139 2750
2017/04/07 01:40:53.57 eq l 1.57 l 33.97800 -118.42000 10.4 A 37851144 67 2492

1-10/Table 1.2-1: I-710 Average Daily (Two-Way) Traffic Volumes Auto Truck Total
Source: AECOM. I-710 Corridor Project Traffic Operations Analysis Report (March 2017).
Caltrans DEIR/DEIS 2016 & TSM/TDM as the Locally Preferred Alternative, 2017 used Vehicle/Annual average daily volume of 180,000 vpd with truck representing 80-90,000 cars and PCEs of 2.2-2.5 v/truck
DEFINE "Average Daily" (week-day: 260 days; or 365 days), Traffic or Vehicle volumes; "auto". | IP-45-52
As no/few project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd Ave., compared to SR-60. | IP-45-53
As no terminal segment of I-710 is included (with or without SR-710), the diversion of 9000-20,000 trucks appears as or more significant than the 11,000 - 10,000 trucks... and those for the I-5: 2000-3000 trucks.
REVISE/PROVIDE throughout document. | IP-45-54

1-38/1 RAILROADS....rail network in the SCAG region, including the Study Area, is composed of BNSF and UP Railroad rail lines, terminals/yards, and on-dock rail terminals at the Ports. Rail routes include the Alameda Corridor, BNSF Railroadâ€™s San Bernardino Subdivision, and UP Railroadâ€™s Los Angeles and Alhambra Subdivisions.
No reference to Pacific Harbor Line, PHL. COMPARE/PROVIDE full description of current, projected, and maximum capacities...for both in-/out-bound. | IP-45-55

1-38/1 The I-710 Railroad Goods Movement Study (2009)...projected demand in the movement of containerized freight...developing the 2035 travel demand forecasts for the I-710 Corridor Project...port cargo and operational characteristics of the railroads,...assumed that approximately 34.4 percent of the cargo growth (approximately 14.1 million annual TEUs) in 2035...either on-dock or off-dock intermodal terminals.\11...2015, the Alameda Corridor was operating 38 trains per day,\12...By 2035, the Alameda Corridor is projected to be operating 108 trains daily...sufficient capacity to handle the projected traffic. As of 2010, BNSF Railroadâ€™s San Bernardino Subdivision operated up to 99 trains per day (45 freight trains and 54 commuter trains) in its most heavily trafficked segments. By 2035, BNSFâ€™s San Bernardino Subdivision...operating up to 189 trains daily....\13 ...BNSF Railroad has constructed or has plans to construct three tracks on the San Bernardino Subdivision, sufficient capacity to handle the projected train volumes. The UP Railroad...with routing flexibility. According to the Regional Rail Simulation Update Summary Report...SCAGâ€™s November 2011..., 51 through-freight trains operated collectively over the subdivisions in 2010,...
GMS (2009) and SCAG 2011 are out-of-date...REMOVE/UPDATE for 2015-2017. | IP-45-56
COMPARE/PROVIDE all referenced projections of cargo, freight, goods, and containers (for 20, 40, and 53-foot units) for 2009-2017 for all rail lines and yards and maximum right-of-way tracks or assumed x3 track sets. | IP-45-57
DEFINE/PROVIDE "Goods Movement", and "movement of containerized freight",
DEFINE/PROVIDE "cargo growth" and "sufficient capacity", "projected train volumes [?=traffic?]" | IP-45-58
PROVIDE comparisons of 20, 40, and 53ft. containers | IP-45-59

1-38/1 \11 Some port cargo is â€œtransloadedâ€ , i.e., transferred from marine containers to larger domestic containers,...transloaded cargo moved by rail is above and beyond the 34.4 percent that is moved directly by rail.
\12 Alameda Corridor Transportation Authority. Website: http://www.acta.org/pdf/CorridorTrainCounts.pdf (accessed December 28, 2016).
\13 SCAG. 2013. On The Move: Southern California Delivers the Goods. Comprehensive Regional Goods Movement Plan and Implementation Strategy, final report. February. Website: http://www.freightworks.org/ DocumentLibrary/ CRGMPIS%20-%20Final%20%20-%20Chapter%204.pdf (accessed December 28, 2016).
DEFINE/PROVIDE "some", "cargo", "transferred/transloaded", "marine", "larger" [43, 48, 50, & 53ft compared to 20ft or TEUs], and "domestic" in the US, not just California. | IP-45-60
Appendix E Glossary of Technical Terms & Appendix G List of Acronyms

Appendix H List of Technical Studies & Appendix M References
References/Citations, Definitions/Glossary, and Acronyms/Abbreviations are confused and not consistently used in document and are not conveniently placed within the document to assure public access.
COMBINE/REVISE/PROVIDE within the DEIR/DEIS text. IP-45-61

1-41/1 Given the needs within the I-710 Corridor and the projectâ€™s focus on goods movement as part of the project need, these are logical termini...and SR-60 is one of the major east-west freeways that connects to the I-710 and serves logistics centers in the Inland Empire. Under the No Build Alternative in 2035, approximately 31 percent of daily traffic transitions to SR-60 at the northern terminus...nearly one-third of the traffic exits I-710...and transportation demand decreases north of SR-60, terminating the project at SR-60 provides a rational endpoint.
DEFINE "I-710 Corridor needs", "goods movement", "project need", "logistics centers", "daily traffic transitions", and "transportation demand". IP-45-62
As no project changes are proposed north of I-5 or Whittier Blvd., provide the rationale for north of 3rd Ave., compared to SR-60. IP-45-63
REVISE/PROVIDE throughout document.

3.6-2/5 3.6.2.3 TOPOGRAPHY The I-710 Corridor Project is situated within the central part of the Los Angeles Basin. The elevation of the I-710 Corridor Project varies from near sea level in the south to approximately 180 280 feet above mean sea level near SR-60...[USGS] 1994;
Elevation is incorrect and appears to be for I-5 rather than SR-60.
Google Earth Pro, 2017. SR-60:273-304ft; Whittier: 194-216ft; I-5: 162-182,198ft elev. IP-45-64
REVISE/PROVIDE throughout document.

3.6-121/1 3.7 CULTURAL RESOURCES The information...based on the following technical reports: Historical Resources Evaluation Report (HRER) (April 2012).
Referenced Technical Report is not provided/included in appendices - H/M, not available to Public.
H-3 Flood Control Facilities Report (AECOM, January 2017).
Geotechnical Final Report (URS, January 2010).
HRER ???
I-710 Corridor Aesthetics Master Plan (Caltrans, February 2014). IP-45-65
Initial Feasibility Analysis Study Report (URS, December 2008).

M-21 GPA Consulting. 2017. Section 4(f) and 6(f) Evaluation....
M-23 Kachour, Jenna. 2016. Draft Supplemental Historical Resources Evaluation Report for the Interstate 710 Corridor Project
REVISE/PROVIDE throughout document references and PROVIDE in appendices:

3.25-18 Table 3.25-1: Past, Present and Foreseeable Future Projects in the I-710 Corridor Study Area
T-81 East-West Freight Corridor Project Southern California Association of Governments (SCAG) The project would establish truck-only lanes along the SR-60 corridor between I-710 in Los Angeles County and I-15.... Such a system would address the growing truck traffic and safety issues on core highways through the region and serve key goods movement industries....add capacity in congested corridors, improve truck operations and safety by separating trucks and autos and provide a platform for the introduction and adoption of zero- and near zero-emission technologies. Corridor concept planning is ongoing. No environmental analysis...(Source: SCAG 2016 RTP/SCS, Goods Movement Transportation System Appendix â€“ accessed December 27, 2016)
DEFINE "Study area" as related to SR-60 as maps do not consistently include SR-60. IP-45-66
The Project does not include improvement from Third Ave. to SR-60 that would verify against the proposed Truck-Lanes. Current Pavement Rehabilitation suffers from same lack of truck-related projections north of Third Ave. Same for SR-710. IP-45-67
REVISE/PROVIDE throughout document for SR-60 and SR-710.

3.25-43/2-3 3.25.4.1 LAND USE The information in this section.... The Study Area includes the portion of I-710 from Ocean Blvd. in Long Beach to SR-60, a distance of approximately 18 19 miles.
DEFINE "Study area", Project area, and Project sites; 18 miles to I-5 and 19+ miles to SR-60. | IP-45-68
The Project includes "maximum rail diversion" and "Study Area" includes railroads.
REVISE/PROVIDE throughout document. | IP-45-69

3.25-43/3 ...At the freeway-to-freeway interchanges, the Study Area extends one mile east and west of I-710 for the I-405, SR-91, I-105, and Interstate 5 (I-5) interchanges....For the purpose of this analysis, the RSA for land use is the Study Area, which includes parts of the Cities of..., Los Angeles,....
DEFINE "Study area", Project area, and Project sites. | IP-45-70
The Project Study Area extends more than 5 miles east and west from the I-710 at interchanges and the ROW. SR-1 has the widest E-W Study Area and SR-60/I-105 have the narrowest east-west width.
The Project includes "maximum rail diversion" and "Study Area" includes railroads.
REVISE/PROVIDE throughout document. | IP-45-71

1-37/1 The Gerald Desmond Bridge Project will replace the existing...Bridge, which connects Terminal Island (POLB) to SR-710 with a new six-lane bridge....
CONFUSED SR 710 / SR710 / SR-710 or I-710.
REVISE: Terminal Island is both PoLA and PoLB or SPP but "eastern T....I.... (POLB)" | IP-45-72

1-38/1 RAILROADS. The present rail network in the SCAG region,...Study Area, is composed of BNSF and UP Railroad rail lines, terminals/yards, and on-dock rail terminals at the Ports. Rail routes include the Alameda Corridor, BNSF Railroadâ€™s San Bernardino Subdivision, and UP Railroadâ€™s Los Angeles and Alhambra Subdivisions.

3.13-44/3 The only areas where [NOx] increases occur are in the locations of the Southern California International Gateway (SCIG) Project in in the Port area and the SR-710 North Study (a portion of SR-710 north of Interstate 10 [I-10]). These two proposed projects are included in the 2035 I-710 Traffic Model, as they would be constructed by that time.
Traffic (vehicles, cars, autos, and trucks) loadings are not provided for I-710, north of SR-60, andd SR-710 and reported truck traffic does not reflect projection of 180,000 vehicles/d and estimated 80+K cars and 80+K trucks-passenger car equivalence of 2.2-2.5 (= 35,000+ 53-ft trailer, heavy-duty trucks).
DEFINE/PROVIDE "truck traffic" for current, projected, and maximum capacity for SCIG and SR-60, and I-10, and "SR-710" AND Traffic Model - model flow chart and inputs/outputs for all relevant runs/operations for SCIG and SR-710 AND SR-60. | IP-45-73

3.13-48/1 The only [PM/2.5] increases...occur in the Port areas where the proposed SCIG Project...and a portion of SR-710 north of I-10...proposed SR-710 North Study project would be located in 2035.
Traffic generated air pollutants are mentioned BUT not indicated in air quality considerations and modeling but traffic loadings are not provided for I-710, north of SR-60, andd SR-710 and reported truck traffic does not reflect projection of 180,000 vehicles/d and estimated 80+K cars and 80+K trucks-passenger car equivalence of 2.2-2.5 (= 35,000+ 53-ft trailer, heavy-duty trucks).
DEFINE/PROVIDE "air pollutants" for current, projected, and maximum capacity for SCIG and SR-60, and I-10, and "SR-710" AND Traffic Model - model flow chart and inputs/outputs for all relevant runs/operations for SCIG and SR-710 AND SR-60. | IP-45-74

3.25-5/FIGURE 3.25-1 I-710 Corridor Project Cumulative Projects
Study Area
Alameda Corridor
Projects not located within extent of map
T-2: SR710 North Study
T-18: SR60 Freeway Improvement Project
LD-87 : SR-710 Surplus Property Sales
Tables 3.25-1 & -2 :...SR 710 North Study (previously...SR-710 Project...)

Confusing inclusion/exclusion of SR-710, SR-60, and SCIG.
REVISE/PROVIDE: as worst case condition, add all and include thorough traffic generations and associated noise, vibration, and air pollutants. IP-45-75

3.7-15/2 Additionally, the Archaeological Sensitivity Study (2017) was conducted to identify areas with a higher potential occurrence of...historic archaeological resources within the original and Supplemental APEs. This study incorporated data from pedestrian surveys of accessible, undeveloped portions of the Supplemental APE; a review of historical maps and aerial photos; literature research; and a â€œproximity analysis.â€
3.12-3/3 The ISA included a search of government records to obtain a listing of properties or known incidents from State, Federal, or local regulatory databases for hazardous waste sites within the ISA Study Area, review of reasonably ascertainable historical information sources (aerial photographs,...of the proposed right-of-way for the build alternatives to identify readily visible contamination. Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search limited to within a one-mile radius...of the I-710 Corridor Project for facilities listed by regulatory agencies as potentially having environmental concerns.
Apdx H. List of Technical Studies. Archaeological Sensitivity Study for the Interstate 710 Corridor Project (Confidential Report) (LSA Associates, Inc., February 2017. Appendix to Supplemental Archaeological Survey Report).
No reference to borings reviews nor to 1923 available photos, mention is made of only 1928.
REVISE/PROVIDE thorough review of 1923 aerial photos for historic structures and potential users/facilities with or without visible contamination, e.g., crude oil tanks, vehicle/ship fuelling and car gasoline stations. IP-45-76

Cargo Container, not freight or goods container
3.2-6/FN
\3 Some port cargo is â€œtransloaded,â€ i.e., transferred from marine containers to larger domestic containers, and then moved by rail in these large containers. The transloaded cargo moved by rail is above and beyond the 34.4 percent that is moved directly by rail.
\4 Alameda Corridor Transportation Authority. Website: http://www.acta.org/pdf/CorridorTrainCounts.pdf (accessed December 28, 2016).
\5 Southern California Association of Governments (SCAG). 2013. On The Move: Southern California Delivers the Goods. Comprehensive Regional Goods Movement Plan and Implementation Strategy, Final Report. February 2013. Website: http://www.freightworks.org/DocumentLibrary/CRGMPIS%20-%20Final%20%20-%20Chapter %204.pdf (accessed December 28, 2016).
\6 SCAG Freightworks. Website: http://www.freightworks.org/DocumentLibrary/Comprehensive%20Regional%20Goods%20Movement%20Plan%20and%20Implementation%20Strategy%20-%20Regional%20Rail%20Simulation%20Update.pdf (accessed December 28, 2016).

3.2-7/5 I-710 Travel Demand Modeling Report (2017) AECOM
Secondary transload truck trips (cargo in 20- and 40-foot international containers is transferred to 53-foot domestic containers).
/6 The same report noted that about 80 percent of the primary port truck trips are destined to or originated from locations within 20 miles of the Ports.
Inconsistent terms and usage. IP-45-77

Appendix E Glossary of Technical Terms (PDF)
No definitions of Cargo, Containers, Freight, Goods IP-45-78

Appendix G List of Acronyms (PDF)
TEU TEU twenty-foot equivalent unit
International
US/ Domestic

Appendix H List of Technical Studies (PDF) 2 pages
NO Mercator 2016 IP-45-79

Appendix M References (PDF)
M-26 Mercator International, LLC and Oxford Economics. 2016 [=Mercator 2016]. Executive Summary for San Pedro Bay Long-term Unconstrained Cargo Forecast. January.
https://www.portoflosangeles.org/pdf/Official_Statement_2016_Series_A_B_C_Bonds.pdf
http://www.acta.org/revenue_finance/AR%20ACTA%20Notice%20Regarding%20Approval.pdf

Appendix N Index (PDF)
N-7 Freight corridor (FC) S-9, 2-59, 2-63, 2-85, 2-89, 2-94, 2-95, 3.1-56, 3.1-59, 3.1-60, 3.1-87, 3.1-89,...
No goods nor cargo / cargo containers | IP-45-80

*You received this message because Dr. Clyde T Williams submitted feedback regarding the I-710 Corridor Project.

Regards,
System Administrator

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IP-45-1

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Cordi, Michelle@DOT IP-46

From: Gonzalez, Edith <EGonzalez@bos.lacounty.gov>
Sent: Monday, November 6, 2017 4:38 PM
To: Rehman, Waqas
Subject: FW: I-710 South - Recirculated Draft Environmental Impact Report

Importance: High

FYI I-710 Constituent Comment

From: Rosemary Marin [mailto:rosie4cookielee@sbcglobal.net]
Sent: Monday, November 06, 2017 3:01 PM
To: Leal, Kathy
Subject: Re: I-710 South - Recirculated Draft Environmental Impact Report

I am writing this in response to the the parties involved with Caltrans and Metro's decision to relocate our home in order to expand the 710 Fwy. We understand that everyone would like the best outcome. But when does the best involve removing citizens out of their home? We have lived here for almost 50 years! We have worked very hard to achieve having our own home. We are comfortable in our neighborhood. And are close to all types of facilities including doctors, stores, and schools. At this time of our lives we are at an age of enjoying grandchildren and are not in any shape physically able to handle the thought of a move (losing our home). We have many memories here, we raised our children here. We wouldn't have that same quality of life if forced out. Furthermore, we are not in a financial situation where we could afford to pay higher taxes under your proposed move. It would be devestating for our family. IP-46-1

I also was made aware that there were other communites better fit to make this a successful connection to the 210 fwy but didn't happen and that there is a pending lawsuit by the city of Rosemead. Maybe theres a better alternatives. Please understand this is all I own and would not have anything left. IP-46-2

Thank you for giving us the opportunity to share our concerns.

Sincerely,

Greg & Tere Marin
425 S. Humphreys Ave
Los Angeles, CA 90022

- Rosemary Marin

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IP-46-1

Caltrans and Metro thank the commenter for their input. The commenter's concern regarding the displacement of your residence is acknowledged and included in the project record. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the residence at 425 S. Humphreys Ave. in Los Angeles will not be acquired. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

IP-46-2

It appears the commenter is referring to the SR-710 North Project, a separate SR-710 project that is located north of the I-710 Corridor Project limits. The purpose and need of the SR-710 North Project includes completion of the regional transportation system by providing a linkage between the incomplete SR-710 freeway at Valley Blvd. in Los Angeles and the northern stub near SR-134/I-210 in Pasadena. The I-710 Corridor Project is an independent project intended to address the auto and truck traffic that travels the I-710 between the Port complex and SR-60, where nearly one-third of daily traffic is projected to exit I-710 in the 2035 No Build Alternative condition.

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Ronald Kosinski Caltrans District 7, Division of Environmental Planning 100 South Main Street, MS 16A Los Angeles, CA 90012

The EIR is totally inadequate IP-47-1

Times have changed rendering this project obsolete.
Current Distribution is moving to the Inland Empire.
The project needs to go from the ports to the Inland Empire not to the non Existent 710 freeway north.
We built the wrong directed Alameda Corridor- North instead of EAST.
Since it's there why are trucks still carrying loads to the Rail Yards?
Ship by Rail to the Rail yards and let the truck load there- 710 problem solved
or better yet ship by Rail to the Inland Empire from the Port to destinations East and true local content back haul to LA
WE suggested that this be considered as an alternative in our previous comments. IP-47-2

S.5.10 - Geology, Soils, Seismic, and Topography

S.5.10.1 - Build Alternatives

The roadway, structures, and other features of the both build alternatives could be impacted by ground motion and liquefaction and possible ground rupture (deformation), to some degree.
Design and construction of the I-710 Corridor Project to current highway and structure design standards, including applicable seismic standards, would minimize the potential impacts on the build alternatives

Before you can design you must develop the Seismic Hazard for the design engineer.
The project has not come close to accomplishing this
For example the Newport-Inglewood fault is now connected to San Diego's Rose Canyon fault.
Ground motion is going to be much worse than considered especially at the longer periods that affect bridges.
Ground rupture is not characterized as mere “deformation” IP-47-3

In our opinion CalTrans design standards are not current – Especially as to the hazard of the Southern San Andreas effects on DEEP BASIN sites. see following IP-47-4

Table S-5 CEQA Significance Chart
A.iii ground failure has not been analyzed for long period ground motion or duration of shaking, Vertical has not been analyzed. X-Y-Z seismograms must be developed for sites of all critical structures
Bowl of Jello (Basin Excitement) and Perfect Storm (reflection/ interference, basin edge effects) effects must be considered
Fault rupture of the Newport Inglewood fault has not been adequately mitigated
A CEQA determination cannot yet be made IP-47-5

2.4 Alternatives Considered

We do not see where a Heavy Freight alternative directly to the Inland Empire was considered IP-47-6
We do not see where freeway/ freight improvements from the port through the Santa Ana River corridor to the Inland Empire was considered, IP-47-7

“the Enhanced Goods Movement by Rail component was removed from Alternative 3 because these projects and other efforts to maximize the amount of goods movement by rail would not be completed as part of the I-710 Corridor Project.
Bureaucratic Bull- they would render the I-710 lane expansions for trucks unnecessary, get trucks off the 710, other 710 improvements are relatively negligible IP-47-8

“implementing an advanced zero emission container movement technology within the I-710 Corridor.”
WE never suggested this- the I-710 corridor and the Alameda train corridor both run the wrong direction. IP-47-9

3.10.2.3 Faulting and Seismicity

Traditionally, earthquake scientists and engineers depended on formulas known as Ground Motion Prediction Equations, or GMPEs, to estimate how much shaking could occur in an earthquake. (NGA for example)
GMPEs are developed from observed, historical earthquakes from around the world.
While they can provide a good overall estimate of ground motions,
GMPEs may not apply to a specific region's geological structure.
Additionally, GMPEs only provide simplified measures of the ground shaking and not, for example, complete seismograms.
These measures are the basis for building code design, but for critical facilities (hospitals, dams, power plants, for example), the use of seismograms in conjunction with structural simulations may be required to better illustrate site effects and directivity
https://www.scec.org/article/304

THE CalTrans ARS tool utilizes GMPE's as do the online tools from USGS and CGS

The general, directional pattern in which a fault breaks can have a big impact on how way focus and propagate, known as ***directivity*. (directivity MUST be considered in latest codes)**
You can see this directivity effect in many SCEC simulations, where shaking is more intense in certain areas, in direction of the rupture.
This is due to the fault rupturing at a speed similar to that of the waves in the ground, creating a set of stacked waves in front of the rupture and resulting in larger ground shaking in the general direction of the rupture propagation. WE call this the "Doppler Effect"

IP-47-10

Los Angeles is "like a bowl of jelly" because the city is settled on a basin full of soft sediments.
When seismic waves go from stiff rocks to this kind of soft, loose material, they slow down and amplify, and may even reverberate within the basin, causing longer periods of shaking than normal.

These effects are known as *basin effects*. These effects are considered in a simplified fashion within the GMPEs, but they can be directly taken into account with physics-based simulations,
which consider the specific geometry of the rock/sediment interface in relation to the earthquake faults.
(NGA even when utilizing a Basin factor way underestimate basin effects)

There are both SITE and PATH Basin Effects both of which must be considered.

"Active faults within the Study Area are shown in Figure 3.10-1"
There is no figure for faults outside the study area that affect the study area
for example the Whittier-Elsinore Fault and the Thums fault are not shown even-though they would be in the map area and the Palos Verdes fault and Hollywood-Santa Monica faults could be easily shown.

IP-47-11

Fig 3.10-1 shows the Puente Hills Thrust twice- please explain

IP-47-12

Table 3.20-1 is very incomplete- see following
It is completely missing multiple segment breaks
The Lower Elysian Park thrust is shown on the map but is not in the Table
several of the Maximum Credible magnitudes are understated (Newport-Inglewood has been recently linked with Rose Canyon- Whittier-Elsinore has been extended and is now shown as 7.85
A Table such as 3.10 is the source for EARTHQUAKE SOURCES
so columns showing the footwall- hanging wall for thrust faults, direction toward (like Upper Elysian Park Thrust or away (like Northridge) must be added.
Do not show CalTrans (or for example Blake) as a source- show original sources (where CalTrans got their data)
Note that the Distance shown and what we get from ARS are quite different, even when translating Km to miles

IP-47-13

Table 3.10-1 notes

CGS uses a different methodology to show distance than CalTrans ARS- Show both

IP-47-14

CGS uses a different methodology to show “Near Fault than CalTrans- show both- and the 98 UBC way, which is completely different than measuring to the closest tangent of the fault plane.
Plot a line where the fault plane is 10 km deep- 98 CBC considers anything less to be 0.0 distance. For Example the 10 km deep line for the Santa Fe Springs segment is near the 60 freeway. 98CBC would consider this 0.0 not 10km- and then measure from the line.
Obviously the slope of the thrust fault makes a big difference.
note 3 Puente Hills and Puente Hills Blind thrust Los Angeles Segment on Map have both a hanging wall and footwall components as does Compton-Los Alimitos and Lower Elysian Park whereas Upper Elysian Park blind thrust- we commend using the closest point as the fault could easily rupture up-plane toward the project- but I'd also show the CalTrans ARS distance as shown in the following 710-SR60 Data. UEP only has a footwall component as project is off the edge.
Separate analysis is required of the faults in this case North of the dragon teeth lines- the North side being much more hazardous. Vertical Component must be shown.

IP-47-15

Bradley, B. A. (2011). Near-source strong ground motions observed in the 22 February 2011 Christchurch earthquake. Seismological Research Letters, 82(6): 853-865.

Analytical and numerical investigation of site response due to vertical ground motion (PDF Download Available). Available from: https://www.researchgate.net/publication/320179456_Analytical_and_numerical_investigation_of_site_response_due_to_vertical_ground_motion [accessed Oct 29 2017].

Mualchin, Lalliana. (2013). Review and Implications of Inputs for Seismic Hazard Analysis. 1-9. 10.1007/978-3-642-36197-5_101-1. In book: Encyclopedia of Earthquake Engineering, pp.1-9

Seismic Hazard Assessment / Edition 1 by Lalliana Mualchin Taylor and Francis

Seismic hazard assessment is useful for public safety and business purposes. Although science cannot tell when the next earthquake will occur, it can reasonably indicate where and how large one is expected to be. This book presents theory and applications of deterministic seismic hazard analysis (DSHA), an alternative approach to probabilistic seismic hazard analysis (PSHA), which, although commonly used among seismologists, produces results that are incongruent with experiences in the catastrophic earthquakes of Italy, Haiti, and Japan.

Coming soon

We suggest both a PSHA and DSHA

DSHA as SOURCE must still utilize PATH and Site effects

IP-47-16

GEO-1 page 3.10-14

Problem with deferring a site specific geotechnical report and only showing inadequate and simplified data is that it is impossible to determine if the project is feasible, and financially feasible- especially fly over interchanges and elevated structures.

IP-47-17

Flood Zone/ Hydrology

In addition the USGS “ARKSTORM” scenario must be considered | IP-47-18

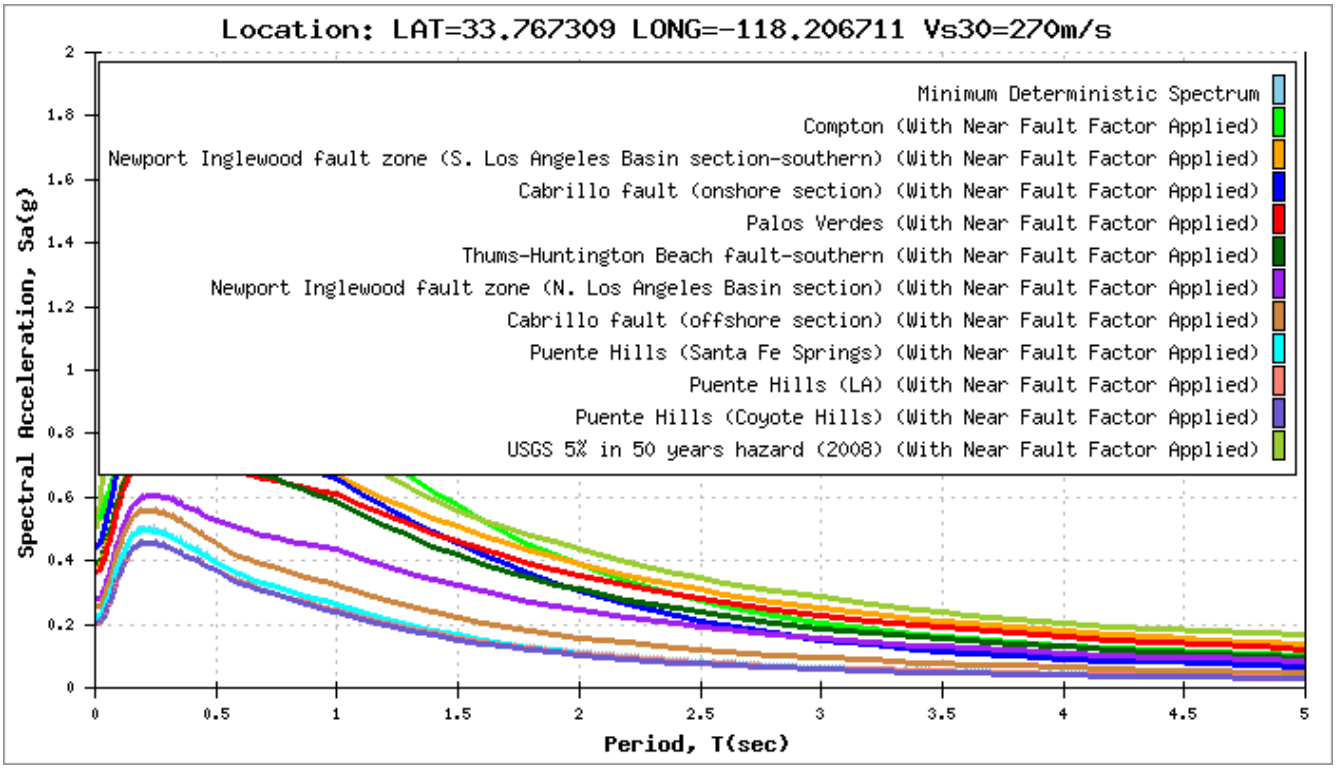
CalTrans ARS system at freeway intersections South to North
Cal Trans sorts by Hazard not by distance but see notes on CalTrans following

IP-47-19

CALTRANS STATES

Since the fault traces are simplified with potential errors of a mile or more, traces should not be used for surface fault rupture evaluation.

First is Port of Long Beach Area



Deterministic Spectrum Using

5.42 Km Compton (Compton fault tips are almost directly under the location)
4.04 Km Newport Inglewood fault zone (S. Los Angeles Basin section-southern)
7.48 Km Cabrillo fault (onshore section)
6.17 Km Palos Verdes
3.78 Km Thums-Huntington Beach fault-southern
11.23 Km Newport Inglewood fault zone (N. Los Angeles Basin section)
9.93 Km Cabrillo fault (offshore section)
16.69 Km Puente Hills (Santa Fe Springs)
21.26 Km Puente Hills (LA)
20.68Km Puente Hills (Coyote Hills)

Probabilistic Spectrum Using

3.78 Km (Recommend Performing Deaggregation To Verify)

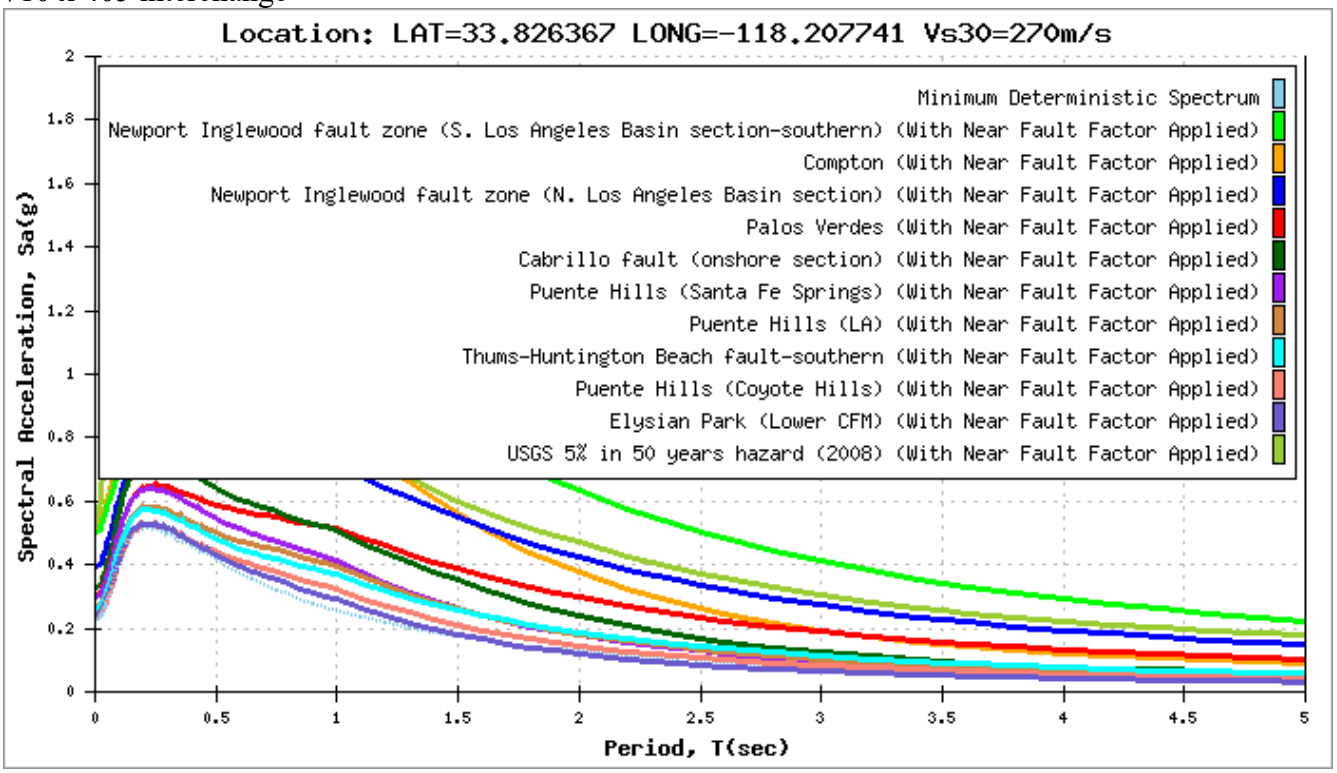
Show Spectrum with Adjustment Only

Port of Long Beach

Has the data from the Vincent Thomas Bridge project been included?

IP-47-20

710 x 405 interchange



Deterministic Spectrum Using

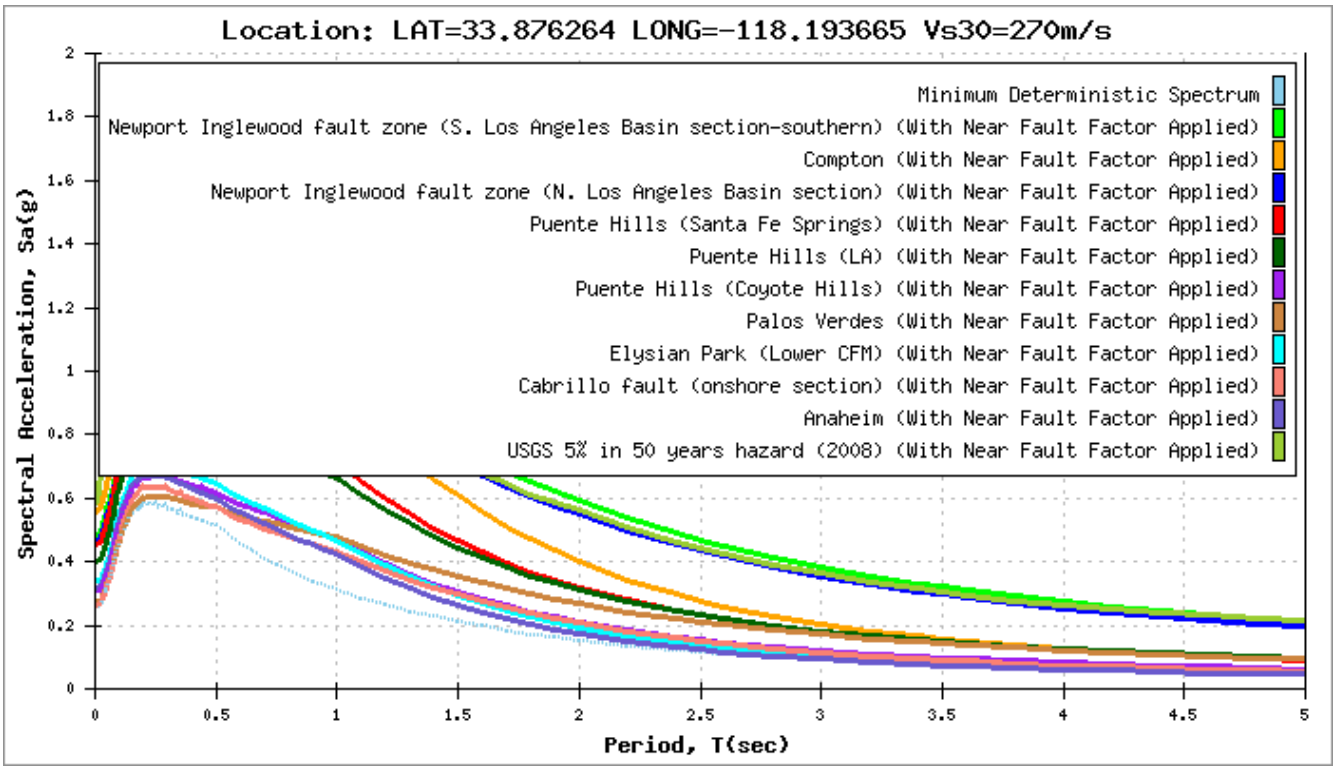
.071 Km Newport Inglewood fault zone (S. Los Angeles Basin section-southern)
7.36 Km Compton
5.18 Km Newport Inglewood fault zone (N. Los Angeles Basin section)
9.76 Km Palos Verdes
10.58 Km Cabrillo fault (onshore section)
11.33 Km Puente Hills (Santa Fe Springs)
14.76 Km Puente Hills (LA)
10.05 Km Thums-Huntington Beach fault-southern
17.05 Km Puente Hills (Coyote Hills)
19.76 Km Elysian Park (Lower CFM)

Probabilistic Spectrum Using

.071 Km (Recommend Performing Deaggregation To Verify)

Show Spectrum with Adjustment Only

710 X 91 Interchange one of the deepest Basin locations



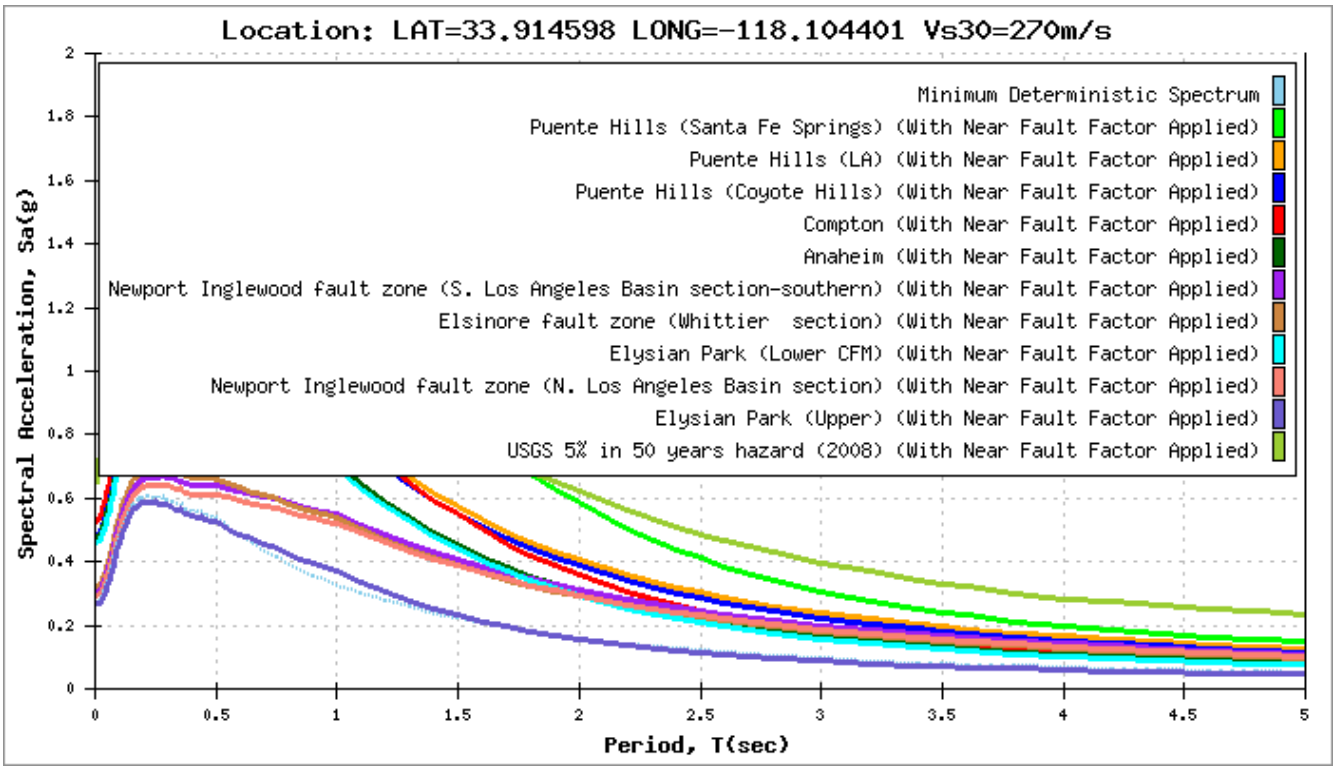
Deterministic Spectrum Using

3.64 Km Newport Inglewood fault zone (S. Los Angeles Basin section-southern)
9.20 Km Compton
4.45 Km Newport Inglewood fault zone (N. Los Angeles Basin section)
6.70 Km Puente Hills (Santa Fe Springs)
9.33 Km Puente Hills (LA)
14.21 Km Puente Hills (Coyote Hills)
14.5 9 Km Palos Verdes
15.55 Km Elysian Park (Lower CFM)
14.25 Km Cabrillo fault (onshore section)
22.99 Km Anaheim

Probabilistic Spectrum Using

3.64Km (Recommend Performing Deaggregation To Verify)

710 X 105 interchange

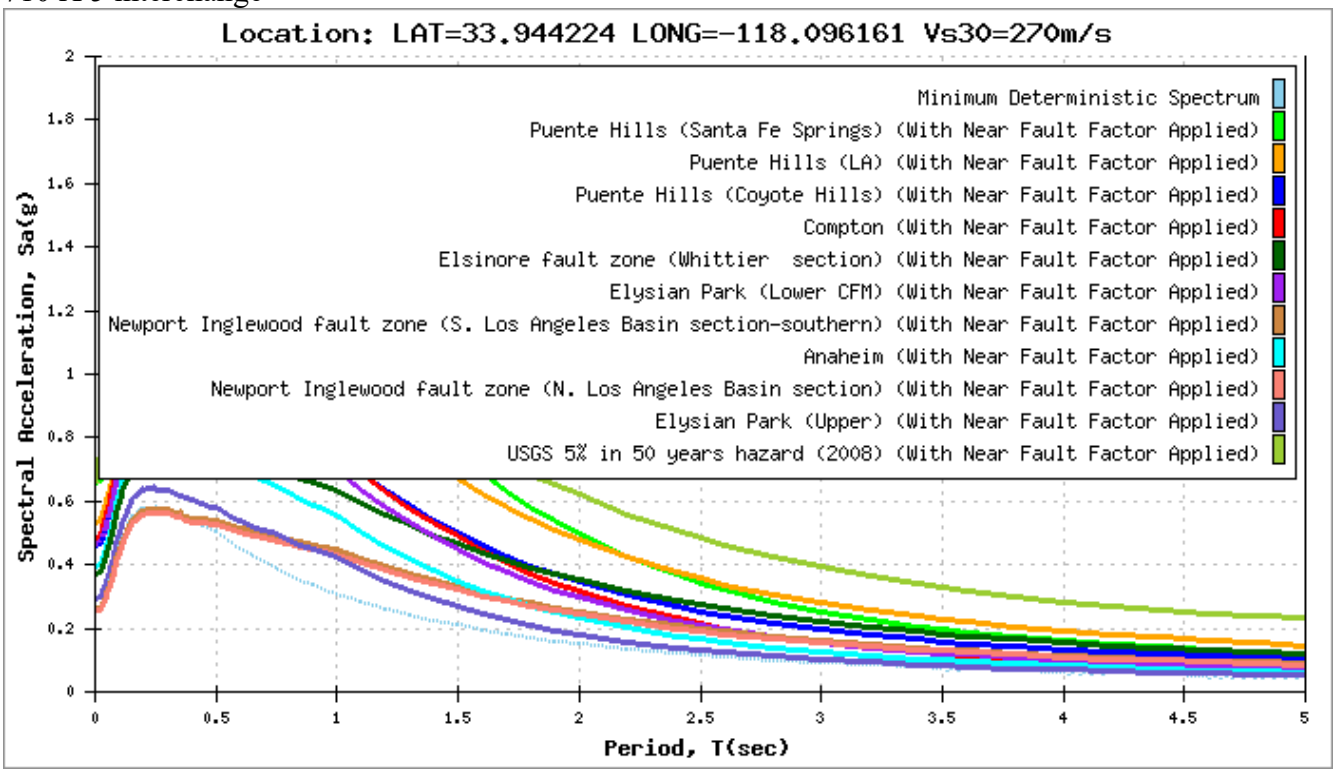


2.81 Km Puente Hills (Santa Fe Springs)
6.71 Km Puente Hills (LA)
6.67 Km Puente Hills (Coyote Hills)
11.82 Km Compton
6.23 Km Anaheim
12.67 Km Newport Inglewood fault zone (S. Los Angeles Basin section-southern)
10.35 Km Elsinore fault zone (Whittier section)
10.59 Km Elysian Park (Lower CFM)
13/68 Km Newport Inglewood fault zone (N. Los Angeles Basin section)
16.74 Km Elysian Park (Upper)

Probabilistic Spectrum Using

2.81 Km (Recommend Performing Deaggregation To Verify)

710 X 5 interchange



Deterministic Spectrum Using

4.09 Km Puente Hills (Santa Fe Springs)
4.47 Km Puente Hills (LA)
7.55 Km Puente Hills (Coyote Hills)
12.96 Km Compton
7.20 Km Elsinore fault zone (Whittier section)
10.01 Km Elysian Park (Lower CFM)
15.37 Km Newport Inglewood fault zone (S. Los Angeles Basin section-southern)
8.40 Km Anaheim
15.93 Km Newport Inglewood fault zone (N. Los Angeles Basin section)
13.73 Km Elysian Park (Upper)

Probabilistic Spectrum Using

4.09 Km (Recommend Performing Deaggregation To Verify)

Figure Map 3.10. 1 needs completion and an update | IP-47-21

Table 3.1 Potential Seismic Sources needs to include all Potential Seismic Sources
These are taken from the CalTrans ARS system from the intersections sampled above

Puente Hills (Coyote Hills)
- Puente Hills (Santa Fe Springs)

Puente Hills (LA)
Puente Hills all three segments cascading towards project
Compton -Los Alamitos blind thrust
Elsinore fault zone (Whittier section + East Montebello/ Alhambra Wash)
- Elsinore fault zone Multiple segments break

Elysian Park (Lower CFM)
Newport Inglewood fault zone (N. Los Angeles Basin section)(Cherry Hills)
Newport Inglewood fault zone (S. Los Angeles Basin section-southern)
- Newport Inglewood -Rose Canyon East fault zone multiple segments (as indicated on map 3.10.1)

Anaheim
Palos Verdes
- Palos Verdes Extended

Cabrillo fault (onshore section)
- Cabrillo fault (offshore section)
- Cabrillo fault both sections

Elysian Park (Upper)
Thums-Huntington Beach fault-southern
- Malibu Coast-Santa Monica-Hollywood-Raymond

San Andreas Southern

San Andreas Southern+ Mojave (1857)

IP-47-22

ESRI 2015 AECOM 2016
URS I-710 Corridor Project Geotechnical Report (Jan 2010)
The maximum earthquake magnitudes and other fault parameters shown in Table 3.10-1 are those currently being considered for seismic design of the I-710 Corridor Project. Totally inadequae | IP-47-23

CAL TRANS ARS list sorted by distance- to Project as a whole, not as useful as sorted by hazard but traditional presentation

- .071 Km Newport Inglewood fault zone (S. Los Angeles Basin section-southern)
- 2.10 Km Puente Hills (LA) (at fault crossing between Firestone and Gage)

2.41 Km Puente Hills (Santa Fe Springs)
- 3.78 Km Thums-Huntington Beach fault-southern @Long Beach Harbor
- 3.01 Km Elysian Park Upper 1o frwy
- 4.29 Km Elysian Park (Upper) @60 frwy (Upper and Lower Elysian Park are not connected)

4.45 Km Newport Inglewood fault zone (N. Los Angeles Basin section)
- 5.19 Km Bullard and Lettis Whittier Fault Extension @ 60 frwy
- 5.20 Km Compton Burried Thrust @Long Beach Harbor

5.24 Km Palos Verdes @Long Beach Harbor
6.23 Km Anaheim
- 6.44 Raymond

6.67 Km Puente Hills (Coyote Hills)
7.20 Km Elsinore fault zone (Whittier section)
6.82 Km Cabrillo fault (onshore section) @Long Beach Harbor
- 8.95 Km Cabrillo fault (offshore section) @Long Beach Harbor
- 9.30 Km Raymond @60 frwy

10.01 Km Elysian Park (Lower CFM)
- 10.07 Km Verdugo-Eagle Rock @60 frwy
- 10.35 Hollywood @ ELA interchange
- 15,38 Sierra Madre B & C 10 frwy
- 15.6 Km Thums-Huntington Beach fault-northern @Long Beach Harbor
- 17.8 0 km Sierra Madre C @60 frwy

The SCEC Community Fault Model Version 5.0: An updated and expanded 3D fault set for southern California

Compare your Table 3.1 with the CFM (and later data such as Rose Canyon-Newport-Inglewood connection)

https://www.scec.org/publication/6205

IP-47-24

AND UCERF3 uses later data

"**A Synoptic View of the Third Uniform California Earthquake Rupture Forecast (UCERF3)**" Seismological Research Letters. **(July 2017) DOI: 10.1785/0220170045***

http://srl.geoscienceworld.org/content/early/2017/07/07/0220170045

this is the latest paper as of date of these comments

Probabilistic- Essential Services Structures must also consider deterministic

IP-47-25

https://pubs.usgs.gov/fs/2015/3009/

Field, E.H., and 2014 Working Group on California Earthquake Probabilities, 2015, UCERF3: A new earthquake forecast for California's complex fault system: U.S. Geological Survey 2015–3009, 6 p., https://dx.doi.org/10.3133/fs20153009.

"

"This is because of the inclusion of multifault ruptures, where earthquakes are no longer confined to separate, individual faults, but can occasionally rupture multiple faults simultaneously. "

ARS does not yet consider multisegment events- The Consultants (and FEIR) must Consider

Multisegment breaks which must be considered
Puente Hills Coyote Hills cascading into Santa Fe Springs into Los Angeles segments
Elsinore rupturing toward Whittier and Whittier extension
Rose Canyon rupturing into Newport-Inglewood
Raymond, Hollywood, Santa Monica, Malibu Coast
Oak Ridge Santa Susana, Sierra Madre
San Andreas Southern breaking toward 1857 rupture

Characterise these as SOURCE EFFECTS
You must consider hanging wall vs footwall
You must consider directivity
You must consider near fault effects
One method would be to overlay LANDERS data over the Strike Slip faults
Whittier Elsinore and Extension (to near Atlantic and the 10 freeway, slide it around for each study)
Rose Canyon-Newport Inglewood
Thums
Palos Verdes

IP-47-26

PATH EFFECTS (Basin effects in the PATH must be considered)

utilize the SCEC Unified Community Velocity Model (UCVM)

https://www.scec.org/research/ucvm

https://github.com/SCECcode/UCVMC/wiki

http://scec.usc.edu/scecpedia/UCVM

IP-47-27

SITE EFFECTS you have to do more than just cover number 1

1) The softness of the soil or rock beneath a site.

The elastic properties of Earth materials ranges from hard (difficult to deform--think granite) to soft (relatively easy to deform--think mud). Seismic waves travel faster through hard rocks than through softer rocks and sediments. As the waves pass from deeper harder to shallow softer rocks the slow down and get bigger in amplitude as the energy piles up. The softer the rock or soil under a site is, the larger the wave. Softer soils amplify ground motion.

2) The total thickness of soil to bedrock. Very deep especially when crossing the 91 and 105 areas

Related to the direct amplification effects of soft Earth materials, the geometry of the soft deposits can further distort ground motion at soft rock sites. Seismic waves entering sediment-filled valleys, such as the Duwamish River Valley, can trap seismic energy such that it reverberates like sound in an echo chamber. This can lead to both higher amplitudes and longer durations of shaking. Because such effects are geometric in nature, they depend on the characteristics of the incomong wave, and it's direction of approach...they can be very difficult to predict.

IP-47-28

3) Sedimentary basins (deep geologic structure).

This is essentially the same process as #2 above, but at a broader scale. As such, it impacts the lower frequency seismic waves, and can have more widespread effects and influence larger structures that tend to be more sensitive to low-frequency motions. Deep sedimentary basins can have a large effect on ground motion above them. Earthquake waves traveling at high velocity through the stiff, crystalline rock of the crust refract and slow dramatically when entering the basin. This increases the amplitude of the earthquake waves, and the sharp density contrast of the soft basin rocks with surrounding material can cause waves to reflect, trapping energy in the basin for a period of time. This extends the duration of shaking. Due to their size, these deep geologic structures can influence shaking over a wide area.

Now you can look at

4) Ground failure potential (see Liquefaction and Landslides).

Ground failures can be as spectacular as a large landslide or much more subtle where sub-surface liquefied soils lead to differential settlement of a structure above, but the results of both types of failure can lead to large losses.

You must analyze for both local faults and long period long duration ground motion from San Andreas

UCERF3 concurs with previous studies that consider the Southern San Andreas Fault the most likely to host a large earthquake.

IP-47-29

The CyberShake Project: Better Seismic Hazard Information for Engineers https://www.scec.org/article/304

Probabilistic- Essential Services Structures must also consider deterministic

IP-47-30

http://files.scec.org/s3fs-public/CFM_2013_LA_west_labeled.png

The SCEC Committee for Utilization of Ground Motion Simulations (or "UGMS Committee") is tasked to develop long-period response spectral acceleration maps for Los Angeles region for inclusion in NEHRP and ASCE 7 Seismic Provisions and in Los Angeles City Building Code. The maps would be based on 3-D numerical ground-motion simulations, and ground motions computed using latest empirical ground-motion prediction equations from the PEER NGA project. This project is coordinated with (1) the SCEC Ground Motion Simulation Validation Technical Activity Group (GMSV-TAG), (2) other SCEC projects, such as CyberShake and UCERF, and (3) the USGS national seismic hazard mapping project.

IP-47-31

We suggest that you work with USGS Pasadena Rob Graves

It is expected that Cybershake will be utilized during the life of your project

MCEr maps for southern California
Site Specific MCEr and Design Response Spectra per SECT 21.2, 21.3, 21.4 of ASCE 7-16
C.B.Crouse is the Chair of the SCEC Committee for the Utilizatrion of Ground Motions Simulations (UGMS)

page 3-10-11
The Newport-Inglewood Fault Zone extends approximately... All the way to Mexico IP-47-32

"The Compton Fault extends northwest-southeast for approximately 25 miles along the western edge of the Los Angeles Basin. At its closest point, this fault is less than one mile southwest of the southern end of the Study Area."
The map shows it running through the study area- please explain
actually it matters if is inside or outside the basin
and the project is over the hanging wall and requires a hanging wall factor in any case IP-47-33

3.10.2.4 Liquefaction "(1) intensity and duration of earthquake shaking,"
Liquefaction needs to be analyzed for long period ground motion AND for duration of shaking
USGS has not studied long period ground motion and long duration events
New formulas may have to be developed as just increasing the magnitude gives bogus results. The formulas use magnitude as a proxy for distance which gives inaccurate results as a true distance formula would attenuate short periods whereas increasing the magnitudes increases them IP-47-34

3.10-13 In general, the project facilities can be designed to accommodate the expected ground accelerations through compliance with
applicable building and seismic codes.
As a result, the potential for structural damage can
be substantially reduced or avoided through seismic engineering design.
True but first you have to have an accurate Seismic Analysis

The potential impacts to facilities and structures can be substantially
reduced based on design and construction, consistent with the recommendations of the
detailed geotechnical investigations prepared during final design.
There has been plenty of time to do a detailed geotechncial investigation and there is no enforceable mitigation that one will properly be done. What has been shown so far gives little credence that the scope will be adequate, IP-47-35

earthquake and seismic safety concerns would be issues that would be analyzed as part of the environmentaland engineering studies for the other transportation improvement projects included in Alternative 1. Some of these projects are already fast tracked and we see no detailed seismic study.
Martha Merimiam, author of the ARS tool has resigned. Has CalTrans even had a Seismologist since Lilliana Mualchin retired?

", deficiencies in the PSHA method are becoming recognized, and the use of the method is now becoming a focus of strong debate. Caltrans is in the process of producing the fourth edition of its DSH map. The reason for preferring the DSH method is that Caltrans believes it is more realistic than the probabilistic method for assessing earthquake hazards that may affect critical facilities, and is the best available method for insuring public safety. Its time-invariant values help to produce robust design criteria that are soundly based on physical evidence. And it is the method for which there is the least opportunity for unwelcome surprises.
Deterministic Earthquake Hazard Assessment by Public Agencies in California. Available from:
https://www.researchgate.net/publication/252949528_Deterministic_Earthquake_Hazard_Assessment_ IP-47-36

Maualchin connected the Rose Canyon and Newport-Inglewood faults are treated as a single fault line prior to 2005

Modern earthquake ground motion hazard mapping in California began following the 1971 San Fernando earthquake in the Los Angeles metropolitan area of southern California. Earthquake hazard assessment followed a traditional approach, later called Deterministic Seismic Hazard Analysis (DSHA) in order to distinguish it from the newer Probabilistic Seismic Hazard Analysis (PSHA). In DSHA, seismic hazard in the event of the Maximum Credible Earthquake (MCE) magnitude from each of the known seismogenic faults within and near the state are assessed. The likely occurrence of the MCE has been assumed qualitatively by using late Quaternary and younger faults that are presumed to be seismogenic, but not when or within what time intervals MCE may occur. MCE is the largest or upper-bound potential earthquake in moment magnitude, and it supersedes and automatically considers all other possible earthquakes on that fault. That moment magnitude is used for estimating ground motions by applying it to empirical attenuation relationships, and for calculating ground motions as in neo-DSHA (Zuccolo et al., 2008). The first deterministic California earthquake hazard map was published in 1974 by the California Division of Mines and Geology (CDMG) which has been called the California Geological Survey (CGS) since 2002, using the best available fault information and ground motion attenuation relationships at that time. The California Department of Transportation (Caltrans) later assumed responsibility for printing the refined and updated peak acceleration contour maps which were heavily utilized by geologists, seismologists, and engineers for many years. Some engineers involved in the siting process of large important projects, for example, dams and nuclear power plants, continued to challenge the map(s). The second edition map was completed in 1985 incorporating more faults, improving MCE's estimation method, and using new ground motion attenuation relationships from the latest published results at that time. CDMG eventually published the second edition map in 1992 following the Governor's Board of Inquiry on the 1989 Loma Prieta earthquake and at the demand of Caltrans. The third edition map was published by Caltrans in 1996 utilizing GIS technology to manage data that includes a simplified three-dimension geometry of faults and to facilitate efficient corrections and revisions of data and the map. The spatial relationship of fault hazards with highways, bridges or any other attribute can be efficiently managed and analyzed now in GIS at Caltrans. There has been great confidence in using DSHA in bridge engineering and other applications in California, and it can be confidently applied in any other earthquake-prone region. Earthquake hazards defined by DSHA are: (1) transparent and stable with robust MCE moment magnitudes; (2) flexible in their application to design considerations; (3) can easily incorporate advances in ground motion simulations; and (4) economical. DSHA and neo-DSHA have the same approach and applicability. The accuracy of DSHA has proven to be quite reasonable for practical applications within engineering design and always done with professional judgment. In the final analysis, DSHA is a reality-check for public safety and PSHA results. Although PSHA has been acclaimed as a better approach for seismic hazard assessment, it is DSHA, not PSHA, that has actually been used in seismic hazard assessment for building and bridge engineering, particularly in California.
History of Modern Earthquake Hazard Mapping and Assessment in California Using a Deterministic or Scenario Approach (PDF Download Available). Available from: https://www.researchgate.net/publication/226495072_History_of_Modern_Earthquake_Hazard_Mapping_and_Assessment_in_California_Using_a_Deterministic_or_Scenario_Approach
Lalliana Maualchin 2010

Analytical and numerical investigation of site response due to vertical ground motion

Han, Bo & Zdravković, L & Kontoe, Stavroula. (2017). Analytical and numerical investigation of site response due to vertical ground motion. Géotechnique. 1-14. 10.1680/jgeot.15.P.191.
“bstract
Due to the repeatedly observed strong vertical ground motions and compressional damage of engineering structures in recent earthquakes, the multi-directional site response analysis is increasingly critical for the seismic design of important structures,

Analytical and numerical investigation of site response due to vertical ground motion (PDF Download Available). Available from:
https://www.researchgate.net/publication/320179456_Analytical_and_numerical_investigation_of_site_response_due_to_vertical_ground_motion

Comments on the 710 Boondoggle
Project Alternatives
I prefer Alternative 1 until 710 North is approved.
I prefer the rail elements
I prefer NO project that increases Truck traffic for the east coast going through Downtown LA
I prefer a Heavy Rail Project from the Ports to Santa Ana Canyon with all truck transhipments done in the Inland Empire not Downtown Los Angeles.
All truck containers for Back east must not be hauled by truck to downtown LA but transported by rail to an inland empire yard. IP-47-37

I have no bjections to 5A
It is unclear how Bandini/ Atlantic is a Freeway to Freeway improvement on Fig 2.3.1 IP-47-38

6A I-710 Freight Corriordor we already have one It's called the Alameda Corridor
Both of these boodnggles need to run East not North
Move the freight yard to the Inland Empire
Zero emmission trucks are still unnecessary truck traffic except for local deliveries IP-47-39

The truck traffic served by 6A must be handled by the Alameda Corridor
Or Alameda Corridor East

Comments on Geology and Soils
Overview It appears that the 2010 study just “phoned it in”
Surficial and Subsurface Soils
Bedrock is not defined- evidently old stiff soils are considered bedrock
The depth to bedrock is much deeper in the 710/5&60 area
Without further analysis the depth to bedrock is irrelevant. The depths to high velocity is not shown. IP-47-40
SCEC has had a Basin Depth study available for more than 10 years yet it was not utilized.
There is a “Community Velocity Model” with first research published last century- it was not utilized. IP-47-41
The shape of the Los Angeles Channel is not shown or modeled. IP-47-42

Expansive and Collapsible Soils mut be analyzed not only at short periods/ durations of shaking but also at long periods- long durations of shaking. Shakeout had one such study. There are later- they must be utilized. IP-47-43

3.10.23
Faults and Seismicity- appears that the consult just “filled in the blanks”
“Active fault” “and potentially active fault” are building code term- It is not relevant to a CalTrans project (or Neuclear, hazardous waste etc) and while interesting are not controlling. IP-47-44

Table 3.10.1 contains erroneous information and analysis.
Puente Hills blind thrust. URS corp in doing a review for LACODPW “Beverly blvd bridge”
correctly determined that any subsurface thrust fault is determined according to CGS procedures.
First determine where the fault is 10km underground. That then becomes 0.0 distance.
The distance to the fault tip is irrelevant except where the project passes over it& distence to the fault plane... (see footnote 3- this explanation is just the first step in determining fault distence for “near field” calculations but the rest of the analysis is mission and must be supplied
Therefor the Approximate Closest Distance must be corrected to 0.0 IP-47-45

Extensive Comments on Puente Hills Thrust is attached and made a part of these comments.

URS also determined MCEMM as 7.5 for a multiple event for a Bridge project. Why only 7.3 here?
This large discrepancy must be explained.
URS correctly determined the distance to Whitter looking at the presumed trace across Whittier narrows not just the above ground trace in Whittier. (See Tan 2000) This would make the distence to 710-5 & 60 around 5.5 miles not 10.5
footnote 1 may be the easy way out but it is not correct- do your homework IP-47-46

There is no mention of the Lower Elysian Park thrust in the text but is shown in figure 3.2.-2 IP-47-47

There is no mention of the Carson Fault
There is no mention of the San Andreas Fault- distence is irrelevant. What is relevant is how much shaking can it generate. It is second to only the Puente Hills Thrust as to hazard in the northern part of the project. IP-47-48

In fig 3.10-1 The Puente Hills Thrust and Puente Hills Thrust Los Angeles Segment are bot shown
Ther is only ONE Puente Hill Thrust Please Explain IP-47-49
Palos Verdes is not shown, please show including offshore IP-47-50
Show the Whittier/ East Montebello/ Alhambra Wash fault It aligns NNE at the NE corner of the map just south of the 60 SR 19 intersection which is shown. IP-47-51
Add Compton Fault IP-47-52

3.20.34 Liquefaction
“The primary factors affecting the possibility of liquefaction in a soil deposit are: (1) intensity and
duration of earthquake shaking“
Study must be rerun with latest data. It must also be run with long period/ long duration seismology from the San Andreas. IP-47-53
The USGS has not studied long period- long duration events

3.10.31 Sloughing of the sides of the chanalized rivers must be studied and reported, using also the long period- long duration San Andreas data IP-47-54

“In general, the project facilities can
be designed to accommodate the expected ground accelerations through compliance with applicable building and seismic codes”.
Puffery, boilerplate we are talking about highways here not condos, there is no “seismic” code.
“the potential for structural damage can
be substantially reduced or avoided through seismic engineering design“
Is correct but without good data the engineer cannot design correctly IP-47-55

3.10.4
GEO-1 Provide the public the opportunity to comment as this EIR is not encouraging. The Specificiations for the Design level geotechnical report must be enumerated in the EIR IP-47-56

SCEC Tom Jordan writes in US DOE Office of Science “big iron”
The geological record suggests that huge earthquakes shook the southern part of the San Andreas Fault in 1713, 1614, 1565, 1462 and 1417. Because the intervals are between 50 and 100 years, seismologists calculate that southern California is overdue for an enormous shock. -

California, like many earthquake-prone areas of the world, has sedimentary basins filled with soft material that has eroded from mountains. Early settlers tended to establish their largest cities and towns in those flat basins - cities like Los Angeles and San Bernardino.
The soft basins “act like big bowls of jelly” during large earthquakes, Jordan says.

Seismic energy in the form of large-amplitude waves is injected into them, rattling around and causing enormous motion in the very areas where people and buildings are most concentrated.

Disastrous path
“Based on our calculations, we are finding that the basin regions, including Los Angeles, are getting larger shaking than is predicted by the standard methods,” Jordan says. “By improving the predictions, making them more realistic, we can help engineers make new buildings safer.”
The chance of a magnitude-8-or-greater earthquake on the southern San Andreas Fault in the next 30 years is just 2 percent, but the impact would be dramatic, especially if ground motion followed the basins toward high-population areas.
“You certainly wouldn’t want to be in that earthquake,” Jordan says. Especially in sedimentary basins, it would cause huge ground motions and last a long time.

The earthquake center has been generating large suites of earthquake simulations to estimate ground-shaking, taking into account three-dimensional effects, the directivity effect and the sedimentary basin effect.
“We model an ensemble of such earthquakes and attach probabilities to each. We start with an earthquake rupture forecast to select a large number of events that represent the possibilities for future earthquakes. We don’t know which will happen next.”
- See more at:
http://ascr-discovery.science.doe.gov/bigiron/quake3.shtml#sthash.MPFjIObv.dpuf

http://scec.usc.edu/research/cme/
http://scec.usc.edu/scecpedia/Community_Velocity_Model
SCEC's community velocity models (CVM's) provide detailed 3D properties for southern California.

CVM-H for use in fault systems analysis, strong ground motion prediction, and earthquake hazards assessment. The model describes seismic P- and S-wave velocities and densities, and is comprised of basin structures embedded in tomographic and teleseismic crust and upper mantle models.

Links broken Contact Harvard Andreas Plesch, John Shaw, Peter Suess
http://isites.harvard.edu/icb/icb.do?keyword=k93600&pageid=icb.page577442&pageContentId=icb.pagecontent1243182&state=maximize&view=view.do&viewParam_name=SCEC%20CVM%20Community%20Velocity%20Model/SCEC%20Community%20Velocity%20Modeul%20CVM-H

The CVM-H consists of basin structures defined using high-quality industry seismic reflection profiles and tens of thousands of direct velocity measurements from boreholes (Plesch et al., 2009; Süss and Shaw, 2003). The basin structures are also compatible with the locations and displacements of major faults represented in the SCEC Community Fault Model (CFM) (Plesch et al., 2007). These basin structures were used to develop travel time tomographic models of the crust (after Hauksson, 2000) extending to a depth of 35 km, and upper mantle teleseismic and surface wave models extending to a depth of 300 km (Prindle and Tanimoto, 2006). These various model components were integrated and used to perform a series of 3D adjoint tomographic inversions that highlight areas of the model that were responsible for mismatches between observed and synthetic waveforms (Tape et al, 2009). Sixteen tomographic iterations, requiring 6800 wavefield simulations, yielded perturbations to the starting model that have been incorporated in the latest model release.

CVM-S

http://www.data.scec.org/research-tools/3d-velocity.html
The purpose of the Three-Dimensional Community Velocity Model for Southern California is to provide a unified reference model for the several areas of research that depend of the subsurface velocity structure in their analysis. These include

strong motion modeling, seismicity location, and tomographic velocity modeling. It is also hoped that the geologic community will find the basin models useful because they are based on structures and interfaces that are largely derived from geologic structure models. The deeper sediment velocities themselves are obtained from empirical relationships that take into account age of the formation and depth of burial. The coefficients of these relationships are calibrated to sonic logs taken from boreholes in the region. Shallow sediment velocities are taken from geotechnical borehole measurements. Hardrock velocities are based on tomographic studies.
Vp-density: The new Vp-density relation is based on density measurements from oil well samples in the Los Angeles basin and the San Gabriel Valley, geotechnical boreholes throughout southern California, and 12 oil wells along the LARSE lines. The newly determined Vp-density ratio is constant, in contrast to the old relation. This is true even for low Vp, as defined by the geotechnical data. The new densities are higher, for a given Vp, than the old. This will tend to lower the Poisson ratio, which will lower Vp/Vs; that is, changing the Vp-density relation produces a new Vs model.

Reference V3: Kohler, M., H. Magistrale, and R. Clayton, 2003, Mantle heterogeneities and the SCEC three-dimensional seismic velocity model version 3, Bulletin Seismological Society of America 93, 757-774.
Reference V2: Magistrale, H., S. Day, R. Clayton, and R. Graves, 2000, The SCEC southern California reference three-dimensional seismic velocity model version 2, Bulletin Seismological Society of America, 90 (6B), S65-S76.* Magistrale is at FM Global (Factory Mutual) Day at SDSU Graves at USGS
Reference V1: Magistrale, H., K. McLaughlin, and S. Day, 1996, A geology based 3-D velocity model of the Los Angeles basin sediments, Bulletin Seismological Society of America 86, 1161-1166

http://scec.usc.edu/research/cme/groups/broadband
The SCEC Broadband Platform is a software system which generates 0-10 Hz seismograms for historical and scenario earthquakes in California.

The goal of the SCEC Broadband Simulation Platform is to generate ground motions for a particular earthquake scenario using deterministic low-frequency and stochastic high-frequency simulations. It provides multiple approaches for generating the rupture description, modeling high- and low-frequency wave propagation, and incorporating site amplification effects. These codes have been validated against recorded ground motions from real events, to increase confidence in their results. With the Broadband Platform, a user can select which combination of approaches to use and simulate an earthquake, producing seismograms which include high and low frequency data. Ultimately these seismograms can be used to improve ground motion attenuation models, resulting in more accurate predictions of future ground motions for building engineers.
? Ralph Archuleta UC Santa Barbara Earth Science
? Scott Callaghan
? Nancy Collins
? Rob Graves USGS Pasadena
? Walter Imperatori
? Thomas Jordan SCEC
? Philip Maechling SCEC
? Kim Olsen San Diego State University
? Jan Schmedes
? Paul Somerville URS Corp Pasadena

http://scec.usc.edu/research/cme/groups/cybershake
http://scec.usc.edu/scecpedia/CyberShake_Project
SCEC's CyberShake project utilizes 3D simulations and finite-fault rupture descriptions to compute deterministic (scenario-based) and probabilistic seismic hazard in Southern California.
CyberShake is a computationally intensive way to improve standard probabilistic seismic hazard analysis

The CyberShake computational approach improves on standard PSHA calculations in a number of ways including:

1. Wave propagation simulations more accurately describe the distribution of ground motions than the currently used ground motion prediction equations [GMPE].
2. Wave propagation simulations provide good estimates of both ground motion amplitude as well as ground motion duration. Ground motion duration is not available from empirical peak ground motion methods.

http://scec.usc.edu/scecpedia/CyberShake_Data_Request

? Graves, R., Jordan, T. H., Callaghan, S., Deelman, E., Field, E. H., Juve, G., Kesselman, C., Maechling, P., Mehta, G., Okaya, D., Small, P., Vahi, K. (2010), CyberShake: A Physics-Based Seismic Hazard Model for Southern California, Pure and Applied Geophysics, Accepted for Publication March, 2010
? Graves, R., S. Callaghan, E. Deelman, E. Field, N. Gupta, T. H. Jordan, G. Juve, C. Kesselman, P. Maechling, G. Mehta, D. Meyers, D. Okaya and K. Vahi (2008) Physics Based Probabilistic Seismic Hazard Calculations for Southern California,14th World Conference on Earthquake Engineering, October, 2008, Beijing China
? The SCEC CyberShake Project: A Computational Platform for Full Waveform Seismic Hazard Analysis Robert Graves (USGS), Scott Callaghan (USC), Patrick Small (USC), Gaurang Mehta (USC), Kevin Milner (USC), Gideon Juve (USC), Karan Vahi (USC), Edward Field (USGS), Ewa Deelman (USC/ISI), David Okaya (USC), Philip Maechling (USC), Thomas H. Jordan (USC) - SSA April 2011

Potrero Grande Sycline

Include but I think not controlling
Lower Elysian Park thrust
Carson Fault
Compton Fault

IP-47-57

Controlling
San Andreas Fault- distence is irrelevant.
What is relevant is how much shaking can it generate.
Especially at long periods and for long durations
Puente Hills Thrust (also vertical)
Whittier-Elsinore
Upper Elysian Park

IP-47-58

Liquefaction
"The primary factors affecting the possibility of liquefaction in a soil deposit are: (1) intensity and
duration of earthquake shaking"
Study must be rerun with latest data. It must also be run with long period/ long duration seismology from the San Andreas. There is a simulation in Shakeout.
The USGS has not studied long period- long duration events

IP-47-59

Sloughing of the sides of the chanalized rivers must be studied and reported, using also the long period- long duration San Andreas data

IP-47-60

SCEC Tom Jordan writes in US DOE Office of Science "big iron"
The geological record suggests that huge earthquakes shook the southern part of the San Andreas Fault in 1713, 1614, 1565, 1462 and 1417.
Because the intervals are between 50 and 100 years, seismologists calculate that southern California is overdue for an enormous shock. -

California, like many earthquake-prone areas of the world, has sedimentary basins filled with soft material that has eroded from mountains. Early settlers tended to establish their largest cities and towns in those flat basins – cities like Los Angeles and San Bernardino.
The soft basins "act like big bowls of jelly" during large earthquakes, Jordan says. Seismic energy in the form of large-amplitude waves is injected into them, rattling around and causing enormous motion in the very areas where people and buildings are most concentrated.

Disastrous path
"Based on our calculations, we are finding that the basin regions, including Los Angeles,
are getting larger shaking than is predicted by the standard methods,"
Jordan says. "By improving the predictions, making them more realistic, we can help engineers make new buildings safer."
The chance of a magnitude-8-or-greater earthquake on the southern San Andreas Fault in the next 30 years is just 2 percent, but the impact would be dramatic, especially if ground motion followed the basins toward high-population areas.
"You certainly wouldn't want to be in that earthquake," Jordan says.
Especially in sedimentary basins, it would cause huge ground motions and last a long time.

The earthquake center has been generating large suites of earthquake simulations to estimate ground-shaking, taking into account three-dimensional effects, the directivity effect and the sedimentary basin effect.
"We model an ensemble of such earthquakes and attach probabilities to each. We start with an earthquake rupture forecast to select a large number of events that represent the possibilities for future earthquakes. We don't know which will happen next."

- See more at:
http://ascr-discovery.science.doe.gov/bigiron/quake3.shtml#sthash.MPFjI0bv.dpuf

http://scec.usc.edu/research/cme/
http://scec.usc.edu/scecpedia/Community_Velocity_Model
SCEC's community velocity models (CVM's) provide detailed 3D properties for southern California.

CVM-H for use in fault systems analysis, strong ground motion prediction, and earthquake hazards assessment. The model describes seismic P- and S-wave velocities and densities, and is comprised of basin structures embedded in tomographic and teleseismic crust and upper mantle models.

Links broken Contact Harvard Andreas Plesch, John Shaw, Peter Suess
http://isites.harvard.edu/icb/icb.do?keyword=k93600&pageid=icb.page577442&pageContentId=icb.pagecontent1243182&state=maximize&view=view.do&viewParam_name=SCEC%20CVM%20Community%20Velocity%20Model/SCEC%20Community%20Velocity%20Modeul%20CVM-H

The CVM-H consists of basin structures defined using high-quality industry seismic reflection profiles and tens of thousands of direct velocity measurements from boreholes (Plesch et al., 2009; Süss and Shaw, 2003). The basin structures are also compatible with the locations and displacements of major faults represented in the SCEC Community Fault Model (CFM) (Plesch et al., 2007). These basin structures were used to develop travel time tomographic models of the crust (after Hauksson, 2000) extending to a depth of 35 km, and upper mantle teleseismic and surface wave models extending to a depth of 300 km (Prindle and Tanimoto, 2006). These various model components were integrated and used to perform a series of 3D adjoint tomographic inversions that highlight areas of the model that were responsible for mismatches between observed and synthetic waveforms (Tape et al, 2009). Sixteen tomographic iterations, requiring 6800 wavefield simulations, yielded perturbations to the starting model that have been incorporated in the latest model release.

CVM-S

http://www.data.scec.org/research-tools/3d-velocity.html
The purpose of the Three-Dimensional Community Velocity Model for Southern California is to provide a unified reference model for the several areas of research that depend of the subsurface velocity structure in their analysis. These include strong motion modeling, seismicity location, and tomographic velocity modeling. It is also hoped that the geologic community will find the basin models useful because they are based on structures and interfaces that are largely derived from geologic structure models. The deeper sediment velocities themselves are obtained from empirical relationships that take into account age of the formation and depth of burial. The coefficients of these relationships are calibrated to sonic logs taken from boreholes in the region. Shallow sediment velocities are taken from geotechnical borehole measurements.
Hardrock velocities are based on tomographic studies.
Vp-density: The new Vp-density relation is based on density measurements from oil well samples in the Los Angeles basin and the San Gabriel Valley, geotechnical boreholes throughout southern California, and 12 oil wells along the LARSE lines. (LARSE1 ran up the San Gabriel River)
The newly determined Vp-density ratio is constant, in contrast to the old relation. This is true even for low Vp, as defined by the geotechnical data. The new densities are higher, for a given Vp, than the old. This will tend to lower the Poisson ratio, which will lower Vp/Vs; that is, changing the Vp-density relation produces a new Vs model.

Reference V3: Kohler, M., H. Magistrale, and R. Clayton, 2003, Mantle heterogeneities and the SCEC three-dimensional seismic velocity model version 3, Bulletin Seismological Society of America 93, 757-774.
Reference V2: Magistrale, H., S. Day, R. Clayton, and R. Graves, 2000, The SCEC

southern California reference three-dimensional seismic velocity model version 2, Bulletin Seismological Society of America, 90 (6B), S65-S76.*
Magistrale is at FM Global (Factory Mutual); Day at SDSU; Graves at USGS Pasadena
Reference V1: Magistrale, H., K. McLaughlin, and S. Day, 1996, A geology based 3-D velocity model of the Los Angeles basin sediments, Bulletin Seismological Society of America 86, 1161-1166

http://scec.usc.edu/research/cme/groups/broadband
The SCEC Broadband Platform is a software system which generates 0-10 Hz seismograms for historical and scenario earthquakes in California.

The goal of the SCEC Broadband Simulation Platform is to generate ground motions for a particular earthquake scenario using deterministic low-frequency and stochastic high-frequency simulations. It provides multiple approaches for generating the rupture description, modeling high- and low-frequency wave propagation, and incorporating site amplification effects. These codes have been validated against recorded ground motions from real events, to increase confidence in their results. With the Broadband Platform, a user can select which combination of approaches to use and simulate an earthquake, producing seismograms which include high and low frequency data. Ultimately these seismograms can be used to improve ground motion attenuation models, resulting in more accurate predictions of future ground motions for building engineers.
- Ralph Archuleta UC Santa Barbara Earth Science
- Scott Callaghan
- Nancy Collins
- Rob Graves USGS Pasadena
- Walter Imperatori
- Thomas Jordan SCEC
- Philip Maechling SCEC
- Kim Olsen San Diego State University
- Jan Schmedes
- Paul Somerville URS Corp Pasadena

http://scec.usc.edu/research/cme/groups/cybershake
http://scec.usc.edu/scecpedia/CyberShake_Project
SCEC's CyberShake project utilizes 3D simulations and finite-fault rupture descriptions to compute deterministic (scenario-based) and probabilistic seismic hazard in Southern California.
CyberShake is a computationally intensive way to improve standard probabilistic seismic hazard analysis
The CyberShake computational approach improves on standard PSHA calculations in a number of ways including:
1. Wave propagation simulations more accurately describe the distribution of ground motions than the currently used ground motion prediction equations [GMPE].
2. Wave propagation simulations provide good estimates of both ground motion amplitude as well as ground motion duration. Ground motion duration is not available from empirical peak ground motion methods.

http://scec.usc.edu/scecpedia/CyberShake_Data_Request

- Graves, R., Jordan, T. H., Callaghan, S., Deelman, E., Field, E. H., Juve, G., Kesselman, C., Maechling, P., Mehta, G., Okaya, D., Small, P., Vahi, K. (2010), CyberShake: A Physics-Based Seismic Hazard Model for Southern California, Pure and Applied Geophysics, Accepted for Publication March, 2010
- Graves, R., S. Callaghan, E. Deelman, E. Field, N. Gupta, T. H. Jordan, G. Juve, C. Kesselman, P. Maechling, G. Mehta, D. Meyers, D. Okaya and K. Vahi (2008) Physics Based Probabilistic Seismic Hazard Calculations for Southern California,14th World Conference on Earthquake Engineering, October, 2008, Beijing China
- The SCEC CyberShake Project: A Computational Platform for Full Waveform Seismic Hazard Analysis Robert Graves (USGS), Scott Callaghan (USC), Patrick Small (USC), Gaurang Mehta (USC), Kevin Milner (USC), Gideon Juve (USC), Karan Vahi (USC),

Edward Field (USGS), Ewa Deelman (USC/ISI), David Okaya (USC), Philip Maechling (USC), Thomas H. Jordan (USC) - SSA April 2011

For Scoping the above can give you the information you need on ground Motion, XYZ seismogrms etc for PHT
You also need the Shakeout, Terrashake, “Wall to Wall” and M8 simulation data from the San Andreas

IP-47-61

You can Calculate the Seismic Source effects, Path effects using the velocity model (CVM) and site effects (bowl of jello in this case) but good news the work has already been done.
What you can't do is just use magnitued distence relationships (which might work if there was rock all the way from seismic sources to a rock site) even with a basin depth factor. Just not adequate in Project area

IP-47-62

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IP-47-1

Caltrans and Metro both respectfully disagree that the RDEIR/SDEIS is inadequate. More detailed responses to individual comments follow.

IP-47-2

I-710 between the Ports and SR-60 experiences elevated levels of traffic congestion, elevated truck volumes, elevated accident rates, and many design features in need of modernization. The I-710 Corridor serves trucks traveling to and from the San Pedro Bay Ports (Port trucks) as well as trucks using the freeway network to travel to and from various destinations and land uses throughout the Southern California region (non-Port trucks). In the future year (2035), a little over half of the daily truck volumes on I-710 would be Port truck trips and the remaining half of the daily truck volumes would be non-Port truck trips. Caltrans and Metro both respectfully disagree that improvements to I-710 are not needed or that the build alternatives are somehow obsolete. The decision to revise the set of build alternatives under consideration and prepare a RDEIR/SDEIS was made, at least partially, in response to new information regarding regional traffic patterns. This included a more comprehensive understanding of transloading, which serves to disperse traffic throughout the I-710 Corridor. Caltrans and Metro cannot mandate use of the Alameda Corridor; for more information regarding the Alameda Corridor and its interface with I-710, please refer to Section 1.9 of this appendix.

IP-47-3

As discussed in Section 3.10 of the RDEIR/SDEIS, the Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. Structures are designed using the Caltrans Seismic Design Criteria (SDC). The SDC provide the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. As discussed in Section 3.10.1 of this Final EIR/EIS, all new and modified bridge structures included in the build alternatives would be designed and constructed in accordance with Caltrans' latest seismic design criteria, thus minimizing public health risk concerns associated with structure collapses during an earthquake. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, no structure collapses from new or modified bridge structures will occur. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

As discussed in Section 4.2.1 of the *Geotechnical Final Report* prepared for the project (URS 2010), surface fault rupture is ground deformation that occurs along the surface trace of the causative fault during an earthquake.

IP-47-4

The Caltrans *Highway Design Manual* (HDM) was revised and a 6th edition was released on July 2, 2018 (please refer to http://www.dot.ca.gov/design/manuals/hdm.html). As stated in the HDM, the manual establishes uniform policies and procedures to carry out the State highway design functions of the Department. The manual is neither intended as, nor does it establish, a legal standard for these functions. The standards, procedures, and requirements established and discussed in the manual are for the information and guidance of the officers and employees of the Department. Many of the instructions given in the manual are subject to amendment as conditions and experience warrant. Special situations may call for deviation from policies and procedures, subject to Division of Design approval, or such other approval as may be specifically provided for in the text of the manual. The manual is not a textbook or a substitute for engineering knowledge, experience, or judgment. It includes techniques as well as graphs and tables not ordinarily found in textbooks. These are intended as aids in the quick solutions of field and office problems. Except for new developments, no attempt is made to detail basic engineering techniques; for these, standard textbooks should be used.

It is assumed that the “hazard of the Southern San Andreas effects on deep basin sites” may be referring to enigmatic patterns recently observed in the San Bernardino basin. As stated in Response to Comment IP-47-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, construction will not occur, and there will be no hazards related to deep basin sites.

IP-47-5

As discussed in Section 3.10.3, should a build alternative be selected as the Preferred Alternative, Measure GEO-1 would be implemented, and would require that, prior to completion of final design, Caltrans would prepare a design-level geotechnical report in accordance with the *Guidelines for Preparing Geotechnical Design Reports* (Caltrans 2006). Design-level geotechnical reports would precede development of grading and/or construction plans, and they would provide detailed, site-specific design recommendations. Studies at this stage would provide specific design recommendations to mitigate geologic hazards as they relate to grading and construction of the build alternatives. A geotechnical design report would document soil-related constraints and hazards such as slope instability, settlement liquefaction, or related secondary seismic impacts that may be present. The CEQA determination included in Chapter 4.0, CEQA Evaluation, of the RDEIR/SDEIS, took into account the best information known at the current level of design of the build alternatives. Furthermore, it is not anticipated that any CEQA conclusions related to geology and soils would change based on design refinements as a result of the design-level geotechnical report outlined in Measure GEO-1. However, as stated in Response to Comment IP-47-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no construction will occur, and Measure GEO-1 will not be implemented.

IP-47-6

There are already freight rail facilities in place that allow for rail traffic to travel from the Ports to the Inland Empire via San Bernardino County, utilizing the Alameda Corridor and Redondo Junction to transfer to the Union Pacific Alhambra or Los Angeles Subdivision. It is important to note that the Alameda Corridor-East project is currently under construction, which would improve the trade corridor rail mainlines in the San Gabriel Valley to provide for grade separations and safety and mobility upgrades in much the same manner as the Alameda Corridor. Because the I-710 Corridor Project build alternatives are generally limited in scope to the existing freeway, and the construction of a new freight rail facility spanning from the Ports to the Inland Empire (a distance of roughly 60 miles, as the crow flies) would have substantial environmental and social impacts in the highly dense and urbanized Southern California region, it was not considered as a stand-alone alternative.

IP-47-7

The Santa Ana River Corridor is roughly 17 miles southeast of the Ports of Los Angeles and Long Beach. It is unclear from the comment how the commenter intends for freeway/freight improvements from the Port to connect through the Santa Ana River Corridor to the Inland Empire.

IP-47-8

Please refer to Section 1.9 of this appendix for more information about the Alameda Corridor and its interface with the I-710 freeway. The maximization of goods movement by rail may relieve a minor degree of traffic congestion on I-710 but would not modernize the facility or provide needed safety upgrades.

IP-47-9

Caltrans and Metro both respectfully disagree that the I-710 freeway and the Alameda Corridor “run the wrong direction.” Based on the high levels of congestion and usage of the freeway, the demand for the freeway facility does exist, and improvements are warranted. Please also refer to Section 1.9 of this appendix for more information about the Alameda Corridor and its interface with the I-710 freeway.

IP-47-10

Please refer to Response to Comment IP-47-3 regarding faulting and seismicity.

IP-47-11

As discussed in Section 3.10.2.3 of the RDEIR/SDEIS, only active faults in the Study Area are mapped in Figure 3.10-1. Table 3.10-1 only lists known seismic sources that are capable of

producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. The Elsinore Fault Zone (Whittier) and Palos Verde Fault Zone are included in Table 3.10-1. As indicated in Section 3.4 of the Geotechnical Report (2010), other known potential seismic sources located at distances greater than 12 kilometers from the site are not listed since, based on our evaluation, those sources would not control the seismic design of the build alternatives.

IP-47-12

Figure 3.10-1 shows the Puente Hills Thrust, along with the Puente Hills Thrust – Los Angeles Segment, along with the Puente Hills Blind Thrust – Santa Fe Springs Segment. Each of these thrusts was labeled appropriately on the figure in the RDEIR/SDEIS. No further changes will be made to this figure.

IP-47-13

Active faults in the Study Area are mapped in Figure 3.10-1. The Lower Elysian Park Blind Thrust Fault crosses the alignment of the build alternatives at the intersection of Firestone Blvd. and I-710. Therefore, this fault is correctly mapped in Figure 3.10-1.

Table 3.10-1 only lists the most significant known seismic sources that are capable of producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. As discussed in Section 3.4 of the *Geotechnical Final Report* prepared for the project (URS 2010), the California Geological Survey has replaced the Lower Elysian Park Blind Thrust Fault as a seismic source with the Puente Hills thrust; therefore, the Lower Elysian Park Blind Thrust Fault would not be considered to have a significant influence on the build alternatives. Therefore, this fault is not included in Table 3.10-1 because this fault would not be considered a seismic source that would control the seismic design of the build alternatives.

Table 3.10-1 is intended to provide the public with information regarding primary seismic sources that are capable of producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. Additional information is not required in the table to inform the public of potential seismic sources that could affect the design of the build alternatives. The information contained in the current Caltrans SDC database does not alter the information provided in the *Geotechnical Final Report* or this Final EIR/EIS.

IP-47-14

Table 3.10-1 in the RDEIR/SDEIS is intended to provide the public with information regarding known seismic sources that are capable of producing seismic shaking that could be damaging to

bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. Additional information is not required in the table to inform the public of potential seismic sources that could affect the design of the build alternatives.

As was stated in Section 3.10 of the RDEIR/SDEIS, the maximum earthquake magnitudes and other fault parameters shown in Table 3.10-1 are those currently being considered as controlling the seismic design of the I-710 Corridor Project build alternatives. While these data are sufficient to broadly characterize the subsurface conditions along the I-710 Corridor and provide preliminary opinions about the geotechnical constraints of the build alternatives, it is insufficient to provide specific recommendations at specific locations. However, as stated in Response to Comment IP-47-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no impacts related to seismicity will occur.

IP-47-15

Please refer to Response to Comment IP-47-14 regarding seismicity.

IP-47-16

As discussed in Section 3.10 of the RDEIR/SDEIS, the Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. As described in Section 2.1 of the *Geotechnical Final Report* prepared for the project (URS 2010), the following data sources were obtained from the Caltrans Office of Earthquake Engineering:

- 2009 Caltrans Deterministic PGA Map and ARS Online Report
- 2007 Fault Database
- 2008 United States Geological Survey (USGS) National Seismic Hazard Map, 2008 National Seismic Hazard Map Gridded Data (static) and the 2009 USGS Interactive Deaggragation Tool (Beta)
- Fault & Site Data Input Sheet
- Deterministic Response Spectrum Spreadsheet
- Probabilistic Response Spectrum Spreadsheet (based on the USGS data)
- Preliminary spectral acceleration and displacement curves (Caltrans SDC, Appendix B)
- Caltrans ARS Online

A complete list of these documents and tools with web links are listed in the Caltrans ARS Online website, http://dap3.dot.ca.gov/ARS_Online/.

A complete list of data sources used to characterize seismic and geologic hazards in the Study Area are included in Section 2.1 of the Geotechnical Final Report.

IP-47-17

It is not the purpose of the RDEIR/SDEIS to determine if the build alternatives would be either structurally feasible or financially feasible. As stated, the build alternatives could be impacted by ground motion and liquefaction and possible ground rupture (deformation), to some degree. Design and construction of the either build alternative to current highway and structure design standards, including applicable seismic standards, would minimize the potential impacts on the build alternatives. Given that there are more than 80 existing structures, including flyover interchanges and elevated structures, on the I-710 Corridor within the project limits, demonstrates the feasibility of structure construction. However, as stated in Response to Comment IP-47-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the construction of new structures will not occur.

It is important to note that, as discussed in Section 3.10 of the RDEIR/SDEIS, the California Department of Transportation's (Caltrans) Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. Structures are designed using the Caltrans Seismic Design Criteria (SDC). The SDC provide the minimum seismic requirements for highway bridges designed in California.

IP-47-18

The Overview of the ARkStorm Scenario (USGS Open File Report 2010–1312) summarizes the environmental effects, physical damages, economic and other losses in California as a result of the hypothetical flooding and high winds associated with a winter storm scenario called ARkStorm. The document is intended to engage emergency planners, businesses, universities, government agencies, and others in preparing for major natural disasters. The project also helps to set research goals and provides decision-making information for loss reduction and improved resiliency. However, the document is not intended as a design document.

Potential hydrology and floodplain impacts are discussed in Section 3.8 of the RDEIR/SDEIS. As specified in Measure FP-1 in Section 3.8.4, should a build alternative be selected as the Preferred Alternative, a Final Flood Control Facilities Report/Final Location Hydraulic Study would be prepared during final project design. The *Flood Control Facilities Report* (January 2017) assesses the risk of the floodplain impacts resulting from the build alternatives. However, as stated in Response to Comment IP-47-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, there will be no change in floodplain elevations as a result of the build alternatives.

IP-47-19

As discussed in Section 3.10.3 of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, Measure GEO-1 would be implemented, and would require that, prior to completion of final design, the California Department of Transportation (Caltrans) would prepare a design-level geotechnical report in accordance with the *Guidelines for Preparing Geotechnical Design Reports* (Caltrans 2006). Design-level geotechnical reports would precede development of grading and/or construction plans, and they would provide detailed, site-specific design recommendations. Studies at this stage would provide specific design recommendations to mitigate geologic hazards as they relate to grading and construction of either build alternative. A geotechnical design report would document soil-related constraints and hazards such as slope instability, settlement liquefaction, or related secondary seismic impacts that may be present. However, as stated in Response to Comment IP-47-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, Measure GEO-1 will not be implemented.

It is important to note that, as discussed in Section 3.10 of the RDEIR/SDEIS, the California Department of Transportation's (Caltrans) Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. Structures are designed using the Caltrans Seismic Design Criteria (SDC). The SDC provide the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities.

IP-47-20

Please refer to Response to Comment IP-47-16 regarding the data sources obtained from the Caltrans Office of Earthquake Engineering.

IP-47-21

Figure 3.10-1 includes active faults that lie within the Study Area, and has not been revised. Table 3.10-1 includes known seismic sources that are capable of producing seismic shaking that could be damaging to bridges and other structures, and would therefore control the seismic design of the I-710 Corridor Project build alternatives. Therefore, no further revisions to Figure 3.10-1 have been made.

IP-47-22

As discussed in Section 3.10.2.3 of the RDEIR/SDEIS, only active faults in the Study Area are mapped in Figure 3.10-1. Table 3.10-1 only lists known seismic sources that are capable of

producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives.

IP-47-23

The commenter does not indicate why they believe that the information included in Table 3.10-1 of the RDEIR/SDEIS is inadequate. Please also refer to Responses to Comments IP-47-16 and IP-47-21 regarding the SCEC Community Fault Model.

IP-47-24

Please refer to Response to Comment IP-47-16 regarding the SCEC Community Fault Model.

IP-47-25

Please refer to Response to Comment IP-47-16 regarding the SCEC Community Fault Model.

IP-47-26

Please refer to Response to Comment IP-47-16 regarding the SCEC Community Fault Model.

IP-47-27

Please refer to Response to Comment IP-47-16 regarding the SCEC Community Fault Model.

IP-47-28

Please refer to Response to Comment IP-47-17 regarding the SCEC Unified Community Velocity Model.

IP-47-29

As discussed in Section 3.10.2.3 of the RDEIR/SDEIS, only active faults in the Study Area are mapped in Figure 3.10-1. Table 3.10-1 only lists known seismic sources that are capable of producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. The San Andreas Fault is outside of the Study Area, and is not a known seismic source that is capable of producing seismic shaking that could be damaging to bridges and other structures in the Study Area and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives.

IP-47-30

Please refer to Response to Comment IP-47-16 regarding the SCEC Community Fault Model.

IP-47-31

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-32

The information included in Section 3.10.2.3 of the RDEIR/SDEIS, in regard to the location of the Newport-Inglewood Fault Zone, is consistent with information provided in the *Geotechnical Final Report* prepared for the project (URS 2010) as well as information provided from the Southern California Earthquake Data Center at http://scedc.caltech.edu/significant/newport. html.[21]

IP-47-33

In response to this comment, the following change has been made to the text in Section 3.10.2.3 of the RDEIR/SDEIS:

The Compton Fault extends northwest-southeast for approximately 25 miles along the western edge of the Los Angeles Basin. At its closest point, this fault is less than one mile southwest of the southern end of the ~~Study Area~~ project limits.

IP-47-34

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-35

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models. Measure GEO-1 is listed in the Environmental Commitments Record for the build alternatives, which would, should a build alternative be selected as the Preferred Alternative, serve as the Mitigation Monitoring and Reporting Record in accordance with CEQA. Therefore, any measure listed therein, even if not considered CEQA-specific mitigation, would be enforceable under CEQA. However, as stated in Response to Comment IP-47-3, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no construction or operation of the build alternatives will occur, and mitigation will be unnecessary.

[21] Southern California Earthquake Data Center (accessed October 24, 2018).

It is important to note that the design-level geotechnical report that would typically be prepared during final design is not an environmental document intended for public review and comment and is not typically made available to the general public.

IP-47-36

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-37

The comments requesting enhanced goods movement by rail and a decrease in truck traffic, particularly within the downtown Los Angeles area, are acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for more information about the identification of a Preferred Alternative.

IP-47-38

Figure 2.3-1 of the 2012 Draft EIR/EIS identified the Atlantic Blvd./Bandini Blvd. interchange as a local interchange improvement under the build alternatives, denoted by the lighter blue color and slightly smaller marker as shown in the legend, and not a freeway-to-freeway interchange improvement.

IP-47-39

Please refer to Section 1.9 of this appendix for more information about the Alameda Corridor and its interface with I-710. Based on the high levels of congestion and usage of the freeway in its current north-south configuration, the demand for the freeway facility does exist, and improvements proposed under the build alternatives are warranted. More is currently known about truck traffic patterns, including transloading, and according to SCAG's 2012 and 2016 RTP/SCS Goods Movement Appendices, truck patterns will only become more dispersed in the future.

IP-47-40

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-41

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-42

Please refer to Response to Comment IP-47-5 regarding design-level geotechnical reports. Section 3.10 (Geology/Soils/Seismic/Topography) of the RDEIR/SDEIS is intended to provide the public with information regarding potential seismic and geologic hazards that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. The shape of the Los Angeles River Channel is not relevant to inform the public of potential seismic and geologic hazards that could control the design of the build alternatives. Potential hydrology and floodplain impacts are included in Section 3.8 of this Final EIR/EIS.

IP-47-43

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-44

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-45

Please refer to Response to Comment IP-47-14 regarding faulting in the Study Area.

IP-47-46

Please refer to Response to Comment IP-47-14 regarding faulting in the Study Area.

IP-47-47

Please refer to Response to Comment IP-43-46 regarding the Lower Elysian Park thrust fault.

IP-47-48

As discussed in Section 3.10.2.3 of the RDEIR/SDEIS, only active faults in the Study Area are mapped in Figure 3.10-1. Table 3.10-1 only lists known seismic sources that are capable of producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. The San Andreas and Carson Faults are outside of the Study Area, and are not known seismic sources that are capable of producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives.

IP-47-49

Please refer to Response to Comment IP-47-12 regarding the Puente Hills Thrust and Puente Hills Thrust Los Angeles Segment faults.

IP-47-50

Please refer to Response to Comment IP-43-45 regarding the Palos Verdes fault.

IP-47-51

As discussed in Section 3.10.2.3 of the RDEIR/SDEIS, only active faults in the Study Area are mapped in Figure 3.10-1. Table 3.10-1 only lists known seismic sources that are capable of producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. The Whittier/ East Montebello/ Alhambra Wash Faults are outside of the Study Area, and are not known seismic sources that are capable of producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives.

IP-47-52

As discussed in Section 3.10.2.3 of the RDEIR/SDEIS, only active faults in the Study Area are mapped in Figure 3.10-1. Table 3.10-1 only lists known seismic sources that are capable of producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. The Compton Fault is outside of the Study Area, and is not a known seismic source that is capable of producing seismic shaking that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives.

IP-47-53

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-54

Please refer to Response to Comment IP-47-5 regarding implementation of Measure GEO-1. Section 3.10 (Geology/Soils/Seismic/Topography) of the RDEIR/SDEIS is intended to provide the public with information regarding potential seismic and geologic hazards that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. Potential hydrology and floodplain impacts are included in Section 3.8.

IP-47-55

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-56

Please refer to Section 1.2 of this appendix for more information regarding the opportunities for public comment and involvement during development of the RDEIR/SDEIS. Also, please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-57

Please refer to Responses to Comments IP-47-13, IP-47-48, and IP-47-52 regarding the Lower Elysian Park thrust, Carson fault, and Compton fault.

IP-47-58

Please refer to Responses to Comments IP-47-11, IP-47-13, and IP-47-48 regarding the San Andreas fault, Puente Hills thrust, Whittier-Elsinore, and Upper Elysian Park faults.

IP-47-59

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-60

Please also refer to Response to Comment IP-47-5 regarding implementation of Measure GEO-1. Section 3.10 (Geology/Soils/Seismic/ Topography) of the RDEIR/SDEIS is intended to provide the public with information regarding potential seismic and geologic hazards that could be damaging to bridges and other structures and, therefore, would control the seismic design of the I-710 Corridor Project build alternatives. Potential hydrology and floodplain impacts are included in Section 3.8 of this Final EIR/EIS.

IP-47-61

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

IP-47-62

Please refer to Responses to Comments IP-47-16 and IP-47-17 regarding the SCEC Community Fault and SCEC Unified Community Velocity Models.

PUBLIC HEARING COMMENT CARD



Ms. Diane Portnov
634 Burger Ave
Los Angeles, CA 90022

Name: Diane Portnov (Kornoff)

Street: 634 S Burger Ave Los Angeles
636 S Burger =

City, State, Zip: 90022

Organization:

IP-48

Please leave comments in the comment box or mail to the address below by Monday, November 6, 2017 (3:00 PM):

East Los Angeles District Office
4801 E. 3rd Street
Los Angeles, CA 90022

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

See Letter

Diane Portnov

634 S Burger Ave

Los Angeles, Ca 90022

November 4, 2017

I am writing you regarding the 710 project, I disagree with the extension that will impact my property that has been in my family since 1947. I lived in this neighborhood all my life, We have so much noise, dirt and dust that comes from the freeway, they did not even build the wall high enough. My main concern if the city decides to do the project I will lose the property my father had work so hard for . My father purchase in 1947 build a small one bedroom house and married my mom in 1949. I remember before he died and left it to me to never sell, The price of real estate is so high I would not be able to afford to purchase a home. Please do your best not to do the project, This property has been in my family for 70 years.

IP-48-1

IP-48-2

IP-48-3

Sincerely,

Diane Portnov

Diane Kornoff Portnov

IP-48-1

Caltrans and Metro thank the commenter for their input. The commenter's opposition to the extension is acknowledged and included in the project record. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative. It is important to note that the residence at 634 S. Burger Ave. would not be displaced under any of the alternatives proposed in the RDEIR/SDEIS.

IP-48-2

The build alternatives would result in increases in entrained road dust, tire wear, and break wear at near-roadway locations because they are a direct function of vehicle miles traveled. Should a build alternative be selected as the Preferred Alternative, a taller soundwall would be constructed to reduce freeway noise at the residences located along Burger Ave. in the City of Los Angeles. Specifically, a 16-foot-high soundwall (SW-517 for Alternative 5C and SW-717 for Alternative 7) was recommended to replace the existing 12-foot-high barrier. This soundwall would begin on the on-ramp from Olympic Blvd. onto the mainline northbound I-710 and overlap with an existing 12-foot-high barrier near Humphreys Ave. However, as stated in Response to Comment IP-48-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, this soundwall will not be constructed.

IP-48-3

The commenter's opposition to the project due to the displacement of people is acknowledged and included in the project record. However, as stated in Response to Comment IP-48-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no acquisitions of residences or businesses will be necessary, and no displacements of people will occur.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

IP-49

Name: _____

Street: _____

City, State, Zip: _____

Organization: Home Owner!

Please leave comments in the comment box or mail to the address below by Monday, November 6, 2017 (3:00 PM):

East Los Angeles District Office
4801 E. 3rd Street
Los Angeles, CA 90022

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

YOU SAY YOU ARE FIGHTING FOR OUR VOICES TO BE HEARD. HAH! YOU KNOW IF THIS PLAN IS ALREADY PLANNED OUT IT IS GOING TO GO ~~THROUGH~~ THROUGH! YOU HAVE FAMILIES WITH HAVE LIVED IN THESE HOMES FOR DECADES. WHO ~~HAVE~~ HAVE BEEN LIVING THERE DURING THE CLEAN AIR AMENDMENT "PROP 13" HAS ONLY PAY ABOUT $100 IN PROPERTY TAX! YOU WANT TO MOVE THEM OUT WHERE HOUSING IS SOOOO EXPENSIVE? PROPERTY TAX WILL BE ABOUT $10,000 A YEAR. WHO WORK CLOSE TO HOME. BUT NOW HAVE TO FIND A NEW HOME. WHAT HARDSHIPS IF NO-ONE WANTS TO MOVE?? THIS IS A BUNCH OF BULL-SHIT! THIS IS GOING THROUGH NO MATTER WHAT!

IP-49-1

IP-49-2

Metro Caltrans GATEWAY CITIES 5 Port of LONG BEACH THE PORT OF LOS ANGELES SCAG

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IP-49-1

Caltrans and Metro place a great deal of importance on the community input that has been a key aspect of the project development process since 2008, when the EIR/EIS process began. Many of the programmatic features included in the build alternatives analyzed in the RDEIR/SDEIS were included as a direct result of valuable public and agency input. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, the programmatic elements described in Section 2.3.2.1 of this Final EIR/EIS will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative and to Section 1.2 of this appendix for more details on the public outreach process over the life of the project.

IP-49-2

As stated in Response to Comment IP-49-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no acquisitions of residences or businesses will be necessary, and no displacements of people will occur.

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CC-1.1 COMMENT CARDS RECEIVED AT PUBLIC MEETINGS

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PUBLIC HEARING COMMENT CARD

CC-1

Name: Carlos Zuniga Wolf

Street: 2230 E. Gage Ave #60

City, State, Zip: Commerce

Organization: Self

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I DID NOT GET A NOTICE ON DAY "ONE" ON THIS MATTER AT ALL CC-1-1

ALSO I AM IN A '96 UNIS WE ALL DID NOT GET NOTICE GOOD.

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CC-1-1

Caltrans and Metro thank the commenter for their input. The commenter's name and address has been added to the distribution list for the project (refer to Chapter 7.0, Distribution List, of the Final EIR/EIS). Individual postcards announcing the availability of the RDEIR/SDEIS and the public hearings were sent to residences and businesses within a 500-foot radius of the I-710 Corridor improvements; however, the address given by the commenter is outside of that radius. The availability of the RDEIR/SDEIS was advertised in several local newspapers per the requirements of CEQA and NEPA. Please refer to Chapter 5.0, Comments and Coordination, for further details on the circulation and distribution of the RDEIR/SDEIS.

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PUBLIC HEARING COMMENT CARD

CC-2

Name: Tiare Garcia

Street: Cedar St 6358

City, State, Zip: Huntington Park, CA, 90255

Organization: CBE

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

In my city everyone has always suffered from pollution coming from the City of Vernon adding another polluting Freeway would just worsen our air. CC-2-1

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CC-2-1

Caltrans and Metro thank the commenter for their input. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. The I-710 Corridor Project's impacts on air quality were disclosed in the RDEIR/SDEIS and discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS. Except for particulate matter emissions less than 10 microns in size (PM_{10}) for Alternative 5C and Alternative 7 and sulfur dioxide (SO_2) for Alternative 7, air toxic exhaust emissions (nitrogen oxides [NO_X], carbon monoxide [CO], particulate matter less than 2.5 microns in size [$PM_{2.5}$], and volatile organic compounds [VOC]) would be lower in 2035 with the build alternatives compared to the 2012 Baseline emissions. In 2035, the build alternatives would result in lower NO_X emissions compared to the 2035 No Build Alternative. PM_{10}, $PM_{2.5}$, CO, and SO_2 would increase, with the greatest increases that would occur under Alternative 7. The increases for these pollutants would be less than 190 pounds (lbs) per day under Alternative 5C and less than 640 lbs per day under Alternative 7.

For the build alternatives in 2035, the decrease in $PM_{2.5}$ from exhaust emissions would be greater than the increase in $PM_{2.5}$ from tire wear, brake wear, and entrained road dust emissions compared to the 2012 Baseline emissions. As a result, total $PM_{2.5}$ emissions in 2015 with the build alternatives would decrease when compared to the 2012 Baseline emissions. In the case of PM_{10} emissions, the increases in entrained road dust, tire wear, and brake wear (which are a direct function of vehicle miles traveled) that would result from the build alternatives would far outweigh the decrease in exhaust PM_{10}. Therefore, total PM_{10} emissions would increase in 2035 for the build alternatives when compared to 2012 Baseline.

The number of receptors near the I-710 Corridor that would experience increases in 24-hour PM_{10} emissions resulting from the build alternatives compared to the 2035 No Build Alternative would be larger for Alternative 7 than for Alternative 5C due to the increased traffic along the corridor. The 2035 build alternatives would result in no change to a slight decrease in near-roadway short-term $PM_{2.5}$ emissions when compared to the 2035 No Build Alternative at all modeled receptors near I-710. The public's exposure to ultrafine particles would decrease for all build alternatives in 2035 relative to the 2012 Baseline and the 2035 No Build Alternative, even near the I-710 freeway and freight corridor.

In summary, both build alternatives would generally improve air quality. However, there are a few near-roadway locations where there would be an increase in certain emissions. The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations resulting from the build alternatives. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would require installation of solid barriers and

installation of vegetation where feasible (and where soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind.

In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative and Section 1.10 of this appendix for further information regarding the Community Health Benefit Program.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-3

Name: Ana Kennedy

Street: 3041 Cudahy St

City, State, Zip: Walnut Park Ca. 90255

Organization: CBE

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

1. Nos merecemos un Corredor de Cero Emisiones para Proteger la Calidad del Aire.
2. necesitamos trabajos locales
3. El desplasamiento va dejar mucha Gente sin vivienda Cuando ya estamos batallando donde vivir

Es la Rozón por lo que le pedimos a CalTrans que extienda el tiempo de Comentarios a 120 días

Muchas Gracias!

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

Public Hearing Comment Card CC-3

Maria Kennedy
3041 Cudahy St
Walnut Park, CA 90253
Organization: CBE

Translated comment:

1. We deserve a zero emissions corridor to protect the air quality. CC-3-1
2. We need local jobs. CC-3-2
3. The displacement will leave many people without housing when we are already struggling with where to live. CC-3-3

It is the reason why we are asking Caltrans to extend the comment period by 120 days. Thank you. CC-3-4

CC-3-1 (Comment was submitted in Spanish)

Caltrans and Metro thank the commenter for their input. The commenter's support of a ZE corridor is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for further discussion of the identification of the Preferred Alternative (Alternative 1 No Build) and to Section 1.3 for additional discussion of ZE options.

Caltrans y Metro agradecen al autor del comentario su aportación. El apoyo del comentarista a un corredor ZE se reconoce y se incluye en el registro del proyecto. Consulte la Sección 1.1 de este apéndice para obtener más información sobre la identificación de la Alternativa Preferida (Alternativa 1 Sin Construcción) y la Sección 1.3 para obtener más información sobre las opciones de ZE.

CC-3-2 (Comment was submitted in Spanish)

Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, no construction will occur and local hire programs will not be necessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

Caltrans, como agencia líder bajo CEQA y NEPA (según lo asignado por la Administración Federal de Carreteras [FHWA]), en cooperación con la Autoridad Metropolitana de Transporte del Condado de Los Ángeles (Metro), ha identificado la Alternativa 1 (No Construir) como la Alternativa Preferida. Por lo tanto, no se realizará ninguna construcción y no serán necesarios programas locales de alquiler. Por favor refiérase a la Sección 1.1 de este apéndice para mayor discusión sobre la identificación de la Alternativa Preferida.

CC-3-3 (Comment was submitted in Spanish)

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment CC-3-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, no residential and business relocations will occur.

Se reconoce la preocupación del autor del comentario sobre el desplazamiento de personas como resultado de las alternativas de construcción y se incluye en el expediente del proyecto. Como se indicó en la respuesta al comentario CC-3-2, la alternativa de no construir ha sido seleccionada como la alternativa preferida y, por lo tanto, no se producirán reubicaciones residenciales ni comerciales.

CC-3-4 (Comment was submitted in Spanish)

Please refer to Section 1.2 of this appendix for further discussion regarding the extension of the public comment period.

Consulte la sección 1.2 de este apéndice para más información sobre la ampliación del periodo de comentarios públicos.

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El EIR/EIS del Proyecto del Corredor I-710

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TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-4

Nombre: Ramona Avezada

Dirección: 2936 Belgrave Ave apt 102

Ciudad, Estado, Código Postal: Huntington Park CA 90255

Organización: CBE

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

Nos Merecemos un corredor de Cero emisiones para Proteger la calidad de aire.

Necesitamos un paquete de beneficios comunitarios.
Estamos preocupados porque.
El desplazamiento va a dejar a muchas personas sin vivienda Cuando ya estamos batallando para encontrar vivienda endonde vivir.
Es Importante que nos den 120 dias mas para proveer mejores Soluciones.

Public Hearing Comment Card CC-4

Ramona Quezada
2936 Belgrave Ave, Apt 102
Huntington Park, CA 90255
Organization: CBE

Translated comment:

We deserve a zero emissions corridor to protect the air quality. CC-4-1
We need a packet of community benefits. CC-4-2
We are worried because the displacement will leave many people without housing when we are already struggling to find housing to live in. CC-4-3
It is important that they give us 120 more days to provide better solutions. CC-4-4

CC-4-1 (Comment was submitted in Spanish)

Caltrans and Metro thank the commenter for their input. The commenter's support of a ZE corridor is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative (Alternative 1 No Build) and to Section 1.3 for additional discussion of ZE options.

Caltrans y Metro agradecen al autor del comentario su aportación. El apoyo del comentarista a un corredor ZE se reconoce y se incluye en el registro del proyecto. Por favor refiérase a la Sección 1.1 de este apéndice para una discusión sobre la identificación de la Alternativa Preferida (Alternativa 1 No Construir) y a la Sección 1.3 para una discusión adicional de las opciones ZE.

CC-4-2 (Comment was submitted in Spanish)

As part of both build alternatives evaluated in the RDEIR/SDEIS, a Community Health Benefit Program is proposed that would take the form of a grant program structure to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to travel and goods movement on I-710. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more details regarding the Community Health Benefit Program.

Como parte de ambas alternativas de construcción evaluadas en el RDEIR/SDEIS, se propone un Programa de Beneficios para la Salud de la Comunidad que adoptaría la forma de una estructura de programa de subvenciones para proporcionar a las comunidades del corredor la oportunidad de implementar proyectos o actividades de divulgación que mejorarían la calidad del aire y la salud pública en relación con los viajes y el movimiento de mercancías en la I-710. Sin embargo, Caltrans, como agencia líder bajo CEQA y NEPA (según lo asignado por la Administración Federal de Carreteras [FHWA]), en cooperación con la Autoridad Metropolitana de Transporte del Condado de Los Ángeles (Metro), ha identificado la Alternativa 1 (No Construir) como la Alternativa Preferida. Debido a que no se ha seleccionado una alternativa de construcción como la Alternativa Preferida, este elemento programático no será implementado por Caltrans como la agencia líder bajo CEQA y NEPA y como el propietario/operador de la autopista I-710. Consulte la Sección 1.10 de este apéndice para obtener más detalles sobre el Programa comunitario de beneficios para la salud.

CC-4-3 (Comment was submitted in Spanish)

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment CC-4-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, no residential and business relocations will occur.

Se reconoce la preocupación del autor del comentario sobre el desplazamiento de personas como resultado de las alternativas de construcción y se incluye en el expediente del proyecto. Como se indicó en la respuesta al comentario CC-4-2, la alternativa de no construir ha sido seleccionada como la alternativa preferida y, por lo tanto, no se producirán reubicaciones residenciales ni comerciales.

CC-4-4 (Comment was submitted in Spanish)

Please refer to Section 1.2 of this appendix for further information regarding the extension of the public comment period.

Consulte la sección 1.2 de este apéndice para más información sobre la ampliación del periodo de comentarios públicos.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-5

Name: THERESA VAZQUEZ

Street: 537 S. SYDNEY DRIVE

City, State, Zip: LOS ANGELES, CA. 90022

Organization: RESIDENT

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

TEACHER AND RESIDENT IN THE COMMUNITY FOR A TOTAL OF 18 YEARS. I RECOMMEND ANY CONSIDERATIONS AS PROPOSED TO BE STOPPED. ANY CHANGES IN SURROUNDING AREAS AND IN THE AREA WHERE I LIVE WOULD NEGATIVELY IMPACT THE ~~COMMUNITY~~ COMMUNITY AS A WHOLE. WHETHER IT IS THE SALVATION ARMY IN BELLFLOWER AND SURROUNDING COOPERATING BUSINESSES OR EAST L.A. WHERE 27 HOMES WOULD BE IMPACTED IN MY NEIGHBORHOOD. AT THIS TIME IN LOS ANGELES COUNTY WHEN HOMELESS IS EPIDEMIC - IT DOES NOT MAKE SENSE TO TAKE HOMES AWAY! ANOTHER CONCERN IS THE HEALTH IMPACT SOME ~~THAT~~ OF THESE ALTERNATIVES SUPPOSE - IT IS UNTHINKABLE TO REMOVE THE DIALYSIS CENTER AND TAKE SPACE FROM THE FIRE DEPARTMENT. IT WOULD ALSO, NEGATIVELY IMPACT THE QUALITY OF AIR FOR THE SURROUNDING COMMUNITY ESPECIALLY FOR THE RESIDENTS AND SCHOOLS. LAWS CAN BE ENFORCED OF THE TRUCKS →

CC-5-1

CC-5-2

CC-5-3

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

TO CHANGE TO 2020 ~~2010~~ EMISSIONS WITHOUT ALL THE MESS CREATED BY THE 710 PROPOSED PLANS. CC-5-3

LASTLY, IT IS RIDICULOUS TO THINK THAT 90 DAYS IS ENOUGH TIME FOR RESIDENTS TO REVIEW SUCH A LARGE DOCUMENT WITHOUT ASSISTANCE. EVEN 120 DAYS DOES NOT SEEM ADEQUATE. CC-5-4

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

CC-5-1

Caltrans and Metro thank the commenter for their input. The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no residential and business relocations. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-5-2

The commenter's opposition to the displacement of the dialysis center and acquisition of land from the fire station are acknowledged and included in the project record. As stated in Response to Comment CC-5-1, Alternative 1 (No Build) has been identified as the Preferred Alternative. Therefore, the DaVita Doctors Dialysis Center will not be displaced.

CC-5-3

The U.S. Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD) have the authority to enact regulations on emissions from vehicles operating in California. As stated in Section 4.2.4.1, of Chapter 4.0, California Environmental Quality Act Evaluation, of the RDEIR/SDEIS, Caltrans and Metro do not have authority to regulate vehicle emissions. However, as discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions.

The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would provide for the installation of solid barriers and installation of vegetation where feasible (and where soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. As discussed in Section 2.3.2, Build Alternatives, in the Final EIR/EIS, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic component of the build alternatives.

This program would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty (Class 8) ZE/NZE trucks for use within the I-710 Corridor. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.3 of this appendix for additional discussion of ZE options.

CC-5-4

Please refer to Section 1.2 of this appendix for further information regarding the extension of the public comment period.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-6

Name: Tamar Galindo

Street: 118 N Dangler Ave

City, State, Zip: Los Angeles CA, 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

There was no consideration of the communities passing the 60 Fwy; although many of the residents there, send their children to school to the impacted areas!! We need at least 120 days to review the EIR/EIS. There needs to be an alternative that does not put zero-emmissions and housing displacement against each other!! CC-6-1 CC-6-2 CC-6-3

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-6-1

Caltrans and Metro thank the commenter for their input. The general project Study Area, as well as resource-specific study areas, were defined in accordance with Caltrans guidance and are intended to create a geographical context for the evaluation of environmental impacts. Because the project improvements associated with the build alternatives terminate south of the I-710/ SR-60 interchange, there would not be direct environmental impacts occurring to communities north of SR-60. However, some individual analyses, including the air quality analysis, do extend beyond the limits of the general Study Area map (please refer to the Air Quality/Health Risk Assessment maps included in Appendix Q of the Final EIR/EIS) in order to accurately capture the extent of potential impacts. In addition, schoolchildren that attend schools within the limits of the Study Area have been accounted for in the analysis of impacts to sensitive receptors and facilities, regardless of their residential address.

CC-6-2

Please refer to Section 1.2 in this appendix for further information regarding the extension of the public comment period.

CC-6-3

As discussed in further detail below, maximizing zero emission technology and minimizing displacements were both considered as part of the build alternatives.

As discussed in Section 2.3.2, Build Alternatives, in the Final EIR/EIS, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic component of the build alternatives. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements such as the Zero Emission/Near Zero Emission Truck Technology Deployment Program (now known as the I-710 Clean Truck Program) will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Prior to selection of the No Build Alternative as the Preferred Alternative, the I-710 Clean Truck Program was being further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability (for more information, see Section 2.3.2.1 Common Features of the Build Alternatives and Appendix W of this Final EIR/EIS). Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

Design refinements to the build alternatives to minimize acquisition of property and displacements have been ongoing since the start of the development of the build alternatives. While great effort has been made through the design review process to minimize right-of-way impacts to the greatest degree feasible, some relocations resulting from the build alternatives would be unavoidable in implementing 19 miles of freeway modernization. Please refer to Appendix T for more information on the design concepts evaluated in order to avoid displacements with the ZE freight corridor design concept. Because of the larger footprint that would be required to accommodate the ZE freight corridor, Alternative 7 would result in more right-of-way required and greater displacements than Alternative 5C. However, as stated above, Alternative 1 (No Build) was identified as the Preferred Alternative and therefore, no relocations will occur.

PUBLIC HEARING COMMENT CARD

CC-7

Name: Anani Galindo

Street: 118 N. Dangler Ave.

City, State, Zip: Los Angeles, CA, 90022

Organization: none → Resident

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

It is imperative that we have 120 days to thoroughly analyze the EIR full of technicalities and potential issues. Thank you! CC-7-1

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CC-7-1

Caltrans and Metro thank the commenter for their input. Please refer to Section 1.2 of this appendix for further discussion regarding the extension of the public comment period.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-8

Name: Ernesto Gonzalez

Street: 6013 Bartnus St.

City, State, Zip: Commerce CA 90040

Organization: Commerce Resident.

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I'm concerned about displacement without having a solution for folks in Commerce. CC-8-1

We'd like 120 days for community input CC-8-2

and make sure that there is a zero CC-8-3

emissions corridor.

Metro Caltrans GATEWAY CITIES 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-8-1

Caltrans and Metro thank the commenter for their input. The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, no residential and business relocations would occur. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-8-2

Please refer to Section 1.2 of this appendix for further information regarding the extension of the public comment period.

CC-8-3

The commenter's support of a ZE corridor is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative and to Section 1.3 for additional discussion of ZE options.

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PUBLIC HEARING COMMENT CARD

CC-9

Name: Rachel Galindo

Street: 118 N. Dangler Ave

City, State, Zip: Los Angeles, CA 90022

Organization: Resident

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Extension of 120 days for further ~~draft~~ review! CC-9-1

Meeting in East Los Angeles to consider residents from that neighborhood

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CC-9-1

Caltrans and Metro thank the commenter for their input. Please refer to Section 1.2 of this appendix for further discussion regarding the extension of the public comment period. With regard to the commenter's request for a meeting in East Los Angeles, a community meeting in East Los Angeles hosted by the office of Supervisor Hilda Solis was held on October 18, 2017.

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El EIR/EIS del Proyecto del Corredor I-710

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TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-10

Nombre: LILIA SERVIN

Dirección: 1144 Burger ave

Ciudad, Estado, Código Postal: Los Angeles Ca - 90022

Organización: _____

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

Yo Lilia Servin no estoy de acuerdo con el proyecto de Caltran sobre la autopista 710 porque yo he luchado Mucho por mi casa y pensar que por este proyecto me voy a quedar sin casa y ahora que ya estoy grande y no puedo tener la posibilidad de tener otra casa y me da tenga tener que irme a la calle cuando ya ahi tanta gente, yo pido que no me quiten mi casa pueden mandar los camiones a otro puerto,

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Public Hearing Comment Card CC-10

Lilia Servin
1144 Burger Ave.
Los Angeles, CA 90022

Translated comment:

I, Lilia Servin, do not agree with the Caltrans 710 freeway project because I've fought a lot for my house and to think that for this project I am going to be left without a house and now that I am old and won't have the possibility to have another house and it terrifies me to have to go to the street when there are already so many people there. I ask that you don't take away my house, you can send the boats to another port. CC-10-1

CC-10-1

Caltrans and Metro thank the commenter for their input. The commenter's concern regarding displacement and request that boats be sent to a different port are acknowledged and included in the project record. Caltrans and Metro do not control goods movement and do not have the authority to dictate alternative modes of goods transportation. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no displacements. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-11

Name: SAL HERNANDEZ

Street:

City, State, Zip: P.O. BOX 2863 HUNTINGTON PARK, CA.

Organization: C.B.E

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

LETS TAKE THIS CHALLENGE TOGETHER NOT AGAIST EACH OTHER, LETS FIGURE THE BEST SOLUTIONS FOR EVERYBODY NOT JUST THE GREAT BIG COMPORATIONS.

CC-11-1

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CC-11-1

Caltrans and Metro thank the commenter for their input. The commenter's desire for the best solutions possible have been noted and included in the project record. Please refer to Section 1.2 of this appendix for more information regarding the public outreach framework employed during the project development process.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-12

Name: JOE CORTEZ

Street: 12314 EDGEBROOK AVE

City, State, Zip: LYNWOOD, CA 90262

Organization: RESIDENT

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

ADD GUARDRAILS ON EB 105 INTERCHANGE TO SB 710. WE HAVE HAD CARS GO DOWN AND HIT OUR WALL AND OTHERS WALLS A FEW TIMES. CC-12-1

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CC-12-1

Caltrans and Metro thank the commenter for providing this feedback regarding installation of guardrails on the eastbound I-105 to the southbound I-710 ramp. This suggestion has been forwarded to the proper Caltrans Design Unit for consideration. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the commenter's suggestion will not be incorporated as part of the I-710 Corridor Project. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-13

Name: Tammy Koegle

Street: 8044 Rosecrans Ave

City, State, Zip: Paramount CA 90723

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Concerned about a few things: Bike lane & pedestrians? How do you plan on increasing the safety, will you increase the Lighting? on the bike path also? CC-13-1

• Also how Do you plan on zero emmisions from the trucks in the future? Are you going to offer incentives to company? tax write offs? CC-13-2

• What Do you Plan to do about the end of the 710? will extention stop going through Pasadena? CC-13-3

• With Hexavalent Chromium 6 in Paramount and in Compton an North Long Beach, What are your Plans on controling the air Pollution when you break up the Concreate? OR start your construction. CC-13-4

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-13-1

Caltrans and Metro thank the commenter for providing their input. The commenter's concern regarding safety and lighting of pedestrian and bicycle facilities is acknowledged and noted in the project record. As discussed in Chapter 2.0, Project Alternatives, the build alternatives would include widening of existing bridges and overcrossings to accommodate pedestrian and bicycle traffic, as well as construction of five pedestrian and bicycle-only bridges. Under the build alternatives, safety lighting would be provided on the modified and proposed pedestrian and bicycle facilities. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the pedestrian and improvements to pedestrian and bicycle facilities under the build alternatives will not be constructed. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-13-2

As discussed in Section 2.3.2, Build Alternatives, in the Final EIR/EIS, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic component of the build alternatives. As stated in Response to Comment CC-13-1, Alternative 1 (No Build) has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements such as the Zero Emission/Near Zero Emission Truck Technology Deployment Program (now known as the I-710 Clean Truck Program) will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Prior to selection of the No Build Alternative as the Preferred Alternative, the I-710 Clean Truck Program was being further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability (for more information, see Section 2.3.2.1, Common Features of the Build Alternatives, and Appendix W of this Final EIR/EIS).

CC-13-3

A Draft EIR/EIS was circulated for the SR-710 North Project in 2015, which studied five alternatives in depth, including transit and multimodal options as well as two variations on a freeway tunnel. After the receipt of substantial public comment, the Project Development Team identified the alternative that best addressed the purpose and need and the evaluation performance measures as the Single-Bore Freeway Tunnel with tolling and truck restrictions. However, in May 2017, the Metro Board of Directors unanimously voted to adopt the TSM/TDM Alternative as the locally preferred alternative for the SR-710 North Project and to direct those project funds to local operational improvements to address traffic congestion caused by the 4.5-mile gap in the freeway between Alhambra and Pasadena. The funds would be used to

implement improvements identified in the TSM/TDM Alternative studied in the Draft EIR/EIS including traffic signal upgrades and synchronization, local street and intersection improvements, improved connections to existing bus and rail service, and the promotion of rideshare options in the area. Additionally, remaining Measure R funds would be allocated to new improvement projects within the SR-710 North Project study area that would relieve traffic congestion directly related to the existing SR-710 gap in the transportation system. Caltrans identified the TSM/TDM Alternative as the Preferred Alternative in the Final EIR/EIS approved on November 26, 2018.

CC-13-4

As stated in Response to Comment CC-13-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no existing concrete will be broken up during construction activities.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-14

Name: Allan Crawford

Street: 275 Park Ave

City, State, Zip: Long Beach, CA 90803

Organization: Bikeable Communities

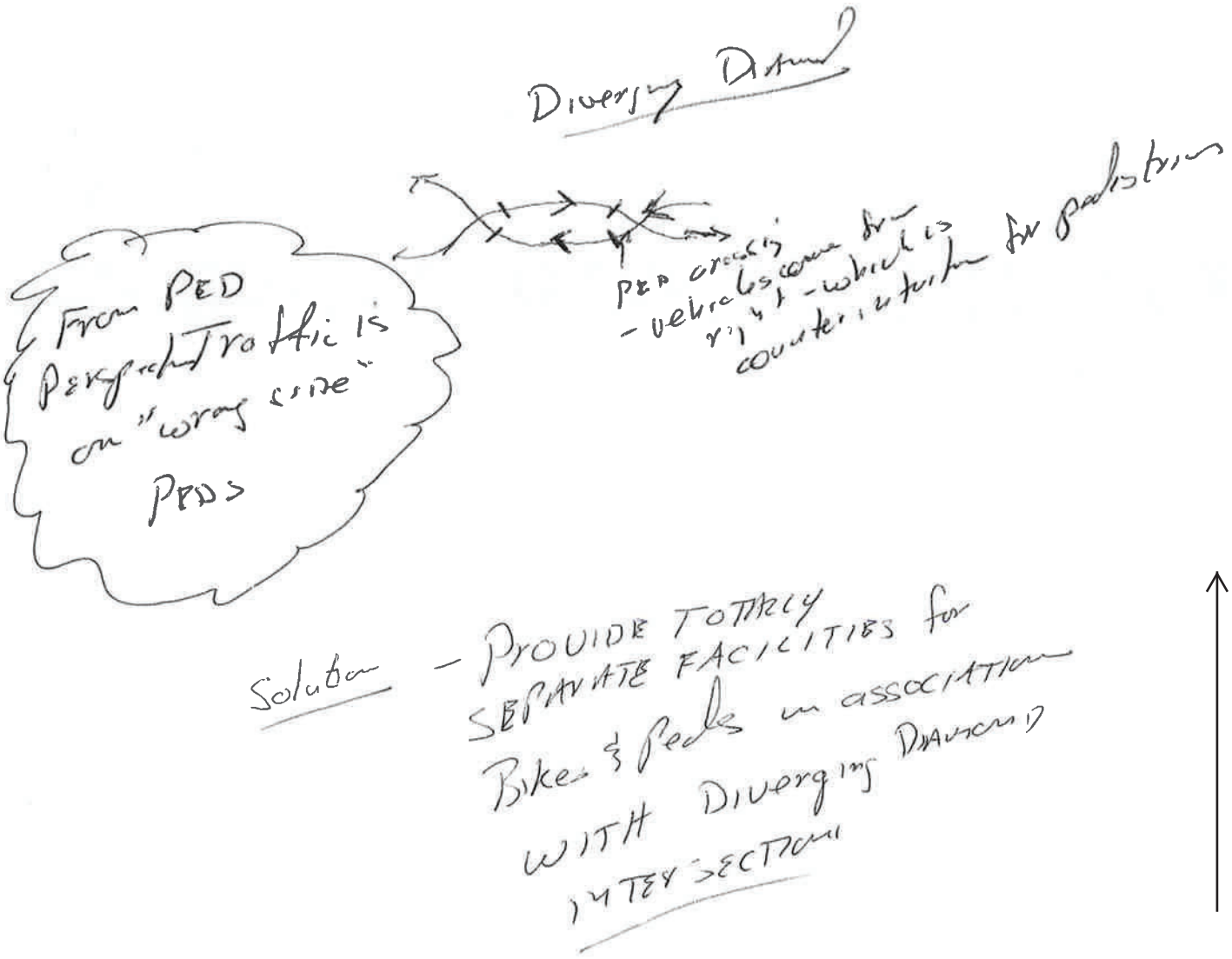
Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Diverging Diamond intersections are a disaster for Bikes & Pedestrians. THEY DO NOT make the intersections SAFER FOR your most vulnerable users. THEY DO NOT ELIMINATE THE HIGH-SPEED FREE RIGHTS which are so Dangerous for both Bikes & Peds. THEY encourage HIGHER SPEEDS - which is the leading cause of Injury & Death for Bicyclists & Pedestrians. For Pedestrians, traffic is coming from the right as you cross the street, which is totally counter intuitative for people use to vehicles driving on the right side

CC-14-1



CC-14-1

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

CC-14-1

As discussed in Section 3.5.1 of Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, of the RDEIR/SDEIS, bicyclists and pedestrians were a consideration in the design of the build alternatives at all local interchanges, including diverging diamond interchange (DDI) configuration interchanges. Appropriate treatments were applied to balance vehicle, bicycle, and pedestrian use. Caltrans' *Complete Intersections:* A *Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians* (2010) was used during the design process for the build alternatives, as was Caltrans' Design Information Bulletin (DIB) 90, "Diverging Diamond Interchange" and the *Highway Design Manual* (6th edition, December 2018). As discussed in Section 3.5.3.2, because sidewalks would be improved under the build alternatives, bikeways and trails would be maintained, and bicycle and pedestrian connectivity would be enhanced, the build alternatives would improve conditions for pedestrian and bicycle travel. In addition, as discussed in Section 2.3, with respect to "Complete Streets" improvements, the inclusion of pedestrian paths (sidewalks, curb ramps, and crosswalks) and sufficient outside shoulder width to accommodate Class II bikeways on local street crossings would be provided as part of local interchange modifications under the build alternatives. Since circulation of the RDEIR/SDEIS in 2017, Class IV bikeways have been integrated into the design of the build alternatives along some crossing arterials within the improvement limits for the build alternatives. A Class IV separated bikeway is for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature. This Final EIR/EIS has been updated accordingly to reflect those additions.

As compared to existing conditions, DDI interchange designs would greatly reduce the number of unsignalized free right turns at the I-710 ramp termini. Between the two DDI intersections, only two right-turn movements would feature unsignalized pedestrian/bike crossings. The crosswalks at these locations were placed near the beginning of low-speed curves where vehicles would be required to be slow and visibility would be the greatest. Pedestrians would cross a single lane, with traffic approaching from one direction. Buffered bike lanes were featured between these right-turn lanes and through travel lanes consistent with treatments identified in Caltrans' Complete Intersections Guide, a best practice employed by engineers for right-turn lanes. Vehicle speeds would be significantly lower on local streets when passing through the ramp intersections of a DDI than through other interchange types.

Challenges to pedestrian channelization and wayfinding are addressed in the Federal Highway Administration's (FHWA) *Diverging Diamond Interchange Informational Guide* (Infoguide) (August 2014), which offers tested solutions implemented by various agencies across the country based on the unique requirements and constraints posed by each interchange site location. In regard to pedestrian expectations for approaching traffic, this guide suggests special pedestrian signage and/or pavement markings at the push-button, as well as a special speech message provided by the Accessible Pedestrian Signal (APS) devices for pedestrians with vision disabilities, would be provided at the I-710 crossing locations under the build alternatives. However, Caltrans, as lead

agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, improvements to these interchanges and pedestrian and bicycle facilities will not be incorporated. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-15

Name: Julius Calacsan

Street: 1600 W. Willow St

City, State, Zip: Long Beach, CA 90810

Organization: East Yards Communities for Environmental Justice

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

The I-710 Corridor Project should prioritize local hire to benefit people who live along the I-710, no displacement to keep people in their homes, and pushing for zero emissions technology to reduce air pollution along the freeway. Ultimately, we are asking representatives to stand with communities and request that an extension to the Draft Environmental Impact Report (DEIR) comment period to 120 days closing on Nov 21, 2017. CC-15-1 CC-15-2 CC-15-3 CC-15-4

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CC-15-1

Caltrans and Metro thank the commenter for their input. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, no construction will occur, and local hire programs will be unnecessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-15-2

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment CC-15-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, residential and business relocations will not occur.

CC-15-3

The commenter's support of a ZE corridor is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative (No Build) and to Section 1.3 for additional discussion of ZE options.

CC-15-4

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-16

Name: Nicole Taylor

Street: 2370 Village Way, Signal Hill CA 90755

City, State, Zip: _____

Organization: _____

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I understand why you all may not care about the community's health because you probably don't care about your own health. These emmissions will impact you too. No amount of money will save you. Building an expansion of the 710 WILL MURDER FAMILIES. It may be slow and indirect, but it's still murder. You may ~~not~~ only care about the money you make over murder, but just remember that that money was built on the backs of black & brown bodies. You didn't ~~earn~~ earn any of it. CC-16-1

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-16-1

Caltrans and Metro thank the commenter for their input. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, and Section 4.2.4.1 of Chapter 4.0, California Environmental Quality Act Evaluation, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions but no increase in cancer risk compared to the 2012 Baseline. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of the air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would require installation of solid barriers and installation of vegetation where soundwalls are not proposed to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative and Section 1.10 of this appendix for more details regarding the Community Health Benefit Program.

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PUBLIC HEARING COMMENT CARD

CC-17

Name: Laurie Angel

Street: 458 E. Platt St.

City, State, Zip: Long Beach CA 90805

Organization: Jane Addams Neighborhood Association
Citizens About Responsible Planning

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Can you apply intelligent transportation principles to the isolated truck lanes. CC-17-1

must add landscaping to capture particulates CC-17-2

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Appreciate bike lanes on Del Amo to Blue Line station and under the I-710 freeway. Equestrians access must also be considered. CC-17-3

construction cannot be anywhere the Dominguez Gap nor DeForest Wetlands CC-17-4

dramatic increase in trips/day peak traffic.
Concerned about planning for very high density housing the city of Long Beach is promoting. Traffic on major corridor Del Amo is already excessive. Planning for 4 & 5 story residential buildings nearly will cause / add to extremely high traffic CC-17-5

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CC-17-1

Caltrans and Metro thank the commenter for their input. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the TSM/TDM elements included as part of the build alternatives will not be implemented. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-17-2

As discussed in Section 2.3.2.1 of this Final EIR/EIS, should a build alternative be selected as the Preferred Alternative, landscaping would be provided where necessary within the I-710 Corridor to provide aesthetic treatment, replacement planting, or mitigation planting. Features included as part of the build alternatives would include drought-tolerant and native landscaping, plants that would change colors with the seasons, and the use of vines where space is limited. In an effort to surpass the minimum tree removal-to-replacement ratio, the number of new trees, shrubs and foliage within State right-of-way would be maximized, and would be drought-resistant, and would have superior biosequestration and biofiltration capabilities.

With regard to landscaping for purposes of reducing exposure to particulate matter, the build alternatives propose Measure AQ-3 which, should a build alternative be selected as the Preferred Alternative, would require installation of solid barriers and installation of vegetation where feasible (and where soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind.

Although landscaping would serve to capture some particulates, the build alternatives would also include stormwater best management practices (BMPs) that would be designed specifically for stormwater treatment, including removal of particulates. As discussed in Section 3.9, Water Quality and Storm Water Runoff, proposed treatment BMPs as a part of the build alternatives would include biofiltration swales, media filters, infiltration/detention basin, wet basins, and gross solids removal devices. However, as stated in Response to Comment CC-17-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measure AQ-3 and the referenced BMPs will not be implemented.

CC-17-3

The commenter's support of a bicycle lane on Del Amo Blvd. to the Blue Line Station and under I-710 is acknowledged and included in the project record. As discussed in Chapter 2.0, Project Alternatives, the build alternatives would include the widening of existing bridges and overcrossings, including at Del Amo Blvd., to accommodate pedestrian and bicycle traffic. Improvements under the build alternatives would include Americans with Disabilities Act of 1990

(ADA)-compliant sidewalks and sufficient room for bicycle lanes. In addition, the build alternatives would include five pedestrian and bicycle-only bridges. However, since the No Build Alternative has been selected as the Preferred Alternative, bicycle and pedestrian facilities will not be provided as part of the I-710 Corridor Project. Please refer to Responses to Comments L-26-3, L-26-16, L-26-20, and L-26-22 for a discussion of revisions to the RDEIR/SDEIS to incorporate discussion of equestrian facilities.

CC-17-4

The No Build Alternative (the Preferred Alternative) would not result in any permanent impacts within the Joint Dominguez Gap and Deforest Treatment Wetlands Project areas.

CC-17-5

Caltrans and Metro do not have the authority to dictate the types of residential development within the City of Long Beach. The City of Long Beach is responsible for adopting a General Plan Land Use Element and establishing zoning regulations that dictate density standards and approval of residential development within the City of Long Beach.

As discussed in Section 3.5.2.2, Existing and Future No Build Traffic Conditions, in Section 3.5, Traffic And Transportation/Pedestrian And Bicycle Facilities, of the RDEIR/SDEIS, segments of Del Amo Blvd. between Santa Fe Ave. and I-710 and between Cherry Ave. and Paramount Blvd. are arterial roadway segments that operate with a volume-to-capacity (V/C) ratio of 0.90 or greater (indicating level of service [LOS] E or F) in the 2012/2013 existing condition. As shown in Figure 3.5-8 in Section 3.5 of the RDEIR/SDEIS, Alternative 5C would impact the Del Amo Blvd./Santa Fe Ave., Del Amo Blvd./Long Beach Blvd., Del Amo Blvd./Atlantic Ave. Intersections (Intersections 34, 35, and 36). Alternative 7 would impact the Del Amo Blvd./Santa Fe Ave. and Del Amo Blvd./Long Beach Blvd. Intersections (Intersections 34 and 35). As detailed in Table 3.5-23 and Measure TR-1 in Section 3.5 of the RDEIR/SDEIS, the build alternatives propose improvements at these locations to mitigate for impacts resulting from the build alternatives at these intersections along Del Amo Blvd. Should a build alternative be selected as the Preferred Alternative, Measure TR-1 would improve intersection operations and delay to a level equivalent to, or better than, what would occur under the No Build Alternative at Study Area intersections impacted by the build alternatives. However, since the No Build Alternative has been selected as the Preferred Alternative, Measure TR-1 will not be implemented.

Each residential project within the City of Long Beach would be required to undergo environmental review and mitigate for traffic impacts, including potential impacts to Del Amo Blvd. Caltrans and Metro are not responsible to mitigate for traffic impacts to the arterial roadway system from residential development within the City of Long Beach.

PUBLIC HEARING COMMENT CARD

CC-18

Name: Jeanett Herrera
Street: 721 E 67 way
City, State, Zip: Long Beach ca 90805
Organization: Resident

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I want to ask to the Committee To please diside for Alternative 7. I have a child with asthma my son Cant be outside because he Cant have asthma trigers with the air quality. Please stop spending our tax money in projects that will hert our children. A14 7. or Nothing

CC-18-1

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CC-18-1

Caltrans and Metro thank the commenter for their input. The commenter's support for Alternative 7 is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative (Alternative 1 No Build).

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El EIR/EIS del Proyecto del Corredor I-710

INTERSTATE CALIFORNIA 710

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TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-19

Nombre: Dr Tom Williams

Dirección: 4117 Barrett Rd

Ciudad, Estado, Código Postal: LA, CA, 90032-1712

Organización: Sierra Club, Transport. Comte

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

No spanish issues of I-710 Livability Initiative
& of I-710 Project Zero Emissions

3 bike path project description
Compton in Spanish only, no english
Rio Hondo in English only, " spanish
W. LA River in " " , " "

Provide extension of 30 days for Public Comment Period and one more Public mtg. CC-19-1

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CC-19-1

Caltrans and Metro thank the commenter for their input. Please refer to Section 1.2 of this appendix for further information regarding the extension of the public comment period.

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PUBLIC HEARING COMMENT CARD

CC-20

Name: Edith Florence

Street: 2425 Webster Ave

City, State, Zip: Long Beach CA 90810

Organization: Long Beach Unified School District

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

When Cesar Chavez is temporarily closed, how will the District be notified?
Will you work with us to provide an alternative recreation space for the students?

CC-20-1

Can the construction at the park be scheduled during the summer months?

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CC-20-1

Caltrans and Metro thank the commenter for their input. The build alternatives propose Measure PR-13 in Section 3.1.3.3 of Section 3.1, Land Use, of the Final EIR/EIS and Section 5.1 of the Draft Section 4(f) Evaluation which, should a build alternative be selected as the Preferred Alternative, would include details about notification of the City of Long Beach Parks, Recreation and Marine Department regarding temporary closures in Cesar E. Chavez Park. Measure PR-13 has been revised to require notification of the LBUSD regarding park closures, should a build alternative be selected as the Preferred Alternative.

The build alternatives also propose Measure PR-12 in Section 3.1.3.3 of the RDEIR/SDEIS and Section 5.1 of the Draft Section 4(f) Evaluation which, should a build alternative be selected as the Preferred Alternative, would include details about coordination with the City of Long Beach regarding the replacement of the basketball courts in Cesar E. Chavez Park. Measure PR-12 has been revised to require coordination with LBUSD and construction during the summer months, as feasible, should a build alternative be selected as the Preferred Alternative.

A detailed construction schedule and time frame/duration for construction activities in Cesar E. Chavez Park had not been developed at the time the RDEIR/SDEIS was circulated for public review. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no impacts to parks and recreational facilities in the City of Long Beach and Measures PR-12 and PR-13 will not be implemented. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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INTERSTATE CALIFORNIA 710

I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-21

Name: Edith Florence

Street: 2425 Webster Ave

City, State, Zip: Long Beach CA 90810

Organization: Long Beach Unified School District

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

As stated in the document, there is a Joint-Use Agreement between the City of LB & LBUSD. The elementary school kids use the park for recess during the day.

The District's concern is regarding the design of the improvements along the park property because it needs to maintain public & student safety.

CC-21-1

What will the design be? block wall? wrought iron? chain link? KEEP SAFETY IN MIND

Metro Caltrans GATEWAY CITIES Port of LONG BEACH THE PORT OF LOS ANGELES SCAG

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CC-21-1

Caltrans and Metro thank the commenter for their input. Caltrans requires that all projects incorporate current safety standards into project design. Therefore, should a build alternative be selected as the Preferred Alternative, all improvements along the I-710 Corridor, including those improvements at Cesar E. Chavez Park, would be constructed up to current safety standards to maintain public and student safety. The design details (e.g., block wall, wrought iron, or chain-link design options) had not been determined at the time the RDEIR/SDEIS was circulated for public review. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no impacts to Cesar E. Chavez Park. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-22

Name: Rebecca Syracopoulos

Street: 3750 Long Beach Blvd., Suite 200

City, State, Zip: Long Beach, CA, 90815

Organization: Bikeable Communities

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Separate bike and ped facilities at Hill and Spring will help but are not sufficient. Bicyclists and pedestrians will not...and should not be expected to go miles out of their way to be able to safely cross a street.

We propose: 1. Grade separated facilities at Anaheim, PCH and Del Amo

2. PCH: Complete streets (class 4) connections on PCH extending between Pacific Avenue on the East and Cabrillo High School on the west. CC-22-1

3. Anaheim: Complete streets (class 4) connections from Daisey Avenue to the east to 9th Street on the West.

4. Del Amo: Complete streets (class 4) connection to LA River on the east and Metro Blue Line on the west.

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CC-22-1

As discussed in Section 3.5.3.1 of Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, of the RDEIR/SDEIS, the build alternatives would provide facilities for bicycles and pedestrians in locations where local roadways would be affected by the construction of the build alternatives. Should a build alternative be selected as the Preferred Alternative, these facilities would be designed consistent with the local General Plan Circulation Element and would comply with ADA requirements. The build alternatives would improve pedestrian facilities (sidewalks) by replacing the old ones that would be removed as part of the build alternatives. Bike travel would also be improved as a result of the build alternatives by providing new pavement on the arterial bridges that would be replaced over I-710 and the Los Angeles River. Class I Bikeways within the Study Area would be maintained with the proposed build alternatives.

The addition of the pedestrian and bicycle-only overcrossings (five additional structures under Alternative 5C, and three under Alternative 7), proposed at locations in which gaps in freeway crossing opportunities have been identified, would also improve pedestrian and bicycle travel within the I-710 Corridor by introducing new connectivity points traversing the I-710 and the Los Angeles River (and in the case of the Pacific Place overcrossing, the I-405 and Metro Blue Line).

Feasible grade-separated bike and pedestrian facilities are not practical or desirable at Anaheim St., Pacific Coast Hwy. (PCH), or Del Amo Blvd. primarily due to the adjacent right-of-way impacts that would occur. In response to the City of Long Beach's General Plan update, Class IV bikeways have been incorporated into local street designs of the build alternatives where possible, along PCH, Anaheim St., and Del Amo Blvd. in the vicinity of the freeway interchanges. A Class IV separated bikeway is for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature. This Final EIR/EIS has been revised to indicate the locations where Class IV bikeways have been incorporated into the design of the build alternatives. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, improvements to and/or new bicycle/pedestrian facilities will not be improved and/or constructed. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-23

Name: Luis Gamboa

Street: 5437 Cherry Ave

City, State, Zip: Long Beach, CA 90805

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

As a long Beach resident of 37 years, I am very aware of the effects of the 710 freeway on me and my family. I suffer from Asthma - my sons Chris and Evan and my Daughter Tera also suffer from Asthma. I was not born with it. my Symptoms started when I moved to LB as a child. I Emplore Metro to prioritize Zero emission trucks over Near zero emission trucks. Choose Battery and fuel cell only. CC-23-1

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CC-23-1

Caltrans and Metro thank the commenter for their input. The commenter's support of a ZE corridor is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative (Alternative 1 No Build) and to Section 1.3 for additional discussion of ZE options.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-24

Name: Rossana Sierra

Street: 2122 W. Willard ST. Apt R-20

City, State, Zip: Long Beach CA 90810

Organization: resident

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

7. Zero Emmision. We need progress in transportation and distribution. Zero emmision and better health is part of the progress. I live close to the 710. People that move to my area, within 2 months, go to the doctors for trouble breathing. They are shock when they are diagnosed with Asthma, 30, 40, 60 year old persons that never had a case of asthma before. Zero emmission would save our goverment money on health care. I believe the persons ~~benefiti~~ financially benefitting from this projects should live in the affected areas. CC-24-1

Metro Caltrans GATEWAY CITIES 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-24-1

Caltrans and Metro thank the commenter for their input. The commenter's support of a ZE corridor is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative (Alternative 1 No Build) and to Section 1.3 for additional discussion of ZE options.

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El EIR/EIS del Proyecto del Corredor I-710

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TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-25

Nombre: Rossana Sierra

Dirección: 2122 W. Willard St. Apt R-20

Ciudad, Estado, Código Postal: Long Beach CA 90810

Organización: Resident

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

Inviertan en projectos que beneficient a la comunidad. No al 710.

Metro · Caltrans · GATEWAY CITIES COUNCIL OF GOVERNMENTS · 5 · Port of LONG BEACH The Green Port · THE PORT OF LOS ANGELES · SCAG

Rossana Sierra (CC-25)

(Page 2 of 2)

CC-25-1

Caltrans and Metro thank the commenter for their input. The commenter's opposition to the build alternatives and support of other projects that would benefit the community are acknowledged and included in the project record. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-26

Name: Luis Gamboa

Street: 5437 Cherry Ave

City, State, Zip: Long Beach, CA

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Install pollution eating (algae moss) and green up the sound walls on the 710 Freeway.

The algae will filter pollution from 710 FWY

Use pollution eating screening advertisements Billboards on all 710 Ads, make the Air purifying billboards (scrubing pollution) mandatory.

CC-26-1

Metro Caltrans GATEWAY CITIES 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-26-1

Caltrans and Metro thank the commenter for their input. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative and is discussed in more detail in Section 1.1 of this appendix. Therefore, there will be no need to install algae on soundwalls or provide air purifying billboards to filter pollution from the build alternatives.

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PUBLIC HEARING COMMENT CARD

CC-27

Name: Reni M. Castro

Street: 2001 River Avenue

City, State, Zip: Long Beach CA. 90810

Organization: Century Villages at Cabrillo

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I am in favor of Alternative #7 for the 710 Freeway. We can achieve lower emissions on the 710 Freeway, and use the expansion as an opportunity to use the latest technology to clean our air and be a global leader in clean freight transportation. CC-27-1

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CC-27-1

Caltrans and Metro thank the commenter for their input. The commenter's support for Alternative 7 is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative (Alternative 1 No Build).

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-28

Name: James Clemson

Street: 4307 E Ocean Blvd

City, State, Zip: Long Beach CA 90803

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

We should be focusing on making the Gateway Cities safer and more to walk. This project works against those goals by further entrenching car only planning into Southern California CC-28-1

Also, this project works against California's Greenhouse Gas Reduction Goals by ~~[illegible]~~ encouraging additional vehicle travel through induced demand. CC-28-2

Finally the money spent on this project would be better spent on increasing the funding for public transit and ~~Rail~~ Goods movement via Rail. CC-28-3

Metro Caltrans GATEWAY CITIES 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-28-1

Caltrans and Metro thank the commenter for their input. The build alternatives would include improvements to improve pedestrian safety and mobility. As discussed in Section 2.3.2.1, Project Alternatives, the build alternatives would include widening of existing bridges and overcrossings to accommodate pedestrian and bicycle traffic. In addition, five pedestrian and bicycle-only bridges are proposed for Alternative 5C and three pedestrian and bicycle-only bridges are proposed for Alternative 7. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the improvements and/or new construction of pedestrian and bicycle-only bridges will not be constructed. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-28-2

The issue of induced demand is very complex, involving various travel behavior responses, residential and business location decisions, and other factors that influence regional population and economic growth. While some of these responses may represent new trips, much of the observed increase in traffic comes from trips that were already being made before the increase in highway capacity, or reflect predictable behavior that is accounted for in travel demand forecasts. Accordingly, Caltrans' guidance on this topic of induced demand maintains that each project should be evaluated on a case-by-case basis.

"Induced travel" is characterized as the additional demand for travel that occurs as a result of a decrease in the generalized cost of travel, including both travel-time and out-of-pocket costs. I-710 is part of a highly congested metropolitan roadway network and is located within an urbanized area that is essentially built out. Given the high levels of congestion in the peak periods, the I-710 travel demand forecast model is particularly sensitive to changes in travel times. The proposed improvements included in the build alternatives would improve speeds and would reduce travel times on I-710, which would in turn attract more traffic to the facility relative to the no build condition. The predicted shifts in traffic were accounted for in the analysis presented in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, of the RDEIR/SDEIS for both Alternatives 5C and 7. Effects related to greenhouse gas emissions of the build alternatives have been updated in Section 4.4.3, of Chapter 4.0, California Environmental Quality Act Evaluation, in this Final EIR/EIS.

CC-28-3

A programmatic component of both build alternatives would substantially increase transit service on all Metro Rail and Rapid routes and local bus routes in the Study Area, as well as create three new high-frequency Express Bus and Rapid transit routes serving the corridor. Please refer to

Section 2.3.2.1 of this Final EIR/EIS for further details. However, as stated in Response to Comment CC-28-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, the transit services proposed as part of the build alternatives will not be implemented.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-29

Name: Martha Herrera

Street: 223 W E 67 way

City, State, Zip: Long Beach Ca 90805

Organization: Families in Good Health

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I am asking to Please take in consideration Alternative 7. This is the community needs, also Please think about the future any desicion and action you will take know will afect our Children our future and the Public Health I am a public health worker and I can see the health effect in my community (Alt. 7 is the Correct one)

CC-29-1

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-29-1

Caltrans and Metro thank the commenter for their input. The commenter's support for Alternative 7 is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative (Alternative 1 No Build).

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-30

Name: ERIVERTO ESPINUZA

Street: 370 4TH ST., LONG BEACH

City, State, Zip: LONG BEACH, CA

Organization: RESIDENT

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

FREEWAY WIDENING HAS NEVER REDUCED CONGESTION OR POLLUTION LEVELS. HAVING ALTERNATIVE PLANS THAT DO NOT GUARANTEE POLICY CHANGES THAT MANDATE ZERO EMISSIONS - WILL NOT BE SUPPORTED BY THE COMMUNITY. OTHER MODES OF GOODS TRANSPORTATION SHOULD BE PROPOSED. CC-30-1

IN ADDITION, THE CITY OF LONG BEACH HAS PASSED LAND USE POLICY THAT INCREASES DENSITY. I DID NOT SEE THIS REFLECTED IN THE EIR. ALSO, THE 2028 OLYMPICS WILL ALSO INCREASE ADVERSE IMPACTS AND THIS SHOULD BE STUDIED. CC-30-2

Metro · Caltrans · GATEWAY CITIES · 5 · Port of LONG BEACH The Green Port · THE PORT OF LOS ANGELES · SCAG

I ALSO WOULD LIKE A 120 DAY EXTENSION.

CC-30-3

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

CC-30-1

Caltrans and Metro thank the commenter for their input. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, two purposes of the project are to improve air quality and public health and accommodate projected traffic volumes. As discussed in Section 5.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, the build alternatives would improve traffic operations along the I-710 Corridor. In addition, the build alternatives propose Measure TR-1 which would provide for intersection and roadway improvements to improve intersection operations and delay to a level equivalent to, or better than, what would occur under the No Build Alternative at Study Area intersections impacted by the build alternatives.

In addition, the build alternatives include programmatic components that would help improve traffic conditions on the arterial streets in the I-710 Study Area. As discussed in Section 2.3.2.1 in the RDEIR/SDEIS, the I-710 TSM/TDM/Congestion Relief Program would provide funding for traffic signal upgrades and coordination, safety improvements, traffic-calming measures, and intersection improvements on the arterial street system in the Study Area. The I-710 Corridor Project ITS/TSM/Congestion Relief Program intends to help address the I-710 Corridor Project goals of improving traffic safety, accommodating projected traffic volumes, and addressing increased traffic volumes resulting from projected growth in population, employment, and economic activities related to goods movement. This programmatic component of the build alternatives would provide funding to local governments to implement intersection projects within the I-710 Corridor Project Study Area to improve operations at congested intersection locations on the local roadway network. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions resulting from the build alternatives.

The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would require installation of solid barriers and installation of vegetation where feasible (and where soundwalls are not proposed) to disperse pollution and reduce

pollutant concentrations downwind. In addition, the build alternatives include programmatic components that would help improve air quality and public health in the I-710 Corridor. As discussed in Section 2.3.2, Build Alternatives, in the Final EIR/EIS, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic component of the build alternatives. This program would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty (Class 8) ZE/NZE trucks for use within the I-710 Corridor. However, as stated above, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements such as the Zero Emission/Near Zero Emission Truck Technology Deployment Program (now known as the I-710 Clean Truck Program) will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Prior to selection of the No Build Alternative as the Preferred Alternative, the I-710 Clean Truck Program was being further defined to include a proposed governance structure, roles and responsibilities for program oversight, and provisions related to program enforceability (for more information, see Section 2.3.2.1 Common Features of the Build Alternatives and Appendix W of this Final EIR/EIS).

The commenter’s opposition to plans that do not guarantee policy changes that mandate zero emissions is acknowledged and noted in the public record. Please refer to Section 1.3 of this appendix for additional discussion of ZE options.

Caltrans and Metro do not control goods movement and do not have authority to dictate alternative modes of goods transportation.

CC-30-2

This comment requests that Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS be revised to reflect potential impacts related to recent changes to the City of Long Beach's land use policy that would allow increased density and the Los Angeles 2028 Summer Olympic Games. It is unclear which land use policy the commenter is referring to in this comment; however, the City of Long Beach is currently in the process of updating the Land Use and Urban Design Elements of its General Plan to increase density in certain parts of Long Beach. A Draft EIR related to the Long Beach General Plan Update was circulated for public review in Fall 2016. In February 2017, the Long Beach City Council directed that the Draft Land Use and Urban Design Elements be updated to consider input from the City Council and community. Given that the Draft Land Use and Urban Design Elements were being updated when the RDEIR/SDEIS was being prepared, limited information regarding the City of Long Beach's General Plan Update was available on which Caltrans and Metro could rely for the cumulative impacts analysis. State CEQA Guidelines Section 15187(d) encourages lead agencies to avoid engaging in speculation or conjecture when conducting environmental analyses. Based on the fact that the Draft Land Use and Urban Design

Elements were being refined when the RDEIR/SDEIS was being prepared, Caltrans and Metro elected to forgo including the Long Beach General Plan Update in the cumulative impacts analysis.

Some of the major transportation projects that are proposed to be completed prior to the Los Angeles 2028 Summer Olympics were already included in the cumulative analysis. These projects include the Crenshaw - LAX Transit Corridor (T-56), the Westside Purple Line Subway Extension (T-58), the West Santa Ana Branch right-of-way Corridor (Orange County Line to Union Station) (T-77), and the Regional Connector Transit Corridor Project (T-82). The cumulative analysis reflects the information that was available when the RDEIR/SDEIS was being prepared.

CC-30-3

Please refer to Section 1.2 of this appendix for more information regarding the comment period.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-31

Name: Mary Lopez

Street: 819 Canal Ave #203

City, State, Zip: Long Beach, CA 90813

Organization: LBACA

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I urge you to stop gentrification!! Rents are getting very high! Low income families are the most impacted!

CC-31-1

Metro Caltrans GATEWAY CITIES 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-31-1

Caltrans and Metro thank the commenter for their input. Caltrans is sympathetic to the economic realities facing the residents of the I-710 Corridor, as well as southern California in general, particularly low-income residents and renters. Caltrans has a comprehensive relocation process and the benefits afforded to displaced persons under the Uniform Act. Caltrans' goal when acquiring real property is to make impacted persons "whole" again and ideally would relocate displaced persons within their current neighborhood whenever possible. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, relocations will not be necessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. It is important to note that gentrification is a complex phenomenon related to politics, urban planning, economics, and social change, and should be addressed within those contexts, rather than in a project-level environmental document for a transportation infrastructure project.

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El EIR/EIS del Proyecto del Corredor I-710

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TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-32

Nombre: Beatriz Dadisman

Dirección: 1070 temple ave. apt 104

Ciudad, Estado, Código Postal: LB CA 90804

Organización: residente de Long Beach

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

O emision lo mas pronto para que no inpacte mas en la salud de mis hijos. Tengo 3 niños de atsma incluyendo a mi misma e visto niño sufrir cuando no pueden respirar cada vez que voy al hospital es triste ver madres como yo llorando por que no pueden hacer nada por sus hijos.

estencion de 120 dias para leer mas
soy mama tomando clases de Atsma con
Alianza de Long Beach para niños con Atsma

Public Hearing Comment Card CC-32

Beatriz Dadisman
1070 Temple Ave. Apt 104
Long Beach, CA 90804
Organization: Resident

Translated comment:

Zero emission as soon as possible to not further impact the health of my children. I have three children with asthma including myself, and I've seen my child suffer when they can't breathe. Each time I go to the hospital it is sad to see the mothers like me crying because they can't do anything for their children. CC-32-1

An extension of 120 days to read more. I am a mother taking classes on asthma with Alianza de Long Beach for children with asthma. CC-32-2

CC-32-1

Caltrans and Metro thank the commenter for their input. The commenter's support of a ZE corridor is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative (Alternative 1 No Build) and to Section 1.3 for additional discussion of ZE options.

CC-32-2

Please refer to Section 1.2 of this appendix for further information regarding the extension of the public comment period.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-33

Name: Joni Ricks-Oddie

Street: 349 E. South St

City, State, Zip: LB, CA 90805

Organization: Defoe Park Neighborhood Association

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Please consider ALL of the environmental impacts of this proposed project. I believe that the existing Alameda Corridor should be utilized at FULL capacity before an expansion of the 710 is considered. Existing infrastructure should be exhausted before we consider costly, invasive & harmful projects like freeway expansions. Take your time, be creative & consider the community.

CC-33-1

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-33-1

Caltrans and Metro thank the commenter for their input. The potential environmental impacts that could occur as a result of the build alternatives were evaluated in accordance with Caltrans guidance and disclosed in the RDEIR/SDEIS. Please refer to Section 1.9 of this appendix for more detailed information about the Alameda Corridor and its relationship to the need for the I-710 Corridor Project.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-34

Name: Christine Applequist

Street: 1845 N. College Cir

City, State, Zip: Long Beach, CA 90815

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I support Alternative 5C. Elevated truck lanes and associated noise impacts are not acceptable and will significantly impact adjacent communities, so I do NOT support Alternative 7.

If any roadways will extend above existing roadway heights and ~~raise noise~~ make buffering of noise by LA River walls less effective, please provide sound walls.

CC-34-1

Metro Caltrans GATEWAY CITIES 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-34-1

Caltrans and Metro thank the commenter for their input. The commenter's support of Alternative 5C and opposition to Alternative 7 is acknowledged and included in the project record. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Please also note that, soundwalls proposed for the build alternatives are discussed in more detail in Section 3.14, Noise, of this Final EIR/EIS and depicted on Figures 3.14-2 and 3.14-3.

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El EIR/EIS del Proyecto del Corredor I-710

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TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-35

Nombre: Rosa Batun

Dirección: 1074 S. Herbert Ave

Ciudad, Estado, Código Postal: Los Angeles Ca. 90023

Organización:

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

No Estoy de acuerdo x las siguientes razones:

Contaminacion -

Trafico

Parkin

Enfermedades.

de donde va a salir el dinero para construir este proyecto?

Public Hearing Comment Card CC-35

Rosa Batun
1074 S. Herbert Ave.
Los Angeles, CA 90023

Translated comment:

I do not agree for the following reasons:
Pollution | CC-35-1
Traffic | CC-35-2
Parking | CC-35-3
Diseases | CC-35-4
Where will the money come from to build this project? | CC-35-5

CC-35-1

Caltrans and Metro thank the commenter for their input. The commenter's opposition to the build alternatives due to pollution concerns is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions.

The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would require installation of solid barriers and installation of vegetation where feasible (and soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind. Additionally, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative and Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

CC-35-2

The commenter's opposition to the build alternatives due to traffic concerns is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, the purpose of the project includes improving traffic safety, accommodating projected traffic volumes, and addressing increased traffic volumes resulting from projected growth in population; and employment, and economic activities related to goods movement. As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, the build alternatives would generally improve traffic operations along the I-710 Corridor. In addition, should a build alternative be selected as the Preferred Alternative, Measure TR-1 would provide for

intersection and roadway improvements that would improve intersection operations and delay to a level equivalent to, or better than, what would occur under the No Build Alternative at Study Area intersections impacted by the build alternatives. However, since the No Build Alternative has been selected as the Preferred Alternative, Measure TR-1 will not be implemented.

In addition, the build alternatives include programmatic components to help improve traffic conditions on the arterial streets in the I-710 Study Area. As discussed in Section 2.3.2, Build Alternatives, in the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, the I-710 TSM/TDM/Congestion Relief Program would provide funding for traffic signal upgrades and coordination, safety improvements, traffic-calming measures, and intersection improvements on the arterial street system in the Study Area. The intention of the I-710 Corridor Project ITS/TSM/Congestion Relief Program would be to help address the I-710 Corridor Project goals of improving traffic safety, accommodating projected traffic volumes, and addressing increased traffic volumes resulting from projected growth in population, employment, and economic activities related to goods movement. This programmatic component of the build alternatives would provide funding to local governments to implement projects within the I-710 Corridor Project Study Area to improve operations at congested intersection locations on the local roadway network. However, as stated in Response to Comment CC-35-1, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

CC-35-3

The arterial parking restrictions proposed as part of the build alternatives are not included in the Preferred Alternative (Alternative 1 No Build).

CC-35-4

The commenter’s opposition to the build alternatives due to concerns about increased disease is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, and Section 4.2.4.1 of Chapter 4.0, California Environmental Quality Act Evaluation, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. However, the build alternatives would decrease diesel particulate matter emissions (the primary contributor to air quality-related cancer risk) compared to both the 2012 Baseline and the 2035 No Build Alternative. Although emissions would increase at some near-roadway locations, there would not be an increase in cancer risk compared to 2012 Baseline conditions. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however,

a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would require installation of solid barriers and installation of vegetation where feasible (and soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

CC-35-5

As stated in Response to Comment CC-35-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, funding of a project will not be necessary.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-36

Name: Borumen, D.

Street: 622 S. Humphreys

City, State, Zip: E. Los Angeles CA 90022

Organization: Home Owner

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary): I am a homeowner here, this is my community & with the various purposals rise major concerns; with projects costing 6.5 Billion & 11 Billion yet only 1 Billion to work with is alarming that such a project would be started without knowing where & when the funding will come from to complete. This will leave our community in limbo, our children left with no completion, while the pollution will continue and myself & neighbors will become ill unknowingly. The displacement of residents is occurring in or being allowed due to the status of the Community being a working lower income community. Please reconsider the purposals and think about Pollution & the future generations we live here.

CC-36-1

CC-36-2

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CC-36-1

Caltrans and Metro thank the commenter for providing their input. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, Therefore, funding of a project will not be necessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. It should be noted that air quality and pollution are addressed in Section 3.13, Air Quality, of the Final EIR/EIS. This section concludes that the exposure of people to particulate matter-related morbidity and mortality health risks along I-710 should decrease as a result of the project alternatives relative to the 2012 Baseline with the exception of some near-roadway locations.

CC-36-2

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment CC-36-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, residential and business relocations will not be necessary.

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PUBLIC HEARING COMMENT CARD

CC-37

Name: Samantha Carroll

Street: 2427 Caspian Ave.

City, State, Zip: Long Beach, CA 90810

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I am a home-owner in West Long Beach. I am very excited about option SC-7. I look forward to seeing the 710 on ramps/off ramps updated but also possible bike routes along Hill St, joining West side to downtown. Living on the west side, we can feel isolated from the rest of Long Beach.

Thank you for this meeting!

CC-37-1

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CC-37-1

Caltrans and Metro thank the commenter for providing their input. The commenter's support for Alternative 5C is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for further information on the identification of the Preferred Alternative (Alternative 1 No Build).

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-38

Name: Kimel Conway

Street: 3847 Olive Ave.

City, State, Zip: Long Beach, CA 90807

Organization: —

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Opposed to 7 & 8. If 5C is implemented, ensure that visual and noise impacts to users of the LA River corridor and adjacent or abutting neighborhood residents are fully addressed and mitigated to a level of insignificance. No statements of overriding considerations on these issues, please! Use plant materials (e.g. vines) to the max. for sound walls to eliminate potential for grafitti. Morning glories are great - they grow like a weed!

CC-38-1

Metro · Caltrans · Gateway Cities Council of Governments · 5 · Port of Long Beach The Green Port · The Port of Los Angeles · SCAG

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CC-38-1

Caltrans and Metro thank the commenter for their input. The commenter's opposition to Alternative 7 is acknowledged and included in the project record. Based on the analysis contained within Chapter 4.0, CEQA Evaluation, of the RDEIR/SDEIS, the build alternative would have some unavoidable significant impacts in relation to air quality, land use and planning, population and housing, and transportation and traffic. The analysis concluded that noise and visual impacts resulting from the build alternatives could be mitigated to below a level of significance. More detailed information regarding visual impacts is provided in Section 3.6, Visual/Aesthetics, of the RDEIR/SDEIS, and detailed information regarding noise impacts is provided in Section 3.14, Noise. The information within these sections was used to inform the CEQA determination for the build alternatives contained in Chapter 4.0.

Should a build alternative be selected as the Preferred Alternative, in accordance with the *I-710 Corridor Aesthetics Master Plan* (2014) and the landscape plan that would be developed during final design of either build alternative, strategies to reduce the instances of graffiti would be employed where appropriate. The build alternatives propose Measure VIS-4 in Section 3.6.4 of the RDEIR/SDEIS which would provide for landscaping the areas in front of soundwalls where feasible depending on the available space. Landscaping would include trees, shrubs, and/or vines. The suggestion set forth in this comment has been included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, Measure VIS-4 will not be implemented, and the commenter's suggestion cannot be taken into consideration. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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El EIR/EIS del Proyecto del Corredor I-710

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TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-39

Nombre: Sandra Corona

Dirección: 9401 E. Whittier Blvd.

Ciudad, Estado, Código Postal: Los Angeles, CA 90022

Organización:

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

I see this project as unsustainable, unhealthy, and irrelevant to our community. Stop this project. CC-39-1

Thank you.

10-18-17

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CC-39-1

Caltrans and Metro thank the commenter for providing their input. The commenter's opposition to the build alternatives due to concerns that the build alternatives are unsustainable and unhealthy are acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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PUBLIC HEARING COMMENT CARD

CC-40

Name: Mercedes De La Cruz

Street: 1061 S. Fernis Ave.

City, State, Zip: Los Angeles, CA 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I am opposed to the projects on the 710 because I am concerned about my children's health whom attend Humphreys Ave Elementary. CC-40-1

These projects would cut down parking to my community. CC-40-2

I believe that instead of adding more traffic to our community the money should be inverted in adding parks or more greeney. The filter being offered will not solve the polution when people & students go out of the buildings. CC-40-3 CC-40-4

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CC-40-1

Caltrans and Metro thank the commenter for their input. The commenter's opposition to the build alternatives due to concerns about the health of your children is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, and Section 4.2.4.1 of Chapter 4.0, California Environmental Quality Act Evaluation, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. The build alternatives propose Measure AQ-2 (outlined in more detail in Section 3.13.4) which has identified Humphreys Avenue Elementary School as a sensitive receptor within 0.25 mile of the I-710 and, should a build alternative be selected as the Preferred Alternative, would commit to providing an air filtration system, the specifics of which would be determined in coordination with the school district. Based on the contour maps provided in Section 3.3.3 of Section 3.3, Community Impacts, Humphreys Avenue Elementary School would not be within an area of $PM_{2.5}$ or PM_{10} increase under the build alternatives. It would fall within an area of incremental cancer risk increase of approximately one in one million, which is considered an "acceptable risk" in terms of environmental regulation.[1] However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, Measure AQ-2 will not be implemented. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-40-2

The arterial parking restrictions proposed as part of the build alternatives are not included in the Preferred Alternative (Alternative 1 No Build).

CC-40-3

As stated in Response to Comment CC-40-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no funding will be necessary. It is important to note that the provision of passive parkland and greenery could be projects that may be eligible for funding under the Community Health Benefit Program as described in Section 2.3.2.1 of the Final EIR/EIS, which is a programmatic element included as part of the build alternatives. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as

[1] World Health Organization (WHO). 2001. *Water Quality: Guidelines, Standards, and Health*. Website: http://www.who.int/water_sanitation_health/dwq/iwachap10.pdf (accessed June 26, 2018).

the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

CC-40-4

The build alternatives propose Measure AQ-2 which would include air filters that would be intended to remove pollutants from indoor air, where school children spend the majority of their time while at school. In addition to air filters, should a build alternative be selected as the Preferred Alternative, Measure AQ-3 would implement the installation of solid barriers and vegetation where feasible and where soundwalls are not proposed to disperse pollution and reduce pollutant concentrations downwind. However, as stated in Response to Comment CC-40-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measures AQ-2 and AQ-3 will not be implemented.

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PUBLIC HEARING COMMENT CARD

CC-41

Name: Blanca A Fernandez

Street: 4362 Eagle Street

City, State, Zip: L.A. CA 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

We need more calidad de aire en lugar de extender mas el freeway necesitamos ~~stuff~~ arboles, Parkes La Pared del freeway mas grande y Reducir el ruido y el humo delas Traeas. Dejen vivir ala gente en paz y no saquen a nadie de sus ~~ca~~ casas.

Public Hearing Comment Card CC-41

Blanca A. Fernandez
4362 Eagle St.
Los Angeles, CA 90022

Translated comment:

We need better air quality instead of extending the freeway. We need trees and parks. The freeway wall should be higher to reduce the noise and smoke from the trucks. Let the people live in peace and do not take anyone out of their homes. CC-41-1 CC-41-2 CC-41-3

CC-41-1 (Comment was submitted in Spanish)

Caltrans and Metro thank the commenter for their input. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk except at a few near-roadway locations. The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would require installation of solid barriers and vegetation where feasible (and where soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative and Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

As discussed in Measure VIS-4 in Section 3.6.4 of Section 3.6, Visual/Aesthetics, of the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, areas in front of soundwalls would be landscaped where feasible depending on the available space. Landscaping would include trees, shrubs, and vines. Additionally, should a build alternative be selected as the Preferred Alternative, the build alternatives would provide enhancements to Cesar E. Chavez Park in the City of Long Beach. The enhancements to this park would improve access to the park and would provide for a larger contiguous recreation area. Further, projects that include upgrades for parks, added greenbelts, and/or vegetation barriers, buffer parks, or open space and landscaping may be eligible for funding from the Community Health Benefit Program, a programmatic element of the build alternatives. However, as stated above, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. In addition, Measure VIS-4 would not be implemented.

Caltrans y Metro agradecen al autor del comentario su aportación. Como se explica en la sección 1.2.2 del capítulo 1.0, Proyecto propuesto, de la RDEIR/SDEIS, uno de los objetivos del proyecto

es mejorar la calidad del aire y la salud pública. Como se indica en el apartado 3.13, Calidad del aire, de la RDEIR/SDEIS, todas las alternativas de construcción mejorarían en general la calidad del aire y reducirían el riesgo para la salud pública, excepto en unos pocos puntos cercanos a la carretera. Las alternativas de construcción proponen las medidas AQ-2 y AQ-3 para reducir la exposición a las emisiones en las proximidades de las carreteras. En caso de que se elija una alternativa de construcción como la Alternativa Preferida, la Medida AQ-2 proporcionaría sistemas de filtración para las escuelas situadas a 0,25 millas de la I-710. La medida AQ-3 exigiría la instalación de barreras sólidas y vegetación donde fuera factible (y donde no se propusieran pantallas acústicas) para dispersar la contaminación y reducir las concentraciones de contaminantes a favor del viento. Además, el Programa de Beneficios para la Salud de la Comunidad del Corredor I-710 es un componente programático de las alternativas de construcción y adoptaría la forma de un programa de subvenciones estructurado para proporcionar a las comunidades del corredor la oportunidad de implementar proyectos o actividades de divulgación que mejorarían la calidad del aire y la salud pública relacionadas con los viajes y el movimiento de mercancías por la I-710. Sin embargo, Caltrans, como agencia líder bajo CEQA y NEPA (según lo asignado por la Administración Federal de Carreteras [FHWA]), en cooperación con la Autoridad Metropolitana de Transporte del Condado de Los Ángeles (Metro), ha identificado la Alternativa 1 (No Construir) como la Alternativa Preferida. Debido a que no se ha seleccionado una alternativa de construcción como la Alternativa Preferida, este elemento programático no será implementado por Caltrans como la agencia líder bajo CEQA y NEPA y como el propietario/operador de la autopista I-710. Consulte la Sección 1.1 de este apéndice para obtener más información sobre la identificación de la Alternativa Preferida y la Sección 1.10 de este apéndice para obtener información más detallada sobre el Programa Comunitario de Beneficios para la Salud.

Como se analiza en la Medida VIS-4 en la Sección 3.6.4 de la Sección 3.6, Estética/Visual, de la RDEIR/SDEIS, en caso de que se seleccione una alternativa de construcción como la Alternativa Preferida, las áreas frente a las pantallas acústicas se ajardinarían cuando fuera factible según el espacio disponible. La jardinería incluiría árboles, arbustos y enredaderas. Además, si se selecciona una alternativa de construcción como la Alternativa Preferida, las alternativas de construcción proporcionarían mejoras al Parque Cesar E. Chavez en la Ciudad de Long Beach. Las mejoras a este parque mejorarían el acceso al parque y proporcionarían un área recreativa contigua más grande. Además, los proyectos que incluyen mejoras para los parques, cinturones verdes añadidos, y/o barreras de vegetación, parques de amortiguación, o espacio abierto y paisajismo pueden ser elegibles para la financiación del Programa de Beneficios de Salud de la Comunidad, un elemento programático de las alternativas de construcción. Sin embargo, como se ha indicado anteriormente, la alternativa de no construir ha sido seleccionada como la alternativa preferida. Ya que no se ha seleccionado una alternativa de construcción como la Alternativa Preferida, este elemento programático no será implementado por Caltrans como la agencia líder bajo CEQA y NEPA y como el dueño/operador de la autopista I-710. Además, no se aplicará la medida VIS-4.

CC-41-2 (Comment was submitted in Spanish)

The existing soundwall between 4362 Eagle St. and I-710 in Los Angeles is a 10-foot-tall wall. Additional noise abatement, in the form of a taller soundwall (up to 16 feet in height) was considered during preparation of the *Noise Study Report* (Caltrans 2016) due to noise impacts resulting from the build alternatives. However, per Caltrans Traffic Noise Analysis Protocol, taller soundwalls were not considered feasible (i.e., they would not achieve a greater than 5 A-weighted decibel [dBA] noise reduction), and therefore, were not incorporated into the build alternatives.

La barrea de sonido que existe entre 4362 Eagle Street y I-710 en Los Angeles es un muro de 10 pies de altura. Durante la preparación del Noise Study Report (Caltrans 2016), se consideró una reducción adicional del ruido, en forma de una barrera de sonido más alta (hasta 16 pies de altura). Sin embargo, según Caltrans Traffic Noise Analysis Protocol, barreras de sonido más altas no se consideraron factibles (es decir, no lograrían una reducción de ruido de más de 5 decibeles ponderados A [dBA]) y, por lo tanto, no se han incorporado al proyecto.

CC-41-3 (Comment was submitted in Spanish)

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment CC-41-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no residential and business relocations would occur.

Se reconoce la preocupación del autor del comentario respecto del desplazamiento de personas como resultado de las alternativas de construcción y se incluye en el expediente del proyecto. Sin embargo, como se indicó en la respuesta al comentario CC-41-1, la alternativa de no construir ha sido seleccionada como la alternativa preferida y, por lo tanto, no se producirían reubicaciones residenciales ni comerciales.

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PUBLIC HEARING COMMENT CARD

CC-42

Name: Miguel fernandez

Street: 4312 Eagle ST

City, State, Zip: L.A. CA 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

instead of doing all these changes make the freeway wall taller CC-42-1

Put speed signs in our streets CC-42-2

Plant more trees and make our parks better. STOP CC-42-3

abusing our poor community where we live the freeway wall is so small the Gang members always jump it TO our Backyard TO steal from our garage and Paint gang signs.

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-42-1

Caltrans and Metro thank the commenter for their input. It is unclear which freeway wall the commenter is referring to here. Soundwall height is determined by feasibility and reasonableness as described in Section 3.14, Noise, of this Final EIR/EIS. However, some soundwalls are proposed under the I-710 Early Action Soundwall project and would be constructed prior to any I-710 Corridor Project improvements (wherever feasible) at a height appropriate to abate noise impacts adequately while also being cost-effective. Under the Early Action Soundwall Project, the existing wall, along southbound I-710 between Hubbard Street and Humphreys Avenue (No. 519 Segment 3E, in the *Feasibility Study for the I-710 Soundwall Early Action Project* [CH2M Hill, December 2012]) in East Los Angeles and adjacent to the address given by the commenter, could potentially be improved by way of aesthetic improvements and/or increased height (if the structural properties of the wall allow for it). Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, no soundwalls will be constructed as part of the build alternatives. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-42-2

Signage on local streets, including the posting of speed limits, is not within the jurisdiction of Caltrans to implement. Rather, that is the responsibility of the local entity (the County of Los Angeles is the governing entity in unincorporated East Los Angeles). Concerns regarding local speed limits and signage should be brought to the attention of the office of Los Angeles County Supervisor Hilda Solis.

CC-42-3

As stated in Response to Comment CC-42-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no funding will be necessary. Planting trees and passive park improvements are projects that may be eligible for funding under the Community Health Benefit Program (a programmatic element of the build alternatives) as described in Section 2.3.2.1 of this Final EIR/EIS. However, as stated above, the No Build Alternative has been selected as the Preferred Alternative. Therefore, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

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El EIR/EIS del Proyecto del Corredor I-710

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TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-43

Nombre: Maria Jimenez

Dirección: 1148 Burger

Ciudad, Estado, Código Postal: 90022

Organización:

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

Questions Lights
Sound Barrier
Wall along entrance
Fence
No homeless access
Time Frame

CC-43-1

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-43-1

Caltrans and Metro thank the commenter for their input. It is unclear which lights, soundwalls, walls along entrances, or fences that the commenter is specifically referring to, or the particular concerns associated with these elements. Please refer to Section 3.6, Visual/Aesthetics, of the Final EIR/EIS, for a discussion of lighting-related impacts that would occur as a result of the build alternatives and Section 3.14, Noise, for a discussion of soundwalls and noise impacts that would result from the build alternatives. The determination of the need for fencing and the specific fencing locations that could prohibit access to certain areas is typically defined during final design, should a build alternative be selected as the Preferred Alternative.

With regard to the commenter's question about time frame, should a build alternative be selected as the Preferred Alternative, the earliest that acquisition of right-of-way and construction activities would commence would be 2–3 years after approval of the Record of Decision.

However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will be no noise or lighting-related impacts from the build alternatives and acquisitions of right-of-way would not be necessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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PUBLIC HEARING COMMENT CARD

CC-44

Name: Esteban McKenzie

Street: 3117 E 65th St

City, State, Zip: Long Beach, CA 90805

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

As evidenced by the Fiasco that was the 405 widening, CalTrans has not shown that its projections are not very good at accounting for induced demand, or reducing VMT in accordance with state climate goals. I see no evidence that widening the 710 (at the cost of billions) would have any more long term benefit than the 405 widening. I am fully in agreement with reconfiguring intersections and ramps to smooth flow and reduce neighborhood impacts, as well as initiatives to fund improvements to active transportation + transit. However these should be done WITHOUT widening. Existing lanes can be repurposed as truck-only or bus-only lanes to boost freight or transit mobility without displacing people and increasing VMT

CC-44-1

Metro Caltrans GATEWAY CITIES 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-44-1

The current design of the I-710 is unable to handle current and forecasted future traffic flows that are exacerbated by the mix of autos and heavy duty trucks entering and exiting the freeway at multiple locations up and down the 19-mile corridor. The geometrics of the freeway contribute to operational problems such as weave conditions that sap the existing capacity of the existing through lanes on the freeway. During the development of the build alternatives, a traffic operational analysis – using the Transportation Research Board's *Highway Capacity Manual* (HCM) (2010) procedures – was conducted on various conceptual designs in order to test, evaluate, and optimize the performance of various options and proposals, including separate lanes for trucks, auxiliary lanes, through lanes, braided on- and off-ramps, and re-positioning of freeway-to-freeway connectors. This work was reviewed at numerous stages in the design development process by Caltrans, FHWA, and members of the I-710 Technical Advisory Committee, which is comprised of public works directors and city engineers of the local jurisdictions that line the I-710 Corridor. The design concept and scope for the Alternative 5C represents a comprehensive reconfiguration of the I-710 Corridor, which would focus on making geometric improvements that would improve the operations of the I-710 freeway, such as auxiliary lanes, truck bypass lanes, redesign of local interchanges and freeway-to-freeway interchanges that would address the spacing and sequencing of on- and off- ramps, and collector-distributor roadways that would separate traffic entering and exiting the freeway from through traffic. Through lanes are only proposed for certain segments of the freeway in combination with the proposed geometric, operational and safety design improvements in order to optimize the performance of the overall freeway given right-of-way constraints and the need to minimize impacts to nearby residents and businesses. The results of the traffic operational analysis for the build alternatives, along with the operational performance of the future No Build Alternative, was summarized in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, of the RDEIR/SDEIS and presented in detail in the *Traffic Operations Analysis Report* (March 2017). This analysis demonstrates that the build alternatives would eliminate nearly all of the congestion bottlenecks on the I-710 freeway.

The issue of induced demand is very complex, involving various travel behavior responses, residential and business location decisions, and other factors that influence regional population and economic growth. While some of these responses may represent new trips, much of the observed increase in traffic comes from trips that were already being made before the increase in highway capacity, or that reflect predictable behavior that is accounted for in travel demand forecasts. Accordingly, Caltrans' guidance on this topic of induced demand maintains that each project should be evaluated on a case-by-case basis.

"Induced travel" is characterized as the additional demand for travel that occurs as a result of a decrease in the generalized cost of travel, including both travel-time and out-of-pocket costs. I-710 is part of a highly congested metropolitan roadway network and is located within an urbanized

area, which is essentially built out. Given the high levels of congestion in the peak periods, the I-710 travel demand forecast model is particularly sensitive to changes in travel times. The proposed improvements included in the build alternatives would improve speeds and would reduce travel times on I-710, which in turn would attract more traffic to the facility relative to the No Build condition. The predicted shifts in traffic are accounted for in the analysis presented in Sections 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, and 3.13, Air Quality, of the I-710 RDEIR/SDEIS and this Final EIR/EIS for both Alternatives 5C and 7.

Truck-only and bus-only lanes on the I-710 freeway were assessed during the *I-710 Major Corridor Study* (2005) and were screened out of further consideration due to a variety of factors including the lack of physical and operational feasibility. In addition, refer to Section 2.4 of the RDEIR/SDEIS.

PUBLIC HEARING COMMENT CARD

CC-45

Name: Elizabeth Mora

Street: Burgen Ave

City, State, Zip: Los Angeles CA. 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Seems like a great idea, I am totally with this project. I just have one concern, the homeless that will be coming around more often. So I would recomend blocking any opening there will be. CC-45-1

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CC-45-1

Caltrans and Metro thank the commenter for providing their input. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, there will not be any additional access than what is existing for people experiencing homelessness to inhabit. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-46

Name: Juventino Mora

Street: Burger

City, State, Zip: LA CA 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Concerns:
traffic. air polution. Noise. no funds. so how is project going to be compleld. instead of worring about eliminating traffic why not worry about hiring more law enforcement to answer non-emergency calls. or

CC-46-1

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CC-46-1

Caltrans and Metro thank the commenter for their input. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, funding of a project will be unnecessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. It should be noted that, according to the analyses contained within Sections 3.5, Traffic, and 3.13, Air Quality, of the Final EIR/EIS, traffic congestion and air quality would be generally improved with implementation of the build alternatives, with the exception of some intersections (related to traffic) and some near-roadway locations (with regard to air quality). Noise impacts resulting from the build alternatives would be abated to the greatest extent that is reasonable and feasible through the installation of soundwalls (should a build alternative be selected as the Preferred Alternative) as discussed in greater detail in Section 3.14, Noise. However, as stated above, the No Build Alternative has been selected as the Preferred Alternative and therefore, the benefits the build alternatives would have provided related to air quality will not occur and soundwalls to abate noise will not be constructed.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-47

Name: ELIA PARTIDA

Street: 942 S. BURGER AVE

City, State, Zip: LOS ANGELES 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Were are they going to get the money to buy the houses. Are we ready to Loose the Fire Dept ON EASTERN BACK in 2012 we said NO Why Are they're still Pushing it. Why Can you build PARKS, Plant more trees. and take away the Pot sales invest money on growing trees by building another lane to the FWY is only Creating more Pollution less Parking Do Something STOP ~~about~~ OPening business & Selling DRUGS they are very close to schools. Kids walk thru there every Day

CC-47-1

CC-47-2

CC-47-3

CC-47-4

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-47-1

Caltrans and Metro thank the commenter for their input. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, funding of a project will be unnecessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-47-2

The commenter's concern regarding the loss of Fire Station No. 3 at 930 S. Eastern Avenue in East Los Angeles is acknowledged and included in the project record. None of the proposed build alternatives or design options would displace this fire station. According to Table 3.3-8, Permanent Direct and Indirect Impacts to Schools and Other Community Facilities, in Section 3.3.1.3 of Section 3.3, Community Impacts, of the RDEIR/SDEIS, the build alternatives would not result in direct impacts to the fire station. Design Options 3A and 3B would result in temporary construction-related access impacts to the station; however, both of these design options were withdrawn from further consideration. The displacement of a fire station within the City of Vernon (Vernon Fire Station No. 4, located at 4530 Bandini Boulevard) would occur under Alternative 5C. However, as stated in Response to Comment CC-47-1, the No Build Alternative has been selected as the Preferred Alternative, and therefore, there will be no impacts to either Fire Station No. 3 or Fire Station No. 4.

CC-47-3

Passive park improvements and tree planting may be projects eligible for funding under the Community Health Benefit Program (a programmatic element of the build alternatives) as described in Section 2.3.2.1 of the Final EIR/EIS. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more details regarding the Community Health Benefit Program. It should be noted that tax proceeds from recreational marijuana sales are levied and collected at both the local and State levels and are not considered a funding source that is available to Caltrans.

CC-47-4

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk except at a few near-roadway locations. The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for

installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would require installation of solid barriers and installation of vegetation where feasible (and where soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for a detailed discussion on the Community Health Benefit Program. In addition, since the No Build Alternative has been selected as the Preferred Alternative, peak period parking restrictions will not be implemented.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-48

Name: Pilar

Street: 4341 E. 5th St.

City, State, Zip: L.A., CA 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

- No to ~~out~~add more lines in the FWY — CC-48-1
- No more displacement of people — CC-48-2
- Reduce Trucks by enforcement, to use the Alameda corridor — CC-48-3
- Stop the waste of money by ~~doing~~ working on the freeway and then destroy the work To ~~re~~ do again and again and again. Talking about not having money. Ridiculous!!!! — CC-48-4
- Lets think out side the box. Get ideas from the community — CC-48-5

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CC-48-1

Caltrans and Metro thank the commenter for their input. The I-710 Corridor is a vital transportation artery not only for the communities along the corridor, but also because it links the Ports to southern California and the rest of the nation via connections to other Interstate and State highways. An essential component of the regional, statewide, and national transportation system, it serves both passenger and goods movement vehicles. As a result of population growth, international cargo growth shipped through the Ports, increasing traffic volumes, and aging infrastructure, the I-710 Corridor experiences serious congestion and safety issues. There are no currently funded transportation improvements that would address the projected future transportation demand within the I-710 Corridor. Based on the analysis of environmental impacts and alternatives analysis done to date for the I-710 Corridor Project, the addition of a general-purpose lane in addition to the other improvements proposed under Alternative 5C was determined to be the best and most cost-effective solution to the transportation challenges currently faced by the I-710 Corridor. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-48-2

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment CC-48-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no residential and business relocations will occur.

CC-48-3

Please refer to Section 1.9 of this appendix for further details regarding the Alameda Corridor. Caltrans does not have the authority to require or mandate the use of the Alameda Corridor.

CC-48-4

It is unclear whether the commenter is referring to a specific incident or providing a general comment. Generally, freeway projects are planned and programmed with a 20- or 25-year horizon beyond the opening year of the project. This is a general benchmark as the specific circumstances of each project are taken into account in project planning. Additionally, the horizon planning year for a project cannot be beyond the horizon year for the Metropolitan Planning Organization (in this case, the Southern California Association of Governments [SCAG]) Regional Transportation Plan. Projects of this scale and size take several years in order to plan, perform environmental analyses, and prepare construction documents, and so it can be common to note that construction

can occur on a route that is also undergoing future project planning. For example, the I-710 Long Life Pavement Rehabilitation Project is currently in construction along the I-710 Corridor to address necessary maintenance and pavement rehabilitation that is needed in the short term, whereas construction of an ultimate I-710 Corridor Project, should a build alternative be selected as the Preferred Alternative, would still be several years in the future.

CC-48-5

Please refer to Section 1.2 of this appendix for further details on the ongoing community outreach efforts through project development. The evaluation of the range of build alternatives in this Final EIR/EIS is a direct result of community and agency feedback on the original Draft EIR/EIS released for public review in 2012.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-49

Name: Paulina Piña Garcia

Street: 3117 E. 65th St.

City, State, Zip: Long Beach, CA 90805

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I am in support of a project that would at least provide maintenance & repair to the 710. If it is widened but there isn't any investment in maintaining a safe & functioning highway, then the purpose of the project gets lost. CC-49-1

I am particularly interested in knowing how CalTrans and Metro will be held accountable when it comes to ensuring that the project is environmentally safe, and, more crucially, that the most vulnerable communities who already suffer the consequences of pollution caused by the 710 are ensured good air quality and assistance in achieving/maintaining an overall safe environment. CC-49-2

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CC-49-1

Caltrans and Metro thank the commenter for their input. The California legislature dictates how State revenues are spent on the transportation network and appropriates State funding for specific purposes. Maintenance activities are generally funded through the State Highway Operation and Protection Program (SHOPP), which provides funds for pavement rehabilitation, repair and preservation, emergency repairs, safety improvements, and other non-capacity-expanding projects on the State Highway System. This funding source is separate and distinct from the sources that would eventually provide funding for the I-710 Corridor Project improvements, should a build alternative be selected as the Preferred Alternative. In a response to California's transportation funding shortfall that has worsened in recent years, the Road Repair and Accountability Act of 2017 (also known as Senate Bill 1) was passed by the California legislature and signed by Governor Jerry Brown in April 2017. Senate Bill 1 modified how California's transportation system is funded by increasing or indexing the fuel excise tax and adjusting vehicle registration fees in order to better fund the maintenance and rehabilitation of State and local road infrastructure, as well as laying out performance measures for California's infrastructure investment. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, funding for the project will not be necessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-49-2

An analysis of the impacts to minority and low-income communities (known as "environmental justice" populations, many of whom reside directly adjacent to the I-710 freeway) resulting from the build alternatives was undertaken and included in Section 3.3.3 of Section 3.3, Community Impacts, of the RDEIR/SDEIS. Several measures included in this Final EIR/EIS would address impacts resulting from the build alternatives to these communities. Specifically, to address disproportionate impacts to environmental justice populations with regards to a number of resource areas, should a build alternative be selected as the Preferred Alternative, Measure C-7 would commit funding for various projects to these jurisdictions. Measure C-8 identified certain sensitive receptors under each build alternative and, should a build alternative be selected as the Preferred Alternative, would provide upgraded or new filtration or heating, ventilation, and air conditioning systems to these select facilities. All avoidance, minimization, and/or mitigation measures proposed by the build alternatives are listed in the Environmental Commitment Record (included as Appendix F to the Final EIR/EIS) which would act as the Mitigation Monitoring and Reporting Record under CEQA, legally binding Caltrans to carry out these measures, should a build alternative be selected as the Preferred Alternative. However, as stated in Response to Comment CC-49-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, avoidance, minimization, and/or mitigation measures will not be implemented.

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INTERSTATE CALIFORNIA 710

I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-50

Name: Adriana Puga

Street: 950 Burgen Ave

City, State, Zip: Los Angeles CA 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I am against the project. This is going to creat more polution, no parking! I been having ashma since I was 4 yrs old. Living on this address my daughter was born with same issue. I dont like the project. I live infront of the freeway the noise is bad. I dont want no more noise. They dont have money. Weare a poor comunity. They wint have enough money ahs. For this program. CC-50-1 CC-50-2 CC-50-3

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-50-1

Caltrans and Metro thank the commenter for their input. The commenter's opposition to the build alternatives is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would require installation of solid barriers and installation of vegetation where feasible (and where soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, Measures AQ-2 and AQ-3 would not be implemented. In addition, the arterial parking restrictions proposed as part of the build alternatives are not included in the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative and Section 1.6 of this appendix for more detailed information regarding the parking restrictions.

CC-50-2

The commenter's opposition to increased freeway noise is acknowledged and included in the project record. Should a build alternative be selected as the Preferred Alternative, a soundwall would be constructed to reduce freeway noise at the residences located along Burger Avenue in the City of Los Angeles. Specifically, a 16-foot-high soundwall (SW-517 under Alternative 5C, the Preferred Alternative, and SW-717 under Alternative 7) was recommended to replace the existing 12-foot high soundwall. Should a build alternative be selected as the Preferred Alternative, this soundwall would begin at the on-ramp from Olympic Boulevard onto the mainline northbound I-710 and would overlap with an existing 12-foot-high soundwall near Humphreys Avenue. However, as stated in Response to Comment CC-50-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, these soundwalls will not be constructed as a part of the build alternatives.

CC-50-3

As stated in Response to Comment CC-50-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, project funding will not be necessary.

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El EIR/EIS del Proyecto del Corredor I-710

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TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-51

Nombre: Clementina Puga

Dirección: 956 Burger Avenue

Ciudad, Estado, Código Postal: Los Angeles, CA 90022

Organización:

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

No me gustaria que ISTRAN este proyecto porque nos afectaria a todos ho parking politos. Muchas enfermedades Asthma Cancer. Somos una communidad de bajos Recursos. que no Podemos comprar carros nuevos. para mejorar el Aire. y este nos van afectar mucho. nuestro animales se murieron por cancer.

Clementina Puga (CC-51)

(Page 2 of 2)

CC-51-1

Caltrans and Metro thank the commenter for their input. The commenter's opposition to the build alternatives is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. The build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would require installation of solid barriers and installation of vegetation where feasible (and where soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, Measures AQ-2 and AQ-3 will not be implemented. In addition, the arterial parking restrictions proposed as part of the build alternatives are not included in the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative and to Section 1.6 of this appendix for more detailed information regarding the parking restrictions.

CC-51-2

As part of a programmatic element of the build alternatives, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) would fund ZE/NZE trucks for trucking companies and/or owner-operators traveling on the I-710 Corridor frequently. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. In addition, there is no requirement as part of the project, nor do Metro and Caltrans have the authority to require the general public to purchase energy-efficient vehicles.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-52

Name: Shirley M. Ramirez Batun

Street: 1074 1/2 S. Herbert Ave

City, State, Zip: Los Angeles, CA 90023

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

The Community has been affected by ~~several~~ other freeways already creating poor air quality. The air filters will not help the residents, only limited to about 40 hours for the students. These kids and residents already have poor air. A couple trees will not fix it. The expansion will NOT alleviate congestion. Taller walls are disgusting and hiding the aweful plan from the people it is affecting. CC-52-1

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CC-52-1

Caltrans and Metro thank the commenter for their input. The commenter's concern about air quality, opposition to taller soundwalls, and opposition to the build alternatives is acknowledged and noted in the project record.

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, two of the purposes of the project are to improve air quality and public health and to accommodate projected traffic volumes. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk except at a few near-roadway locations. However, the build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would provide for the installation of solid barriers and installation of vegetation where feasible (and where soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, Measures AQ-2 and AQ-3 will not be implemented and I-710 Corridor Community Health Benefit Program will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative and to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, the build alternatives would improve traffic operations along the I-710 Corridor. In addition, should a build alternative be selected as the Preferred Alternative, Measure TR-1 would provide for intersection and roadway improvements that would improve intersection operations and delay to a level equivalent to, or better than, what would occur under the No Build Alternative at Study Area intersections impacted by the build alternatives. In addition, the build alternatives include programmatic components to help improve traffic conditions on the arterial streets in the I-710 Study Area. As discussed in Section 2.3.2, Build Alternatives, in the RDEIR/SDEIS, should a build alternative be selected as the Preferred Alternative, the I-710 TSM/TDM/Congestion Relief Program would provide funding for traffic signal upgrades and coordination, safety improvements, traffic-calming measures, and intersection improvements on the arterial street system in the Study Area. The intention of the I-710 Corridor Project ITS/TSM/Congestion Relief Program would be

to help address the I-710 Corridor Project goals of improving traffic safety, accommodating projected traffic volumes, and addressing increased traffic volumes resulting from projected growth in population, employment, and economic activities related to goods movement. This programmatic component of the build alternatives would provide funding to local governments to implement projects within the I-710 Corridor Project Study Area to improve operations at congested intersection locations on the local roadway network. However, as stated above, the No Build Alternative has been selected as the Preferred Alternative and therefore, Measure TR-1 will not be implemented and I-710 Corridor Project ITS/TSM/Congestion Relief Program will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-53

Nombre: Leonel Rodriguez

Dirección: _____

Ciudad, Estado, Código Postal: _____

Organización: _____

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

I am against the 710 freeway project because the pollution and noise from the construction will make pollution even worse and will also affect the kids in schools nearby. The main reason I am against it is because I do not want anyone from community to be displaced and I doubt any of the people in support of the project will pay for the new homes of people that get pushed out.

CC-53-1

CC-53-2

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CC-53-1

Caltrans and Metro thank the commenter for their input. The build alternatives propose Measures CON-AQ-1 through CON-AQ-17 and CON-N-1 through CON-N-10, as described in Section 3.25, Construction Impacts, to address impacts related to construction-related air quality and noise, respectively. In addition, the provision of air filtration systems to schools within 0.25 mile of I-710 as described in Measure AQ-2 has been revised so that it would occur prior to the start of construction (should a build alternative be selected as the Preferred Alternative), and would help minimize construction-related impacts as well as operational impacts resulting from the build alternatives. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, Measures CON-AQ-1 through CON-AQ-17 and CON-N-1 through CON-N-10 will not be implemented. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-53-2

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment CC-53-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no residential and business relocations will occur.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-54

Name: Conrad Sanchez

Street: 451 S. Atlantic Bl.

City, State, Zip: Los Angeles, CA 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I'm totally against restricting parking on Atlantic Bl.

Parking already is very limited. It would be catastrophic to all businesses on Atlantic.

CC-54-1

What is going to be done with the trucks not meeting zero emissions from freeway truck lanes... overflow to street which in turn increases poor air quality and worse traffic.

CC-54-2

Metro Caltrans GATEWAY CITIES 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES SCAG

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CC-54-1

Caltrans and Metro thank the commenter for their input. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the arterial parking restrictions proposed as part of the build alternatives will not be implemented. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative and to Section 1.6 of this appendix for more detailed information regarding the parking restrictions.

CC-54-2

All build alternatives would fund ZE trucks, regardless of whether a freight-only corridor is built. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program. Additionally, please refer to Section 1.3 for additional discussion of ZE options.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-55

Name: CAROL SEAN

Street: 76 West Del Amo Blvd

City, State, Zip: Long Beach, CA 90805

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

The on ramp from the 710 North to the 91 east becomes one lane. This is dangerous because ~~the~~ traffic fights to get ahead in this one lane. It also backs traffic up the first lane of the 710 while traffic is going from 710 to 91. This on ramp has been outdated for at least 20 years. CC-55-1

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES SCAG

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CC-55-1

Caltrans and Metro thank the commenter for this feedback regarding the existing northbound I-710 to the eastbound SR-91 connector. Under Alternative 5C, many freeway-to-freeway interchanges within the corridor would be improved. However, there would only be minor modifications at this interchange and this transition ramp in particular. The two-lane ramp from northbound I-710 must narrow to one lane near its merge point with SR-91, as there are right-of-way constraints in this area that make widening the SR-91 mainline challenging. Therefore, the lane reduction in the ramp would be necessary for vehicles to merge onto SR-91 within the available right-of-way. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, no improvements will be made to the northbound I-710 to eastbound SR-91 connector. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-56

Name: Lelia Servin

Street: 1144 Burger Ave.

City, State, Zip: Los Angeles Calif 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

Mi nombre es Lelia Servin soy una señora de 73 años de edad, soy sola y lo único k tengo es mi casa, porque me da miedo vivir en la calle y ahora con este proyecto que yo no lo veo bien, si me quitan mi casa donde e vivido 47 años que voy hacer? Aparte de todo el aire contaminado y tambien quiero decir que porque no hacen este proyecto en Pasadena o Montebello.

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

Public Hearing Comment Card CC-56

Lilia Servin
1144 Burger Avenue
Los Angeles, CA 90022

Translated comment:

My name is Lilia Servin, I am a 73-year-old lady. I live alone, and all I have is my house, because I fear living on the streets. Now with this project, which doesn't seem right to me, what am I going to do if they want my house where I've lived for 47 years? Aside from the air pollution and also I want to say, why don't they do this project in Pasadena or Monterey Park? CC-56-1 CC-56-2

CC-56-1 (Comment submitted in Spanish)

Caltrans and Metro thank the commenter for their input. The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, the residence located at 1144 Burger Street in Los Angeles will not be displaced. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

Caltrans y Metro agradecen al autor del comentario su aportación. Se reconoce e incluye en el expediente del proyecto la preocupación del autor del comentario en relación con el desplazamiento de personas como resultado de las alternativas de construcción. Caltrans, como organismo principal en virtud de la CEQA y la NEPA (según lo asignado por la Administración Federal de Carreteras [FHWA]), en cooperación con la Autoridad Metropolitana de Transporte del Condado de Los Ángeles (Metro), ha identificado la Alternativa 1 (No Construir) como la Alternativa Preferida. Por lo tanto, la residencia ubicada en 1144 Burger Street en Los Ángeles no será desplazada. Consulte la Sección 1.1 de este apéndice para obtener más información sobre la identificación de la Variante Preferida.

CC-56-2 (Comment was submitted in Spanish)

Please refer to Section 3.13, Air Quality, of this Final EIR/EIS for a more detailed discussion of air quality impacts related to the project.

A Draft EIR/EIS was circulated for the SR-710 North Project in 2015, which studied five alternatives in depth, including multimodal options as well as two variations on a freeway tunnel. After the receipt of substantial public comment, the Project Development Team identified the alternative that best addressed the purpose and need and the evaluation performance measures as the Single-Bore Freeway Tunnel with tolling and truck restrictions. However, in May 2017, the Metro Board of Directors unanimously voted to adopt the TSM/TDM Alternative as the Locally Preferred Alternative and direct the SR-710 North Project funds to subsidize local operational improvements to address traffic congestion caused by the 4.5-mile gap in the freeway between Alhambra and Pasadena. The funds will be used to implement improvements identified in the TSM/TDM Alternative studied in the Draft EIR/EIS including traffic signal upgrades and synchronization, local street and intersection improvements, improved connections to existing bus and rail service, and the promotion of rideshare options in the area. Additionally, remaining Measure R funds would be allocated to new improvement projects within the SR-710 North Project study area that relieve traffic congestion directly related to the existing SR-710 gap in the transportation system. Caltrans identified the TSM/TDM Alternative as the Preferred Alternative in the Final EIR/EIS approved on November 26, 2018.

Consulte la Sección 3.13, Calidad del aire, de la presente Declaración final de impacto ambiental para obtener un análisis más detallado de los impactos sobre la calidad del aire relacionados con el proyecto.

En 2015, se distribuyó un Borrador del EIR/EIS para el Proyecto SR-710 Norte, que estudiaba cinco alternativas en profundidad, incluidas opciones multimodales, así como dos variaciones de un túnel de autopista. Después de la recepción de comentarios públicos sustanciales, el Equipo de Desarrollo del Proyecto identificó la alternativa que mejor abordaba el propósito y la necesidad y las medidas de rendimiento de evaluación como el túnel de autopista de perforación única con peaje y restricciones para camiones. Sin embargo, en mayo de 2017, el Consejo de Administración de Metro votó unánimemente a favor de adoptar la Alternativa TSM/TDM como la Alternativa Preferida Localmente y dirigir los fondos del Proyecto SR-710 Norte a subvencionar mejoras operativas locales para abordar la congestión del tráfico causada por la brecha de 4,5 millas en la autopista entre Alhambra y Pasadena. Los fondos se utilizarán para implementar mejoras identificadas en la Alternativa TSM/TDM estudiada en el Borrador del EIR/EIS, incluyendo mejoras y sincronización de señales de tráfico, mejoras en calles locales e intersecciones, conexiones mejoradas con el servicio de autobús y ferrocarril existente, y la promoción de opciones de viajes compartidos en la zona. Además, los fondos restantes de la Medida R se asignarían a nuevos proyectos de mejora dentro del área de estudio del Proyecto SR-710 Norte que alivien la congestión de tráfico directamente relacionada con la brecha existente en la SR 710 en el sistema de transporte. Caltrans identificó la Alternativa TSM/TDM como la Alternativa Preferida en el EIR/EIS Final aprobado el 26 de noviembre de 2018.

Movilidad. Medioambiente. Comunidad. Economía. Tecnología

El EIR/EIS del Proyecto del Corredor I-710

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TARJETA PARA COMENTARIOS DE AUDIENCIA PÚBLICA

CC-57

Nombre: Catalina Tabullo

Dirección: 1126 S Burger ave

Ciudad, Estado, Código Postal: L.A Calif 90022

Organización: Madre de Familia

Por favor deje sus comentarios en la caja de comentarios o envíelos por correo a la siguiente dirección antes de lunes, 23 de octubre de 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

Tengo los siguientes comentarios sobre el Informe de Impacto Ambiental Preliminar Recirculado/Declaración de Impacto Ambiental Preliminar Suplementaria (RDEIR/SDEIS) para el Proyecto de la Ruta I-710 (por favor imprima y use hojas adicionales si es necesario):

Mi Preocupasion es que es demasido Ruido mucho humo mira si abro las Ventanas es demosiada Tierra y no se daga el rudo seguido problemas de bronquios y alergias que no puede uno ni siquira afura

Public Hearing Comment Card CC-57

Catalina Tabullo
1126 S. Burger Ave.
Los Angeles, CA 90022

Translated comment:

My concern is that it is too much noise and a lot of smoke. If I open the windows it's too much dust, not to mention the noise. Follow by bronchial problems and allergies making it impossible for someone to be outside. CC-57-1 CC-57-2

CC-57-1

Caltrans and Metro thank the commenter for their input. The commenter's concern about freeway noise is acknowledged and included in the project record. Should a build alternative be selected as the Preferred Alternative, both build alternatives would include a soundwall to reduce freeway noise at the residences located along Burger Avenue in the City of Los Angeles. Specifically, a 16-foot-high soundwall (SW-517 under Alternative 5C, the Preferred Alternative, and SW-717 under Alternative 7) was recommended to replace the existing 12-foot-high soundwall. Should a build alternative be selected as the Preferred Alternative, this soundwall would begin at the on-ramp from Olympic Boulevard onto the mainline northbound I-710 and would overlap with an existing 12-foot-high soundwall near Humphreys Avenue. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, this soundwall will not be constructed. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

CC-57-2

The commenter's concern about freeway smoke and dust is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk except at a few near-roadway locations. However, the build alternatives propose Measures AQ-2 and AQ-3 to reduce exposure to emissions at near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would provide for the installation of solid barriers and installation of vegetation where feasible (and where soundwalls are not proposed) to disperse pollution and reduce pollutant concentrations downwind. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

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I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-58

Name: Elizabeth Vazquez

Street: 736 S. Burger Ave

City, State, Zip: Los Angeles CA 90022

Organization:

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

I am not happy with these project because to start there is no funds ther is no money. Also all

CC-58-1

Metro Caltrans GATEWAY CITIES Port of LONG BEACH THE PORT OF LOS ANGELES SCAG

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CC-58-1

Caltrans and Metro thank the commenter for their input. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, funding for the project is unnecessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

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PUBLIC HEARING COMMENT CARD

CC-59

Name: THERESA VAZQUEZ

Street: 537 S. SYDNEY DRIVE.

City, State, Zip: LOS ANGELES, CA 90022

Organization: TEACHER / RESIDENT IN AREA

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

TO HILDA SOLIS - I STOOD THERE AS YOU SAID YOU WANTED OPEN, HONEST DIALOGUE WITH THE LOCAL RESIDENTS AND THEN I WATCHED YOU WALK AWAY - NOT EVEN STAYING TO HEAR WHAT WE, THE RESIDENTS HAVE TO SAY - I'M DISAPPOINTED IN YOU - YOU FINALLY SHOW UP TO SOMETHING IN THE EAST AREA - THEN YOU LEAVE EARLY. THAT IS NOT SOMEONE I WOULD CONTINUE TO WANT TO REPRESENT ME, ESPECIALLY AT A TIME LIKE THIS WHEN 27 HOMES STAND ON THE LINE OF BEING ELIMINATED!

CC-59-1

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CC-59-1

Caltrans and Metro thank the commenter for their input. This comment is regarding the East Los Angeles Public Meeting hosted by the office of Los Angeles County Supervisor Hilda Solis, and this feedback has been forwarded to the office of the Supervisor for her information. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Therefore, Design Option 3A, which would have required the acquisition of several residences and businesses in East Los Angeles, will not be constructed.

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INTERSTATE CALIFORNIA 710

I-710 Corridor Project EIR/EIS

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PUBLIC HEARING COMMENT CARD

CC-60

Name: ROD WHEELER

Street: 6625 NORTHSIDE DRIVE

City, State, Zip: LOS ANGELES, CA. 90022

Organization: CITIZEN OF COMMUNITY MEMBER OF KNIGHTS OF COLUMBUS

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

CAN YOU LET ALL THE PUBLIC HERE KNOW ABOUT THE WASTED MILLIONS OF DOLLARS IN CENTER DIVIDER ON 710 FREEWAY CURRENTLY WHAT IS THAT DOLLAR FIGURE? AND WHY

CC-60-1

WRONG CONCRETE USED AND THEN TORN OUT AND REPLACED ANNOUNCED ON THE RADIO ALREADY IS THIS TRUE?

CC-60-2

Metro Caltrans GATEWAY CITIES 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES SCAG

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CC-60-1

Caltrans and Metro thank the commenter for their input. The commenter is likely referring to two distinct projects that have been under construction on I-710 in recent years: the construction of a concrete median barrier that replaced a metal beam guardrail median (project cost $26 million), and the I-710 Long Life Pavement Rehabilitation Project, which is currently under construction (please refer to https://dot.ca.gov/caltrans-near-me/district-7/district-7-projects/d7-i710-rehab for further details). The installation of the concrete median barrier was necessary for safety and liability reasons and could not be deferred until the details of the Long Life Pavement Rehabilitation Project, which was not funded at the time, were known. Planning for the Long Life Pavement Rehabilitation Project began approximately one year before the median barrier project completed construction. The pavement project lowered portions of the freeway to increase bridge clearances for tall vehicles, rendering the new median too tall, which would therefore obstruct lines of sight in some areas. In those areas, the median was removed and replaced with a temporary barricade. This median removal cost was approximately $110,000. It was unfortunate that the two projects could not be coordinated, as Caltrans seeks to expend funding as efficiently as possible. However, the urgent need for the median project and the unknown funding and timing of the pavement project could not be reconciled.

CC-60-2

Please refer to Response to Comment CC-60-1 regarding the construction of a concrete median barrier that replaced a metal beam guardrail median and the I-710 Long Life Pavement Rehabilitation Project.

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I-710 Corridor Project EIR/EIS

INTERSTATE CALIFORNIA 710

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PUBLIC HEARING COMMENT CARD

CC-61

Name: Christina Zapata

Street: _____

City, State, Zip: _____

Organization: _____

Please leave comments in the comment box or mail to the address below by Monday, October 23, 2017:

Mr. Ronald Kosinski
Caltrans District 7, Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

I have the following comments on the Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS) for the I-710 Corridor Project (please print and use additional sheets if necessary):

No, No, No! there is no reason to widen the 710, Caltrans has been working on the 5 fwy for 20 years and cannot complete that project! Why should Caltrans & Metro start some thing new. South Pasadena & Pasadena ~~denied~~ denied you (Caltrans, Metro) to extend how is widening the 710 in ELA be the solution. if you do not have the funds now who is going to pay? How dare you, Caltrans, Metro come to "underprivileged" areas and think it's ok to move our area. Clean the freeways & Metro lines first!!! CC-61-1

Metro Caltrans GATEWAY CITIES COUNCIL OF GOVERNMENTS 5 Port of LONG BEACH The Green Port THE PORT OF LOS ANGELES LA SCAG

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CC-61-1

Caltrans and Metro thank the commenter for their input. Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, funding of the project is unnecessary. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. It is important to note that the SR-710 North Project is a separate project that is attempting to address the issues related in part to a lack of a continuous north-south transportation facility. The I-710 Corridor Project build alternatives were attempting to address, among other things, the amount of goods movement traffic on the I-710 Corridor facility.

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T-1.1 TRANSCRIPTS FROM PUBLIC HEARINGS

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T-1

I-710 Corridor Project EIR/EIS

Recirculated Draft Environmental Impact Report/ Supplemental Draft Environmental Impact Statement

Public Hearing

August 23, 2017

-o0o-

Commerce Senior Center

2555 Commerce Way

Los Angeles, California 90040

Pages: 1 to 57

Job No. 151105

Reported By: Vanna Saavedra, CSR

CSR NO. 14030

LOS ANGELES, CALIFORNIA, WEDNESDAY, AUGUST 23, 2017;

6:09 P.M.

-OOO-

MS. McCORMICK: Good evening, everyone. We actually are officially opening the meeting and we actually will have our presentation at 6:30. So if you can take the next 20 minutes or so to take a look at the different stations and then we're going to be resuming at 6:30.

(Whereupon, Arturo addressed the audience in Spanish.)

Okay. Thank you everyone. I'll let you know when we get started. It's going to be just about 20 minutes. Thank you.

(Off the record.)

MS. McCORMICK: Good evening, everyone. If I could have you have your seats, please. We're going to start our presentation. Great. Thank you so much. Good evening.

AUDIENCE: Good evening.

MS. McCORMICK: My name is Mary McCormick. I'm going to be your facilitator for the evening tonight. We are so happy you are here and very pleased that you are here. I know you all have very busy lives and it's important that we hear from you tonight and so thank you for your time. We really appreciate you being here. There are several items that I want to cover just really briefly before we get started. We have -- the bathrooms are straight back if you need to go to the restrooms.

On your way back there, you'll see an area for children. There is a children's area where they have color crayons in the children's activity center, but we would ask you to please be with your children. Please watch over them. It's near the Environmental Document table.

In addition we have some interpreters here, and I'll let them speak in just a moment, but we actually have Spanish speakers in each one of our stations as well. So if I would ask the staff in the back, would you please -- those of you who speak Spanish, if you would please raise your hands, and if you turn around, you'll see all of the speakers in the back who can help you. Thank you. I will get started shortly, but in the meantime, I'm going to turn it now over to Arturo, and as you can see, we also have ADA compliance. So let me go ahead and start with Arturo.

(Whereupon, Arturo addressed the audience in Spanish.)

MS. McCORMICK: So with that, we also have our ADA compliance, a sign language interpreter. So if there's anyone here who needs that, please let us know. Is there anyone here this evening that could use that?

Okay. Thank you very much. So with that, we actually will get started, and I'd like to welcome Ernesto Chavez from Metro. He will begin our program this evening. Oh, I'm sorry, just real quick. I wanted to say thank you. There are -- we have some elected officials this evening. Thank you for attending.

We have a Kimberly Ortega who is the Field Deputy for Supervisor Hilda Solis' office here this evening. Thank you for coming.

And Assemblymember, we have Evelyn Nuno who is the Field Representative for Assemblymember Cristina Garcia from the 58D. So, Evelyn. Great. Thank you, Evelyn. That's great.

We also have the mayor from the City of Commerce Orellia Rubo. Oh, there. Thank you for coming.

And we have the City of Commerce and we also have representatives from the City of Cerritos, and we have representatives from the City of Vernon here this evening.

So thank you very much for attending. We really appreciate it. So with that, I'd like to turn it now over to Ernesto from Metro.

MR. CHAVEZ: Thank you, Mary. Again, my name is Ernesto Chavez. I'm with LA Metro, and on behalf of LA Metro and also our partner agencies Caltrans, Gateway Cities COG, the Ports, everybody that's been -- every agency that's been sponsoring this project, I want to -- on behalf of them, I want to give you a welcome and thank you for joining us tonight. This is a very important project for Metro, for Caltrans, for all these agencies. It's a very important project for the region, for Southern California, especially to this Corridor, and we are grateful that you took time out of your busy schedules to come here tonight. We want to hear your input. This is very

important to us. We are reengaging. As you know, this process is a Recirculation of the Environmental Document. But we want to make sure we get it right. We want to make sure we understand what the concerns are, and so I can't thank you enough for being here, and hopefully you continue providing your input through this process which is going to take another probably more than a year or so. So it's taking a long time, but that's the way these things are, and we thank you for that patience as well. I'll take the message in Spanish too.

(Whereupon, Mr. Chavez addressed the audience in Spanish.)

MR. CHAVEZ: With that, I want to also introduce Ron McCain. He is going to provide a short presentation on the project. That will get us started. Thank you.

MS. McCORMICK: Also just to let you know, and forgive me for -- if you would like to speak this evening, we have speaker cards for you and we actually have someone who will come and pick them up. So please raise your hand if you would like a speaker card and make sure you have that. Also we have comment cards and that's really important for us to make sure that we receive your comments. There is one other item in the back. I wanted to let you know that we do have a comment section in the back as well. So during our meeting this evening, if you would like to go back to this quiet room, sit down, write your comments and submit those comments, you can do that and you can also do it via online. We can type it up as well, and we will

have someone in the back who can actually take your oral comments in both English and in Spanish for that comment period. So forgive me for not sharing that initially. I will be reminding you of that as we go through the evening, but with that, I'd like to turn that now over to Ron.

MR. McCAIN: Great. Thank you, Mary. Thank you, Ernesto. And good evening, everyone. I see a lot of familiar faces. So the presentation I'm going to share tonight you're going to say "Oh, I've seen that before," but I also see a lot of new faces so I hope you find the information helpful before we hear from you for your testimony.

The I-710 Corridor Project -- why are we doing this? What are the goals of the project? We want to provide this overview to help give you some context about what the need for the project is, what the goals of the project are, and what the alternatives are, and then what the process is. As Ernesto says it's a long process on how we help identifying a preferred alternative.

The project goals that are listed on this slide are not new. They have been part of the project -- really the foundation for the project, not just since the EIR/EIS process began in 2008, but dating back to the Major Corridor Study back in 2005, 2006. These goals are driven by key needs within this Corridor. Three primary ones. First, studies by the South Coast Air Quality Management District, other agencies,

educational institutions have shown that, with the high levels of air pollutant emissions particularly these in particular from trucks leads to high levels of health risk in the Corridor for cancer, asthma, and other health concerns. So our primary goal is improving air quality and reducing health risk. Second, the I-710 Freeway was designed and constructed over 50 years ago. A modern design of the I-710 will help improve safety and improve how the freeway operates, and, finally, the traffic on I-710. The traffic is there today, will continue to grow in the future as the population grows, as the employment grows, and as the (Inaudible response.) grows.

So we talk about our study area. What is the project? How long is it? It extends from Ocean Boulevard in Long Beach in the south, 19 miles to the north to the State Route 60 interchange up in East Los Angeles, and this slide highlights not only the length of the project but also the many communities that are affected or adjacent to I-710 who are affected by the project.

This slide -- I promise not to read it all, but this slide illustrates the robust community participation process that has been part of this project since it began. The community participation has really helped to define the project alternatives, it's helped to identify key issues of study for the project, and it's been an ongoing process and will continue to be ongoing after these public hearings through the preferred

alternative and onwards as the project moves into design and construction.

So we're here. I see some faces that were here five years ago when we held public hearings on our First Draft of the Environmental Impact Report/Environmental Impact Statement. I'm going to say "EIR/EIS" the rest of the evening. But a number of things have changed that caused us to prepare an updated document and to recirculate it for public review and to hold this additional set of public hearings. So some of the things that have changed have included changes in traffic patterns in the region based upon goods movement as well as where people work and live. There have been other projects that have either come online or have been pulled off or out of the planning process and so adjusting our settings to reflect those changes, but the last two bullets on this slide are really the most important ones. During our public review process in 2012, we heard many comments from the public requesting "We like the idea of zero emission." Here's our Emission Freight Corridor. "We don't like the idea of adding general purpose lanes." So one of the alternatives we're looking at does just that. And, finally, Motion 22.1, which was adopted by the Metro Board of Directors in October 2015, that has some important elements that are being addressed in this document as well, and I'll have another slide on that in a moment.

So what are the alternatives that are studied in our

document? There were three that were focused on. First is looking at the No Build. That is what is the effect of doing nothing at all. Second, Alternative 5C. This is the alternative that modernizes the 710 -- can we -- facilities, can we get the blinds because half of our audience is blinded. Thank you, Bob. We will do our best on that.

I'll continue with that and -- yeah, there we go. Okay. Good. Alternative 5C is an alternative that modernizes the I-710. It adds capacity to it. It is not -- unlike Alternative 7 which features the separated freight Corridor to provide -- accommodate zero emission, zero emission trucks. The next couple of slides will highlight or have a map to help illustrate the two Build Alternatives so you can see what the differences are. In Alternative 5C we do have some truck bypass lanes here at around the 710/405 interchange. Those truck bypass lanes will separate auto and truck movements, make it safer, and make it operate more efficiently. There's also some dedicated lanes down here at the very south end providing for direct connections from the I-710 into Downtown Long Beach.

What's shown in the green, this is where an additional general purpose or two lanes would be added in each direction along the freeway to add additional capacity to the freeway to handle that traffic. In addition to that, there's the light blue. We show areas where there's, what are called, auxiliary lanes. Auxiliary lanes are something, as you're aware, when you

enter the freeway onramp and then that lane just continues to the next off-ramp. It's not a true lane, but it makes for a smoother merging on traffic onto the freeway. And then, finally, all of the circles and the rectangles highlight interchanges along the freeway that would be improved and provide a more modern design.

Alternative 7. This is an alternative that, as I said, as you can see from the red that goes up and down the length of I-710, would add a separate zero emission -- or a separate freight Corridor for use only by zero emission or near zero emission trucks. The -- you'll see -- all though we have on the legend the green for adding a general purpose lane, there is no green on the slide because this alternative does not add any general purpose or lanes to the freeway. And then, finally, it does add auxiliary lanes and has the freeway interchange and local interchange modernization that we see in Alternative 5C.

In addition to the physical improvements of the I-710 that we look at in regard to Build Alternatives, there's a number of other programatic elements that are intended to also address those goals to improve air quality, reduce traffic congestion, and improve mobility. It includes a funding program for zero and near zero emission trucks. It includes funding for an I-710 Community Health and Benefit Program similar to the Port of Long Beach program that some of you may be familiar with. It includes intelligent transportation system, advanced

technologies for better communications to the motoring public. It includes an I-710 Congestion Relieve Program for improvements to the local intersections and local streets within the I-710 Corridor. It includes transit improvements. Improvements to bus service as well as to rail service. And then, finally, it also includes additional bicycle and pedestrian facilities in addition to the freeway improvements.

I mentioned Motion 22.1 in my introduction. Motion 22.1 was adopted by the Metro Board of Directors on October of 2015 and provided additional direction to the I-710 Project key as far as elements that should be addressed within the Environmental Document for the project but also other elements that were outside but in parallel to the EIR/EIS process. If you haven't already, there's a green fact sheet out at the table in front and that helps summarize what the elements of Motion 22.1 are and also provides the tables to let you know where in that very large Environmental Document information about Motion 22.1 is provided.

Metro continues to work on the other elements under items 2, 3 and 4 that are not within the document itself but are important parts of Motion 22.1 and to address those for the community. This is the pretty slide of all. This highlights -- and, again, I won't read it, but it highlights all the different studies that are prepared to go into an Environmental Impact Report addressing the human environment, air quality, noise,

visual environment, also the future environment. How does it affect the water? How does it affect other parts of our physical environment that we live in every day? We have with us tonight and we see the different stations around the room and in the adjoining room we also have copies of the document and the studies and we have many of our technical experts here tonight that you can engage if you have specific questions, whether it's about air, noise, about concerns about property impacts, we have those people here that can answer your questions for you specific to your property.

So the process we're going through, this -- this chart summarizes about a ten-year process. We began in September of 2008. We began, what's called, the introductory or process for the project. Showing the completion of our First Draft EIR/EIS five years ago in 2012. As I said we went back, went back to the drawing board, refined the alternatives, did additional studies, and so here's where we are tonight. We're here in our hearing of public review period but more important we're here to listen to you to hear your comments, questions, and concerns about the project.

After the public review period closes, which Caltrans on one of our public notices, it says "The public review period will close on September 22nd." An updated notice will be provided. Caltrans and Metro have agreed to extend the public review period another month to October 23rd. So once that

public review period is complete, we'll again compile and assess the public comments, address them, and work with Metro and Caltrans to develop the preferred alternative and then prepare a Final EIR/EIS which is effectively the decision document for the project.

Providing comments. This is the most important part of the public process in the Environmental Impact Report. There's many ways you can provide comments. Coming to this meeting and providing testimony either on our public microphone or the comment room in the back is one way to do it. There are comment cards that you can take home with you, study the document, submit comments later, and there's also the ability to submit just by good old US mail or via online. On the Caltrans website, there's a portal where you can provide comments as well. Here we've listed two websites, both the Metro and the Caltrans websites are places that, in addition to all the information you have here tonight, there's additional information about the project on those two websites. On the Caltrans website all of the documents we have here in hard copy are posted online so you can access them there and provide additional information for you.

So with that, I'm going to turn the presentation over to Ron Kosinski, the Deputy District Director of Environmental Planning for Caltrans. The public comment process is very important to all of us but especially to Ron and he'll share his

thoughts with you on that and then we'll hand it on to Mary McCormick, and she will help facilitate hearing your input for the public testimony. So thank you so much for your attention and we look forward to hearing your comments.

MR. KOSINSKI: All right. Thank you very much, Ron, and this is really the critical part of the meeting. We're appreciating the fact that you've listened to the presentation and it's a summary of the presentation and in the Environmental Document, obviously, there's a lot of more information that can help you -- help in generate the comments. So first of all, my message is thank you for listening, and in a minute, we're going to be wrapping this part up and going into your presentation of what issues do you have that are important that we need to look at.

One thing I'd like to mention is that all of the project alternatives have significant impacts on your community when you think about it. Doing nothing is -- if you like things the way they are, doing nothing has a terrible impact on your community. I mean, I looked through the records from 2006 and '07 in some of the community meetings we had there and one comment struck me quite significantly, I thought. Someone said -- was asked "What is the problem in this Corridor?" And they said simply "It's trucks, trucks, trucks. There's too many trucks in this Corridor and it's generating a lot of -- so that's really a critical issue that we're trying to address with zero emissions

of the trucks that we're talking about. The two Build Alternatives have impacts. You can't build things and make these improvements without having some community impacts, and so as a consequence, we're looking at what we do to avoid these impacts, minimize the impacts, mitigate the impacts, and maybe even do some enhancements to the community to make the impacts at least more palatable. It's not going to be a situation, however, where you're not impacted. One way or another, we don't do anything or if we do something, it's going to be an impact to the community.

I used to live in this community. When I was a kid, I was raised in Long Beach. I went to Addams Elementary School. I remember what the community was like at that point in time. I can tell you one thing has not changed -- there may be different types of -- different people, different developments that has taken place. One thing hasn't changed -- the community, and today is a good example. The community is a very tenacious community. They're involved in what's happening in their community and they want to have some input, and so, seriously, that's why we're here today and it's not much different than when I was a kid. There was a lot of things happening out here and I, my dad, and our whole family really got involved in some of the activities that were taking place. So that's been -- I spent that time here, I think, trying -- trying to make sure it's an improved community and all of our team is trying the

same thing. They're not much different than you are. I myself and the community are trying to make this community a better community by taking some type of action. So keep that in mind.

It's really -- again, it's really our time to listen to you and so I'm going to then pass this over to Mary and to remind you one more time that we have extended the (Inaudible response.) has asked for an extension to the 23rd of October and so we have extended that comment period to the 23rd of October because it's -- and that's the official comment period. Because it's really important that you have the time and you have the presence to read through the document and make some contributing comments because your input is really the critical input on this process. With that, Mary, take this over.

MS. McCORMICK: So I'd like to talk to you a little bit about what you see up here. Again, throughout the whole night, I'd like you to make sure that you know that you can submit a speaker card. We have 34 speaker cards currently, but we want to make sure that at any time during the evening that you're able to do that. Brad back here he's got his hand, just raise your hand, we will look and see you and make sure that you have a copy of it. Do you have one? Great. Thanks.

We have interpreters available throughout our comment period and I wanted to explain a little bit about how that works. We have three minutes for your speaking this evening. When you -- we have someone who is going to be speaking Spanish,

we do not want to penalize anybody for the fact that they are being interpreted; so we actually will shut the timer off during the time that the interpreter is speaking and then we'll turn it back on. So it's very even and very fair so everybody gets -- no one is short-cutted at any point.

I'm going to call up some names. It's kind of like baseball. We'll call some peoples' names up and we'll do two or three at a time. If you'd like -- they'll be someone speaking. If you would like to step up, so that you can just come up to the microphone afterwards, that would be great. So I'll just call those names and then just come on up. We have a court reporter here -- yeah, we have a court -- by the way, before I forget, here's the timer right here. So it's a red, yellow, and green timer. So when the red goes off, the three minutes is up. Our court reporter here is taking down every comment orally and so she has requested this evening that, when you come up to the microphone, please state your name clearly because she needs to type it out to make sure it's clear.

In addition to that, each comment you should know is part of the public record and we -- as again -- once again, we're just going to say it all night, we're here to hear and listen to you. So that's very important. In addition, if you feel that you would like to just send in your comment, again, I want to remind you, you don't have to stay the whole evening. If you need to get home, if you have other obligations, feel free to go

down to the comment. We have another court reporter just like this person here and she -- you can actually speak orally to her and she will track your comments and put it in the record. So you can do that, do it at your convenience and comfort, and then you can actually go home if you need to go home early. So if you feel like you can't stay, don't feel badly. You always have a chance to speak.

So with that, I actually am going to start our comments. So I would like Mr. Steve Lytle to come up. He's number -- he's our first speaker and right behind him would be Antonio, I believe, the name is Hicke, and then Heidi Liu. So, Steve, if you're available -- there you go and please go ahead and tilt that up if that makes it more comfortable for you.

MR. LYTLE: Hello. My name is Steve Lytle. I'm the director of the Salvation Army Bell Shelter. I appreciate the opportunity to speak with you tonight. I do have some concerns about what's being proposed. The Salvation Army has been in the City of Bell for 30 years and there are some adverse impacts from what's being proposed to the shelter. The latest homeless count conducted last January reported that the homeless population had a 23 percent increase overall, a veteran increase of 57 percent, and in Service Planning Area 7, which is this area in Southeast LA, there was a 50 percent increase in homelessness. So we're, obviously, in a crisis in terms of homelessness. You're seeing our homeless neighbors on the

streets everywhere we go and in Los Angeles, and the Salvation Army is trying to help address to end homelessness through the housing and services that we provide at the shelter.

Alternative 7 passes directly over a portion of our housing. We would lose 60 beds for veterans in ten modular homes. The freeway would also come so close that it may make the rest of the shelter, which would house another 400 people every night, uninhabitable. So we also partnered with the shelter partnership which is located adjacent to us. They would be similarly affected by Alternative 7. They have given us over $2 million worth of goods that our clients use: Clothing, blankets, furniture. And their warehouse facility is adjacent to ours and we have a very long-standing relationship. There are a number of other relationships that we've built in the local community. If the shelter is impacted, we would have to move. Those relationships would have to be started from scratch. T-1-1

So the location itself is very important. Also the fact that it's not easy to find a place to build a homeless shelter where it leads us -- because of this federal property, we lease from the federal property first. We're able to develop the shelter under the hospices of the federal government and then eventually acquire the property from the federal government, and now we work very closely with the City of Bell. So I just would like to reiterate that, with now over 58,000 homeless people in T-1-2

the County of Los Angeles, demolishing existing housing is not going to help reduce that number. We all need to be aware of the impacts of -- particularly of Alternative 7. Thank you. T-1-2

MS. McCORMICK: Thank you very much. We appreciate it. Antonio and then Heidi. Thank you. Go ahead.

MR. HICKE: Thank you. Good evening. My name is Antonio Hicke and I'm an attorney at Public Counsel and we are here representing the Bell Shelter. Public Counsel has a long track record of advancing affordable housing in equitable developments. Now, CEQA allows Caltrans to determine effects significance based on substantial evidence in the record including scientific and factual data in the circumstances of the surroundings. So, you know, before I discuss that, I do want to state that any displacement of the Bell Shelter would have devastating consequences on the residents, and we -- we submit is a substantial impact that could not be mitigated, but that being said as was mentioned, Service Planning Area 7, in which the Bell Shelter is located, experienced a 50 percent increase from last year in the number of people experiencing homelessness. Given the crucial services that the Bell Shelter provides, relocation of the Bell Shelter would have severe consequences for the most vulnerable members of our community. T-1-3

The significance of such an impact requires full mitigation. If not, we could see an increase in the number of people living on the street. Moreover, the impacts caused by T-1-4

the displacement of the Bell Shelter would be predominantly borne by an Environmental Justice Population in violation of federal requirements. So even if the shelter could be relocated, which as I said is a significant and unproven assumption, doing so would adversely and disproportionately impact the vulnerable individuals that it serves. Now, the projects adverse impacts on the Bell Shelter's environmental destitute population must also be fully mitigated. The Build Alternatives could potentially create impacts related to air quality, noise, and traffic as well as temporary construction impacts. Due to the vulnerable nature of the shelter residents, more than half of whom have two or more physical or mental health conditions, the Bell Shelter's Environmental Justice Community is especially susceptible to the project's effects.

Further evaluation and mitigation specifically addressing the recipients to the Bell Shelter services is necessary for compliance with federal law. The bottom line is that the effect of displacement of the Bell Shelter is a significant if not substantial impact which would have to be fully mitigated. The Build Alternatives would also have significant effects on the Bell Shelter's residents which must also be mitigated. In conclusion, we submit that in determining the feasibility of the project alternatives and in recognizing all of the effects on the Bell Shelter and its residents as significant, Caltrans should reject any alternative that results in the displacement

T-1-4

T-1-5

T-1-6

of the Bell Shelter. Thank you. T-1-6

MS. McCORMICK: Thank you. Heidi, just for two seconds before you go, I have Gabriela Collins who is next and Bob Eula, and if you could come to the end of the area down there, we'll start with you up at the back. So go ahead, Heidi. Thank you.

MS. LIU: Heidi Liu, Public Counsel. Any project alternative that involves displacement of --

MS. McCORMICK: You need to speak up.

MS. LIU: Any project alternative that involves the displacement of the Salvation Army's Bell Shelter must be rejected as infeasible because the detrimental consequences that would result cannot be mitigated. CEQA does not allow a project with significant impacts to be approved as proposed, but there are alternatives or mitigation measures available that would substantially reduce those impacts. This revised EIR incorrectly claims that relocation assistance would mitigate the project's potential displacement of the shelter to lessen T-1-7 significant levels ignoring the fact that the 2017 Relocation Impact Report actually found that there appears to be adequate replacement properties for all displacements except for the shelter and its partner organizations. As there are no identified sites for relocation, the proposed mitigation measures illegally postpone a crucial determination and are entirely insufficient to support any potential displacement of the shelter. In fact, the impacts resulting from displacement

fundamentally cannot be mitigated to lessen significant levels. T-1-7

First, it is unlikely that adequate relocation would even be possible given the shelter's size, sources of funding, and the many challenges inherited to homeless shelters. Under the City of Bell's current Municipal Code, there are no zones that permit a new shelter to be built. Even if sites and funding could be obtained, moving the shelter would destroy the long-standing service sectors and relationships that the Salvation Army has built over the last 30 years. The shelter T-1-8 would not be able to maintain its extraordinary assessment of that location. At least one project alternative is clearly available that would avoid displacement of Bell Shelter. Since it is possible to substantially reduce the project's adverse effects, state law requires decision-making agencies to do so and federal law requires further mitigation of any indirect impacts on the shelter's Environmental Justice Community. Thank you.

MS. McCORMICK: Thank you very much. Gabriela, Bob Eula, and then Carlos Runningwolf. Go right ahead. Thank you.

MS. COLLINS: Good evening. My name is Gabriela Collins. I'm with Southern California Edison. Thank you for the opportunity to comment. The I-710 Corridor Project represents an opportunity for actively improving air quality in the communities along the I-710 Freeway, many of which have been heavily impacted by air pollution from transportation.

Approximately 40 percent of the goods entering the Mayship are being moved through Southern California's ports and highways and the transportation sector is responsible for 36 percent of California's greenhouse gas emissions. Using clean energy to power transportation along the I-710 Corridor, particularly medium and heavy-duty vehicles, can help meet ground level ozone nitrogen oxide and particular emissions reduction requirements for cleaner air. T-1-9

SCE believes that Alternative 7, the Clean Emissions Freight Corridor, is the only alternative that would feasibly accomplish all the project's goals and support the project's purpose of improving air quality and public health. T-1-10

Additionally, SCE believes Alternative 7 should be a true zero emissions freight Corridor which means that zero tilt pipe pollutant emissions would be admitted while traveling within the Corridor. Active support for transportation electrification, particularly in goods movement, is needed now. By fueling a variety of vehicles, cars, public transportation, medium and heavy-duty trucks and industrial vehicles and equipment, with clean electric power instead of fossil fuels, we can help meet California's ambitious climate and environmental goals in the coming decade. Thank you. T-1-11

MS. McCORMICK: Thank you. Thanks very much. Bob and then Carlos Runningwolf.

MR. EULA: My name is Bob Eula. I've been on the 710

committee for ages. Thanks to the counsel for repeating me. But I want to comment on Metro, Caltrans for the people that are here. They've been working very hard on this for years now. So we got to give them credit for trying to help all of us, but I have a comment. I've been on the Ayers neighborhood for 72 years. I've been in Commerce working with the counsel, mayor, counselman, whatever, but I want to say, when you disrupt families from their homes -- my Ayers neighborhood is going to get hit pretty hard and across the tunnel on the other side of the 710. I've been working with the Public Planning Commission here for years, and I'm -- I'm down to it right now where we need homes for these people that are going to get disrupted because this city doesn't have any property tax. You go to another city, they're going to get hit hard and we have -- garbage pick up is free. This city is tremendous of any other city and we're going to disrupt this city with Caltrans. T-1-12

I know it's necessary. It's very necessary with these trucks. Our Commerce is hit hard with two rail lines. Please consider Judson to Harbor to the east side of Starling Avenue which is Industry. City counsel, I'm talking to everybody in the city now, these can be homes. There's industry now, but I know industry would swap with Ayers and put us over there. Industry is very cooperative in this city. So let's consider giving homes to these people that are going to be disrupted. I think my neighborhood is 58 homes and across the tunnel. Let's T-1-13

all consider -- Metro, Caltrans, let's all work together with the City of Commerce to not hurt these people and give them homes. T-1-13

MS. McCORMICK: Thank you. Carlos Runningwolf and then Sal Hernandez. Sal is next and then Mr. Keith Johnson. Carlos. Tilt that up.

MR. RUNNINGWOLF: My name is Carlos Runningwolf. I'm a resident of Commerce and I just want to go on record that I haven't received any public notice of any of these meetings at all. T-1-14

MS. McCORMICK: I'm sorry. You haven't received public notice of what?

MR. RUNNINGWOLF: Any meetings at all.

MS. McCORMICK: Okay.

MR. RUNNINGWOLF: That's all I wanted to say.

MS. McCORMICK: Okay. Thank you. Sal Hernandez. And then Mr. Keith Johnson.

MR. HERNANDEZ: Good evening.

MS. McCORMICK: Good evening.

MR. HERNANDEZ: My name is Sal Hernandez and I'm part of CBE, which is Communities for a Better Environment, and we consider about this break -- right here this we are fortunate that we have the biggest port in the nation, but also, with everything else, its challenges. This is the greatest challenge in our time for this port. And what we -- our concern is that

we have to make the biggest decision that we see there is many people specifically different consider on this project. So for that, we suggest that we need more time. We -- instead of 90 days, will you consider, you know, in opposition that we need 120 days so the community can participate with some issues. We the people of our great nation with great ideas, with great challenges. It gives us an opportunity but just give us the time. Not all the people knows about this project, either we think we do or we already do, they still -- many people do not know about this. They didn't have great ideas to come up with this challenge. T-1-15

So we want -- what? City? What do we want? 120 days extension so we can present our proposals to you so we together can get the best decision for this project. Thank you.

MS. McCORMICK: Thank you. Mr. Johnson and then Dan Hager and then -- let's see. Let me make sure. William Follansbee. So, Mr. Johnson, go ahead.

MR. JOHNSON: Good evening, everybody. My name is Keith Johnson, United States Marine Corps veteran. I just want to reiterate with this gentleman here, we need homes. I've been living in my truck for about eight years, seven years. I'm a veteran, United States Marine Corps. A friend of mine told me about the Salvation Army that I'm living in now. I've been there for a year and a half. They like family. They are my family. And the friendship that I received there is great. T-1-16

They got blackship, whiteship, greenships, but there is no ship like friendship and the Salvation Army is friendship. Thank you. T-1-16

MS. McCORMICK: Dan, William Follansbee, and then Tracy Pruitt. Go ahead, Dan.

MR. HAGER: Yeah. My name is Dan Hager. I am staying right now at one of the modular homes over there in Bell Shelter. I'm disabled. I am a veteran. I had some problems with the government with my disability and I ended up being homeless. They have gone out of their way to help me. You cannot take that away from people who may be needing it. I know it's not going to be affecting me by the time they tear it down, but the people that need it, they need something they know is going to be there, that has a history of being there, and right now the Bell Shelter definitely has a history and has been there for people, and it needs to continue. T-1-17

MS. McCORMICK: Thank you.

MR. HAGER: Thank you.

MS. McCORMICK: Thank you very much. William Follansbee and then Tracy Pruitt, and then Juan Garcia.

MR. FOLLANSBEE: Yes. I'm William Follansbee. I'm a client at the Salvation Army Shelter. First, I want to say real quick, I'll make a long story short, what Salvation Army has done for me. I did 23 years in prison. The government signed my parole. I was released October 25th in a black sweat suit

and given a $200 debit card and the Salvation Army took me in, gave me clothes, took me to the Social Security. I had no ID. I was lost. And they drove me around back and forth, back and forth. After four months, I finally got my ID. I got my driver's license. I bought a car, and without the Salvation Army, I don't know if I could (Inaudible response.). And I'm housed in that area that might be impacted by this bill here, and it's all veterans and I'd hate to see 60 veterans that served this country on the street. T-1-18

MS. McCORMICK: Thank you.

MR. FOLLANSBEE: That's all.

MS. McCORMICK: Thank you very much. Tracy.

MS. PRUITT: Hi --

MS. McCORMICK: And then Juan Garcia.

MS. PRUITT: -- hola, my name is Tracy Pruitt. I'm a resident at the Bell Shelter. I am in the houses where they house vets. You know, I really don't understand what's going on. I do but I don't, but we need those houses. You guys don't know. It would be so many people on the street. They help us save money. They show us how to live independently. People with mental problems -- they get us medication. They help us survive. They make us ready to go into the world. If you take that, we will have nothing. That's it. T-1-19

MS. McCORMICK: Thank you.

MS. PRUITT: Thank you.

MR. GARCIA: So my name is Juan Garcia. I work at the Salvation Army Bell Shelter. I'm the program coordinator for the Veteran Program and Transitional Housing Program there. As you can see, these are a couple of our veteran clients that we have here that just spoke out right now. There is just four individuals that participated right now out of another 300 individuals that we have currently in the Salvation Army Bell Shelter. Now, the Alternative 7 that they're proposing, that can actually have a great impact in our facility in our shelter premises, not only is it destroying about -- our modular home, which houses about 60 -- houses about 60 individuals, but also another part of the facilities of the shelter. The Salvation Army does shelter, not only assist veteran clients as a home for now providing them meals and food, but it also provides other services for veterans such as reported services for veteran families which they help out our clients with assistance to moving to their own apartment.

We also get -- have clients from the Department of Mental Health who are there as well. So a lot of our clients in there have some sort of disabilities, some sort of mental health assistance as well. So the proposition for Alternative 7 will have a great impact in our facility, destroying a lot of property in our grounds. Hopefully that doesn't go into effect. As you can tell, the Salvation Army Bell Shelter is helping out a lot of homeless individuals to get back on their feet, whether

T-1-20

it can be causes of, you know, being kicked out of an apartment, high rents, which is known here in California, but, definitely, it's a one-way stop into permanent housing. So definitely if we can have other alternatives that will not damage our facility, our premises for homeless individuals, that would be great. T-1-20

MS. McCORMICK: Thank you very much.

MR. GARCIA: Thank you.

MS. McCORMICK: I have a Hugo Lujan, then Alondra Garcia, and then Jose Silva.

If you can raise that. There you go.

MR. LUJAN: I'll just pull it out.

MS. McCORMICK: Sure, no problem.

MR. LUJAN: My name is Hugo Lujan. I am from East LA, but I have family in the City of Maywood, Lynwood, and Long Beach. So I'm coming to, one, make the request for 120 days for the comment period. I don't know if ya'll are aware, but there's like this bible-looking document in the back that would take literally like years for a regular resident to review. That is a summary of the presentation that we just got. In order for us to do an adequate review of it and inform ourselves of it, 60 days is not enough and now 90 days is still not enough. So we're wanting to make an official request for 120 days and also I want to uplift what Bob brought up here in the City of Commerce in terms of the issue of displacement. Within Motion 22.1 it was meant to reduce the displacement, but, in fact, it T-1-21 T-1-22

actually increased it in the City of Commerce. It increased it to Sydney. None of the options that are on the table would -- would not displace Sydney Drive on the other side of Bristol neighborhood. Right? So there was an increase of displacement within these options compared to the last EIR, and also when Bob is talking about displacement, we need to also take into consideration the housing crisis that we're going through presently and how that's going to be affecting, not only the City of Commerce, but all of the communities along the 710. So official request that include analysis of the housing crisis and also the 120 days. Thank you. T-1-22

MS. McCORMICK: Okay. Thank you.

MS. GARCIA: Hello, my name is Alondra Garcia, and I'm a resident from Huntington Park. I'm concerned that displacement will leave many folks without a shelter, many of whom are already struggling with housing. It is important for my community because there's already an increase in homelessness in the community and in the communities around me. With this expansion, most people will lose a place to go. Personally, I was homeless as well at some point and I knew that a place like the Bell Shelter could offer help to me and my family. For this reason, I'm urging Caltrans to extend the comment period by 120 days for the community to provide better resolutions. T-1-23 T-1-24

MS. McCORMICK: Thank you.

MR. SILVA: My name is Jose Luis Silva. I want this plan T-1-25

of the project 710 to be long term for 50 or 100 years for a better future for our generations to come, especially with a zero emissions. T-1-25

MS. McCORMICK: Thank you. Okay. Alicia Silva. We have Alicia Silva, Ramona Quezada, and Maria Kennedy. Alicia. She's --

MS. SILVA: My name is Alicia Silva, and I'm asking for an extension of 120 days. Thank you very much. T-1-26

MS. McCORMICK: Okay. Thank you. Ramona, Maria Kennedy, and then Lilia Delgado.

MS. QUEZADA: Good afternoon. My name is Ramona Quezada. It is important that we get 120 days extension to have better solutions. Thank you very much. T-1-27

MS. McCORMICK: Thank you.

MS. KENNEDY: Good afternoon. My name is Maria Kennedy and I live in Walnut Park. My concern is in regards to the almost zero emission. I think we deserve zero emission because the -- there's a lot of pollution already in the air in our community T-1-28 and also the housing -- the people who are going to be displaced. I think it is very important for those of us who just have a little roof on our head, but there's people that don't have these roof and then the housing is becoming very T-1-29 expensive, and that's why I'm asking Caltrans to offer an extension of 120 days so we can find better solutions and thank you for listening. T-1-30

MS. McCORMICK: Thank you. Thank you. Lilia Delgado and Yvette Espinoza, then Rosa Esquivel.

MS. DELGADO: Hi, my name is Lilia Delgado and I deserve zero emission Corridor in order to protect our quality because it is -- it is important for us -- because the most important for us is the town. So instead of 90 days, I ask for 130 days for getting ready analysis. T-1-31 T-1-32

MS. McCORMICK: Okay. Thank you.

MS. DELGADO: Thank you.

MS. McCORMICK: Yvette Espinoza, then Rosa Esquivel.

MS. ESPINOZA: Good evening, everyone. My name is Yvette Espinoza, and I'm a resident of the City of Huntington Park. I am a member of Youth for Environmental Justice from Communities for a Better Environment, and I am concerned about having a zero emission Corridor in my community to protect the air quality for not only myself but my friends, my family, and my community. We are working really hard to ensure that our community will have a clean and committed zero emission Corridor through the 710 Project because we will not just settle for just near zero emission. It is important for my community because, as it is, Huntington Park already has enough pollution due to the fact that we are a disadvantaged community of color. For this reason, I am urging Caltrans to extend the comment period by 120 days instead of the 90 to make certain that my community will be able to provide better solutions. Thank you. T-1-33 T-1-34

MS. McCORMICK: Thank you. Rosa and then Casey Corona. Arturo.

MS. ESQUIVEL: Good afternoon. My name is Rosa Esquivel. I come from the City of South Gate. 90 days is not enough. We want 120 days to have more time for analysis of a different kind. Thank you. T-1-35

MS. McCORMICK: Okay. Thank you. Casey Corona and then Kayleigh Wade, please. Go right ahead.

MS. CORONA: Good afternoon. My name is Casey Corona. I'm from Huntington Park and I'm on behalf of CBE, Communities for a Better Environment. I am concerned about the painted image of a cleaner environment based on the assumption you have proposed about zero emission vehicles being driven by the majority of the community that will be impacted by this project. We are mainly made up of lower income communities of color that do not have access to newer model cars that pose a lesser threat to the environment. Thank you. T-1-36

MS. McCORMICK: Thank you.

MS. WADE: Hi, my name is Kayleigh Wade, and I was born and raised in Lynwood. I'm here to ask for an extension of 120 days for a review period because Ron has once denied an extension to review the revised EIR because he said it encourages procrastination. 90 days is simply not enough. We are not procrastinators. We are community members who are very concerned about the issues this project will pose in our T-1-37

community -- Oh my gosh, I'm getting a phone call. Hold on. All right -- namely, displacement and how it affects people who are already struggling with housing as development in LA accelerates while ignoring the growing housing crisis. We want ample time to review a document that has in the past received very poor reviews from the federal government. We want further extension of the review period to 120 days rather than 90 days. Thank you.

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T-1-39

MS. McCORMICK: Thank you. I would like to call up Dilia Ortega and then Maria Rivera and Gabriel Guerrero.

MS. ORTEGA: Hey, my name is Dilia Ortega. I grew up in Huntington Park and I currently live in South Gate. I'm here to request an extension of 120 days to allow for a thorough community input. The ETA gave a 2010 Draft EIR a fail for its weak Environmental Analysis. It's one of the worst grades any Environmental Document has received in the nation; so I think that having this extension will truly help community members put a good analysis, especially since currently our concerns are not being met. I think it's really important that the Zero Emissions Corridor is currently being pitted against the displacement of community resources like the shelter in both Bell and Long Beach, especially when other industries have been -- or especially when Caltrans has found a way to change the right of way and still keep other industries like the rail yard and the -- just like oil companies. So I think it's really

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T-1-41

important to really figure out a way where we can still prioritize community health. We deserve emissions freight corridor and still maintain resources like the homeless shelter and the Multi-Service Center in Long Beach. Thank you. T-1-42

MS. McCORMICK: Great. Thank you. Maria.

MS. RIVERA: Hello, my name is Maria Rivera and I'm here from CBE representing Huntington Park, Maywood, Bell, Buena Park, South Gate, Cudahy, Florence, and Firestone and Bell Gardens and, of course, other cities. We are here -- me being once a homeless person, I'm about to be homeless again, but I'm praying on that. I'm here because I've lived it. I've lived it. I've been there 100 -- I was a year and a half homeless. I have a place, but it's been kind of hard to keep it because of the high rents and stuff like that, but I'm coming -- I'm still hoping to be in a home.

Anyway, my people, what do we want?

AUDIENCE: 120 days, 120 days, 120 days.

MS. RIVERA: My people have talked. 120 days extension. Thank you very much. T-1-43

MS. McCORMICK: Thank you. Gabriel and then Dinah Dominguez, please. Go ahead, please.

MR. GUERRERO: Hello, good evening. My name is Gabriel Guerrero and I've been living in the City of South Gate for 45 years, which at the same place I grows -- I raised up all my family, and I just live not even a mile from the 710, and I'm

really concerned about this project. This 710 Freeway -- we have been fighting for a lot of years, many, many years. So what I'm concerned is that -- I mean, the issues on the -- pollution, all those trailers in the 710. What I'm asking you guys 120 days extension to find solutions. Thank you very much. T-1-44

MS. McCORMICK: Thank you. Dinah Dominguez and then Richard Hernandez, please. Go ahead.

MS. DOMINGUEZ: Hi, my name is Dinah Dominguez. I'm here with Communities for a Better Environment. I have family in Huntington Park, and I'm here to request a 120-day extension of the review period. I want to reiterate that extending the review period is not procrastination. This is an issue that is very important to many people, many community members who are here today, and we want to make sure that there's a thorough analysis -- technical legal analysis of what's inside this really enormous EIR. Thank you. T-1-45

MS. McCORMICK: Thank you. Richard Hernandez and then Juan Vasquez. Richard and then Juan Vasquez.

MR. HERNANDEZ: Hi, my name is Richard Hernandez. I've lived in Commerce for quite some time, especially my mother but to hear that people will be displaced because of the project, I'm hoping that you have devised some kind of plan on acquiring some type of property to provide for -- to these people. They are a part of Commerce and they've probably lived here most of their lives, and I think it's totally unfair to them and to the T-1-46

community they've known since and also for that extension as far as being able to decipher all of the information that's been accumulated throughout all this time. That's basically it. Thank you. T-1-46 T-1-47

MS. McCORMICK: Okay. Thank you. Juan Vasquez and then Dr. Tom Williams.

MR. VASQUEZ: Good afternoon, my name is Juan Vasquez. I live on Sydney Street and thank you to the young man for addressing how all of a sudden we were in the plans and their option -- we're talking about Option A and Option B of displacement of 27 homes as well as a dialysis center. So I notice that that dialysis center services the area around here and I feel really bad for the people that go there and that will be displaced. Also for the fact that I've gone to one of your meetings before and you talked about zero emission and how we're getting a program. Just because you have the program doesn't necessarily mean that everyone is going to go out there and purchase these trucks. So at the same time you're talking about the freeway and you're preparing for the future but at the same time what makes you think that in the future it's not going to be just as crowded and we're going to be going back to this again. So our option for Sydney is No Build at all and also I would also like to say what the people are saying at least give them 120 days so they can look for better options than this. Thank you. T-1-48 T-1-49 T-1-50 T-1-51

MS. McCORMICK: Thank you. Tom Williams and then Clara Solis.

DR. WILLIAMS: Good evening.

MS. McCORMICK: Good evening.

DR. WILLIAMS: Dr. Tom Williams, Citizens Coalition for a Safe Community and Sierra Club Central Group. It's a big one, however, it's based upon two elements that are on the first board over here (Indicating.). One is traffic volume. The another one is goods movement. The project is based upon trucks, trucks, trucks, trucks, and more trucks, but we don't know how many trucks. For the SR-710, it is in hospice care and will change the whole dynamics because we estimated that there were 20,000 north, 20,000 southbound trucks that were going to come on the SR-710. Where do they go now if we don't have the SR-710? We're looking at the indirect secondary impacts of putting all of those 40,000 onto the I-5 downtown section. Lots of luck. So we're quite interested in the traffic volumes which are not on any of the boards and not specifically presented in the EIR. We're also concerned about where the numbers came from. One reference is Stags 2012 and that was based upon the year 2000 population. Well, that doesn't work. T-1-52

There's also a matter that the Ports of LA and Long Beach right now are having a Clean Air Action Plan, but it's not reflected within any of the documents I've seen and I've searched through the documents. There's also a report called T-1-53

the Mercator Report, only given usually in second summaries some place; however, it's not referenced even in the EIR/EIS. So we're looking at totally incomplete, inadequate EIR/EIS. Sierra Club Transportation Committee -- we have an alternative that's not even considered. Put it on a rail. Where is the rail? Because the ports are going. They have a cargo of 50 percent of the containers on a rail, but it's not reflected in the EIR/EIS. There's also a matter that the ports have a new environmental issue -- hazard; that is soft targets. What happens if there is a soft target 53-foot container that explodes on a bridge or under a major interchange say the I-5. So we look at it incomplete, inadequate, and I've only been working on it since 1992. Thank you.

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T-1-56

MS. McCORMICK: Thank you. Clara Solis and then Priscilla Sanchez, please.

MS. SOLIS: Hi, I want to echo everybody else that I think 120 days is definitely needed. I just want to show a picture right here, this home in East Los Angeles on Sydney Street, 755 South Sydney is labeled "industrial." Is this an industrial place?

T-1-57

T-1-58

AUDIENCE: No.

MS. SOLIS: There's all kinds of errors in this document. It's -- I don't know -- I guess 10,000 pages long. How are we lay people to go through this lengthy document to defend our communities and make certain that our communities are well

represented? I certainly haven't had time to go through this document. Secondly, we would like an East LA meeting. Here we are at the beginning of the period. People haven't had time to digest this document. We want a meeting in East Los Angeles on -- at Humphries Elementary School; so that the residents in Humphries can address this. East -- the residents on Sydney -- Sydney Drive -- T-1-59

Am I too loud?

MS. McCORMICK: No, no, I couldn't hear you.

MS. SOLIS: Okay. The residents on Sydney Drive live within a triangle of freeways. There is the 710 Freeway, there's the 5 Freeway, and there's the 60 Freeway. These homes are very close to freeways. They will be impacted when there's widening plans on the 60, when there's widening plans on the 5. We've already been told they want to take businesses on Telegraph for the 5 although there's no money for it, thankfully, right now. So this community has to have time. It needs to have a voice in this project. Our East LA local advisory committee throughout our comments have always said no taking of any more homes in East Los Angeles because you've already taken enough. East Los Angeles has four freeways through it. It can't afford to have more houses taken. We -- this whole option, 3A and 3B, where the heck did that come from? It's like out of left field. It was never on the table and now you want to take all these homes. I'm -- I don't see that it T-1-60

has been analyzed 3A and 3B in the document. I haven't yet found it, but like I said, I don't have enough time in the health risk assessment concern that there's going to be more pollution brought because, even if there is zero emission -- with the near zero emission, there seems to be an increase over the No Build in pollution in East Los Angeles within this triangle because this East Los Angeles at the end of the project, it's impacted differently than a lot of the other areas. So this community needs to have time. It needs to be able to speak up about how this impacts them. Thank you. T-1-60 T-1-61 T-1-62

MS. McCORMICK: All right. Thank you.

MS. SANCHEZ: Hi, my name is Priscilla. I'm from Communities for a Better Environment/EJ and I live in South Gate and a lot of our family lives in South Gate and in Lynwood, and so first of all, I wanted to bring up a point that displacement is going to -- well, you're hoping on displacement -- you're planning on displacement on happening; right? And I don't understand how easing traffic is worth more than the lives of 100 people or 200, 300 people. I don't even understand how that's, like, even possible in your head. And the second one - what was it? Oh, yeah, so 90 days is not enough, like at all. So we urge for 120 days. Thank you. T-1-63 T-1-64

MS. McCORMICK: Thank you. I'd like to call up Frankie from Huntington Park, and I actually need your first and last name and then I'd like to call up Mark Lopez.

MS. LOPEZ: Hi, my name is Marilyn Lopez, but I go by "Frankie" --

MS. McCORMICK: Oh, I'm sorry. Your name again?

MS. LOPEZ: Frankie, but my birth name is Marilyn Lopez.

MS. McCORMICK: Maria Lopez.

MS. LOPEZ: Marilyn.

MS. McCORMICK: Marilyn Lopez. Thank you.

MS. LOPEZ: Yeah. So I want to talk about two things, which is the zero emission and also the homeless shelter. I think it's pretty messed up that you're going to, like, go over the homeless shelter when they don't even have, like, an official place to live and they have to live in a shelter and, you know, they don't have money to go somewhere else. They -- I mean, if they're living in a shelter, they most likely don't have anywhere else to go, and I know this, like, deal with, like, skid row where you don't want people there anymore and, like, going over a homeless shelter is going to bring more people into the streets, which is going to make even more skid rows, which is pretty messed up and, you know -- yeah, sorry. I have really bad anxiety. T-1-65

Also the zero emissions. I live in Huntington Park which is, like, pretty -- yeah, we're in the middle of five freeways and the 10 and the 710 is going to make it even worse and -- I'm sorry. I'm lightheaded.

MS. McCORMICK: Speak closer to the microphone.

MS. LOPEZ: We have a lot of major air polluters and we're right next to Vernon as well; so there's, like, a bunch of air pollution from there and pollution knows no boundaries; so it's just going to go everywhere; so the cities around the 710 aren't going to be the only ones affected and also, like, miles far from 710 are going to be affected from air pollution and, yeah, and also the 120 days is going to be really cool because 90 days isn't really enough. It's, like, three months; right? So four months is going to be by the end of the year, around there; so that's -- yeah. T-1-66 T-1-67

MS. McCORMICK: Okay. Thank you. Mark Lopez and then I have a B. Timberlake.

MR. LOPEZ: Hi, my name is Mark Lopez. I'm with East Yard Communities for Environmental Justice. I got a whole lot to say. I think all of us got a whole lot to say. We've been saying it to ya'll for years, and we feel like we have to say the same stuff. This time we got to say it so it's on the legal record in case we got to take ya'll to court -- right? -- so bear with us. Yeah. So the study doesn't reflect the full capacity of the facilities being proposed. That means that the impacts aren't being fully analyzed. I brought this up at a meeting. The consultants didn't know what I was talking about. Ron admitted that that was the case. I just want to make sure that's on the record. So this EIR is inadequate. If you need more explanation, we can talk about it in court. T-1-68

Nobody is here to do nothing, and I want to make sure to call that out. Ron, I think you kind of -- that's a false pretense when you're like "Well, doing nothing harms us; right?" Who is here to do nothing; right? Like that I think is an insult and indicative of how well this process has been. It feels like Caltrans has been trying to get our alternative -- our community alternative to look irrational this whole time; right? First it was the cost. They said it's going to cost too much and then a consultant came to a public meeting, I think it was a technical advisor committee meeting a couple years back, and they explained that Community Alternative 7 was actually billions of dollars less because of the lack of displacement and then I never saw that consultant again. Now I see that ya'll designed a Zero Emission Freight Corridor and it feels like you did it to maximize displacement -- right? -- to make it as if now we're in opposition with the shelter, we're in opposition with these homeless resources, when ya'll weren't even considering them in the first circulated document. We had to bring that up. You didn't even know they existed; right? So we're not going to let ya'll play us against each other because NCA said when we proposed an alternative that wouldn't displace them, and we don't see that here. We're not falling for that. It feels like it's all to try to justify 5C which ya'll have been trying to push for years. It's disgusting.

T-1-69

T-1-70

The third piece -- and CA7 called for an elevated lane

T-1-71

system. Make sure that's on the record. The third thing is DWPs reluctance to give up their land has been -- is an assumption and I've heard that admitted at a public meeting, that it's an assumption. DT is -- at the point of the preparation of this document, DWP wasn't talked to about taking that land. It was an assumption which is very different from the Alley River Process that a bunch of us are a part of, where it's an assumption they would be and then we'll figure that out; right? So I think DWP along with rail, I feel like rail is being prioritized in this project -- the rail yards, the rail lines. We need to be prioritized. Our communities need to be the priority here. T-1-71

So it's irrational to not maximize emissions reductions when we're in a health crisis. It's irrational not to maximize that. It's irrational to potentially displace businesses when we're constantly under an economic crisis with the unemployment rates in our community. That doesn't make sense. It's irrational to displace homes in a housing crisis. It doesn't make sense. It's -- it's irrational -- it's irrational to displace homeless services when we're in a homeless crisis. All these things are irrational, and if this is the best ya'll can come up to bring to the table, we need to be at the table together and we hope that this time ya'll consider us partners. T-1-72 T-1-73 T-1-74 T-1-75

MS. McCORMICK: Thank you because we have to wrap up your time now, please.

MR. LOPEZ: All right.

MS. McCORMICK: Thank you. Mr. Timberlake.

MR. TIMBERLAKE: Mr. B, as in boy, Timberlake.

MS. McCORMICK: Yes.

MR. TIMBERLAKE: Okay.

MS. McCORMICK: And then, I'm sorry, after you Eddie Torres is next. Thank you. Go right ahead.

MR. TIMBERLAKE: Everyone knows that the east part of the county, the part we're in here, is among the most polluted parts of all of Southern California. The 710 Freeway is one major source of pollution. Expanding the 710 Freeway, even if you pretend that you're going to offer incentives to provide zero or low emission trucks, is just going to increase the pollution. There is absolutely nothing that keeps existing dirty diesel trucks from driving on your expanded freeway or continuing to drive on the freeway as it is. There is nothing in these plans. You can try to bribe them. We've seen how well that happened -- that has worked out at the ports. I'm sorry. The fact is this community -- I've lived in Huntington Park. Now I live in Bell. This community -- these communities here have been at the end of a line for governmental agencies including Metro and Caltrans but especially Metro for decades, and Metro, just a few months ago, gave a big fat award to the City of South Pasadena by giving up on extending the 710 Freeway up to the Foothill Freeway. Now, why is it that those middle class people don't

T-1-76

have to have any pollution because, heavens, they're rich, but people here -- people that are here have to endure the diesel pollution. I mean, the fact is, when you expand the freeway, it fills up immediately. It doesn't, you know -- you don't have any grace period. It's -- you open the new lanes, they're full. So why is it that the EIR -- Draft EIR/EIS you set one over in Bristol library, which is nice for the people who live in Bristol, but it's really hard to get to. Why didn't you put it in Rosewood right next door the main library for Commerce? That's just a few blocks from the Atlantic Boulevard north south artery. I mean, I don't understand. It just seems like it's all designed to keep the community from participating in this process. The alternatives --

T-1-77

T-1-78

MS. McCORMICK: Could you wrap up your comments, sir, please. Thank you. Eddie Torres and then Nerexda Soto. Thank you.

MR. TORRES: Good afternoon, everybody. My -- good afternoon, everybody. My name is Eddie Torres, resident of East Los Angeles and also the president of the East L.A. Chamber of Commerce Directors. I think the Bell and City of Commerce and East Los Angeles should stick together in 20 percent of this, exchange phone numbers with some of the leaders, and not let Metro or Caltrans doing what they've been doing and that's hurting us than helping us. First of all, on behalf of the East L.A. Chamber of Commerce we request 120 days for the

T-1-79

Environmental Document to be reviewed. Also we request a meeting in East Los Angeles incorporating like Clara said at Humphries Elementary. T-1-79 T-1-80

I was part of the original East Los Angeles Technical Advisory Committee for over ten years. From the very start, we were telling Caltrans and Metro and Supervisory Office, it's unacceptable to take any more businesses, any more residents, any more homes. It's unacceptable and they promised us they would not. That's usually what Caltrans and Metro does. Case in point, Third Street. We're going to break down and start one third of the time and in six months all will be demolished. They worked on the exit of the 710 Freeway going north Olympic Boulevard, it was two years, they didn't touch it until the last six months. That's the kind of "BS" Caltrans does to us. We have a voice right now. We have leverage right now. We have to stick together. T-1-81

Also East Los Angeles is very dense. We're 130,000 residents. We're using commercial business property to put affordable housing and we're fighting that, and now Metro came up with this bright idea. It took all this money for them to figure out to take homes. It's ridiculous, but here's the case in point too, and I can prove this, those five individuals that sat on the East LA Technical Advisory Committee about ten years ago, we sat in the room with a gentleman called Jerry Woods. He was an engineer extravagance, knew everything. He said they had

a $2 million computer. They were going to come back and tell us all the options that were going to affect us from least to worst. So what we did is, when we left, we got an envelope, we talked amongst ourselves about closures and extensions and the yards and the rails, and we came up with all five options, put it in an envelope. He came back -- remember $2 million -- $2 million computer; right? We were on the money with everything. We don't need Caltrans to tell us what's going to help us, what's going to hurt us. We know how it's going to help us. We know how it's going to hurt us. That man right there I have a lot of respect for -- Mark Lopez (Indicating.). He just told me right now in confidence, but I'm going to repeat it because I'm not scared of repeating things, that he presented a document that would prevent this and he said --

AUDIENCE MEMBER: We all did it.

MR. TORRES: Okay. Raise your hand --

MS. McCORMICK: Eddie, you're out of time.

MR. TORRES: And I'm going to keep talking. I'm going to keep on talking --

MS. McCORMICK: Eddie --

MR. TORRES: Okay. Don't caught me off --

MS. McCORMICK: -- to be fair to everyone --

MR. TORRES: Let me finish then.

MS. McCORMICK: -- speakers.

MR. TORRES: So --

MS. McCORMICK: Please wrap up your comment.

MR. TORRES: -- he shared a document and they ignored it so they could devastate our community. Why? Money, for all the money. Thank you.

MS. McCORMICK: I'd like to ask Nerexda Soto to come up next, please, then Ricardo Gastolum and then Ernesto Gonzalez. Nerexda.

MR. GASTOLUM: My name is Ricardo Gastolum, and I live in the City of Huntington Park. I want to talk about the first point of the clean air and public health. How could you reassure us of something like this if someone that doesn't have a lot of income goes to the hospital and they charge them $150 and it takes about 24 hours to get any type of medical attention. There's a lot of pollution now a days and the hospitals are full with patients. The first people that suffer are children and the elderly. Ten percent of the children in schools -- they don't go to school. They miss school. We're talking of 65,000 students; so we're talking about 6,500 children a day that miss school. They get different diseases and they don't go to school and they don't graduate. 35 percent don't graduate. Where are we heading? What kind of communities are we going to have in the future? Those agencies that give these kind of permits should be punished. They are earning their money -- or their salaries from the people and they're not doing their jobs. They want us to call them when there is

T-1-82

something going on. How are you going to improve this. Having more lanes, there's going to be more traffic. If the majority of people are going to San Francisco or Oakland, why don't they send the ships over there. You know, there's ports over there too. Why do they have to come through our cities right here. Who is getting anything out of this? The people are going to keep suffering just because of some people? I want to know if in the future there's penalties or punishments for these people that are giving permits to companies that are causing more pollution. These people are supposed to work for the people and they are not helping the people. Thank you very much. T-1-82

MS. McCORMICK: Thank you. Before we go to the next person, are there anyone else who would like to have a speaker card? Okay. Thank you. Ricardo Gastolum. Pardon?

AUDIENCE MEMBER: That was him.

MS. McCORMICK: Then wait a second. I'm sorry. You're right. Thank you. Ernesto Gonzalez. Ernesto Gonzalez.

MR. GONZALEZ: Sorry about that.

MS. McCORMICK: It's okay.

MR. GONZALEZ: Yeah, Ernesto Gonzalez, resident of the City of Commerce. We are --- you know, we're one of the communities that's being impacted by displacement and the environmental hazards that goes with expanding the freeway, and we want to know -- you know, we want to have a concrete plan on how we're going to address the issue of displacing the residents. That's T-1-83

something that, you know, needs to be, you know, worked with the different municipalities because we -- you know, we don't want to displace our residents, especially residents of Commerce. You know, like people that live here, they don't want to move out of Commerce because we have great services. It's a great community to live in. So we need to address that issue of how we're going to keep people from Commerce in Commerce and people that are being displaced off of Sydney and in Bandini and Ayers, and also just thinking about, like, the environmental impacts in our community, I know, you know, a lot of people that were born, like, in Commerce, that grew up in Commerce, you know, are -- we're suffering the consequences in living in an impacted community and that's only going to exacerbate it. T-1-83

It's gone so bad that we recently started a special needs commission because of -- we have several kids that are being born with different types of respiratory illnesses, you know, different issues on the autism spectrum. So that's something that we are addressing as a city on the long-term impacts of living in this environment, and this -- these options do not address that. They only make it worse. Like, somebody mentioned, you know, it makes our housing crisis worse, it makes our environmental impacts worse, and there was one last thing. T-1-84

Oh, yeah, so we're asking for the extension of community input for 120 days even though that's not enough. It's -- what I heard was a 10,000-page document or something like that; so, T-1-85

yeah. So we definitely need to have more community input, more of a chance for people to really understand how this is going to affect our quality of life and what are the long-term impacts. This is a project that's permanent; right? So, you know, 120 days is the bare minimum. It's not even enough, you know. So thank you. T-1-85

MS. McCORMICK: Thank you very much. So we -- that is the end of our speaker cards, but it's not the end of our meeting. It's 8:00 o'clock -- it's about 8:05, and we are here until 9:00 p.m.. So I would encourage you to please go to the noise, traffic, and other stations, but just before we do that, I'd like to turn it back over to Ron to wrap up. If that would be okay with you. All right. And please be reminded that we have two more meetings with an opportunity for communities to be engaged with us. We're looking forward to talking to more folks. So that information is in the fact sheet at the information at the front desk as well.

MR. KOSINSKI: I really appreciate everybody spending the extra time that they did today to come here today. I'd like to say, number one, thank you. When we started the project working here in the 2000, 2001, 2002 to where we are today, the project that we had, the alternatives that we had, they've evolved, we've evolved from the 2008 document to the one we have now, and I project that they're going to be continuing to evolve. So thank you very much for your comments, for your issues. We

believe that they are serious issues. We certainly don't want to displace anybody. We will certainly take another look at all of the possible replacements and see if there is any way that we can avoid them because this is an issue. We certainly believe that there's a potential for mitigation -- housing and these types of things if in fact we have to displace people. But, again, I encourage you to continue to be involved. We will seriously consider the extension of time frame, and thank you for your time and, again, this is the opportunity for you to sit down with -- walk around and look at the maps and talk to the individual people here that we have to answer your questions and interact with them. So thank you again for your time.

MS. McCORMICK: Thank you very much and we'll make sure that you have the information. Don't forget the comment cards. We would like to get all your comment cards tonight and there are boxes on the way out and there's also boxes in the back. Thank you again. Good night. Close the meeting.

(Whereupon the hearing closes at 8:08 P.M..)

REPORTER'S CERTIFICATE

I, VANNA SAAVEDRA, CSR No. 14030, Certified Shorthand Reporter for the State of California, do hereby certify;

That said proceeding was taken before me at the time and place set forth and was taken down by me in shorthand and thereafter reduced to computerized transcription under my direction and supervision; and I hereby certify the foregoing is a full, true, and correct transcript of my shorthand notes so taken.

I further certify that I am neither counsel for nor related to any party to said action nor in any way interested in the outcome thereof.

Witness my hand this 26th day of August, 2017.



VANNA SAAVEDRA
Certified Shorthand Reporter No. 14030

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T-1-1

The commenter's opposition to the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, displacements will not occur. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-1-2

The commenter's opposition to the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary. Please refer to Section 1.1 of this appendix for a discussion of the identification of the Preferred Alternative.

T-1-3

Caltrans and Metro thank you for your comment. Your opposition to the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-4

The commenter's opposition to the displacement of the Salvation Army Bell Shelter and the potential effects on environmental justice populations is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-5

Mitigation measures have been proposed for air quality, noise, and traffic impacts, as well as temporary construction impacts resulting from the build alternatives. Please refer to Sections 3.13.4, Air Quality, 3.14.6, Noise, 3.5.4, Traffic, and 3.24.4, Construction Impacts, for specific avoidance, minimization, and/or mitigation measures proposed for the build alternatives for each respective resource area. In addition, environmental justice-specific mitigation has also been proposed to address the conclusion that the build alternatives as a whole would have a disproportionate adverse impact to minority and low-income populations in the corridor; refer to the measures detailed in Section 3.3.3.7 of the RDEIR/SDEIS. Specifically, should a build alternative be selected as the Preferred Alternative, Measure C-7 would provide individual cities

within the Study Area funding for targeted improvements that would improve air quality and public health, reduce traffic congestion, provide aesthetic/visual enhancements, and improve parks and recreation. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, impacts associated with the build alternatives would no longer occur.

T-1-6

The No Build Alternative has been selected as the Preferred Alternative, under which the Bell Shelter would not be displaced or relocated.

T-1-7

The commenter's opposition to the displacement of the Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-8

The commenter's provision of information regarding the difficulties in relocating a homeless shelter of this size as well as the interrelationships between the shelter and other entities in the area is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, the Preferred Alternative will not result in the displacement of Bell Shelter. Please refer to Section 1.1 of this appendix for a discussion of the identification of the Preferred Alternative.

T-1-9

Zero emission and near zero emission (ZE/NZE) trucks would help reduce diesel particulate matter (DPM) and nitrogen oxides (NO_X) in emissions from trucks operating on the I-710 Corridor. Please refer to Section 1.3 of this appendix for more detailed discussion regarding the I-710 Clean Truck Program. It should be noted that the I-710 Clean Truck Program is a programmatic element of the build alternatives. Since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

T-1-10

The commenter's support for Alternative 7 is acknowledged and included in the project record. However, Alternative 1, No Build, has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-1-11

The commenter's support of Alternative 7 and a ZE freight corridor is acknowledged and included in the project record. However, Alternative 1, No Build, has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program. It should be noted that the I-710 Clean Truck Program is a programmatic element of the build alternatives. Since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

T-1-12

Caltrans and Metro thank the commenter for providing this information. Property tax impacts were discussed in Section 3.3.2.4 of the RDEIR/SDEIS, which, it is important to note, presented a worst-case scenario in which, under the build alternatives, no displaced parcels would be relocated within the affected cities or communities. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no displacements or relocations will be necessary. In addition, please refer to Section 1.5 of this appendix for more information on the methodology used to assess property tax loss.

T-1-13

As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no displacements or relocations will be necessary.

T-1-14

Please refer to Section 1.2 of this appendix for further details on the community outreach efforts ongoing through project development. The commenter's name and address have been added to the distribution list for the project and will receive notice of release of this Final EIR/EIS.

T-1-15

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-16

The commenter's concern regarding the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no displacements will be necessary.

T-1-17

The commenter's opposition to impacts to the Salvation Army Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-18

The commenter's concern regarding the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-19

The commenter's concern regarding the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-20

The commenter's concern regarding the displacement of the Salvation Army Bell Shelter and opposition to Alternative 7 are acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary. Please refer to Section 1.1 of this appendix for a discussion of the identification of the Preferred Alternative.

T-1-21

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-22

The commenter states that Motion 22.1 was meant to reduce displacements, but actually increased them in the City of Commerce. The Metro Board of Directors passed Board Motion 22.1 in October 2015 that directed Metro and Caltrans to study a geometric design for Alternative 7 that avoids significant impacts and displacement of homes, businesses, and community resources. It should be noted that Motion 22.1 did not include this requirement for Alternative 5C. Design refinements to avoid or minimize impacts to existing land uses related to the temporary use and/or permanent acquisition of property under the build alternatives have been ongoing since the start of project development. Please refer to Appendix T, Avoidance Concepts Applicable to Alternative 7, of the RDEIR/SDEIS for more information on the evaluation of Alternative 7 designs to avoid displacements. Relocation impacts would be impossible to avoid under Alternative 7 because of the larger footprint required under this alternative. Alternative 7's larger footprint would be unavoidable because of the separated freight corridor and the necessary space required to provide adequate sight distance, curve radii, and grades for the ramps and other features associated with that structure. The RDEIR/SDEIS does not fail to comply with the requirements of Motion 22.1 because alternatives to avoid displacements were considered, although found to be infeasible. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-23

The commenter's concern regarding the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-24

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-25

The commenter's support of Alternative 7 and a ZE freight corridor is acknowledged and included in the project record. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-1-26

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-27

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-28

The commenter's support of a long-term plan for the I-710 and support of zero emissions is acknowledged and included in the project record. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-1-29

The commenter's concern regarding residential displacement as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-30

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-31

The commenter's support of a ZE corridor is acknowledged and included in the project record. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-1-32

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-33

The commenter's support of a ZE corridor and concern about a near ZE corridor is acknowledged and included in the project record. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of

this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-1-34

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-35

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-36

The commenter's concern regarding analytical assumptions is noted. Please note that the analyses undertaken for the project do not assume that ZE/NZE vehicles would be purchased or utilized by the general public in the future. However, the analyses do assume the presence and use of ZE and/or NZE trucks that would be funded by the project, should a build alternative be selected as the Preferred Alternative, through the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program), described in more detail in Section 2.3.2.1 of the Final EIR/EIS. This program would subsidize the purchase of heavy-duty ZE/NZE trucks for individual owner-operators' use within the I-710 Corridor. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

T-1-37

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-38

The commenter's concern regarding residential displacement as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-39

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-40

Please refer to Section 1.2 of this appendix for more information regarding the comment period for the RDEIR/SDEIS. It is true that United States Environmental Protection Agency (EPA)

considered the 2012 Draft EIS to have a rating of EU-3 (indicating that they perceived the analysis to be "Environmentally Unsatisfactory – Inadequate" per their Environmental Impact Statement rating system criteria). Comments and feedback received on the 2012 Draft EIR/EIS from the EPA as well as others were directly responsible for the development of the revised set of build alternatives analyzed in the RDEIR/SDEIS. In their comment letter on the 2017 RDEIR/SDEIS, the EPA rated the revised set of alternatives as EO-2 ("Environmental Objections – Insufficient Information") due to the need for sufficient assurance that ZE technology would be deployed as described by 2035. In response to this concern, further details of the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) were developed and are included in Section 2.3.2.1 of this Final EIR/EIS. Further, in April 2020, the Metro Board of Directors programmed $50 million in Metro-controlled funds to provide funding for the initial deployment of the I-710 Clean Truck Program and to leverage the remaining funds required for full program implementation. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please see Section 2.3.2.1 of this Final EIR/EIS for further details.

T-1-41

As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no impacts to the Bell Shelter and Long Beach Multi-Service Center will occur, nor will any other displacements. Additionally, it should be noted that the build alternatives include programmatic elements that would help the corridor achieve improvements in congestion, air quality and overall community health. These would include the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program), the I-710 Corridor Community Health Benefit Program, and the I-710 Corridor Project ITS/TSM/Congestion Relief Program. However, since a build alternative has not been selected as the Preferred Alternative, these programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please see Section 2.3.2.1 of this Final EIR/EIS for further details.

T-1-42

The commenter's support of a ZE corridor is acknowledged and included in the project record. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative, and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-1-43

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-44

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-45

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-46

The commenter's concern regarding residential displacement as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-47

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-48

The commenter's opposition to the displacement of the dialysis center is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-49

The build alternatives include funding for ZE trucks as a programmatic element (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program), as outlined in Section 2.3.2.1 of the RDEIR/SDEIS However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please see Section 2.3.2.1 of this Final EIR/EIS for further details. Please refer to Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-1-50

The commenter's support for the No Build Alternative is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as

the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-1-51

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-52

SCAG's 2012–2035 regional travel demand forecast model utilized socio-economic data from the 2010 census, as well as traffic data collected in 2008 and 2009 to inform the travel demand forecasts developed for the 2012 Baseline year as well as the 2035 future year. The SR-710 North Project was included in the list of projects assumed in the year 2035 traffic forecasts supporting the RDEIR/SDEIS (please see Appendix U of the RDEIR/SDEIS). As reported in detail in Tables 4-1 and 4-2 of the *Traffic Operations Analysis Report* (2017), the bi-directional average daily truck volumes on the segment of I-710 between I-5 and SR-60 range from 30,000 under the Preferred Alternative (No Build Alternative), to 35,000 under the Alternative 5C. A sensitivity test forecast was performed to assess the impact of excluding the SR-710 North Project on 2035 traffic volumes on I-710. This sensitivity test was reported in detail in Section 10 of the *Technical Memorandum – I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology* (2017) and documents a small change in truck volumes. If SR-710 were to be constructed, it was projected to add 1,200 daily non-port trucks to the I-710 Corridor north of the Union Pacific (UP)/Burlington Northern Santa Fe (BNSF) intermodal rail yards. However, the number of Port (Ports of Los Angeles and Long Beach) trucks would drop by 600 trucks daily. This results in a net increase of 600 heavy-duty trucks on the I-710 Corridor that may be attributed to the SR-710 project in the future year (2035). This would represent a two percent net increase in heavy-duty trucks daily on I-710. The commenter is referred to the Final EIR/EIS released for the SR-710 North Project in 2018 to better understand the implications of constructing or not constructing the SR-710 North Project on the surrounding freeway system, including I-5.

T-1-53

This comment requests that this RDEIR/SDEIS be revised to include a discussion of the San Pedro Bay Ports Clean Air Action Plan (CAAP) Update, which was adopted in November 2017. The CAAP Update was included in the cumulative analysis as Project GM-9. The cumulative analysis also includes 46 improvement projects identified by the Port of Los Angeles and the Port of Long Beach.

T-1-54

The Mercator report was referenced on page 26 of Appendix M, References, of the RDEIR/SDEIS. It should be noted that the cited document (Mercator International, LLC and

Oxford Economics 2016) references only the Executive Summary for the San Pedro Bay Long-Term Unconstrained Cargo Forecast (refer to Appendix M, References, for more detailed information). At the time of preparation of the RDEIR/SDEIS, the full Mercator forecast was not publicly available and could not be obtained. However, sufficient information was included in the Executive Summary that was publicly available so that an informed judgment could be made regarding any substantive differences in the Mercator forecast and the forecast utilized in the traffic analysis for the I-710 Corridor Project.

T-1-55

Please refer to Section 1.9 of this appendix for more information regarding the Alameda Corridor and its interface with I-710.

T-1-56

Caltrans and Metro acknowledge that the Port of Los Angeles has begun evaluating the potential impacts due to the risk of terrorism in their environmental documents prepared for CEQA/NEPA compliance. This may be appropriate given the fact that the Port complex is a major economic driver and represents a substantial portion of national container terminal throughput, and therefore, could be deemed an attractive terrorist target for economic reasons rather than substantial loss of life. However, it is less certain whether a single surface transportation route would be similarly categorized. Additionally, Caltrans does not provide guidance as to how terrorism-related impacts would be evaluated in a CEQA/NEPA environmental document, and the State CEQA Guidelines do not specifically address the issue of terrorism. Therefore, a discussion of terrorism was not included in this Final EIR/EIS.

T-1-57

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-58

The referenced property, 755 S. Sydney Dr., is shown on the Los Angeles County Assessor Portal to have an underlying land use code of 3100 (Industrial, light manufacturing). As indicated on the Existing Land Use Map (Figure 3.1-1), the portion of S. Sydney Dr. in this area is classified industrial according to Southern California Association of Governments (SCAG) 2012 land use data, although residential uses may be allowed/permitted on such land use designations. This is not erroneous; rather, it may be an instance of development that is not in conformance with the underlying land use zoning, or may have secured a variance or permit in order to do so legally.

T-1-59

In response to the requests for an additional public hearing, Metro and the Project Team provided support for a meeting held on October 18, 2017, at Humphreys Avenue Elementary School in East Los Angeles hosted by Los Angeles County Supervisor Hilda Solis. Although not a formal public hearing per the requirements of the Caltrans Project Development Procedures Manual, a presentation regarding the project was given, and an open question-and-answer period was held so that attendees wishing to speak were given the opportunity to do so. In addition, the office of Supervisor Solis procured a court reporter to record the question and answer session, and following the meeting, submitted the transcript of the meeting as a formal comment on the project. That submittal and the responses to those comments can be found as Response to Comment IP-19 in this appendix. In addition to Supervisor Solis' office providing a court reporter, the Project Team made the RDEIR/SDEIS and full suite of technical studies available at the meeting, as well as comment cards and laptop stations at which attendees could provide comments on the RDEIR/SDEIS online.

T-1-60

The impacts of all Design Options, including Options 3A and 3B, were evaluated in the RDEIR/SDEIS. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, these design options will not be implemented.

T-1-61

Caltrans and Metro thank the commenter for their input. The commenter's concern of health impacts related to air quality near freeways is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where

there would be an increase in certain emissions but no increase in cancer risk compared to the 2012 Baseline. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

In addition to the information on health risk presented in the RDEIR/SDEIS, an East Los Angeles Local Advisory Committee (LAC) meeting was held in August 2017, which included the following tabulation of health risk assessment results for the I-710 Corridor and within East Los Angeles.

Modeled Cancer Risk

Scenario	Maximum Modeled Cancer Risk* Within 3 km of I-710	Maximum Modeled Cancer Risk* in East Los Angeles
2012 Baseline	1421	624
2035 Alternative 1	57	21
2035 Alternative 5C	45	18
2035 Alternative 7, 7-ZE	30	17

* Cancer risk in one million.
km = kilometer

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would provide for the installation of solid barriers and installation of vegetation where soundwalls are not proposed to disperse pollution and reduce pollutant concentrations downwind. Additionally, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. As discussed in Section 2.3.2, Build Alternatives, in the Final EIR/EIS, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic component of the build alternatives. This program would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty (Class 8) ZE/NZE trucks for use within the I-710 Corridor. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, these programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway.

In addition to the programs included as part of the I-710 Corridor Project build alternatives, the California Air Resources Board (CARB) and the South Coast Air Quality Management District (SCAQMD) are implementing programs and strategies to improve air quality near freeways. CARB is implementing several regulations such as the Truck and Bus Regulation, Pavley Standards, and Advanced Clean Cars Program to reduce emissions associated with vehicles traveling on the freeway. Besides this regulation, CARB is also in the process of developing other regulations that target buses and heavy-duty trucks such as the Innovative Clean Transit Regulation and the Advanced Clean Trucks Regulation. The SCAQMD is also implementing several control measures under the 2016 Air Quality Management Plan to encourage the deployment of ZE/NZE technologies.

T-1-62

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-63

The commenter's concern regarding residential displacement as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-64

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-65

The commenter's concern regarding the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-66

The air quality modeling conducted for the project takes into account background pollutant concentrations in the air basin. Future air quality in the air basin is anticipated to improve due to changes in vehicle technology driven by State and local programs and regulations. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk overall, with the exception of a few near-roadway locations. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred

Alternative and these improvement in air quality from the build alternatives would not be realized. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-1-67

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-68

Caltrans respectfully disagrees with the assertion that the RDEIR is inadequate. Although specific comments on the elements of the analysis are not given by the commenter, it is indicated that the "full capacity of the facilities being proposed" is not reflected. The vehicular capacity of each build alternative was one of the inputs to the traffic model that ultimately forecast the future with-project traffic conditions, which were then in turn used in several other analyses, including those conducted for noise and air quality.

T-1-69

Caltrans, Metro, and the other I-710 Corridor Project funding partner agencies are extremely appreciative of the time and effort that was invested in developing the proposed Community Alternative program. As described in Chapter 2.0, Project Alternatives, of the Recirculated Draft EIR/Supplemental Draft EIS, many of the components of Community Alternative 7 (CA-7) have been integrated into Alternative 5C and Alternative 7, and those components of CA-7 that have not been integrated into Alternative 5C and Alternative 7 are addressed in other programs and projects being undertaken by Caltrans, Metro, and/or the Gateway Cities Council of Governments (Gateway Cities COG). However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-1-70

Caltrans and Metro respectfully disagree with the assertion that any portion of the project build alternatives was designed to maximize displacement; in fact, precisely the opposite is true. Additionally, in response to a portion of Motion 22.1, an analysis of right-of-way impacts under Alternative 7 and avoidance strategies was undertaken, which was summarized in Section 3.3.2.3, and included in its entirety in Appendix T of the RDEIR/SDEIS. It is important to keep in mind that particularly in dense urban areas such as the I-710 Corridor Project Study Area, avoidance of all right-of-way impacts would simply not be possible with any of the build alternatives, particularly when providing new structures that would require space for adequate sight distance, curve radii, and grades for ramps and other features. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred

Alternative. Therefore, there will be no displacements. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-1-71

The provision in Community Alternative 7 (CA-7) that called for an elevated lane system is acknowledged and included in the project record. The dedicated freight corridor component of Alternative 7 as evaluated in the RDEIR/SDEIS was elevated in several places in order to accommodate limited right-of-way within the existing I-710 Corridor. The suite of build alternatives evaluated in the RDEIR/SDEIS differed from the build alternatives evaluated in the 2012 Draft EIR/EIS in several ways; one of those ways was a redesign to avoid, as much as possible, the Los Angeles River and the utility corridor directly adjacent to the river. During development and preliminary design, coordination with various stakeholders showed that impacting these resources would be very complex, if even feasible. Alternatives 5C and 7 have avoided these resources wherever possible. However, it is important to know that while coordination with stakeholders occurs during the environmental document process, the specifics of right-of-way acquisition are not developed or known until a build alternative has been approved, final design has occurred, and project funding is secured (should a build alternative be selected as the Preferred Alternative). Therefore, many different types of assumptions must be employed during the development process for build alternatives. In addition, it is also important to note that should land need to be acquired from DWP for construction of project build alternatives, DWP (along with any other entity) would be compensated fairly and in accordance with Caltrans' relocation policies and procedures. Please refer to Section 1.5 of this appendix for more detailed information regarding relocations. Caltrans and Metro recognize the unique position of communities living within the I-710 Corridor and have strived to balance the needs of communities along with other corridor stakeholders. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-1-72

The commenter's support of maximizing emission reduction is acknowledged and noted for the public record. Future air quality emissions would improve due to changes in vehicle technology driven by State and local programs and regulations. The project build alternatives include strategies and programs that would reduce air emissions and exposure in the I-710 Corridor. However, since a build alternative has not been selected as the Preferred Alternative, the programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-1-73

The commenter's concern regarding displacement of businesses as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-74

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-75

The commenter's concern regarding the displacement or elimination of homeless services is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-76

Caltrans and Metro acknowledge that under either build alternative, diesel trucks would not be prohibited from accessing I-710. It is important to note that, as discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions but no increase in cancer risk compared to the 2012 Baseline.

Alternative 5C also proposes to increase the number of ZE/NZE trucks operating on the I-710 freeway by at least 4,000. This would be achieved through the implementation of the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program). However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please see Section 2.3.2.1 of this Final EIR/EIS for further details.

Further, SCAQMD, CARB, and the Ports have made great strides in offering incentive programs, combined with regulatory programs, to help turn over older, conventional diesel trucks into newer, cleaner diesel trucks that must meet higher, more rigorous standards. These fleet turnovers are projected to continue improving emissions along the I-710 Corridor in future years even if no improvements are made to I-710. Implementation of CARB's Truck and Bus Regulation and the

Ports' Clean Truck Programs is expected to accelerate fleet turnover to newer and cleaner (model year 2010 and beyond) trucks by 2023. The ZE/NZE trucks that would be deployed in the I-710 Corridor under the build alternatives would specifically be aimed at reducing both NO_X and DPM. While not all trucks on I-710 would elect to participate in the Program, a sufficient number of trucks would participate such that there would be some improvements along I-710. These reductions in DPM are mapped and can be most clearly seen in Appendix Q of the RDEIR/SDEIS.

T-1-77

It is assumed that the commenter is referring to a phenomenon known as "induced demand." The issue of induced demand is very complex, involving various travel behavior responses, residential and business location decisions, and other factors that influence regional population and economic growth. When capacity is added to freeways, traffic volumes on the freeways increase as motorists shift routes to take advantage of the improved travel conditions offered by the capacity increase. While some of these responses may represent new trips, much of the observed increase in traffic comes from trips that were already being made before the increase in highway capacity, or reflect predictable behavior that is accounted for in travel demand forecasts. Accordingly, Caltrans' guidance on this topic of induced demand maintains that each project should be evaluated on a case-by-case basis.

"Induced travel" is characterized as the additional demand for travel that occurs as a result of a decrease in the generalized cost of travel, including both travel-time and out-of-pocket costs. I-710 is part of a highly congested metropolitan roadway network and is located within an urbanized area, which is essentially built out. Given the high levels of congestion in the peak periods, the I-710 travel demand forecast model is particularly sensitive to changes in travel times. The proposed improvements included in the build alternatives would improve speeds and would reduce travel times on I-710, which in turn would attract more traffic to the facility relative to the No Build (Preferred Alternative) condition. The predicted shifts in traffic are accounted for in the analysis presented in Sections 3.5 and 3.13 of the RDEIR/SDEIS for both Alternatives 5C and 7. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative and these shifts in traffic would not occur. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-1-78

Caltrans and Metro appreciate this feedback regarding the relative accessibility of the locations at which a hard copy of the RDEIR/SDEIS was made available. For purposes of consistency and continuity for the general public, the libraries at which a hard copy of the RDEIR/SDEIS was made available were the same as those at which a hard copy of the 2012 Draft EIR/EIS was made available.

T-1-79

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-1-80

In response to the requests for an additional public hearing, Metro and the Project Team provided support for a meeting held on October 18, 2017 at Humphreys Avenue Elementary School in East Los Angeles hosted by Los Angeles County Supervisor Hilda Solis. Although not a formal public hearing per the requirements of the Caltrans Project Development Procedures Manual, a presentation regarding the project was given, and an open question-and-answer period was held so that attendees wishing to speak were given the opportunity to do so. In addition, the office of Supervisor Solis procured a court reporter to record the question and answer session, and following the meeting, submitted the transcript of the meeting as a formal comment on the project. That submittal and the responses to those comments can be found as Response to Comment IP-19 in this appendix. In addition to Supervisor Solis' office providing a court reporter, the Project Team made the RDEIR/SDEIS and full suite of technical studies available at the meeting, as well as comment cards and laptop stations at which attendees could provide comments on the RDEIR/SDEIS online.

T-1-81

The commenter's concern regarding the displacement of businesses and residences in East Los Angeles are acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-1-82

The build alternatives would improve air quality and public health while accommodating projected traffic volumes. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. However, as stated in Response to Comment T-1-1, the No Build Alternative has been

selected as the Preferred Alternative and these improvements from the build alternatives would not be realized.

Caltrans and Metro do not have authority to regulate costs for medical care or hospital wait time, address school attendance or graduation rates, or control goods movement or dictate alternative modes of goods transportation.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for the installation of filtration systems on schools within 0.25 mile of I-710. Measure AQ-3 would provide for installation of solid barriers and installation of vegetation where soundwalls are not proposed to disperse pollution and reduce pollutant concentrations downwind. In addition, the project build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program) is a programmatic component of the build alternatives. This program would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty (Class 8) ZE/NZE trucks for use within the I-710 Corridor. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, these programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please see Section 2.3.2.1 of this Final EIR/EIS for further details.

T-1-83

The commenter’s concern regarding residential displacement as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-1-84

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions but no increase in cancer risk compared to the

2012 Baseline. However, as stated in Response to Comment T-1-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-1-85

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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T-2

PUBLIC HEARING

1-710 Corridor Project EIR/EIS

Wednesday, August 23, 2017

Evening Session

Reported by: Joyce Holbrook

I N D E X

PUBLIC COMMENTS	PAGE
	3

WEDNESDAY, AUGUST 23, 2017

CITY OF COMMERCE, CALIFORNIA

* * *

MR. GUILLERMO AYALA: I would just like to say that I'm in favor for more of the clean emissions truck route. I'm just -- the trucks, because they are what generate most of all the traffic on the 710. My backyard is the 710, so I constantly hear them honking and honking, slamming their brakes. You can hear them if they get their own lanes, because it's just not better for us, but it's better for them because now they don't have to worry about, you know, little cars cutting them off because we don't see them on the freeway, and they don't care. They think they are bigger than the big rigs and they are just going to get in where they're going to get in. That also causes the problems because the big rigs slam on their brakes, everybody in the back slams on their brakes causing it worse and worse. T-2-1 T-2-2

Also, I wouldn't want to lose my home. I've been there for 25 years, and my house is one of the ones that's going to get torn down, and all of my neighbors' houses. My name neighbors are mainly retired individuals who don't want to leave their T-2-3

houses because they paid them off, you know, the American dream, their own home. Now they are going to be taken away, and they more than likely won't be able to afford to live in the same community with what they are going to live in the community even renting because these even is expensive it's not rent control at all so you know people can charge whatever they want to charge you for rent. So, basically, I'm in favor of the route that wouldn't destroy people's homes. Just add the truck lanes. And that's it. Thank you. T-2-4

* * *

CARLOS RUNNING WOLFE MENDOZA:

Carlos Mendoza, and I wanted to be on public record, stated for the fact that through the whole entire process I've been living in Commerce for three and a half years, and I've never received a public notice as to the public meetings regarding this project, and I should have gotten some type of notice. So I feel my knowledge has been diminished as to the ramifications of the expansion of this project and the knowledge of the displacement of the eminent domain. T-2-5

I'd better keep it as a resident. So I'm

a resident and that would be my statement as to being placed on public record.

And one other thing is during the process of these meetings, I haven't seen a complaint format to voice complaints, like a Caltrans Title 5. Usually when a project of this magnitude, there would have been a table with a complaint process or a compiles data to be categorized as to due diligence on the complaint process versus eminent domain, the people displaced, the renters that are affected that may have to be moved, and what's the avenue in the format for them to move them to transition to gain housing, because housing is very limited and any displacement is going to be affected. That's the full statement. T-2-6 T-2-7

Regarding the Bell Shelter for the homeless, they would be a significant displacement factor for the homeless with the Bell Shelter because that is a huge facility. It's huge. And to find a place to replace it is going to be one large challenge. The homeless are under recorded. They are living underneath the freeways and bridges here and in the wash, and they are not actually being counted and tabulated correctly. So when -- so when and if the displacement of Bell Shelter is going to be removed -- and that's from the Salvation Army -- they have a T-2-8

large food pantry, a large facility for the handicap that are injured coming out of the hospital, they give them a rehab center so they can be rehabbed inside the facility as opposed to just being thrown out in the street. So it's not just a small facility, it's a large facility, and to reduplicate that is going to be next to impossible. And this should take into consideration the mitigating factors to dealing with the Bell Shelter and the Salvation Army. That's it. T-2-8

* * *

MS. HORNE: Linda Horne. My concerns are with -- I don't know when they are going to start this, but I know they are going to push through, but at the same time, they need to look into alternatives as far as double-decker highway all the way. They do it in San Francisco, and they have more earthquakes than we do. T-2-9

The emergency lanes on both sides of the freeway can hold equipment, instead of taking houses away from people. And they need to do something with the -- the way Alameda Street comes into the port and into the train. Everything goes that way to the ports, and they need to find out how they can make T-2-10 T-2-11

that an alternative exit to directly onto Alameda where everything -- all the trucking to Alameda, they go to the ITC or ITR -- what is it? ITC. It's a trucking terminal -- ITC. It's where Willow changes to Sepulveda. And that's where they load and unload trucks, and I live right there. I live on the Terminal Island Freeway. I live there -- the last street in Long Beach is Webster. So in between Willow and PCH. T-2-11

And I know that they have all these things going on with 710 and going to tear that all up, but an alternative is for all trucks, just like they do for the 105, they built it up and over. They can do the same damn thing there. And put it all on Alameda Street. I mean, you're not going to get away from getting the trucks out of the business area and stuff, and not everybody has a dime to get an electric truck, you know, that's a lot of people that are working hard. T-2-12

And then by doing that, if they did an upper deck freeway, they can have it 24/7. It can constantly go. T-2-13

The other thing is that they need to get information to all these people all the way down and let them know hard information -- send it, whatever, T-2-14

they do. Do it bulk mail. We work for the post office, so we know. Do it bulk mail, and just do a handout for everyone so that they are all informed all these people. Even in Long Beach, they don't know. Not everybody goes to the city council, and not everybody looks on the TV and not everybody is informed. Those houses -- they are going to take a lot of houses away on the west side, and they don't know it.

T-2-14

So the other thing that's -- Long Beach is just as industrial in that area on the west side of Long Beach, and that's on the other side of the river, the concrete river. But not only that, they have to have something that is going to have -- I lost my thought on that.

How are they going to impact these people and those communities? They need to get the message out now. Not later. We're not asking for 120 days. We're asking for the people to have that time to get in there and talk about that. They've got to be able to say something.

And then what was the other thing, Kathy, we are going do? She also lives on the west side also.

But the pollution, everybody -- the ports,

T-2-15

the trucking companies, and all of the gas, oil, places -- the refineries that are there -- all are a part of it, and they should be putting in quite a bit of money to take care of all of that stuff. T-2-15

Where we live, there's a high school, Cabrillo High School -- it used to be Navy projects -- all of this. The Cabrillo High School, Hudson Elementary to junior high and Reid.

MS. KATHY SUNIA: Webster.

MS. HORNE: Reid High School.

And then down over on the other side of Willow is Stevens Junior High, plus a little Webster Elementary school.

MS. KATHY SUNIA: Across.

MS. HORNE: All these people have all the kids and everybody, all of these years have got respiratory problems. So that's a big thing that they need to pitch in and take care of, too. So that's where a lot of money can come from. T-2-16

And another thing -- I know what I was going to say is -- now that they're deciding to take all of these places, these people need to get out and talk to some of these industry people and see what they can do for the community to put more housing in. Don't just dump on them, oh, you got to find that T-2-17

$400,000 home; we just sold yours for what -- 200. It makes no sense. You're living in Southern California, and these people are simpletons. They are not living high on the hog. They don't drive Rolls Royces. And they have junky cars that barely make it to work, and that's down there in Long Beach, same thing.

But double-decker the whole thing. That's an easy solution, the best solution. Put the trucks on the bottom, put the cars on top. T-2-18

You want to save the planet, tell them to just have them have special offers from manufacturers, because it's all about the money. It doesn't make any difference from the manufacturers to give -- to support these truck drivers and the companies who loan the cars to them as a business -- or the trucks to them -- as a business, to give them a discount, some kind of discount. Work it out so they can do the electric trucks. Duh. They need these people to get out and talk not just stand around and say oh, these are the statistics and these are the maps. It doesn't work like that. You got to go out and do your part too. You're ruining communities, and it's not justified any shape, way, or form. We just have to learn to stop bitching about it. T-2-19

But double-decker is about the best you're T-2-20

going to do. Taking people's homes away is not going to work. Not here, not in Southern California. T-2-20

Thank you very much.

* * *

(End of public comments.)

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T-2-1

The commenter's support of a clean emission truck route is acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Please also refer to Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-2-2

The commenter's concern regarding trucks slamming on their brakes to avoid an accident because cars cut them off is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, the purpose of the project includes improving traffic safety. As discussed in Section 1.2.1.2, Capacity, Transportation Demand, and Safety, of the RDEIR/SDEIS, the relatively high incidence of accidents on the I-710 mainline and ramps appears to be the result of three main factors: (1) nonstandard geometrics and design features; (2) high traffic volumes; and (3) the mix of automobiles and heavy-duty trucks. By State law, heavy-duty trucks are restricted to the two right lanes of freeways. Most of the automobile/truck interaction occurs as automobiles maneuver to get on and off the I-710 mainline at the interchanges, therefore, crossing and traveling in these right two lanes. Additionally, trucks are slower to accelerate and slower to stop, which uses up more freeway capacity and also causes merging conflicts among these different vehicle types as automobile drivers weave in and out of traffic to avoid the slower-moving heavy-duty trucks. The difference in mass (weight) between a car and a heavy-duty truck makes an incident between these two vehicle types more consequential for the automobile. The I-710 Corridor Project build alternatives would modernize existing design elements of the I-710 freeway, such as the curves of on- and off-ramps that do not meet current design standards and the weaving sections between interchanges that are of insufficient length. Modernization of the I-710 design through the build alternatives would improve safety, which would result in accident rates on the I-710 Corridor that would be more reflective of the statewide average for a similar facility. This expected reduction in accidents would reduce public health risks related to traffic safety. However, as discussed in Response to Comment T-2-1, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-2-3

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-2-4

The commenter's opposition to residential displacements and support of an alternative that only includes a truck route are acknowledged and noted in the public record. As stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 for more information regarding the identification of the Preferred Alternative.

T-2-5

The commenter's name and address has been added to the distribution list for the project (Chapter 7.0 of the Final EIR/EIS). The availability of the RDEIR/SDEIS was advertised in several local newspapers per the requirements of CEQA and NEPA. Please refer to Chapter 5.0, Comments and Coordination, for further details on the circulation and distribution of the RDEIR/SDEIS.

T-2-6

The commenter is likely referring to Title VI of the Civil Rights Act of 1964, which states that no person in the United States shall, on the grounds of race, color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity, receiving Federal financial assistance. A copy of Caltrans' Title VI Policy Statement was included in Appendix C of the RDEIR/SDEIS, which included a web link at which persons can obtain more information on filing a Title VI complaint. More information on Caltrans' Title VI Program can be found at https://dot.ca.gov/programs/local-assistance/guidance-and-oversight/title-vi or by calling (916) 324-8379.

T-2-7

The commenter's concern regarding displacement of people as a result of the project build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-2-8

The commenter's concern regarding the displacement of the Salvation Army Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-2-9

Elevated lanes and structures were considered and utilized in the design of both build alternatives (particularly for Alternative 7's separated freight-only corridor) where necessary and feasible. True "double-decking" of lanes was explored during the *I-710 Major Corridor Study* (initiated in January 2001 and found at https://www.metro.net/projects/i-710-corridor-project/feasibility-assessment/); however, opposition to the concept from some local jurisdictions and the potential for safety concerns from some stakeholders were raised, and so true double-decking was not brought forward as a stand-alone alternative during preliminary design. As stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative.

T-2-10

The build alternatives were designed to reduce, as much as possible, residential and business displacements. However, as stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-2-11

Thank you for providing this feedback regarding Alameda St./SR-47 and its interface with the Intermodal Container Transfer Facility (ICTF). The I-710 Corridor Project build alternatives are not proposing any alterations to the SR-47 facility or local streets nearby, including Willow St./ Sepulveda Blvd., as they are approximately 4,000 feet west of the I-710 Corridor and do not have a nexus to the improvements proposed under the build alternatives. Additionally, as stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative.

T-2-12

As discussed in Section 3.5.2.2, under 2035 No Build conditions, more arterial roadway segments are projected to operate near or over capacity than under existing conditions. The results are attributed to the overall ambient traffic growth within the Study Area. Increases in roadway volumes are most prominently observed in Port truck volumes on all major north-south arterials and on east-west arterials south of Florence Ave. In general, without major improvements to the I-710, the traffic conditions on the arterial highway system will deteriorate further in the future.

The build alternatives would reduce congestion on I-710 and would thus reduce truck traffic on arterials. However, as stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative and these benefits would not be realized.

As a component of both build alternatives, the I-710 Corridor Project would fund ZE/NZE trucks that travel within the corridor through the implementation of the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program), which would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty ZE/NZE trucks for use within the I-710 Corridor. However, since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please see Section 2.3.2.1 of this Final EIR/EIS for further details.

T-2-13

Please refer to Response to Comment T-2-9 regarding double-decking of the I-710 freeway.

T-2-14

Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of this Final EIR/EIS for more information regarding the outreach efforts ongoing through the life of the project. In addition to the advertising done in accordance with the requirements of CEQA and NEPA, individual postcards announcing the availability of the RDEIR/SDEIS and the public hearings were sent to residences and businesses within a 500-foot radius of the I-710 Corridor improvements.

T-2-15

The air quality modeling conducted for the project took into account background pollutant concentrations. Caltrans and Metro do not have authority to charge other entities for air quality improvements. However, as discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and would reduce public health risk except for a few near-roadway locations.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce emissions at near-roadway locations. Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for the installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build

alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, Measures AQ-2 and AQ-3 will not be implemented and the I-710 Community Health Benefit Program will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

T-2-16

As discussed in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, the build alternatives include funding for air quality and health improvements. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

T-2-17

As stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-2-18

Please refer to Response to Comment T-2-9 regarding double-decking of the I-710 freeway.

T-2-19

As a component of the build alternatives, ZE/NZE trucks that travel within the corridor would Be funded through the implementation of the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program), which would provide funding to individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy-duty ZE/NZE trucks for use within the I-710 Corridor. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details.

As stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-2-20

Please refer to Response to Comment T-2-9 regarding double-decking of the I-710 freeway.

T-3

CITY OF PARAMOUNT

PUBLIC HEARING

ON

I-710 CORRIDOR PROJECT

SATURDAY, AUGUST 26, 2017

CITY OF PARAMOUNT

PARAMOUNT, CALIFORNIA

APPEARANCES

CITY OF PARAMOUNT:

Ernesto Chavez, Metro

Rob McCann, LSA

Ron Kosinski, Caltrans

Mary McCormick, MBI Media

PUBLIC SPEAKERS:

Dean Taylor

Jaquelyne Rodriguez

Larry Forester

Allan Crawford

Ruth Schwartz

Hugo Lujah

Maggie Godoy

Iris Verduzco

Lily Martinez

Gerald Cerda

PARAMOUNT, CA; SATURDAY, AUGUST 26, 2017;

10:35 A.M.

-OOO-

MS. MCCORMICK: Good morning, Everyone.

So glad to see you here this morning. Thank you so much for coming. We're actually going to get our meeting started today. My name is Mary McCormick.

I'm going to be the facilitator for us today. We're actually going to be looking forward to your comments, and if you haven't filled out a comment card yet, please do so. We also have speaker cards that we would like to make sure that you fill out if you would like to speak, and we will be going through our meeting this morning to make sure you have access to that. So if you don't want to speak now but you feel like you'd like to speak later, that's fine.

So with that, I'd like to turn it over now to Arturo, who is one of our translators, and we also have our A.D.A. sign language as well.

(Above translated in Spanish).

MS. MCCORMICK: So it looks like, just to confirm,

that we have -- are not -- anyone who needs sign language at this time?

(No responses.)

MS. MCCORMICK: Okay. Thank you.

So with that, we're going to open our meeting this morning. I actually would like to start off with Ernesto Chavez. Ernesto actually is our representative from Metro, and he will kick us off this morning.

Ernesto.

MR. CHAVEZ: Thank you, Mary.

And, again, my name is Ernesto Chavez. I'm with L.A. Metro, and on behalf of L.A. Metro but also the other agencies that have been collaborating for many years on this project, including Caltrans, SCAG (phonetically), the Ports of L.A. and Long Beach and on behalf of all the agencies, I want to give you a big thanks for coming here today, taking some time off from your Saturday to learn more about the project; but, also, more importantly, give us your input on the project.

We're very excited to have reached this milestone. We're very excited to have come this far, and we want to make sure that we get your input. We want to

make sure we do it right, that we understand what the concerns are.

This is a very important project for Metro. It's a very important project for the corridor, of course, and really for Southern California because of the importance of the 710 for our region so I want to thank you for that, and we look for forward to hearing from you today.

What we'll do now is I'm going to turn it over to Rob McCann. He's the environmental lead for our project. He's the environmental manager, and he's going to walk us through a short presentation, covering a summary of the project and the next steps as well.

(Above translated in Spanish)

MR. MCCANN: Thank you, Ernesto.

Good morning. As Ernesto said, I do have a brief presentation. I do promise to keep it brief with all that's important before we hear your testimony, provide you a little information about the goals of the project, about what the project alternatives are, the project studies we've conducted and what the project process is to identify preferred alternatives.

This first slide shows the project goals

that have been guiding the development of the I-710 project really since the beginning of the environmental process in 2008 but even before that with the major corridor study that was conducted from 2005 to 2007.

These goals are driven by the needs within the I-710 Corridor. The top of the list is improving air quality and reducing public health risks. Many studies have shown that within this corridor, because of the many trucks going to and from the ports, high diesel particulate emissions that result in high levels of risk for people who live and work in this community.

The second goal -- or the second need is the fact that the I-710 Freeway, it was designed and built over 50 years ago. Design standards have changed to accommodate different types of vehicles these days, make roadways safer so -- one of the needs is to improve the safety and improve how the I-710 functions.

The third need is just traffic. Traffic congestion, it exists today. It continues to grow as the population, the employment grows in the region and as the goods movement activity continues to grow from the ports.

The study area for the I-710 project is about 19 miles. It starts in the south in Long Beach at Ocean Boulevard, and it extends 19 miles up to the State Route 60 Freeway interchange in East Los Angeles, and

this slide highlights all the different communities along the I-710, both directly adjacent and nearby.

The project has been guided since we began working on the E.I.R. E.I.S. and prior to the major corridor study with a very robust community participation program for input from the community at all different levels, the local advisory committees, the corridor advisory committee, all the way up to the project committee and executive committee, elected officials from throughout the cities in the I-710 corridor.

The public input process has greatly influenced the alternatives themselves as well as the scope of the studies that we have conducted for the project.

There we go. So we're here today presenting to you the results of our -- of a -- what's called a Recirculated Draft Environmental Impact Report, Supplement Draft Environmental Impact Statement. That's a mouthful. So you see the abbreviation R.E.I.R. and S.D.I.S.

We are preparing this recirculated document. We originally circulated the document in 2012 that evaluated a set of alternatives then. We got a lot of public comment on it, and so at that time -- or since then, a number of things have changed, and that's what we

addressed in our Recirculated Draft E.I.R.

Traffic conditions have changed. Traffic patterns have changed as we dug a little bit deeper in terms of how traffic flows and how goods movement flows within the Southern California area.

Other projects -- some projects have been taken off the shelf. New projects are in the planning process. We wanted to take those into account. Probably the most important things that have changed our since our 2012 draft E.I.R. E.I.S. is certainly under public review. Again, the many comments we received, both on the alternatives themselves, concerns about the impacts, and so that had a great influence in terms of how those alternatives have been designed and what we are studying in our current document today.

And then the last slide, Motion 22.1, a very important motion, is approved by the Metro board of directors in October of 2015, providing direction as far as certain things that needed to be addressed in this document and also other elements that should be addressed outside or parallel to the I-710 corridor projector environmental process. I'll have a more detailed slide on that in a moment.

Let's talk about what the alternatives are. This slide lists the three alternatives, three basic

alternatives to look at. We'll start with looking at Alternative 1, which is a no build condition. That is no changes are made to I-710, just, you know, other projects may occur in the region that we take into account, but it does not assume any improvements to the I-710 Freeway.

So Alternative 5-C is one that modernizes I-710. It adds capacity, and it increases safety and mobility, and you can see the price tag on that is about six and a half million dollars.

Alternative 7 does not have any general purpose labels, but it does provide a dedicated clean emission freight corridor but also provides features to modernize the different interchanges along the I-710 Freeway, and the price tag on that is about $11 billion.

Those cost estimates are very high level estimates that cover construction, utility relocation, right of way acquisition, design and all the associated costs that come with developing a major freeway project.

The next couple of slides will give you a little bit more detail. The first one is Alternative 5-C. A couple of the key features on this one. Well, it doesn't have a dedicated freight corridor like Alternative 7. It does run the I-5 -- I'm sorry -- the I-405 interchange. It does have some truck bypass lanes to keep truck traffic separated from automobile traffic

to improve the safety and operation through the I-405 interchange. It also provides dedicated lanes that go on the south end, that go -- connect to and from downtown Long Beach.

Several locations, as shown on the green along the corridor, there are places where an additional general purpose lane or through lane is added in each direction, and that's highlighted in the areas in green.

We also have a number of locations where what are called auxiliary lanes are added. This is for if you're entering the freeway. Your entrance ramp then immediately exits the next interchange so it doesn't provide a through lane, but it makes that merge under the freeway a little bit smoother than if that auxiliary lane wasn't there.

And then, finally, the rectangles and circles show the different interchanges that would be upgraded and modernized to a more modern design configuration.

This map shows Alternative 7. As you can see, it has the dedicated clean emission freight corridor extending all the way from Long Beach out to the Commerce area. This would be a dedicated, separated freight corridor with two lanes of traffic in each direction.

When we say clean emissions, its use would

be restricted to only zero emissions trucks or near zero emissions trucks, and this improves the safety of the freeway by providing -- again, separating the truck traffic from the automobile traffic.

Although we show a general purpose lane on the legend here, you can see there's no general purpose lanes provided. That's one of the key changes that was made from the previous document wherein that -- from our 2012 document, we added a freight corridor but also a general purpose lane widening. Alternative 7 does not add the general purpose lane. And then similar to Alternative 5-C, it also has the auxiliary lanes, and the modifications to the different interchanges.

In addition to the physical improvements to the I-710 and interchanges, there's a number of other elements that are part of each build alternative. These are programmatic, meaning established programs that would not necessarily be funded by Metro. They would be funded in partnership with other agencies.

The first very important one is a program dedicated to providing funding for zero emission and near zero emission trucks within the corridor, as well as the funding differ between the two build alternatives but also provides funding for I-710 community health and benefit program similar to the program that the Port of

Long Beach has established to provide grant funding for different improvements within the community that would improve community health and provide other benefits.

From an operational standpoint, Intelligent Transportation Systems Advanced Technologies, things that help make the flow of the freeway smoother for the cities and the county and the I-710 congestion relief program, we have dedicated funding to improving intersections and local arterials adjacent to or within very close to the I-710 Freeway.

There's also a provision for transit improvement for enhancing both or expanding both bus service as well as rail service between the corridor and then finally providing bicycle and pedestrian facilities in connection to improve -- improve mobility for the people that are walking or riding their bicycles.

Motion 22.1, if you didn't already, there's a handout at our welcome desk up front that provides some details on Motion 22.1.

As I've said, this is a very important motion adopted by the Metro Board of Directors. The first element includes a number of items that were included that were specifically addressed within the project design and, of course, then within our environmental document, and this handout actually

provides a listing of each of those elements and where they can be reconfined, the discussion of them within the environmental document.

The other Items 2 through 4 are items that Metro has either completed or is in the progress of completing -- in the process of completing efforts in Parallel 2, the E.I.R. E.I.S. process.

This is our most colorful slide we have. It's intended -- I'm not going to read everything on here, but it illustrates the wide range of studies that we undertake to analyze those alternatives and analyze what the impacts are, whether it's for the human environment, whether it's for the physical environment, any element of the environment.

For all of our studies, we look at several things. We look at -- first, there's laws and regulations that guide us in terms of what things we need to analyze. We establish what are existing conditions today, the existing conditions today and what conditions would be like in the future if nothing is built.

Then we conduct impact analysis, looking at each of the alternatives and identifying what those impacts are, but we don't stop there. The key thing in the environmental process is that we identify adverse impacts, are there ways we can avoid, minimize or

mitigate those impacts? That's a very important part of the document and an important part of the public process in terms of what we want to hear from you in terms of ideas about how we can mitigate those impacts that we have identified.

So to learn more about that, we have a lot of information here for you today, and more importantly people that can explain that to you so a quick roadmap to our room today. If you have a specific question about how the build alternatives affect your property or your community, you can go over to our monitors there, our G.I.S. stations and provide them your address, and they can pull up your location and see how each of those two alternatives might affect you or your neighborhood.

Next to them, we have our design team, and they can answer all the detailed questions about the project design, and then for our different environmental stations, we have folks in the back, our air quality station.

Julia Lester and her team can talk about air quality and health risk effects. We have our noise team, Arnold Parmar from Caltrans that can about the noise and where the sound walls are proposed.

We have our visual team that can show you some visualizations what the project would look like. We

have our traffic team here. They can talk to you in more detail about traffic. For anything else that didn't get covered, we have a table with all the documents that staff, that can answer questions.

The process itself, as I've said, we started in 2008 to begin developing the environmental process, developing alternatives. We did a recirculated draft E.I.R. in 2012, received public comment on that. With that, we began to refine the alternatives and update our analysis, and that is where we are today is being able to present that analysis to you in terms of what the effects are of these revised alternatives.

Following completion of the public review period, we'll then work through that committee process I showed you earlier to define what the preferred alternatives should be with, of course, prepared responses to all the comments in our final E.I.R. E.I.S., and that final E.I.R. E.I.S. becomes the decision document for the project.

As we said, hearing from you is the important part and why we're here this morning and why we were in Commerce on Wednesday night and will be in Long Beach this coming Thursday for another public hearing.

The public comment period has been extended from the public notice you may have received. It's been

extended for a month to October 23rd, and there's many different ways you can comment, whether it's -- we have comment cards here, which you're welcome to leave with us today or take them home, think about it a little bit more. You can mail them in, take some extra copies to share with friends and neighbors.

You can provide testimony here as part of this hearing, or if you feel more comfortable just talking one on one with the court reporter, we have a court reporter in the adjoining room, and you can provide the testimony to them, and the e-mail address is listed here on the bottom of the slide if you wish to provide comments by e-mail.

The -- in addition to all the information we have for you today, there's a lot posted online both on the Caltrans website, which is listed here that has all of the -- not only the environmental document but all the different technical studies, and then Metro, they also have the project website that provides a great deal of information.

So with that, that wraps up my part of the presentation. I'm going to turn it over to Ron Kosinski, deputy district director of environmental planning for Caltrans here in Los Angeles. He will share a couple of thoughts with you about the importance of the public

input you're going to provide, and then we'll turn it over to Mary to conduct the public hearing.

So I thank you for your attention and welcome Ron.

MR. KOSINSKI: Thank you, Rob, and welcome to our second public hearing. We really appreciate you taking the time, as Rob and Ernesto mentioned, to come here on a Saturday to listen to the presentation, and we really thank you for listening.

The information is pretty extensive as we have multi-disciplinary people here who will be able to answer questions and talk to you about specifics after we're done here, but, primarily, we're here to listen to you and see what you have to say about options. You're the experts on your community. We know about your community somewhat, but you're the experts on your community so we're really anxious to hear what you have to say.

All the project alternatives have significant adverse impacts. Keep in mind, if we just leave things just the way they are, there's traffic and air quality issues associated with that that you're experiencing right now. So doing nothing has a significant impact on your life.

Building one of these two build

alternatives or looking at some of those options has a significant impact on your life so this is an important deliberation that we're taking today.

There were meetings, and initially in around 2001, 2002, some corridor studies and various people that actually are here today attended those meetings and -- both in terms of the public and members of our team.

So it's something that's been ongoing for a long time, and it's going to be continuing. We're going to have the comment period here to October 23rd, but after that, we still are probably a year, certainly into 2018 before we'll actually make a decision of what exactly we're going to recommend.

Now, I have spent some of my childhood in this community in Long Beach, and I know the community is a very tenacious community. It's a very active community and very involved, and we really, again, appreciate this effort that you're putting into it.

There's a strong sense of community here, and with that, we're looking forward to your input today. So I think I'm just going to close with that and say that Mary -- bring Mary back to run this meeting. We're going to have an organized method of collecting your comments, and I'll do a little wrap-up when we're done. So, again,

thank you for your time.

MS. MCCORMICK: So just to help us move along a little bit, this slide shows you a few things. For those of you who would like to make some comments today, I would like to remind you that you can do that through written and oral. We actually have court reporters here that can actually type up your oral comments.

We do have interpreters available as well so that, if somebody wants to go to an oral reporter, we can actually have a translation orally done, and it can be transcribed.

Also -- so for today, we're going to have three minutes per speaker. We'll have a little visual sign here for you to know that time is up, and we will need to have you state your name clearly. This is a public hearing. This is an official hearing, and we want to make sure we have your correct name as well.

We want to make sure that we're here to listen to everyone. It's a very important venue for you because you have access to experts here today. We have experts that are on air quality, noise, traffic, environmental, design. You have access to everyone today. So it's going to be -- it's very, very important that, if you do have any questions, that you have access to the experts who can help you.

So with that, I'd like to do a couple of things. I'm going to actually flip here, go back to this just to make sure that you have the addresses. We do have to go to the Caltrans website, but you can do your comments online.

Before I get started, I'd like to introduce some of the elected officials that we have here today. We actually have council member, Larry Forester, who is with the city of Signal Hill. Thank you, Larry, for attending. Thanks for being here.

We have a representative from Congresswoman Royball Allard's with Luis Castro. Thank you. He's the field deputy, and we actually have a council member here from the city of Glendale -- Lynwood -- sorry -- Salvador Alatorre is here, and we actually have the Los Angeles County Board of Supervisors represented from Janice Hahn and Michael Ervin is here. Thank you, Michael. Thanks for coming. We appreciate you being here.

So with that, what I'd like to do -- can we turn the lights up just so we have more lights up in the room please.

(A pause in the proceedings.)

MS. MCCORMICK: So what we'll do is I will call

your name and then I will call a second name, and the second name will be for someone so that you know you're up next just so that you can be prepared.

Our first speaker this morning is Dean Taylor. Dean, can you come up, and then we would like to have Jaquelyne Rodriguez up second. Thank you.

(A pause in the proceedings.)

MS. MCCORMICK: Good morning, Dean. It's on.

MR. TAYLOR: Good morning.

MS. MCCORMICK: Let's make sure it's on.

(A pause in the proceedings.)

MR. TAYLOR: Good morning. My name is Dean Taylor, and I represent Southern California Edison Company. The I-710 corridor project represents an opportunity for proactivity and improving air quality in the communities along the I-710, many of which have been heavily impacted by air pollution from transportation.

Approximately 40 percent of the goods entering the nation are going to be moved through Southern California ports and highways, and the transportation sector is responsible for 36 percent of

California's greenhouse gas emissions, 50 percent if you add in the refineries that supply fuel.

Using clean energy to power transportation along the I-710 corridor, particularly medium and heavy duty vehicles can help the ground level ozone, smog, nitrogen oxide in particular emissions reduction requirements for cleaner air.

Southern California Edison believes that Alternative 7, the clean emission freight corridor, is the only alternative that would feasibly accomplish all the project goals and support the project's purpose of improving air quality and public health.

T-3-1

Additionally, SCE believes that Alternative 7 should be a true zero emission freight corridor, which means that zero tailpipe pollutant emissions would be emitted while traveling along the corridor.

That would also allow for a plug-in hybrid which is similar technology along the corridor. I have support for transportation, electric (unintelligible), particularly goods movement is needed now, but fueling a variety of vehicles, cars, public transportation, medium and heavy duty vehicles, industrial vehicles and equipment with clean electric power instead of fossil fuels, we can help meet California's ambitious climate and environmental goals in the coming decade. Thank you.

MS. MCCORMICK: Thank you.

(A pause in the proceedings.)

MS. MCCORMICK: Jaquelyne Rodriguez and then Larry Forester.

MS. RODRIGUEZ: Thank you. My name is Jaquelyne Rodriguez. I'm a member of East Yard Communities for Environmental Justice, and on Saturday, August 12, a group of us went doorknocking through four blocks in Commerce, and a lot of the people who we spoke to had no idea that this process is happening or hadn't even heard that the E.I.R. was out, which to me just shows poor outreach on behalf of Caltrans.

That to me is very frustrating because, when I went to speak to them, they were all very agitated that this was happening again, and the community has been under displacement and air pollution for the past 15 years. T-3-2

So this would only increase their already horrible conditions that are existing in Commerce and also contribute to the homelessness issue in Los Angeles County, the entire Los Angeles County. T-3-3

Here, we are asking for 120 days because 90 days is not enough to get the entire community out here. T-3-4

On the Commerce meeting, we had a bunch of people come out because we went to speak to them. So if we had enough time to have them come out, this would be great to have them come voice their concerns, come voice -- some of them might even be in support of Community Alternative 7, which they helped develop. T-3-4

The Community Alternative 7 is what we're asking for zero emissions. We're asking for no displacement, and we're also asking for local hire. So if you would be kind enough to extend that to 120 days, that would mean a lot to us. Thank you. T-3-5

MS. MCCORMICK: Great. Thank you.

So next is Larry Forester and then Allan Crawford.

MR. FORESTER: Good morning. Larry Forester, council member of the city of Signal Hill for the last 20 years, and I actually served on the project's advisory committee for this project until my engineering sensibilities -- I have a B.S. in civil engineering were challenged by some things I wanted to add to the E.I.R. and E.I.S., and I backed out of it.

I am so happy that Supervisor Solis in 22.1 has taken those things and separated them. That was what caused me problems, but I will comment from my standpoint from my better than five years on the committee, and T-3-6

several of those people all know me up there.

The engineering work that you have done has been phenomenal, and I greatly appreciate it, and that's why I'm here to say thank you. T-3-6

MS. MCCORMICK: Great. Thank you very much.

(A pause in the proceedings.)

THE COURT: Allan Crawford and then Ruth Schwartz.

MR. CRAWFORD: My name is Allan Crawford with Bikeable Communities. I'd like to address the biking and ped issues. Bike and ped issues how they're addressed in the E.I.R., I use the word appalling.

There's basically one paragraph that says it should be better for bike and peds. We're going to widen the sidewalks. We're going to improve pavement, and, oh, by the way, we're going to do diverging diamond intersections, and we're going to use the Caltrans guide 2010 to guide us in that design. T-3-7

You go and look at that design and the final thing in the guide says, oh, there's not enough work on diverging diamonds to make any recommendations. So we're going to go forward with something that -- and you can look at the number of these that have been printed across the country, a dozen or something like

that -- there various parts of the country where very little or no study has been done on bike and peds.

Now, what happens? So a diverging diamond, as you guys know, basically crosses -- the traffic crosses to the opposite side of the road. As a pedestrian -- so I went up last week, and there's one of these in Reno, Nevada. T-3-7

So I said, well, let me go walk this to see how it feels. So I walked up, and I looked normally to my left for traffic. Oops, I just looked the wrong way. The traffic is coming from the right.

Let's go to P.C.H. Long Beach, and I have a series of photos that I'd like to share with you guys that show the number of students. We've got a high school on one side, Cabrillo. Most of the students live on the other side. We have very, very heavy truck traffic.

It's frightening. The photos you're going to -- how can kids do this? We have not solved those issues by going to divergent -- we slow traffic, which is good, although, in fact, traffic almost doesn't move there anyway because it's so congested so our request is do something as an alternative for bikes and peds. T-3-8

Diverging diamond is fine. That's what we need for traffic, but create separate bike and ped T-3-9

facilities. Now, I know we have three in Alternative 5 which helps, and in Alternative 7, those go away. we can't actually accommodate those coming across, the alternative -- the heavy freight corridor.

So I know the city of Long Beach is talking with you guys, but particularly (unintelligible) at Anaheim and at P.C.H., we need an alternative for bikes and peds. We're heading for vision zero in Long Beach just as L.A. has. This will get us nowhere near vision zero. T-3-9

Thank you.

MS. MCCORMICK: Great. Thank you very much.

Ruth Schwartz, and then I'd like to invite Hugo Lujah to come up next.

MS. SCHWARTZ: Hi. My name is Ruth Schwartz. I'm the director of Shelter Partnership, and we own property at 5600 Rickenbacker, Building 1101. It's a six acre parcel where that hundred thousand square foot warehouse we secure and distribute new goods on behalf of people who are homeless. Last year, we distributed ten million dollars in product to 237 agencies.

So we're kind of a core agency in the homeless system, assisting people in poverty, homeless and emancipated or foster youth. We've been working with your staff, you know, off and on for the last five years T-3-10

on this project and trying to understand the impact on our buildings, if we would have to be relocated.

Obviously, it's a great place for us because it's -- we serve all of L.A. County, and it's really in the middle of L.A. County. There was a building that we've actually -- we've actually built on the property, that -- the bigger property since 1989 and doing business, and recently in 2003, we took over the building we're in now on the complex, and in 2007, we were granted a deed for the properties, which provides us a lot more security from the federal government.

So I don't really understand all of the impacts. I'm just trying to come up to speed on it. So I thank you for this hearing, and it's been offered to us that we have a sitdown, which we did a couple of years ago to better understand the impact on our property and so -- just to say we're here and know we're -- you know, we'll do what it takes to understand and move forward in the best way, you know, that serves community needs overall, but we do -- we are concerned.

T-3-10

Thank you.

MS. MCCORMICK: Thank you.

Hugo Lujah and then Maggie Godoy.

MR. LUJAH: Hi, everyone. My name is Hugo Lujah, and I'm part of the East Yard Community for Environmental

Justice. I also have family living in Maywood, Lynwood, Long Beach and East L.A. I think I want to speak directly on to the comment in terms of the costs because I saw that one of the alternatives costs 6.5 billion and then the other zero emission would be 11 billion; right? T-3-11

I think to me it's important --

MS. MCCORMICK: Do you want me to go back?

MR. LUJAH: Yeah. Can you? I think it's important to understand that -- what that means -- right? -- because to me, as a person living within these communities, what -- an alternative for zero emission would mean, it would literally mean saving lives within my family. It would mean saving lives of my community members; right?

And understanding that -- according to the (unintelligible), we're already at the top 90 percent of community with the worst contamination conditions in the state, and one of the reasons is due to air contamination, and it's been due to -- in connection to diesel exhaust. T-3-12

And if you all don't know the U.S. studies, one vehicle, one truck, it equals 33 cars in smoke. The exhaust, the smoke that comes out of these trucks is diesel exhaust which is a carcinogen. It causes cancer.

So for me, 11 billion is a very big

difference than 6.5, but when you come in and layer the cost of our life and our medical expenses from our communities, 11 billion is nothing, and you also layer in the cost of not including the zero emission freight corridor, and the impact on our lives within the future, if it is in the zero emission corridor, 11 billion is nothing.

So we deserve the best for our community, and that includes the zero emission freight corridor. That is the only thing that I would personally accept for this project because, if it isn't, what we're basically saying is that the movement of trucks is more important than our lives, and that's not acceptable; right?

T-3-12

The other thing that I think is important to know is that the time that is given to us to comment on this project is as of now 90 days; right? And what Jackie said in terms of how long it took us to even mobilize the people in the city of Commerce, 90 days is not enough.

Like if you all take a look at the comment -- at the actual information -- the draft E.I.R. back there, it's like a huge bible, and it's a lot of information that I can't even read, and, also, it's important to know that the city of Commerce, Maywood, Lynwood and Huntington Park already submitted letters

T-3-13

requesting for an extension to 120 days, and so the more pressure that we build as community members and asking for 120 days, that's the least that we can get in order to fully participate as community members. T-3-13

Thank you.

MS. MCCORMICK: Thanks very much. Maggie Godoy and then Iris Verduzco.

MS. GODOY: Good morning. My name is Maggie Godoy, and I live in the city of Lynnwood. Do you need my address?

MS. MCCORMICK: No. We have that. Thank you.

MS. GODOY: Okay. I'm here because this is the second time I've been to a hearing like this, and I'm just barely learning and hearing that you have the 90 days to do this, and I'm asking for 120 days because like Hugo mentioned, you know, it's a lot of information, and even if I start bringing that information, I wouldn't be able to understand that because I have no clue what's going on. T-3-14

The only thing I do and I emphasize is that our communities are very important. That should be the number one thing in your plans because we are losing a lot of kids and also a lot of adults, you know, because of cancer. My daughter is one of them. So I need you guys to take this home and sleep on it and think about T-3-15

it. We want the best for our community, Lynwood. I represent Lynwood. Actually, I live in Lynwood, and we want the best for our community because we do deserve that. Thank you. Thank you. T-3-15

MS. MCCORMICK: Iris Verduzco and then Lily Martinez.

MS. VERDUZCO: Hi. My name is Iris Verdusco, and I'm here from the city of South Gate and representing East Yard Communities for Environmental Justice.

I'm a member of the organization, and as I'm sitting here and just really reflecting of where this protect has come along -- I've been involved in this process for about eight years now, and when I think about when the draft 2012 Environmental Impact Report was released, and we were commenting on that, I was preparing to enter my first year at the University of Southern California, and this fall I will be receiving my undergraduate degree from the university.

And so when I think about what has happened throughout that process and I think about where our communities have been talking about and the things that we've been expressing and to see that those things aren't reflected and we have these project alternatives, but I'm still wondering for these past several years, we've been advocating for Community Alternative 7, and the motion T-3-16

that Metro passed includes those elements, and I'm wondering where is that present in the reports? T-3-16

I appreciate the simulations that are here, but then I wonder where the ones that talk about the health impacts that our families will be receiving in conjunction to these alternative if they're -- T-3-17

MS. MCCORMICK: Just to let you know, they're in the back.

MS. VERDUZCO: Thank you.

And so when I really think about, you know, the things that our communities have been expressing and the things that we want to see move forward in this project, and so when we think about not building, you know, and how that still provides impacts, but we're thinking about the things that community members have been proposing so that includes the zero emission trucks, the biking and pedestrian improvements, the public transportation improvements, no displacement elements, local hire and community benefits, and thinking about how that also connects to the things that our communities have been struggling with, you know, in 2015 when we think about how (unintelligible) has impacted our local communities, and so those are things that we want to consider in thinking about how our communities and our health is really important, and so requesting that 120 T-3-18

days to have that public speaking period and have these conversations with our community members is really needed and is something that we would like to ask you all to really consider in moving forward with this project. T-3-18

Thank you.

MS. MCCORMICK: Thank you. Lily Martinez and then Gerald Cerda.

MS. MARTINEZ: Good morning. My name is Lily, and I am a representative of Paramount, and I'd like to start my comments by a show of hands how many people in the room actually live in Paramount near the freeway?

(There was a show of hands.)

MS. MARTINEZ: There is a few people. There is no one here. I got notice of this hearing like two days before with an attachment of over 3,000 pages to read, and I appreciate trying to get community participatory effort, but time after time, every time I have issues of the environment that are going to impact our health, very few people turn out because they don't know, and the communications are usually a very high literacy level. We're really not making an effort to include the real community that lives here in these public comments. T-3-19

I am here and the majority of the people

who live in the impact zone of the freeway are not representative of our community. I have three degrees. The last one is a masters in public health, and I'm looking for a school to do my doctorate.

93 percent of the children that live in our community are economically disadvantaged. We have about a 60 percent high school graduation rate, and only 8 percent of us actually graduate from college.

The reason why this happens is that we're creating these ghettos of no opportunity, and we can't leave. I'm living here on purpose. People are telling me why don't you leave, and I don't feel that's right. It's very unhealthy here. We're already -- all these communities that are along the 710 corridor are 5 percent of the most contaminated areas, and we appreciate being told that the modernization of the freeway is for us.

I go to a lot of the port meetings in L.A. and Long Beach, and the real reason why we're making the freeway better is that we want to move more containers across this corridor.

T-3-20

We're the main artery that feeds the whole country. As Dean said, the Port of Long Beach and L.A. combined travels 40 percent of all the goods of the United States. Something that no one has mentioned yet is California has a lot of earthquakes. There is a

T-3-21

possibility for natural disasters.

We want to increase that 40 percent to go higher. If we have a natural disaster or any kind of disaster in this area, stores, grocery stores only have a few days of food for the communities. T-3-21

What's going to happen if our ports are -- I-710 gets destroyed? We're going to starve the rest of the country. We're putting all our eggs in one basket. The other thing is that I would highly recommend having more participation of the public health department, and we're working in silence. T-3-22

This community participation here, we are just trying to fix the problem that we have with hexavalent chromium. It's 300 percent of healthy levels, and it's not fixed, and we're adding more environmental health impact issues to communities that's already overburdened. So we appreciate more communication between all these projects that are impacting our communities. T-3-23

MS. MCCORMICK: Okay. Thank you.

Gerald Cerda.

MR. CERDA: Thank you for coming. My name is Gerald. I'm also a resident of Paramount, and like the folks have mentioned, a lot of these concerns have been with the residents for sometime, and the first question I

asked when I came in because I was a little bit uncomfortable in not getting notification because I got it through a text by another resident -- is the notifications.

When you -- when I'm being told that they're being sent by the L.A. Times, I mean, we're 80 percent Hispanic here. The L.A. Times, I don't think, has a translation for Spanish.

When it's being sent to the city's web page, how many employees for the city are here today? That's a bottle neck. So the information is not being sent out to the residents, that's a concern, and it was mentioned the hexavalent chromium has been here for years, and it has not just been an issue for the residents, but the students and the school district right now is having a big item with the hexavalent chromium for testing. T-3-24

That's a big finger pointing right now with the agencies, and when you say we have the C.E.Q.A. and E.P.A., is the A.Q.M.D. also involved with this, or will there be another finger pointing when issues arise? T-3-25

I'm looking for -- to see if there's going to be concrete -- a lot of concrete breaking, a lot of concrete building, and the information that's being mentioned hexavalent chromium also comes from concrete. T-3-26

So that's a big issue that we're having with the city of Paramount right now. So if you add more hexavalent Chromium possibilities, it has to be looked at pretty close. T-3-26

The bike path mentioned, we've had issues with some folks that are staying in the bike path, in the riverbed where they come out here, they commit a crime, and then they disappear, and that's something that's difficult to track. We did have an assault where the individual died the next day. We're being told that this person was caught, but that's something that's safety for the residents. T-3-27

We have a lot of the issues with the air here in Paramount, but not only Paramount but through the entire riverbed. You can see driving down the 710, you can see these things happening, but that's something that needs to be addressed. T-3-28

And, you know, I know that the lady mentioned about providing items for some of these folks that are residing in the riverbed or next to the freeway, and that's a big plus. We do have to address that issue. T-3-29

The relocation of businesses, the relocation of residents, how is that going to be dealt with? I know it's been planned -- like I said, I'm just jumping on board as of yesterday so I have no information T-3-30

on this, and I will be looking at this just to bring myself more up to par. T-3-30

The historical landmarks, are there any historical landmarks that are going to be addressed? And the -- what's the average freeway width? What's it going to be -- what's it going to become? Is it going to affect the west side, the west side of the freeway the same as the east side, or is it going to affect one side more than the other side? T-3-31 T-3-32

And traffic for schools, school buses. Right now, we do have a turning lane that crosses through Rosecrans diagonally on the intersection of Rosecrans and Paramount, and I know the freeway is not that far from now. That usually gets congested during school hours. You know, we have kids going to the high school. Is that going to affect that area of Rosecrans Boulevard during the construction? T-3-33

And I also agree on extending the extension letters from the 90 days to 120 days to get more notification for the residents here in Paramount, not only here but the other cities that are going to be impacted as well, but this city here, we're having a lot of issues right now, and you can see there's no representation from the city here today. T-3-34

MS. MCCORMICK: Thank you.

MR. CERDA: Thank you.

MS. MCCORMICK: So I'd like two things. Is there anyone in the room here this morning that would like to have a speaker card or speak?

(No responses.)

MS. MCCORMICK: So we have everyone. Okay. Great.

Just as a reminder -- and I'm actually going to turn this back over to Ron -- there were several comments that I heard this morning that can be addressed in this room. There are several people here who can talk about air quality. They can talk about traffic. They can talk about congestion. They can talk about the alternatives, and they can go to the design, and they can make sure that you have the information and the answers to your questions.

So I really would encourage you to take advantage of the expertise that's here in the room. Don't leave the room without a question that we can try to help answer today. So with that, I'd like to turn this back over to Ron from Caltrans.

MR. KOSINSKI: Thanks, Mary. I was going to -- that was one of my big points too. These have been

really very helpful and insightful questions the community has been bringing up. I would say that a good percentage of them, the people in the room can answer, can find the information and get it to you.

If they can't get it to you today, we can mail it to you. So this is very helpful, and I just want to say thanks again for your listening and for your participation, and we have been listening to you, and we'll continue to listen to the community.

The project has evolved quite dramatically over the last 15 years from when we first started. To basically widen the freeway, take thousands of properties on both sides and declare victory, we're not doing that.

We've got a lot of additional enhancements to the community that have been added as part of the Community Alternative 7, and I think that they're very beneficial from a community standpoint.

I just want to close by saying no decision's going to be made anytime soon, certainly not this year. We're going to listen to all these comments and see how we can adjust the project even more to address the issues that you have if we can, and then we have this little issue with displacement. It's not a little issue. It's a major issue.

People want improvements, but they don't

want displacements. We certainly personally have that same goal, but is that a possibility that we can actually achieve? I can't say with certainty that is possible.

So keep in mind that we'll be listing to you, including your comments, making changes to the project based on the things that makes sense and then going through a decision-making process that involves a variety of committees for the next year or so and then finally coming to a final recommendation.

So, again, thank you very much for your time and your efforts today, and please go see the people here who know and have answers to a lot of the questions you have.

Thank you.

(A pause in the proceedings.)

MS. MCCORMICK: Thank you. So just real quick as we close, a couple of additional items. There is going to be another meeting, and we'll make sure that you have that information available for you. It's going to be next Thursday night from 6:00 p.m. to 8:00 p.m. It's going to be in the Long Beach area.

We have all that information with the sign-in people. Please come to that if you have. We are

very interested in getting as many people in the meetings as possible. That's our No. 1 focus.

Clearly, we need to do a little bit of a better job. Even on a Saturday morning, it would have been nice to have a little bit more folks here today.

So please share that information to your friends and families, and please ask them to come out. We really do want to hear from them. It's very important to us.

So with that, I'd like to officially close, but we're here for another couple of hours. So we're so grateful you came.

Thank you.

(The proceedings were concluded at 11:30 a.m.)

PENALTY OF PERJURY CERTIFICATE

I, the undersigned, declare under penalty of perjury that I have read the foregoing transcript, and I have made any corrections, additions or deletions that I was desirous of making; that the foregoing is a true and correct transcript of my testimony contained therein.

EXECUTED this _____day of _____, 2017, at _____, _____.

_____
Mary McCormick

REPORTER'S CERTIFICATE

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

I, RONALD KIM, CSR No. 12299, Certified Shorthand Reporter for the State of California, do hereby certify;

That the deponents named in the foregoing deposition, prior to being examined, was by me first duly sworn to testify to the truth, the whole truth and nothing but the truth;

That said deposition was taken before me at the time and place therein stated and was thereafter transcribed into print under my direction and supervision, and I hereby certify the foregoing deposition is a full, true, and correct transcript of my shorthand notes so taken.

I further certify that I am not of counsel nor attorney for either of the parties hereto or in any way interested in the event of this case and that I am not related to either of the parties hereto.

WITNESS my hand this 1st day of September, 2017.



_____

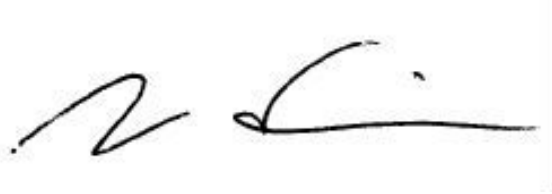
RONALD KIM, CSR No. 12299

CERTIFIED COPY CERTIFICATE

I, Ronald Kim, Certified Shorthand Reporter, No. 12299, hereby certify that the attached deposition is a correct and certified copy of the deposition of the deponent named in the foregoing deposition, taken before me at the time and place therein stated.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Covina, California, this 26th day of September, 2017.



Ronald Kim, CSR No. 12299

T-3-1

Caltrans and Metro thank the commenter for their comment. The commenter's support of Alternative 7 and the ZE corridor is acknowledged and included in the project record. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, neither Alternative 5C nor 7 will be constructed. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Please also refer to Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-3-2

Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of this Final EIR/EIS for more information regarding the outreach efforts ongoing through the life of the project. In addition to the advertising done in accordance with the requirements of CEQA and NEPA, individual postcards announcing the availability of the RDEIR/SDEIS and the public hearings were sent to residences and businesses within a 500-foot radius of the I-710 Corridor improvements.

T-3-3

Please refer to Section 1.5 of this appendix for a detailed discussion of the Caltrans relocation process, including compensation and displacements of environmental justice populations. Should a build alternative be selected as the Preferred Alternative, any persons displaced would be provided relocation assistance and would be relocated prior to demolition of the acquired properties; therefore, the build alternatives would not contribute appreciably to the homeless population. As stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-3-4

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period. Caltrans, Metro, and the other I-710 Corridor Project funding partner agencies are extremely appreciative of the time and effort that was invested in developing the proposed Community Alternative 7 (CA-7). As described in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, many of the components of CA-7 were integrated into Alternatives 5C and Alternative 7. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-3-5

The commenter's support of zero emissions, opposition to displacements, support of utilizing local hires, and request for extension of the public review period are acknowledged and included in the project record. As stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative, Section 1.2 of this appendix for a discussion on the community outreach and extension of the comment period for this project, and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program. Based on comments received from the public, the 60-day RDEIR/SDEIS public review period was extended to 90 days, from July 21, 2017 through October 23, 2017.

T-3-6

Caltrans and Metro thank the commenter for their support.

T-3-7

As discussed in Section 3.5.1 of the RDEIR/SDEIS, bicyclists and pedestrians were a consideration in the design of the build alternatives at all local interchanges, which included diverging diamond interchange (DDI) configuration interchanges. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative and therefore improvements to or creation of new pedestrian and bicycle facilities will not occur. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-3-8

Caltrans and Metro acknowledge the commenter's concerns regarding pedestrian and bicycle safety along the corridor. In the range of build alternatives evaluated in the 2012 Draft EIR/EIS, single-point urban interchanges at some local interchanges were considered, but withdrawn from the design of the revised set of build alternatives due to public input. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative and therefore, no improvements to pedestrian and bicycle safety will be realized.

T-3-9

The commenter is correct in that only three bicycle/pedestrian-only bridges crossing I-710, the Los Angeles River, and/or I-405 were proposed under Alternative 7 due to the presence of the freight corridor structure. It is also important to note that, should a build alternative be selected as the Preferred Alternative, where existing bridges and overcrossings would be modified by the build alternatives, pedestrian paths (sidewalks, curb ramps, and crosswalks) with sufficient

outside shoulder width to accommodate Class II bikeways on local street crossings would be provided as part of these modifications, in accordance with Caltrans' "Complete Streets" guidance. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative and these improvements will not be made. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-3-10

The commenter's concern regarding the effects of the build alternatives on the referenced parcel is acknowledged and included in the project record. However, as stated in Response to Comment T-2-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-3-11

The commenter is referring to a slide discussing the preliminary cost estimates of the build alternatives that was presented in the Public Hearing presentation given by the Project Team. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative and therefore there will be no costs associated with constructing the build alternatives.

T-3-12

The commenter's support of Alternative 7 and a ZE corridor is acknowledged and included in the project record. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Please also refer to Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-3-13

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-3-14

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-3-15

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk except at a few near-roadway locations. Should a build alternative be

selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for the installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative and Measures AQ-2 and AQ-3 will not be implemented. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, this programmatic element will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

T-3-16

Caltrans, Metro, and the other I-710 Corridor Project funding partner agencies are extremely appreciative of the time and effort that was invested in developing the proposed Community Alternative 7 (CA-7). As described in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, many of the components of CA-7 have were integrated into Alternative 5C and Alternative 7 and those components of CA-7 that were not integrated into Alternative 5C and Alternative 7 were addressed in other programs and projects being undertaken by Caltrans, Metro, and/or the Gateway Cities COG. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details.

T-3-17

Modeling results for health risk are included in Appendix Q of the RDEIR/SDEIS and summarized in Section 3.13 Air Quality. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions but no increase in cancer risk compared to the 2012 Baseline.

When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce emissions at near-roadway locations. Measure AQ-2 would provide for installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would not be implemented and the programmatic elements of the build alternatives will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

T-3-18

As stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. More information regarding Motion 22.1 and its elements can be found in Section 1.8 of this appendix. Further details regarding the I-710 Clean Truck Program are discussed in Section 1.3 of this appendix, and please refer to Section 1.6 of this appendix for more information about the relocation process and the benefits afforded to displaced persons under the Uniform Act. Finally, please refer to Section 1.2 of this appendix for more details regarding the length of the comment period for the RDEIR/SDEIS, as well as outreach efforts over the life of the project.

T-3-19

Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of the Final EIR/EIS for more information regarding the outreach efforts ongoing through the life of the

project. In addition to the advertising done in accordance with the requirements of CEQA and NEPA, individual postcards announcing the availability of the RDEIR/SDEIS and the public hearings were sent to residences and businesses within a 500-foot radius of the I-710 Corridor improvements.

It is Caltrans' goal that environmental documents are written with their audience in mind; that is, the general public. It can be difficult to balance that need with the often highly technical information and analyses contained within them and the requirements for disclosure under CEQA and NEPA. Part of the required review process for all Caltrans environmental documents is a "Technical Edit" Review which ensures, among other things, that plain language be used that can be understood by both the public and decision-makers. The I-710 Corridor Project RDEIR/SDEIS and this Final EIR/EIS were subject to this review, and the Project Team will continue to look for ways to simplify language that may be confusing or highly technical.

T-3-20

The Ports of Los Angeles and Long Beach (collectively, the San Pedro Bay Ports) together rank as the world's ninth busiest container Port complex and account for 32 percent of the nation's market share. Per the purpose statements identified for the I-710 Corridor Project (as described in more detail in Section 1.2 of this Final EIR/EIS), the build alternatives are would accommodate projected traffic volumes and would also address increased traffic volumes resulting from projected growth in population, employment, and economic activities related to goods movement. However, needs and purposes of the build alternatives are far greater than simply to accommodate more trucks on the I-710 facility. The I-710 freeway was designed in the 1950s and 1960s, before the dramatic increase in imports from Asia and containerization of oceangoing freight increased the cargo traffic at the San Pedro Bay Ports and before the extensive population growth in southern California since 1960. With a few exceptions, the I-710 has remained in the same configuration since it was originally built. Design features that are associated with current operational problems on I-710 include outdated local interchange designs, spacing between local interchanges, non-standard geometric features at freeway-to-freeway interchanges, non-standard weaving distances, narrow or nonexistent shoulders, narrow lane widths, and non-standard pavement. High traffic volumes, the existing freeway design, freeway congestion, and the interaction between cars and the high volume of trucks in the traffic stream all contribute to elevated accident rates when compared to similar facilities. The proposed improvements associated with the build alternatives are intended to make the facility safer and more efficient for all users, rather than simply increasing freight throughput. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative and these benefits would not be realized. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-3-21

Caltrans and Metro acknowledge that the potential occurrence of natural disasters, particularly earthquakes, is an unavoidable part of living in the Southern California region. However, it should be clarified that the increase in Port cargo throughput is due to multifaceted economic demands and the I-710 Corridor Project build alternatives are not intended to increase throughput; rather, they are intended to accommodate increased throughput. The build alternatives, which are intended to improve an existing and outdated transportation facility, would have no bearing on the economic and social outcome of the destruction of the Ports or I-710. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative.

T-3-22

The Los Angeles County Department of Public Health has been acting as a Participating Agency under the Federal Efficient Environmental Review process (originally the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users [SAFETEA-LU] Section 6002, now codified at 23 United States Code [USC] 139) for the I-710 Corridor Project since shortly after the commencement of the environmental document phase in 2008. Participating agencies are any Federal or non-Federal agency that may have an interest in the project. In their role as a Participating Agency, the Department of Public Health had early opportunities to review the purpose and need, range of alternatives, and technical methodologies used to support the EIS as they were being developed and prior to the release of the Draft EIR/EIS in 2012. In addition, they provided comments on the 2012 Draft EIR/EIS, which the Project Team considered when revising the build alternatives and developing the programmatic features set forth in the RDEIR/SDEIS.

T-3-23

This comment requests that the RDEIR/SDEIS be revised to address cumulative impacts from hexavalent chromium and communication between cumulative projects to address these impacts. As discussed in Section 3.12 of the RDEIR/SDEIS, operation and maintenance of the facilities proposed as part of Alternatives 5C and 7 would not introduce new sources of hazardous waste and materials, but would continue existing exposure to the transport of hazardous waste and materials associated with vehicles currently utilizing the I-710 Corridor. The build alternatives would have a beneficial effect by remediating any hazardous waste contamination, including chromium contamination, present on properties that would need to be acquired for the build alternatives. No new permanent hazardous waste/materials impacts beyond existing conditions related to hazardous materials would occur as a result of the build alternatives; therefore, there would be no adverse cumulative effects related to hazardous waste and materials from the build alternatives. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative.

T-3-24

Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of the Final EIR/EIS for more information regarding the outreach efforts ongoing through the life of the project. In addition to the advertising done in accordance with the requirements of CEQA and NEPA, individual postcards announcing the availability of the RDEIR/SDEIS and the public hearings were sent to residences and businesses within a 500-foot radius of the I-710 Corridor improvements proposed under the build alternatives. Advertisement of the availability of the RDEIR/SDEIS and public hearings was run in several local newspapers, including La Opinion, a Spanish-language daily newspaper published in Los Angeles and distributed throughout southern California. Many cities along the I-710 Corridor Study area disseminated notice via official City websites, as well.

T-3-25

Since the beginning of the project development process in 2008, EPA has acted as a Cooperating Agency under the Federal Efficient Environmental Review process (originally SAFETEA-LU Section 6002, now codified at 23 USC 139). Cooperating Agencies are defined as Federal agencies other than the lead agency that have jurisdiction by law or special expertise with respect to any environmental impact involved in a project. In their role as a Cooperating Agency, EPA had early opportunities to review the purpose and need, range of alternatives, and technical methodologies used to support the EIS as they were being developed and prior to the release of the Draft EIR/EIS in 2012. The Project Team has worked collaboratively with EPA over the life of the project on the Air Quality/Health Risk Assessment and Project-Level Conformity requirements and methodologies, as well as the environmental justice analysis.

Although not serving in a formal capacity as a Participating or Cooperating Agency, the SCAQMD has worked collaboratively with the I-710 Corridor Project Team to assist in the development of the Air Quality/Health Risk Assessment and Project-Level Conformity methodologies, assumptions regarding the fleet mix that underpinned the traffic and air quality analysis, as well as assisting in developing specifics and administration of the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program). Caltrans and Metro are highly appreciative of the time and effort set forth by these and other agencies during development of the Draft EIR/EIS and RDEIR/SDEIS. Please refer to Section 3.13.3.2 of this Final EIR/EIS for an updated discussion of project-level conformity.

T-3-26

As stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no air quality impacts associated with construction dust will occur.

T-3-27

Metro and Caltrans are sympathetic to the potential issues related to encampments within the Los Angeles River and the associated bike path. However, the Los Angeles River and bike path are not within Metro or Caltrans' jurisdictions, and problems or issues related to safety should be referred to the respective law enforcement agency with jurisdiction. Please also note that persons utilizing State right-of-way in such a manner are unlawfully trespassing. As stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative.

T-3-28

The air quality modeling conducted for the project takes into account background pollutant concentrations. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. The I-710 Corridor Project's impacts on air quality were disclosed in the RDEIR/SDEIS and discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS. Except for PM_{10} for Alternative 5C and Alternative 7 and SO_2 for Alternative 7, air toxic exhaust emissions (NOx, CO, $PM_{2.5}$, and VOC) would be lower in 2035 with the project compared to the 2012 Baseline emissions. In 2035, the build alternatives would result in lower NO_X emissions compared to the 2035 No Build Alternative. PM_{10}, $PM_{2.5}$, CO, and SO_2 would increase, with the greatest increases occurring for Alternative 7. The increases for these pollutants would be less than 190 pounds (lbs) per day for Alternative 5C and less than 640 lbs per day for Alternative 7.

For the build alternatives in 2035, the decrease in $PM_{2.5}$ from exhaust emissions would be greater than the increase in $PM_{2.5}$ from tire wear, brake wear, and entrained road dust emissions compared to the 2012 Baseline emissions. As a result, total $PM_{2.5}$ emissions in 2015 with the build alternatives would decrease when compared to the 2012 Baseline emissions. In the case of PM_{10} emissions, the increases in entrained road dust, tire wear and break wear (which are a direct function of vehicle miles traveled) resulting from the build alternatives would far outweigh the decrease in exhaust PM_{10}. Therefore, total PM_{10} emissions would increase in 2035 for the build alternatives when compared to 2012 Baseline.

The number of receptors near I-710 that would experience increases in 24-hour PM_{10} emissions resulting from the build alternatives compared to the 2035 No Build Alternative would be larger for Alternative 7 than for Alternative 5C due to the increased traffic along the corridor. The 2035 build alternatives show no change to a slight decrease in near-roadway short-term $PM_{2.5}$ emissions when compared to the 2035 No Build Alternative at all modeled receptors near I-710. The public's exposure to ultrafine particles would decrease for all build alternatives in 2035 relative to the 2012 Baseline and 2035 No Build Alternative, even near the I-710 freeway and freight corridor.

In summary, both build alternatives would generally improve air quality but there are a few near-roadway locations where there would be an increase in certain emissions. Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce

emissions at near-roadway locations. Measure AQ-2 would provide for filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, Measures AQ-2 and AQ-3 will not be implemented and the Community Health Benefit Program will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

T-3-29

Metro and Caltrans acknowledge the issues related to homelessness in the region; however, neither agency has the jurisdiction nor a mechanism to address this issue. The commenter is referred to the Los Angeles County Department of Public Social Services at www.dpss.lacounty.gov or (866) 613-3777.

T-3-30

Caltrans and Metro thank you for your comment. Your concern regarding displacement of people and businesses as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-3-31

Table 3.7-1 in Section 3.7, Cultural Resources, of the RDEIR/SDEIS identified the built environment cultural resources within the Supplemental Area of Potential Effects (APE). With the exception of the Drake Park/Willmore City Historic Landmark District, these built environment resources are subject to both Section 106 and CEQA:

- UP Railroad (formerly Southern Pacific Railroad) in Los Angeles and Orange Counties (Primary No. 19-186110/30-176630). Two portions intersect I-710: south of Patata St. and south of Frontage Rd., both in the City of South Gate.

- UP Railroad in Los Angeles, Riverside, and San Bernardino Counties (Primary No. 19-186112). One portion intersects the I-710: south of Noakes St. in the City of Commerce.
- Dale's Donuts, 4502 E. Alondra Blvd., Compton
- Boulder Dam-Los Angeles 287.5-kilovolt Transmission Line (Primary No. 19-188983). One portion intersects the I-710: between Firestone Blvd. and Southern Ave., in the City of South Gate.
- Drake Park Historic District, located within the Drake Park/Willmore City Historic Landmark District (CEQA-only resource). The portion in the APE is the right-of-way along Daisy Ave., 9th St., and Magnolia Ave. in the City of Long Beach.

Section 3.7.3.1 explains that on September 20, 2012, the State Historic Preservation Officer (SHPO) concurred on the finding of No Adverse Effect to the Patata Street Segment and the Noakes Street Segment of the UP Railroad, Dale's Donuts, and the Boulder Dam-Los Angeles 287.5-kilovolt Transmission Line. Therefore, the build alternatives are not anticipated to have an adverse effect on historical resources pursuant to Section 106. Section 4.2.2.4 a). However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no impacts to historical resources will occur.

T-3-32

The locations of widening and corresponding right-of-way requirements for the build alternatives vary over the length of the 19-mile corridor. Some segments would widen and would thereby encroach to the east or to the west, some on both sides, and some not at all. Specific build alternative improvements can be found in Appendix O, Concept Plans, of the RDEIR/SDEIS. However, as stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no impacts to rights-of-way will occur.

T-3-33

As stated in Response to Comment T-3-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no impacts related to construction traffic will occur.

T-3-34

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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T-4

I-710 CORRIDOR PROJECT PUBLIC HEARING

PARAMOUNT COMMUNITY CENTER

14400 PARAMOUNT BOULEVARD

PARAMOUNT, CALIFORNIA 90723

SATURDAY, AUGUST 26, 2017

OLIVIA D. LIZARRAGA
CERTIFIED STENOGRAPHIC REPORTER NO. 13475
JOB NO. 151106

PAGES 1-6

PARAMOUNT, CALIFORNIA, SATURDAY, AUGUST 26, 2017

(10:00 A.M.)

~oOo~

MS. MARTINEZ: MY NAME IS LILY MARTINEZ, L-I-L-Y, M-A-R-T-I-N-E-Z.

SO I HAVE ONE CONCERN ABOUT THE EXPANSION OF THE 710 FREEWAY FOR THE IMPROVEMENTS. THE MAIN REASON FOR THE EXPANSION OR THE IMPROVEMENTS IS THAT THE PORTS WANT TO INCREASE BUSINESS AND INCREASE THE VOLUME OF GOODS BEING TRANSPORTED THROUGH THE 710 FREEWAY. IT'S CURRENTLY AT 40 PERCENT, AND THEY WANT TO INCREASE THAT 40 PERCENT OF GOODS THAT TRAVEL THROUGHOUT THE NATION. AND I FEEL LIKE WE'RE PUTTING ALL OUR EGGS IN A BASKET.

CALIFORNIA HAS A LOT OF EARTHQUAKES. THERE COULD BE ANOTHER NATURAL DISASTER. AND IF WE'RE PUTTING ALL OUR EGGS IN ONE BASKET AND COMMUTING EVERYTHING FROM THE PORTS OF LA AND LONG BEACH THROUGH THE 710 FREEWAY, IF WE DO HAVE SOME KIND OF -- OR ANY KIND OF DISASTER, WE'RE GOING TO STARVE HALF OF THE NATION BECAUSE GROCERY STORES ONLY HAVE A LIMITED AMOUNT OF FOOD FOR PEOPLE IN THE COMMUNITY. I DON'T THINK IT'S A GOOD IDEA TO PUT ALL OF THE GOODS OF ALL THE COUNTRY OR HALF OF THEM IN JUST ONE PLACE. T-4-1

THE OTHER THING I'M CONCERNED ABOUT IS THE IMPACT ON THE ALREADY IMPACTED LOW-INCOME COMMUNITY THAT IS CREATED BY T-4-2

THE FREEWAY. BECAUSE OF THE NATURE OF THE TRAFFIC OF THE FREEWAY AND ALL OF THE ISSUES, ALL THE TRICKLE-DOWN ISSUES THAT HAPPEN BECAUSE OF THE 710 FREEWAY, IT DRIVES THE PRICES OF THE PROPERTIES DOWN AROUND THAT AREA, AND WE HAVE A HIGH CONCENTRATION OF LOW-INCOME FAMILIES THAT ARE THEN TRAPPED AND THEY CAN'T NOVEMBER ANYWHERE ELSE. THEY ARE KIND OF STUCK. T-4-2

THE 710 CORRIDOR IS THE ONLY AREA THAT HAS AFFORDABLE REAL ESTATE OR LOW-INCOME HOUSING BECAUSE NO ONE ELSE WANTS TO LIVE HERE BECAUSE OF THE CONTAMINATION. THE AREAS THAT ARE STRADDLING THE 710 FREEWAY HAVE MADE THE TOP 5 PERCENT OF THE MOST POLLUTED AREAS. THESE AREAS THAT STRADDLE THE FREEWAY ARE ALSO HIGHLY INDUSTRIALIZED ALREADY AND ARE ALREADY FACING A LOT OF CONTAMINATION ISSUES, AS IN THAT IN THESE ISSUES HAVE NOT BEEN ADDRESSED TO THE SATISFACTION OF THE COMMUNITY MEMBERS. AND THE ENVIRONMENTAL READINGS ARE STILL SHOWING THAT THESE AREAS ARE VERY CONTAMINATED. T-4-3

ANOTHER ISSUE THAT A LOT OF THE COMMUNITY MEMBERS ARE EXPRESSING IS THE FRUSTRATION OF LACK OF COMMUNICATION WITH THE COMMUNITY. THERE IS USUALLY VERY SHORT NOTICE GIVEN, AND WHEN THERE'S ATTACHMENTS FOR THE COMMUNITY TO READ, THEY ARE AT A VERY HIGH LITERACY LEVEL. AND WE FREQUENTLY GET THOUSANDS AND THOUSANDS OF PAGES ALL TOGETHER THAT WE'RE SUPPOSED TO REVIEW BEFORE COMING TO A MEETING TWO T-4-4

DAY AS LATER. T-4-4

THE COMMUNITY IS ALSO VERY DISSAPOINTED AND LOSING TRUST IN AQMD, BECAUSE OF THE WAY THAT BUSINESS IS BEING CONDUCTED. WE DO APPRECIATE THE PORT OF LONG BEACH AND THE PORT OF LA PROVIDING FUNDING FOR PUBLIC HEALTH PROGRAMING. HOWEVER, THESE ARE REMEDIATION FUNDS TO TACKLE PROBLEMS THAT HAVE ALREADY HAPPENED, AND THERE'S VERY LITTLE THAT WE CAN DO WITH THOSE FUNDS IN TERMS OF PREVENTION. THE COMMUNITY FEELS LIKE THEY DON'T HAVE A VOICE BECAUSE WE'RE TOLD WHAT'S GOING TO HAPPEN. AND WE'RE GIVEN LIMITED OPTIONS, AND THINGS HAPPEN REGARDLESS OF OUR OPINIONS OF IT. T-4-5

THE AREAS STRADDLING THE FREEWAY HAVE COMMUNITIES THAT HAVE VERY LITTLE EDUCATION, NOT MANY COLLEGE GRADUATES IN COMPARISON TO WHERE THE 710 ABRUPTLY ENDS IN PASADENA, WHERE MORE THAN 50 PERCENT OF THE PEOPLE HAVE A COLLEGE GRADUATION RATE AND HAVE A HIGH RATE OF COMPLETION OF HIGH SCHOOL. THE AREAS STRADDLING THE FREEWAY, LIKE PARAMOUNT, WHERE I LIVE, HAVE 60 PERCENT OR SO COMPLETION RATE OF HIGH SCHOOL AND ONLY AN 8 PERCENT COMPLETION RATE OF COLLEGE.

IT'S VERY DIFFICULT WHEN COMMUNICATIONS ARE AT HIGH LEVELS AND WE HAVE A LOT OF GRAPHS AND CHARTS THAT OUR COMMUNITY MEMBERS CAN'T READ. SO EVEN THOUGH WE MAKE COMMENTS, SOME OF THE COMMENTS ARE UNINFORMED BECAUSE WE HAVEN'T BEEN GIVEN CLEAR INFORMATION. T-4-6

(WHEREUPON THE PROCEEDING CONCLUDES AT 1:00 P.M.)

REPORTER'S CERTIFICATE

I, OLIVIA D. LIZARRAGA, C.S.R. No. 13475, a Certified Shorthand Reporter for the State of California, do hereby certify:

That said proceeding was taken before me at the time and place set forth and was taken down by me in shorthand and thereafter reduced to computerized transcription under my direction and supervision; and I hereby certify the foregoing is a full, true and correct transcript of my shorthand notes so taken.

I further certify that I am neither counsel for nor related to any party to said action nor in any way interested in the outcome thereof.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 31st day of August, 2017.

_____

OLIVIA D. LIZARRAGA
Certified Shorthand Reporter No. 13475

CERTIFIED COPY CERTIFICATE

I, Olivia Lizarraga, Certified Shorthand Reporter, No. 13475, hereby certify that the attached is a correct and certified copy of the proceeding, taken before me at the time and place therein stated.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Covina, California this 31st day of August, 2017.



OLIVIA LIZARRAGA, C.S.R. No 13475

T-4-1

Caltrans and Metro acknowledge that the potential occurrence of natural disasters, particularly earthquakes, is an unavoidable part of living in the Southern California region. However, it should be clarified that the increase in Port cargo throughput is due to multifaceted economic demands and the I-710 Corridor Project build alternatives are not intended to increase throughput; rather, the build alternatives are intended to accommodate it. The commenter's point that, if the Ports or I-710 are somehow destroyed, such an occurrence would have the same economic and social outcome with or without the build alternatives, which are intended to improve an existing and outdated transportation facility. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-4-2

There are varied patterns in the effect of freeways on residential property values. Most studies recognize that freeway construction can produce conflicting influences on property values. They show both appreciation and loss in value for properties due to freeway construction. Some properties abutting the freeway or in very close proximity to it appear to suffer most of the adverse effects from the freeway, whereas net gain is shown in value in the general vicinity of the freeway due to increased accessibility. The environmental document does not specifically discuss property values as part of CEQA/NEPA analysis. Real estate market prices are mainly based on comparative sales in the area. Many factors contribute to market values, including location, the neighborhood, current real estate sales in the area, school system, crime, taxes, government services, parks/recreational, and the features of the home.

As stated in Response to Comment T-4-1, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no changes to the I-710 freeway will occur as a result of the build alternatives.

T-4-3

This comment suggests that existing contamination issues in areas surrounding the I-710 freeway from freeway traffic and industrial uses have not been adequately addressed in the RDEIR/SDEIS, and that affordable or low-income housing is concentrated in this area due to this contamination. Tables 3.12-1 and 3.12-2 and Figures 3.12-1 and 3.12-2 in Section 3.12, Hazardous Waste/Materials includes a detailed inventory of the sites in the I-710 Study Area that are identified in the Initial Site Assessment (ISA) for the project as properties of potential environmental concern that would either be disturbed by full and partial acquisitions or by temporary construction easements (TCEs) under Alternatives 5C and 7, respectively. Therefore,

the RDEIR/SDEIS already acknowledges that contamination exists in the I-710 Corridor. The build alternatives would have a beneficial effect by remediating any hazardous waste contamination, including chromium contamination, present on properties that would need to be acquired for the build alternatives. No new permanent hazardous waste/materials impacts beyond existing conditions related to hazardous materials would occur as a result of the build alternatives; therefore, as described in Section 3.25, Cumulative Impacts, of the RDEIR/SDEIS, there would be no adverse cumulative effects related to hazardous waste and materials resulting from the build alternatives. However, as stated in Response to Comment T-4-1, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-4-4

Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of the Final EIR/EIS for more information regarding the outreach efforts ongoing through the life of the project. In addition to the advertising done in accordance with the requirements of CEQA and NEPA, individual postcards announcing the availability of the RDEIR/SDEIS and the public hearings were sent to residences and businesses within a 500-foot radius of the I-710 Corridor improvements proposed under the build alternatives.

It is Caltrans' goal that environmental documents are written with their audience in mind; that is, the general public. It can be difficult to balance that need with the often highly technical information and analyses contained within them and the requirements for disclosure under CEQA and NEPA. Part of the required review process for all Caltrans environmental documents is a "Technical Edit" Review which ensures, among other things, that plain language be used that can be understood by both the public and decision-makers. The I-710 Corridor Project RDEIR/SDEIS and Final EIR/EIS were subject to this review, and the Project Team will continue to look for ways to simplify language that may be confusing or highly technical. In an effort to make information as accessible as possible, specialists on the Project Team were available at each public hearing to answer questions and clarify information.

T-4-5

The establishment of the Community Health Benefit Program, a programmatic element of the I-710 Corridor Project build alternatives, would provide grant funding for projects and outreach efforts intended to improve air quality and public health related to I-710 travel and goods movement. Should a build alternative be selected as the Preferred Alternative, preventative projects and measures, including education and communication programs, would be eligible for funding under the Program. However, as stated in Response to Comment T-4-1, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans

as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details.

Feedback from the I-710 Corridor communities and other public and agency input on the 2012 Draft EIR/EIS was instrumental in the revisions to the build alternatives presented in the RDEIR/SDEIS, and the comments received on the RDEIR/SDEIS were factored into the identification of a Preferred Alternative. Please refer to Section 1.1 of this appendix for more details on the Preferred Alternative identification process.

T-4-6

Please refer to Response to Comment T-4-4 regarding the outreach efforts ongoing throughout the life of the project.

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T-5

I-710 CORRIDOR PROJECT PUBLIC HEARING

CESAR E. CHAVEZ PARK COMMUNITY CENTER

LONG BEACH, CALIFORNIA 90802

THURSDAY, AUGUST 31, 2017

OLIVIA D. LIZARRAGA
CERTIFIED STENOGRAPHIC REPORTER NO. 13475
JOB NO. 151555

PAGES 1-77

(6:30 P.M.)

~OOO~

MS. MCCORMICK: GOOD EVENING, EVERYONE. MY NAME IS MARY MCCORMICK. I WILL BE YOUR FACILITATOR FOR THIS EVENING. WE'RE VERY HAPPY TO HAVE YOU HERE. WE'RE VERY EXCITED TO HEAR FROM YOU. TONIGHT IS A SPECIAL NIGHT SO THAT WE CAN MAKE SURE THAT WE MAKE OURSELVES AVAILABLE. AND ALSO I WANTED TO LET YOU KNOW, AS YOU KNOW, SEVERAL STATIONS IN THE BACK, NOISE THERE, ON MANY OF THE DIFFERENT STUDIES, WE HAVE NOISE, TRAFFIC, AND SO ON. BUT WE ALSO HAVE OUR FLAT SCREENS BACK THERE WITH GIS INFORMATION AND PROPERTY INFORMATION, AS WELL.

BUT THE MOST IMPORTANT THING THAT I WANT TO MAKE SURE YOU KNOW, TWO THINGS. THIS IS A PUBLIC HEARING, SO WE ACTUALLY ARE GOING TO BE RECORDING ALL OF THE COMMENTS THIS EVENING. IF YOU WOULD LIKE TO SPEAK, PLEASE SIGN A COMMENT SHEET, AND WE'LL MAKE SURE THAT YOUR COMMENTS ARE RECORDED IN A VARIETY OF WAYS. WE HAVE A COURT REPORTER HERE, WHO WILL BE RECORDING THE ORAL COMMENTS, BUT WE ALSO HAVE A COURT REPORTER IN THE BACK. SO IF YOU HAVE TO LEAVE OR YOU NEED TO GET HOME EARLY OR IF THERE'S ANY ISSUE THAT WAY, PLEASE FEEL FREE TO JUST GO AROUND THE CORNER, AND THE COURT REPORTER WILL TAKE YOUR ORAL COMMENTS. AND IT GOES INTO THE OFFICIAL RECORD, SO YOU DON'T HAVE TO STAY THE WHOLE NIGHT IF YOU

DON'T WANT TO.

ALSO, WE HAVE SPEAKER CARDS. AND IF YOU WOULD LIKE A SPEAKER CARD, PLEASE RAISE YOUR HAND IF YOU DON'T HAVE ONE ALREADY. WE'RE COLLECTING THEM. AND THROUGHOUT THE MEETING, ALSO, IF YOU WOULD LIKE TO SPEAK, I'LL BE REMINDING YOU AND IF YOU WOULD LIKE TO (INAUDIBLE) THE MEETING, YOU DON'T CHOSE TO DO SO NOW BUT WOULD LIKE TO DO THAT LATER, THAT'S GREAT. THAT'S NOT A PROBLEM.

SO WE WANT TO MAKE SURE WE GET STARTED. I'D LIKE TO INTRODUCE ROB -- SORRY. BEFORE I DO THAT, I HAVE A COUPLE THINGS, MANY THINGS TO THINK ABOUT TONIGHT. WE HAVE SOME (INAUDIBLE) OFFICIALS HERE, AND I WOULD LIKE TO JUST ACKNOWLEDGE THEM. THEY'RE HERE IN THE AUDIENCE. WITH THE CITY OF LONG BEACH, WE HAVE JONTHAN KRAUS, CHIEF OF STAFF, JONATHAN. AND THEN WE HAVE WITH CONGRESSMAN ALAN LOWENTHAL'S DISTRICT, CLAYTON HURST (PHONETIC.) CLAYTON, THANK YOU FOR JOINING US. COUNCILMAN GONZALEZ'S DISTRICT, CD1, (INAUDIBLE) THE DISTRICT MANAGER. THANK YOU FOR BEING HERE.

WE ALSO HAVE THE MAYOR OF THE CITY OF LONG BEACH METRO BOARD, DEPUTY SHARON WEISSMAN, THANK YOU FOR JOINING US TONIGHT. WE HAVE LESLIE (INAUDIBLE) FROM THE CITY OF COMPTON. GREAT. THANK YOU, THANK YOU FOR JOINING US. AND WITH THE CITY OF BELL GARDENS, CHAU VU, WHO IS THE DIRECTOR OF PUBLIC WORKS. OKAY. ALSO KEVIN JACKSON, WHO IS THE DEPUTY CITY MANAGER WITH THE CITY OF LONG BEACH. THANK YOU,

KEVIN, THANKS FOR JOINING US. AND WITH THE CITY OF LONG BEACH, WE'D LIKE TO INTRODUCE ROBERT URANGA, OUR COUNCILMEMBER. THANK YOU, THANKS FOR BEING HERE.

WE ALSO HAVE WITH US (INAUDIBLE) DONALD'S OFFICE, SARAH PATTERSON, HEY, SARA, THANK YOU. AND WITH SENATOR LARA, SUELY SARO, HI, THANK YOU FOR JOINING US. THANK YOU SO MUCH. THAT'S WONDERFUL THAT YOU'RE ALL HERE TONIGHT. WE REALLY APPRECIATE IT.

SO WITH THAT, I'D LIKE TO INTRODUCE ERNESTO CHAVEZ. HE'S GOING TO BEEN INTRODUCING OUR PROGRAM THIS EVENING, AND HE'S OUR REPRESENTATIVE FROM METRO, ERNESTO.

MR. CHAVEZ: THANK YOU, MARY.

MY NAME IS ERNESTO CHAVEZ. I'M WITH LA METRO, AND ON BEHALF OF LA METRO, BUT ALSO ALL THE AGENCIES THAT ARE PARTNERING WITH US ON THIS PROJECT -- CALTRANS, SCAG, THE PORTS OF LA AND LONG BEACH, I WANT TO GIVE YOU MY SINCERE WELCOME AND, MORE IMPORTANTLY, MY THANKS FOR COMING HERE TONIGHT AND TAKING SOME TIME FROM YOUR BUSY SCHEDULES TO COME LEARN ABOUT THE PROJECT, MORE IMPORTANTLY, GIVE US YOUR PROSPECTIVE ON THE PROJECT. IT'S TAKEN A LONG TIME TO GET HERE. WE'RE VERY EXCITED THAT WE'RE HERE. WE'RE VERY EXCITED THAT WE CAN HEAR FROM YOU TONIGHT.

THIS IS A VERY IMPORTANT PROJECT FOR METRO, FOR CALTRANS, FOR THIS CORRIDOR, BUT ALSO REALLY FOR ALL OF SOUTHERN CALIFORNIA. AND IT'S VERY IMPORTANT THAT WE HEAR

WHAT YOU HAVE TO SAY TONIGHT SO THAT WE CAN DO THE BEST PROJECT WE CAN.

THE FIRST THING WE'RE GOING TO DO BEFORE WE OPEN THE PUBLIC HEARING IS WE'RE GOING TO HEAR A PRESENTATION, AN OVERVIEW OF THE PROJECT, FROM OUR ENVIRONMENTAL MANAGER ROB MCCANN. HE'S GOING TO COME UP IN A SECOND, AND I'M GOING TO DO THIS INTRODUCTION IN SPANISH QUICKLY BEFORE WE DO THAT.

(SPEAKING IN SPANISH.)

MR. CHAVEZ: ROB MCCANN.

MR. MCCANN: THANK YOU, ERNESTO.

GOOD EVENING, EVERYONE. I WILL ONLY BE DOING MY PRESENTATION IN ENGLISH BECAUSE MY SPANISH IS NOWHERE GOOD AS ERNESTO'S.

THANK YOU AGAIN FOR COMING. AND AS BOTH ERNESTO AND MARY SAID, THE MOST IMPORTANT PART OF TONIGHT IS HEARING TESTIMONY FROM THE PUBLIC, YOUR THOUGHTS AND COMMENTS ABOUT THE PROJECT. WHAT I WANTED TO DO IS TO TAKE A FEW MINUTES. I SEE A LOT OF FAMILIAR FACES HERE BUT ALSO A LOT OF NEW FACES. JUST TO GIVE YOU A QUICK OVERVIEW OF THE PROJECT GOALS, THE ALTERNATIVES, THE STUDIES WERE DONE, AND THE OVERALL PROJECT APPROVAL PROCESS JUST TO GIVE YOU A COMMON UNDERSTANDING.

WE ARE GLAD TO SEE EVERYONE HERE TONIGHT. METRO AND CALTRANS HAVE DONE AN EXTENSIVE NOTIFICATION EFFORT, INCLUDING PUBLISHING NOTICES IN FIVE DIFFERENT PAPERS, FOUR

ENGLISH, ONE SPANISH THREE DIFFERENT TIMES OVER THE PAST FIVE WEEKS, E-MAIL BLASTS. THEY'VE DONE A MAIL-OUT TO ALL THE PROPERTIES WITHIN 500 FEET OF I-710. AND SO AGAIN, WE ARE VERY GLAD THAT YOU'RE HERE TONIGHT. LET'S START WITH THE PROJECT GOALS.

OKAY. THE PROJECT GOALS LISTED ON THIS SLIDE TO IMPROVE AIR QUALITY AND PUBLIC HEALTH, IMPROVE TRAFFIC SAFETY, PROVIDE A MODERN DESIGN, ADDRESS THE TRAFFIC VOLUME INCREASES, THESE ARE ALL THE RESULT -- THESE GOALS HAVE BEEN GUIDING THE PROJECT NOT JUST FOR THE YEARS WE'VE BEEN DOING THE ENVIRONMENTAL PROCESS BUT EVEN BEFORE THAT. THAT CAME OUT OF THE MAJOR CORRIDOR STUDY. THESE GOALS ARE DRIVEN BY THE NEEDS THAT ARE HERE WITHIN THE I-710 CORRIDOR. STUDIES BY AIR QUALITY MANAGEMENT DISTRICT AND VARIOUS UNIVERSITIES HAVE SHOWN HIGH LEVELS OF HEALTH RISK IN THE CORRIDORS AS A RESULT OF HIGH LEVELS OF DIESEL PARTICULATE EMISSIONS FROM THE MANY TRUCKS THAT ARE IN THE CORRIDOR.

THE PROJECT DESIGN -- THE I-710 FREEWAY WAS DESIGNED AND CONSTRUCTED OVER 50 YEARS AGO. THERE'S MUCH MORE MODERN DESIGNS THESE DAYS THAT CAN HELP MAKE A FREEWAY LIKE THE I-710 MUCH SAFER AND OPERATE MORE EFFICIENTLY. AND FINALLY, THE TRAFFIC CONGESTION. THERE'S TRAFFIC TODAY, THERE WILL BE MORE TRAFFIC IN THE FUTURE AS THE POPULATION OF THE AREA GROWS, THE EMPLOYMENT GROWS, AND GOODS MOVEMENT.

THE STUDY AREA OF THE I-710 EXTENDS 19 MILES FROM

OCEAN BOULEVARD IN THE SOUTH, HERE IN LONG BEACH, UP TO THE STATE ROUTE 60 INTERCHANGE IN EAST LA. THIS EXHIBIT SHOWS ALL THE DIFFERENT COMMUNITIES THAT ARE EITHER ADJACENT TO OR VERY CLOSE TO THE I-710 FREEWAY AND ALL HAVE BEEN COVERED IN OUR PROJECT STUDIES FOR THE PROJECT.

THE PROJECT HAS BEEN DRIVEN BY A VERY AGGRESSIVE COMMUNITY OUTREACH PROGRAM. PUBLIC INPUT HAS REALLY HAD A GREAT DEAL OF INFLUENCE, NOT ONLY THE ALTERNATIVES WE'RE STUDYING BUT IN THE SORTS OF THE ISSUES WE'RE LOOKING AT AND THE DEPTH OF THE STUDIES THAT WE'VE UNDERTAKEN. I'LL TALK ABOUT THOSE A LITTLE BETTER -- A LITTLE LATER. THE PUBLIC OUTREACH PROCESS IS ONGOING. THESE PUBLIC HEARINGS ARE JUST ONE SMALL PART OF IT. IT'S AN ONGOING PROCESS NOT ONLY THROUGH THE PROJECT APPROVAL TO GET TO A PREFERRED ALTERNATIVE BUT AS THE PROJECT EVENTUALLY ENTERS INTO THE DESIGN AND CONSTRUCTIONS PHASES.

SO WHAT'S CHANGED? MANY OF YOU KNOW THAT DURING OUR ENVIRONMENTAL PROCESS FIVE YEARS AGO, THEY CIRCULATED A DRAFT ENVIRONMENTAL IMPACT REPORT, DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR PUBLIC REVIEW. BUT A LOT HAS CHANGED SINCE THEN, AND THAT'S WHAT CAUSED CALTRANS TO DECIDE AND METRO TO DECIDE TO LOOK AT A REFINED SET OF ALTERNATIVES AND ISSUE WHAT WE CALL THE RECIRCULATED DRAFT EIR, SUPPLEMENTAL DRAFT EIS, AND THAT IS WHAT WE HAVE HERE TONIGHT. I'LL TALK ABOUT AVAILABILITY A LITTLE BIT LATER. BUT THAT'S WHAT WE'RE

SEEKING YOUR INPUT ON, PROJECT ALTERNATIVES AS WELL AS THE INFORMATION PROVIDED IN THE RECIRCULATED DRAFT EIR, SUPPLEMENTAL DRAFT EIS.

MANY OF THE THINGS THAT HAVE CHANGED, CHANGES IN TERMS OF TRAFFIC, LONG-TERM TRAFFIC, ASSUMPTIONS THAT ARE BASED UPON POPULATION AND EMPLOYMENT GROWTH FORECAST FOR THE REGION. OTHER PROEJCTS THAT -- SOME PROJECTS THAT HAVE COME ONLINE, OTHERS THAT HAVE BEEN TAKEN OUT OF THE MIX AS FAR AS SOUTHERN CALIFORNIA INFRASTRUCTURE, SO TRYING TO ADDRESS THOSE CHANGES. THE MOST IMPORTANT CHANGES THAT HAVE OCCURRED IN THE LAST FIVE YEARS, THOUGH, ARE THE LAST TWO BULLET POINTS, AND THAT IS THE COMMENTS THAT CALTRANS RECEIVED ON THE 2012 DRAFT DOCUMENT, AGAIN, SIGNIFICANTLY INFLUENCED THE REFINEMENT TO THE ALTERNATIVES AND SOME OF THE ADDITIONAL STUDIES WE UNDERTOOK FOR THE PROJECT.

AND THEN FINALLY, MOTION 22.1, APPROVED BY THE METRO BOARD OF DIRECTORS ON OCTOBER 2015, THAT ADDRESSED MANY ISSUES OF IMPORTANCE TO THE COMMUNITY THAT WE'VE ADRESSED IN THE EIS, AND I'LL HAVE ANOTHER SLIDE ON THAT IN A MOMENT.

LET'S TALK ABOUT THE ALTERNATIVES FOR A MOMENT. IN OUR ENVIRONMENTAL DOCUMENT, THERE ARE THREE ALTERNATIVES WE STUDIED. THE FIRST ALTERNATIVE ONE, WHICH IS THE NO-BUILD ALTERNATIVE, THAT MEANS DOING NOTHING, AND WE COMPARE OUR CHANGES IN PROJECT CONDITIONS TO THAT NO-BUILD CONDITION, BOTH TODAY AND IN THE FUTURE, IN 2015.

OUR FIRST BUILD ALTERNATIVE IS ALTERNATIVE 5C. THIS MODERNIZES THE FREEWAY. IT DOES ADD SOME LANES, ADDS CAPACITY TO ADDRESS THE TRAFFIC, AND THAT COST IS ESTIMATED COST, ABOUT SIX-AND-A-HALF BILLIONS DOLLARS. THE OTHER BUILD ALTERNATIVE WE'RE STUDYING IS ALTERNATIVE SEVEN. THIS ALTERNATIVE ADDS A CLEAN EMISSION FREIGHT CORRIDOR THAT WOULD BE USED ONLY BY ZERO EMISSION OR NEAR-ZERO-EMISSIONS TRUCKS TO SEPARATE THE TRUCK TRAFFIC FROM THE AUTOMOBILE TRAFFIC. IT WOULD ALSO INCLUDE MODERNIZATION OF THE FREEWAY.

THE NEXT COUPLE SLIDES STATE A LITTLE BIT MORE DETAIL INTO EACH OF THESE ALTERNATIVES. THE FIRST ONE, ALTERNATIVE 5C, WE DON'T HAVE A TRUCK CORRIDOR. WE DO HAVE TRUCK BYPASS LANES AT THE I-710, 1-405 INTERCHANGE TO HELP SEPARATE AUTOMOBILE AND TRUCK TRAFFIC TO MAKE THAT A SAFER INTERCHANGE. THERE'S A DEDICATED LANE THAT WOULD GO FROM FROM THE FREEWAY TO DOWNTOWN LONG BEACH. THE GENERAL PURPOSE LANES, WHICH ARE SHOWN IN GREEN ON THE SLIDE, ARE -- WOULD BE ADDING ADDITIONAL LANES IN EACH DIRECTION, AND THE LOCATION IS SHOWN ON THE SLIDE.

THE BLUE CIRCLES AND RECTANGLES, THOSE INDICATE INTERCHANGES THAT WOULD BE REDESIGNED BASED ON MODERN DESIGN STANDARDS TO, AGAIN, IMPROVEMENT THE SAFETY AND IMPROVE HOW WELL THEY FUNCTION.

ALTERNATIVE SEVEN, MUCH DIFFERENT THAN ALTERNATIVE 5C. THIS DOES NOT ADD ANY GENERAL PURPOSE OR THROUGH LANES

TO THE 710 FREEWAY. AS YOU CAN SEE BY THE RED LINE, IT EXTENDS ALMOST THE ENTIRE LENGTH. IT WOULD ADD THAT DEDICATED CLEAN EMISSION FREIGHT CORRIDOR THAT WOULD PROVIDE TWO -- I'M SORRY, FOUR LANES, TWO IN EACH DIRECTION. THAT WOULD BE DEDICATED TO ONLY ZERO EMISSION AND NEAR-ZERO-EMISSION TRUCKS. THE OTHER FEATURES IT INCLUDES ARE VERY SIMILAR TO ALTERNATIVE 5C IN TERMS OF MODERNIZING THE VARIOUS INTERCHANGES, BOTH THE ARTERIAL INTERCHANGES AND SOME OF THE FREEWAY INTERCHANGES ALONG I-710.

IN ADDITION TO THE PHYSICAL IMPROVEMENTS TO I-710 THAT ARE DESCRIBED FOR EACH OF THE ALTERNATIVES, BOTH OF OUR BUILD ALTERNATIVES ALSO HAVE A NUMBER OF ELEMENTS THAT WE REFER TO AS PROBLEMATIC FEATURES. THESE WOULD BE DIFFERENT FUNDING PROGRAMS THAT METRO WOULD WORK WITH, OTHER AGENCIES THAT HELP FUND ZERO, NEAR-ZERO-EMISSION TRUCKS WITHIN THE CORRIDOR THAT WOULD BE DEDICATED TO BEING USED ONLY IN THE I-710 CORRIDOR. THAT WOULD PROVIDE FUNDING FOR AN I-710 COMMUNITY HEALTH AND BENEFIT PROGRAM PATTERNED CLOSELY AFTER THE PORT OF LONG BEACH'S PROGRAM, PROVIDE FUNDING FOR SMART TECHNOLOGY FOR INTELLIGENCE TRANSPORTATION SYSTEMS THAT HELP TRAFFIC FLOW BETTER.

THERE'S A DEDICATED PROGRAM TO IMPROVE LOCAL ROADWAY INTERSECTIONS AND LOCAL ARTERIAL ROADWAYS, PROVISION OF ADDITIONAL EXPANSION OF TRANSIT IMPROVEMENTS, BOTH BUS TRANSIT AND RAIL TRANSIT, AND THEN FINALLY ADDITIONAL BICYCLE

FACILITIES AND PEDESTRIAN CONNECTIONS. THAT WAS ONE OF THE FEATURES ADDED AS A RESULT OF MOTION 22.1.

22.1, THIS IS A VERY IMPORTANT MOTION ADOPTED BY THE METRO BOARD THAT REALLY HELPED TO GUIDE ADDITIONAL ANALYSES AND ADDITIONAL FEATURES OF THE PROJECT. IF YOU DIDN'T GET ONE ALREADY AT THE FRONT TABLE, THERE'S A HANDOUT DESCRIBING MOTION 22.1, AND ALSO DESCRIBING WHERE IN THE ENVIRONMENTAL DOCUMENT YOU CAN FIND INFORMATION ABOUT THE DIFFERENT ELEMENTS OF IT. THAT COVERS ITEMS ONE. THE OTHER THREE ELEMENTS ARE ONES -- THINGS THAT ARE NOT ADDRESSED WITHIN THE EIR/EIRS BUT THAT METRO AND CALTRANS ARE WORKING TO ADDRESS IN PARALLEL WITH THE EIR/EIRS PROCESS.

OUR MOST COLORFUL SLIDE OF THE NIGHT, THIS SLIDE IS MEAN TO BE ILLUSTRATIVE OF ALL OF THE DIFFERENT STUDIES THAT WE UNDERTAKE TO ADDRESS THOSE ALTERNATIVES I DESCRIBED. WE ANALYZED AFFECTS ON THE HUMAN ENVIRONMENT, THE NATURAL ENVIRONMENT, AND WHAT THAT REPRESENTS IS EACH OF THOSE SYMBOLS IS A DIFFERENT STUDY. WE HAVE COPIES OF THE STUDIES HERE TONIGHT. AND AS MARY SAID, WE HAVE SOME OF THE TECHNICAL EXPERTS HERE TONIGHT. IF YOU HAVE QUESTIONS ABOUT AIR QUALITY, HEALTH RISK, ABOUT NOISE, ABOUT TRAFFIC WE HAVE THE PEOPLE HERE THAT CAN ANSWER THOSE SPECIFIC QUESTIONS FOR YOU.

EACH OF THE TECHNICAL STUDIES, WE LOOKED AT WHAT ARE THE EXISTING CONDITIONS, WHAT ARE THE LAWS AND REGULATIONS WE

NEED TO ADDRESS AS PART OF THAT STUDY. WE THEN ANALYZED WHAT ARE THE IMPACTS THAT ARE ASSOCIATED, BOTH BENEFICIAL AS WELL AS POTENTIAL ADVERSE EFFECTS. AND THEN FINALLY, WE FOCUS ON WHERE WE DO HAVE ADVERSE EFFECTS, OTHER WAYS WE CAN AVOID THEM, MINIMIZE THEM, OR MITIGATE FOR THEM. AND THAT'S ALL A VERY IMPORTANT PART OF OUR TECHNICAL STUDIES AND OF OUR ENVIRONMENTAL DOCUMENT.

THE PROCESS FOR THE PROJECT, THIS ILLUSTRATES -- THIS CRAMS ABOUT TEN YEARS OF PROCESS INTO ONE SLIDE. WE BEGAN OUR ENVIRONMENTAL PROCESS IN 2008. AS I INDICATED, THEY CIRCULATED A DRAFT EIR/EIS FIVE YEARS AGO, IN 2012, TOOK THE PUBLIC SPEAK BACK, AND THEN WORKED TO DEVELOP A REVISED SET OF ALTERNATIVES AND THE STUDIES FOR THAT. AND SO HERE WE ARE TODAY WITH OUR REVISED ENVIRONMENTAL DOCUMENT AND HERE TO SEEK YOUR INPUT.

FOLLOWING THE CLOSE OF THE PUBLIC COMMENT PERIOD ON OCTOBER 23RD, WE WOULD THEN START TO WORK TO ADDRESS THOSE COMMENTS AND START TO WORK TO IDENTIFY WHAT THE PREFERRED ALTERNATIVE WOULD BE FOR THE I-710. THAT WOULD LEAD TO THE DECISION, FINAL DECISION DOCUMENT IN THE FINAL EIR/EIRS.

AS FOR AS HOW TO COMMENT ON THE DOCUMENT, THERE'S MANY WAYS YOU CAN DO THAT. THIS PUBLIC HEARING IS ONE OF THEM TONIGHT, AS MARY SAID. YOU HAVE THE OPPORTUNITY TO SPEAK PUBLICLY. IF YOU JUST WANT TO PROVIDE YOUR TESTIMONY TO THE COURT REPORTER OVER AT OUR COMMENT STATION, YOU'RE

WELCOME TO DO THAT. WE DO HAVE COMMENT CARDS THAT YOU'RE WELCOME TO EITHER WRITE COMMENTS DOWN TONIGHT OR LEAVE THEM WITH US OR TAKE SOME HOME. YOU MAY WANT TO GET MORE INFORMATION, AND THEN YOU CAN MAIL THAT IN TO US BEFORE THE COMMENT DUE DATE. THERE'S ALSO -- YOU CAN SUBMIT THEM BY REGULAR MAIL TO CALTRANS, AND YOU CAN ALSO SUBMIT THEM ON-LINE THROUGH THEIR PROJECT WEBSITE.

THERE'S A LOT OF INFORMATION WE HAVE HERE TONIGHT, BUT THERE'S A LOT MORE INFORMATION AVAILABLE ABOUT THE PROJECT. WE'VE LISTED HERE ON THIS SLIDE THE WEBSITES FOR BOTH CALTRANS AND FOR METRO, AND ON BOTH OF THOSE THERE'S MORE INFORMATION ABOUT THE PROJECT ITSELF AND THE VARIOUS MEETINGS AND OTHER OPPORTUNITIES THAT WILL BE -- HAD BEEN HELD AND WILL BE HELD IN THE FUTURE.

SO WITH THAT, I'M GOING TO WRAP UP MY PART OF THE PRESENTATION. I'M GOING TO HAND IT OVER TO RON KOSINSKI. RON IS THE DEPUTY DISTRICT DIRECTOR FOR CALTRANS DISTRICT 7, HERE IN LOS ANGELES. RON HAS A FEW WORDS TO SAY ABOUT THE IMPORTANCE OF THE PUBLIC COMMENT PROCESS, MITIGATION MEASURES, AND ALL KINDS OF GOOD THINGS, AND THEN WE WILL HAND IT OVER TO MARY TO FACILITATE THE HEARING SO WE CAN HEAR FROM YOU. THANK YOU FOR YOUR ATTENTION.

MR. KOSINSKI: THANK YOU VERY MUCH, ROBERT.

AND REALLY WE APPRECIATE VERY, VERY MUCH, THE TIME YOU'VE SPENT HERE TODAY THAT YOU'RE HERE LISTENING TO THE

THIS INFORMATION ON THIS VERY IMPORTANT PROJECT. AND WE RECOGNIZE AS A GROUP THAT'S BEEN WORKING ON THIS FOR A WHILE AND A LOT OF THE COMMUNITIES HAVE BEEN INVOLVED IN THIS FOR A LONG TIME, THAT ALL THE PROJECT ALTERNATIVES HAVE SIGNIFICANT ADVERSE AFFECT ON THE COMMUNITY. IF WE DO NOTHING, WE LEAVE THINGS JUST THE WAY THEY ARE. YOU'RE BASICALLY SEEING THESE TRUCKS AND THE VARIOUS HEALTH ISSUES THAT ARE RELATED TO THE TRAFFIC COMING FROM THE PORTS AND USING THE 710. I MEAN, THAT'S A SITUATION WHICH IS REALLY CHALLENGING, CERTAINLY FOR PEOPLE LIVING HERE.

I'D LIKE TO SAY, IT'S GREAT TO BE BACK IN LONG BEACH. I SPENT SOME OF MY CHILDHOOD IN THIS CITY, WENT TO JANE ADDAMS ELEMENTARY SCHOOL, HERE IN NORTH LONG BEACH. AND AS I WATCHED THE SLIDES ON HOUSTON, REMINDED ME BACK IN THE '50S, THAT ACTUALLY THIS AREA WAS FLOODED FROM THE LA RIVER, OVERFLOWED THE BANKS AND FLOODED ALL THE WAY TO ATLANTIC, I BELIEVE, BECAUSE I REMEMBER WE DIDN'T HAVE TO GO TO SCHOOL FOR A WHILE. AND SO THE CORPS OF ENGINEERS HAS DONE A GREAT JOB IN SOLVING THAT PROBLEM SINCE THEN, AND WE'D LIKE TO THINK THAT CALTRANS AND METRO AND THE TEAM THAT WE'VE PUT TOGETHER CAN ALSO COME UP WITH A CREATIVE SOLUTION TO THE TRANSPORTATION ISSUES AND THE HEALTH ISSUES THAT YOU'RE FACING CURRENTLY.

THE PROJECT HAS EVOLVED FROM AROUND 2000, 2001, WHEN WE STARTED THIS PROJECT AND WE HAD 12 ALTERNATIVES, TO WHERE

WE ARE RIGHT NOW. I BELIEVE THAT WE'VE BEEN LISTENING VERY CAREFULLY TO THE COMMUNITY, AND THE PROJECT THAT WE HAVE TODAY IS REALLY A GOOD REFLECTION OF A LOT OF THE IDEAS THAT THE COMMUNITY HAS COME UP WITH OVER THE YEARS TO MAKE THIS A BETTER PROJECT FOR YOU.

SO REALLY IT'S -- THE OTHER THING I WANT TO MENTION, SINCE I LIVED HERE, I REMEMBER, WE HAD A VERY STRONG SENSE OF COMMUNITY, AND AS I'VE GONE THROUGH AND MET PEOPLE IN THIS AREA, I CAN SEE THAT LONG BEACH ITSELF REMAINS A VERY STRONG AND TENACIOUS GROUP OF PEOPLE. SO WE APPLAUD THAT, AND WE'RE HERE AGAIN TO LISTEN TO YOU AND WHAT ISSUES THAT YOU CAN BRING UP AND HELP US MAKE THIS THE BEST PROJECT POSSIBLE FOR YOU, COMMUNITY, FOR YOUR COMMUNITY. WE'D LIKE TO SEE HOW WE CAN AVOID IMPACTS, MINIMIZE IMPACTS, MITIGATE IMPACTS AND, IN FACT, DO SOME ENHANCEMENTS TO THE COMMUNITY WITH THIS PROJECT.

SO WITH THAT, I'M GOING TO PASS THIS OVER TO MARY. AND AGAIN, WE'RE HERE TO LISTEN TO WHAT YOU HAVE TO SAY. THANK YOU.

MS. MCCORMICK: GREAT. THANK YOU, RON.

BEFORE I BEGIN, IS THERE ANYONE HERE WHO WOULD LIKE TO FILL OUT A SPEAKER CARD WHO HASN'T YET? WE HAVE SEVERAL HERE, OR COMMENT CARDS. YOU WANT A SPEAKER? SO WE HAVE SEVERAL SPEAKER CARDS TONIGHT, AND I KIND OF WANTED TO JUST WALK THROUGH THE PROCESS FOR YOU SO IT WOULD MAKE IT A LITTLE

EASIER. I'M GOING TO ACTUALLY CALL YOUR NAME UP, AND IF YOU WOULD LIKE TRANSLATION, WE HAVE TRANSLATORS WHO WILL LITERALLY COME TO THE MICROPHONE, AND EVERYONE WILL HAVE THREE MINUTES TO SPEAK. IF WE HAVE SOMEONE COME UP WHO IS TRANSLATED, WE LITERALLY STOP THE CLOCK DURING TRANSLATION, AND THEN WE START IS AGAIN SO IT'S VERY EVEN. EVERYBODY GETS A FAIR THREE MINUTES.

SO WE WANT TO MAKE SURE THAT -- YOU'LL SEE IT HERE. THERE'S A LITTLE TIMER HERE. AND SO AT RED, WHEN RED GOES OFF, YOUR TIME IS UP. IT'S A NON-VERBAL COMMUNICATION, AND WE ASK YOU TO WRAP UP YOUR COMMENT AT THAT TIME.

SO WHAT I'D LIKE TO DO NOW IS, I'D LIKE TO GET STARTED WITH EMILY RHODES, WHO IS OUR FIRST SPEAKER, AND THEN DAVE FORD IS NEXT.

MS. RHODES: HI, GOOD EVENING.

MS. MCCORMICK: I'M SORRY. EMILY, IF YOU DON'T MIND, JUST FOR EVERYBODY ELSE IN THE ROOM, WE DO HAVE A COURT REPORTER HERE, AND SHE DOES NEED YOU TO REPEAT YOUR NAME IF YOU DON'T MIND.

MS. RHODES: HI, MY NAME IS EMILY RHODES, AND I LIVE ON GAIL, BETWEEN HILL AND 20TH, AND THAT WOULD BE RIGHT WHERE THE BIKE PATH IS GOING TO GO OVER THE PROJECT IN MY NEIGHBORHOOD. SO IF I'M SITTING ON MY PORCH, I'M LOOKING AT THE SPIRAL THING OR HOWEVER YOU DESIGN IT. I WOULD LIKE -- RIGHT NOW, RIGHT WHERE YOU WANT TO PUT IT, HOMELESS PEOPLE

AND CRIMINALS ARE BREAKING THE FENCE THERE. SO THERE'S AN AREA BETWEEN THE HOUSES AND THE FREEWAY WALL, WHERE WE HAVE REGULARLY CALLED THE POLICE ABOUT BURGLARIES AND THERE -- SO THEY'RE LEAVING IN A SPACE ON GAIL, BETWEEN THE FREEWAY WALL AND THE HOUSES, SO WE ALWAYS HAVE TO CALL TO HAVE THE SHRUBS REMOVED, AND SOME PEOPLE HAD ATTEMPTED BREAK IN.

SO IF YOU DO PUT THAT ON HILL, I TOTALLY SEE HOW IT MAKES SINCE FOR GARFIELD AND HUDSON KIDS TO RIDE THEIR BIKE. BUT ON HILL AT BALTIC IS THREE -- A SMALL SIDEWALKS WITH THREE LARGE POSTS, AND IT'S RIGHT WHERE KIDS ARE GOING TO GO. LIKE, THAT'S THE CORNER OF THE SCHOOL OFFICE AT GARFIELD. SO IF WE WANT TO TALK ABOUT HOW THEY'RE GOING TO BIKE, I'D REALLY LIKE THE CITY OR SOME KIND PERSON TO JUST TAKE THOSE THREE POSTS OUT BECAUSE, LITERALLY, OUR KIDS, THEY HAVE ABOUT THIS MUCH SPACE TO SCOOT A BIKE THROUGH WITHOUT HOPPING THE CURB. SO THEY'RE GOING TO HOP THE CURB AND BE IN THE STREET AND GET HIT AGAIN.

SO IF WE DO HAVE IT ON HILL, I'D LIKE THOSE POSTS IN AT THE SOUTH WALL OF GARFIELD ELEMENTARY TO BE REMOVED BECAUSE KIDS HAVE TO RIDE ON THE SIDEWALK IF THEY'RE UNDER 15. IT'S NOT SAFE TO BE IN THE STREET. T-5-1

ALSO, IF MUIR COULD BE RAISED ON THE LBUSD LIST FOR FINE AIR FILTRATION BECAUSE THEY ARE GOING TO BE IN THE AREA THAT'S -- WHERE THERE'S A LOT OF DUST KICKED UP. AND SO FAR T-5-2

WE ASKED THEM TO PUT GARFIELD UP HIGHER, SO WE DID DO THAT, BUT MUIR IS ALSO ALONG THE FREEWAY WALL, CLOSE TO WHERE THEY'RE GOING TO DO THE EXPANSION. SO IF LONG BEACH UNIFIED COULD JUST POP MUIR UP TO THE TOP OF THE LIST, AND MAYBE -- LONG BEACH UNIFIED IS GOING TAKE A LONG TIME, SO MAYBE IF THEY STARTED AND CHANGE MUIR ON THE LIST, THOSE KIDS MIGHT HAVE FILTRATION WHEN YOU'RE DOING THIS PROJECT. SO, THANK YOU. T-5-2

MS. MCCORMICK: THANK YOU VERY MUCH.

DAVE, AND THEN DR. JILL JOHNSTON.

MR. FORD: MY NAME IS DAVE FORD. I'M WITH SOUTHERN CALIFORNIA EDISON. NOW, I-710 CORRIDOR REPRESENTS AN OPPORTUNITY FOR PROACTIVELY IMPROVING THE AIR QUALITY IN COMMUNITIES ALONG THE I-710 FREEWAY, MANY OF WHICH HAVE BEEN HEAVILY IMPACTED BY AIR POLLUTION FROM TRANSPORTATION. APPROXIMATELY 40 PERCENT OF ALL GOODS ENTERING THE NATION ARE BEING MOVED THROUGH SOUTHERN CALIFORNIA PORTS AND HIGHWAYS, AND THE TRANSPORTATION SECTOR IS RESPONSIBLE FOR 36 PERCENT OF CALIFORNIA GREENHOUSE EMISSIONS.

USING CLEAN ENERGY TO POWER TRANSPORTATION ALONG THE I-710 CORRIDOR, PARTICULARLY MEDIUM AND HEAVY-DUTY TRUCKS, CAN HELP MEET LOW-LEVEL OZONE SMOG. NITROGEN OXIDE, AND IN PARTICULAR, EMISSION REDUCTIONS REQUIRED FOR CLEANER AIR.

SCE BELIEVES THAT ALTERNATIVE SEVEN CLEAN EMISSION FREIGHT CORRIDOR IS THE ONLY ALTERNATIVE THAT WOULD FEASIBLY T-5-3

ACCOMPLISH ALL THE PROJECT'S GOALS AND SUPPORTS THE PROJECT'S PURPOSE OF IMPROVING PUBLIC HEALTH. ADDITIONALLY, EDISON BELIEVES ALTERNATIVE SEVEN WOULD BE A TRUE EMISSION ZERO-EMISSION-FREIGHT CORRIDOR, WHICH MEANS THAT ZERO TAILPIPE POLLUTION EMISSIONS WILL BE EMITTED WHILE TRAVELLING WITHIN THE CORRIDOR. ACTIVE SUPPORT FOR TRANSPORTATION, (INAUDIBLE), PARTICULARLY IN GOODS MOVEMENT, IS NEEDED NOW. T-5-3

BY FUELING A VARIETY OF VEHICLES, CARS, PUBLIC TRANSPORTATION, MEDIUM AND HEAVY-DUTY TRUCKS AND INDUSTRIAL VEHICLES AND EQUIPMENT WITH CLEAN ELECTRONIC POWER INSTEAD OF FOSSIL FUELS CAN HELP MEET CALIFORNIA'S AMBITIOUS ENVIRONMENTAL GOALS IN THE COMING DECADES. THANK YOU.

MS. MCCORMICK: THANK YOU VERY MUCH.

DR. JILL JOHNSTON AND THEN MICHAEL CLEMSON.

GO RIGHT AHEAD.

MS. JOHNSTON: GOOD EVENING, MY NAME IS JILL JOHNSTON. I'M ASSISTANT PROFESSOR OF PREVENTATIVE MEDICINE AT UNIVERSITY OF SOUTHERN CALIFORNIA. THANK YOU FOR THE OPPORTUNITY TO COMMENT ON THE DRAFT EIR TONIGHT.

SO AS WE KNOW, THE COMMUNITIES SITUATED ALONG THE 710 ARE SOME OF THE MOST ENVIRONMENTALLY BURDENED IN THE STATE IF WE LOOK AT THE CAL ENVIRON TRADE SCORES. MANY OF THESE COMMUNITES ARE IN THE TOP FIVE PERCENT OF THOSE SUFFERING FROM THE MOST POLLUTION ACROSS THE ENTIRE STATE AND ALSO MOST VULNERABLE TO THE ENVIRONMENT. WE ALSO KNOW THAT T-5-4

THERE'S A GROWING BODY OF EVIDENCE AROUND THE HIGH LEVELS OF AIR POLLUTANTS EMITTED FROM MAJOR FREEWAYS, MOTORWAYS, AND HIGHWAYS, INCLUDING ULTRAFINE PARTICLES, BLACK CARBON, OXIDES, (INAUDIBLE) AND CARBON MONOXIDE AND THAT PEOPLE LIVING HERE ARE OTHERWISE SPENDING A SUBSTANTIAL AMOUNT OF TIME CLOSE TO BUSY ROADWAYS AND FREEWAYS, ESPECIALLY WITHIN 300 METERS, ARE EXPOSED TO THESE POLLUTANTS, MUCH MORE SO THAN PEOPLE LIVING FARTHER AWAY. AND NEW STUDIES SHOW THAT EVEN DURING EARLY-MORNING HOURS, THERE COULD BE ELEVATED EXPOSURE TO ULTRA FINE PARTICLES THAT MAY EXTEND OVER ONE MILE FROM THE FREEWAY.

THERE'S ALSO A LARGE BODY OF EVIDENCE DOCUMENTING THAT THERE'S HEALTH-HAZARD EXPOSURE RELATED TO THESE TRAFFIC AIR POLLUTANTS, INCLUDING ELEVATED RISK OF DEVELOPMENT OF ASTHMA, WERE BASED ON (INAUDIBLE) CHILDREN AND INCREASED RISK OF CARDIAC AND PULMONARY INJURY AMONG THOSE WHO LIVE NEAR MAJOR FREEWAYS. WE ALSO KNOW THAT ADULTS WITH DIABETES ARE MORE SUSCEPTIBLE TO AMBIENT AIR POLLUTION AND ESPECIALLY HIGHER RATES OF MORBIDITY AND MORTALITY WHEN LIVING NEAR BUSY ROADWAYS. T-5-4

AND SO THERE'S BEEN AN EXTENSIVE BODY OF EVIDENCE THAT'S COME OUT OF USC CHILDREN'S HEALTH STUDY THAT'S BASED IN SOUTHERN CALIFORNIA, AND WE HOPE TO SEE A LOT OF THIS LITERATURE AND EVIDENCE DOCUMENTED THROUGHOUT THE EIR. AND SO THIS HAS SHOWN THAT LOCAL EXPOSURE TO TRAFFIC HAS ADVERSE

EFFECTS ON CHILDREN OF LUNG DEVELOPMENT, AND THESE EFFECTS ARE INDEPENDENT OF REGIONAL AIR QUALITY. BOTH LOCAL EXPOSURE TO FREEWAY AND REGIONAL AIR POLLUTANTS HAVE BEEN FOUND TO HAVE DETRIMENTAL EFFECTS ON LUNG FUNCTION AND GROWTH AND PRONOUNCED DEFICITS AMONG CHILDREN.

ALSO, I WANTED TO BRING UP SOME RECENT STUDIES FROM USC THAT LOOK AT THE COST ASSOCIATED WITH THE HEALTH BURDENS OF LIVING NEAR BUSY ROADWAYS. SO WHEN YOU LOOK AT LONG BEACH ALONE, IT'S ESTIMATED OF ABOUT $6.1 MILLION A YEAR IS RELATED TO ASTHMA CASES. WHEN WE LOOK ACROSS THE ENTIRE COUNTY, WE FOUND THAT THERE COULD BE A SAVINGS OF 108 TO 180,000,000 A YEAR OF ASTHMA-RELATED COSTS IF CHILDREN WERE NOT EXPOSED TO NEAR ROADWAY AIR POLLUTION, SUCH AS USING ZERO-EMISSIONS TECHNOLOGIES. THE COSTS DUE TO CORONARY HEART DISEASE ARE ESTIMATED TO BE 10 TO $22 BILLION A YEAR, WHEN WE FORECAST THAT OUT TO 2035. T-5-4

SO PRIOR EMISSIONS FROM TRAFFIC IS A MAJOR BURDEN ON THE LOCAL ECONOMY AS WELL AS THE HEALTH EFFECTS OF THE PEOPLE IN THE COMMUNITIES. THANK YOU.

MS. MCCORMICK: THANK YOU VERY MUCH.

MICHAEL AND THEN RENE CASTRO.

AND MICHAEL, COULD YOU PLEASE PRONOUNCE YOUR LAST NAME?

MR. CLEMSON: CLEMSON.

MS. MCCORMICK: CLEMSON. THANK YOU.

MR. CLEMSON: THANK YOU FOR COMING OUT AND LETTING US COMMENT ON THIS. I HAVE A FEW COMMENTS. THE FIRST ONE I WANT TO TALK ABOUT IS THE DOUBLE DIAMOND OVERPASS. I THINK IT MIGHT BE AN IMPROVEMENT ON PEDESTRIAN AND CYCLIST SAFETY, BUT IT'S STILL GOING TO SERVE AS A BARRIER FROM THE FOLKS IN EAST LONG BEACH TO THE FOLKS IN WEST LONG BEACH, THE CITY PUTTING IN A FEW MILLION DOLLARS IMPROVING STREETS, MAKING THEM MORE PEDESTRIAN FRIENDLY, AND I THINK THAT THAT'S GOING TO STOP, JUST LIKE EVERY OTHER PROJECT SEEMS TO STOP, AT THE 710 AND LEAVES THE REST OF THE COMMUNITY DISCONNECTED. T-5-5

THE OTHER THING IS THAT IT LOOKS LIKE THE TRAFFIC IMPACTS WERE BEING MEASURED ON LEVEL OF SERVICE VERSUS BMT, BASICALLY SAYING THAT WE NEED TO KEEP THE SPEEDS UP, AND THAT'S HOW WE'RE GOING TO DETERMINE IF THIS IS A SUCCESSFUL PROJECT AS OPPOSED TO REDUCING THE VEHICLE MILES TRAVELED. THE ESTIMATED IMPACTS SHOW REDUCTION OF DAILY TRAFFIC VOLUMES, WHICH DOESN'T REALLY MAKE SENSE. I DON'T THINK YOU HAVE A HIGHWAY EXPANSION, WHICH I'M NOT AWARE OF ANY HIGHWAY EXPANSION THAT HAS EVER SOLVED A CONGESTION PROBLEM OR REDUCED THE NUMBER OF VEHICLES ON THE ROAD. I THINK THAT THAT'S, YOU KNOW -- YOU'RE GOING TO SEE MORE DEMAND, YOU'RE GOING TO SEE MORE TRAFFIC ON CITY STREETS, AND YOU'RE GOING TO SEE MORE -- AND YOU'RE GOING TO SEE THE TRAVEL TIMES ON THE 710 REMAIN THE SAME. T-5-6

THE LAST THING I WANTED TO MENTION IS THAT T-5-7

ALTERNATIVE SEVEN KIND OF RELIES ON A LOT OF TECHNOLOGIES THAT AREN'T PROVEN RIGHT NOW. BATTERY TECHNOLOGY FOR TRUCKS, I DON'T THINK THAT'S TO THE POINT WHERE WE CAN RELY ON EMISSION -- PARTICULATE EMISSION OR GREENHOUSE GAS EMISSIONS REDUCTIONS FROM THOSE TECHNOLOGIES. THANK YOU. T-5-7

MS. MCCORMICK: THANKS VERY MUCH.

DR. TOM WILLIAMS.

MR. CASTRO: HI, GOOD EVENING, MY NAME IS RENE CASTRO. I WORK AT CENTURY VILLAGES AT CABRILLO. WE'RE RIGHT IN WHAT'S KNOWN AS THE DIESEL DEATH ZONE. WE ARE AN AFFORDABLE HOUSING COMMUNITY. WE PROVIDE AFFORDABLE HOUSING FOR 2,000 VETERANS -- 2,000 RESIDENTS PER YEAR, 600 OF THEM ARE VETERANS. THE REST ARE CHILDREN AND FAMILIES. THERE'S A HUGE AMOUNT OF ASTHMA AMONG OUR VETERANS, AS WELL AS OUR CHILDREN AND FAMILIES.

I BIKE RIDE. I'VE BEEN WORKING THERE FOR ABOUT A YEAR NOW, AND I BIKE RIDE TO WORK ABOUT THREE TIMES A WEEK. AND I WANT TO SHOW YOU, THIS IS SOMETHING I HAVE TO USE EVERY DAY. I'M 53 YEARS OLD. I'M VERY ACTIVE. BUT SINCE I'VE BEEN WORKING THERE, I HAVE TO USE THIS AIR FILTER IN ORDER TO BREATHE. IF I DON'T USE THIS AIR FILTER, MY LUNGS ARE ON FIRE. I'M VERY HEALTHY. I'M A VERY HEALTHY INDIVIDUAL. I DON'T LIVE THERE, BUT I SPEND ABOUT EIGHT TO TEN HOURS THERE A DAY. I JUST DO NOT KNOW HOW WE CAN PUT A PRICE ON OUR CHILDREN'S HEALTH. AND AS FOR ALTERNATIVE SEVEN, I CAN'T T-5-8

EVEN BELIEVE THIS IS A DISCUSSION.

I APPRECIATE THE OPPORTUNITY TO TALK TONIGHT. I'VE BEEN IN LONG BEACH FOR 20 YEARS, AND I REALLY SUPPORT THE RESIDENTS HERE TONIGHT. THANK YOU SO MUCH. T-5-8

MS. MCCORMICK: THANK YOU VERY MUCH.

DR. TOM WILLIAMS AND THEN WALTER SANTIAGO.

MR. WILLIAMS: DR. TOM WILIAMS, BEEN ON THIS SINCE 1992. HOWEVER, RIGHT NOW REPRESENTING THE SIERRA CLUB TRANSPORTATION COMMITTEE. AND BASICALLY RATHER THEN TRUCKS, TRUCKS, TRUCKS, AND MORE TRUCKS, WE WANT TO GET IT ON RAIL. AND ONE OF THE BASIC ELEMENTS IS THAT YOU HAVE PROJECTED TRAFFIC AND GOODS MOVEMENT. GOODS MOVEMENT EQUALS CONTAINERS. SO WHAT ARE THEY? WHO DID IT? BECAUSE EARLIER TODAY, THE AQMD AND PORTS OF LA AND LONG BEACH HAD A DISCUSSION FOR THREE HOURS REGARDING HOW MUCH YOU'RE GOING TO GIVE AND WHERE IT'S GOING TO GO. WILL IT GO TO THE ALAMEDA CORRIDOR, OR WILL IT GO BY 710? WE DON'T KNOW. T-5-9

SO WHILE WE DO HAVE WHAT IS CALLED THE CLEAN AIR ACTION PLAN, AND THAT'S IN PROGRESS RIGHT NOW, BUT IT'S NOT REFLECTED IN THE 710 DOCUMENTS. THEY ALSO HAVE THE AQMP OF AQMD FOR 2016, BUT THAT DOESN'T SEEM TO BE REPRESENTED, AND YOUR USING SCAG'S 2012 DATA FOR PROJECTION OF GROWTH? THAT WAS BASED UPON THE YEAR 2000 CENSUS. SO THE BASIC ELEMENTS OF ALL OF THE DISCUSSIONS ARE NOT WELL-DOCUMENTED, NOT A MIRACLE, NOT PHASE OVER THE SPAN OF THE CONSTRUCTION AND THE T-5-10

OPERATION OF THIS PROJECT.

SO, ONCE YOU GET TO THE NORTH END OF THE PROJECT, WHERE DO ALL THE TRUCKS GO? WE DON'T KNOW. AND IT'S CALLED SECONDARY IMPACTS. WILL THERE BE IMPACTES BEYOND THE THIRD STREET ON THE 710 OR BEYOND THE INTERCHANGE OF I-5? WE DON'T KNOW, AND THE RECORD DOESN'T REFLECT THAT. T-5-11

SO ALTERNATIVE ONE, IT HAS ENHANCED RAIL, BUT WE DON'T KNOW HOW ENHANCED BECAUSE RIGHT NOW IF YOU HAD 100-UNIT TRAINS A DAY, YOU WOULD NOT NEED THE EXPANSION FOR THE TRUCKS. 100-UNIT TRAINS IN THE ALAMEDA CORRIDOR. ALSO SUMMARIZING, WE NEED AN EXTENSION TO NOVEMBER THE 20TH FOR THE COMMENT PERIOD, AND WE NEED A REAL RAIL ALTERNATIVE FOR THE 710 PROJECT, AND WE WOULD BASICALLY GO GET IT ON RAIL. T-5-12

THANK YOU.

MS. MCCORMICK: THANK YOU.

WALTER SANTISO AND THEN OSCAR.

MR. SANTISO: MY NAME IS WALTER SANTISO. THANK YOU TO EVERYONE AND EVERYTHING THAT IS HERE THAT WASN'T CALLED BY NAME. YOU ARE ALSO IMPORTANT, ESPECIALLY THE CHILDREN HERE IN THIS ROOM.

THE TEN-YEAR DECISION THAT YOU HAVE, IT SHOULD TAKE THAT LONG. IT SHOULD TAKE 10, 20 YEARS TO STUDY BECAUSE OUR CHILDREN ARE GOING TO BE BREATHING IN THAT POISON, THAT POLLUTION IN THE WATER. IT'S IN THE LAND, IT'S IN THE AIR, AND IT'S SOMETHING THAT YOU CANNOT REMOVE. SO SOMETHING THAT

YOU MIGHT SAY "IT TAKES TEN YEARS," OUR CHILDREN HAVE TO LIVE AFTER US, AND IT'S AN IMPACT THAT YOU'RE NOT GOING TO BE ABLE TO TAKE AWAY.

HERE YOU DON'T HAVE DEDICATED FUNDS FOR ACTIVE TRANSPORT. I DIDN'T SEE ANY NUMBER FOR THAT, FOR THE TEENAGERS, FOR THE CYCLISTS, FOR THE YOUNG CHILDREN THAT THEY DON'T HAVE ACCESS TO CARS HERE IN LONG BEACH, ESPECIALLY HERE IN THE WEST AND THE NORTH SIDE, WHICH ARE TRUCKS BY THE 710 FREEWAY. SINCE I'VE LIVED HERE IN LONG BEACH, FOUR YEARS, BOTH OF MY YOUNG CHILDREN HAVE HAD AN INCREASE IN NOSE BLEEDS, IN HEADACHES, IN BODY ACHES, AND I ONLY LIVE JUST OVER THE BRIDGE. T-5-13

IF YOU'VE EVER COME DOWN WILLOW WALKING, WILLOW IS ABOUT MAYBE TWO-AND-A-HALF FEET. THAT HAS TO BE SHARED BY PEDESTRIANS AND CYCLISTS, AND WE HAVE TO CROSS THE 710 TWICE EACH WAY JUST TO GET TO WHERE WE'RE GOING, WHETHER IT'S TO THE CHURCH DOWN THE STREET OR TO GET SOME FAST FOOD, WHATEVER IT IS.

SO WHAT WE WANT IS, WE DON'T WANT YOU TO MITIGATE OR MINIMIZE IMPACTS. WE DON'T WANT ANY IMPACTS. THE WIDENING OF THE LANES AND OPERATIONAL IMPROVEMENT THAT I SAW ON FOUR OF YOUR SLIDES DIDN'T SAY ANYTHING ABOUT IMPROVING LUNG HEALTH OR CARDIAC HEALTH. SO THERE'S SO MANY THINGS MISSING JUST FROM YOUR PRESENTATION. I FEEL THAT WE ARE BEING TOLD LIES. THE PEOPLE IN THE BACK ARE JUST MARKETING WHY THIS T-5-14

PROJECT IS SO GREAT. I DON'T THINK THIS PROJECT IS GREAT. I THINK THAT ALTERNATIVE ONE IS THE ONLY WAY TO GO, WITH THE NO-BUILD. T-5-15

I'M REQUESTING AN EXTENSION TO THE EIR, THE COMMENT PERIOD TO 120 DAYS BECAUSE YOU MAY BE TRANSLATING IN ENGLISH AND IN SPANISH, BUT THERE'S MANY OTHER PEOPLE WHO LIVE IN LONG BEACH WHO SPEAK KAMAI, WHO SPEAK THAI, WHO SPEAK TAGALOG WHO YOU'RE NOT REPRESENTING. JUST BECAUSE YOU SPEAK SPANISH DOESN'T MEAN THAT YOU'RE INCLUSIVE. IT JUST MEANS YOU'RE FILLING OUT WHATEVER REQUIREMENT FOR THIS PARTICULAR AUDIENCE. T-5-16

THERE'S MANY PEOPLE LIVE IN THE APARTMENTS WHO ARE NOT HERE NOW, WHO ARE NOT INVITED. I WAS NOT INVITED BY YOU. I WAS INVITED BY ECR. THEY ARE THE ONLY PEOPLE WHO HAVE INFORMED ME CONTINUOUSLY ABOUT THE THINGS THAT ARE HAPPENING IN MY CITY, NOT YOU, NOT CITY COUNCIL, NOT METRO, NOT ALL THESE PEOPLE WHO ARE SPONSORING HERE. SO I THINK IT'S IRRESPONSIBLE TO SAY THAT THIS PROJECT IS GOING TO IMPROVE, WHEN ALL YOU'RE TALKING ABOUT EXPANDING AND WIDENING, AND IMPROVEMENT FOR THE TRUCKS, BUT NOT FOR US. WHAT YOU'RE SAYING ISN'T FOR US, SO PLEASE DON'T LIE TO US. T-5-17

MS. MCCORMICK: THANK YOU.

NEXT SPEAKER IS OSCAR, AND THAT'S THE ONLY NAME I HAVE, AND THEN EVANGELINA RAMIREZ. OSCAR? OKAY.

THANK YOU. GO RIGHT AHEAD, MA'AM.

MS. RAMIREZ: HI, EVERYBODY, MY NAME IS EVANGELINA RAMIREZ. I HAVE BEEN INVOLVED IN THE LONG BEACH COMMUNITY FOR THE LAST 24 YEARS. AND ONE OF THE THINGS THAT I WANT TO ASK YOU IS THE SAME THING LIKE THE OTHER GUY SAID. IT'S HARD FOR US TO UNDERSTAND THE LANGUAGE THAT YOU USE IN YOUR REPORTS AND YOUR THINGS. ONE OF THE THINGS THAT WE WANT TO ASK YOU IS GIVING THE COMMUNITY MORE TIME TO -- BUT NOT REALLY THE COMMUNITY, BUT OTHER ORGANIZATIONS TO HELP US TO UNDERSTAND WHAT IS GOING ON IN THOSE DOCUMENTS, THAT'S THE FIRST THING. T-5-18

THE SECOND THING THAT I WANT TO TALK ABOUT IS THE DISPLACEMENT FOR THOSE THAT ARE DISPLACED. WE HAVE -- I WORK WITH THE COMMUNITY, AND WE HAVE MANY MOMS THAT HAS BEEN HAVING DOMESTIC VIOLENCE. WHERE DO YOU THINK THAT I SEND THOSE MOMS WHEN THEY HAVE TO RUN AWAY FROM THEIR HOMES? TO THAT MULTI-SERVICE PLACE. IT'S THE PLACE THAT I SEND THOSE MOMS. WHEN WE HAVE OUR SUPPORT GROUPS, THEY HELP US TO GIVE THEM A PLACE WHERE TO SLEEP ON THE NIGHT. IF YOU MOVE OUT THAT PLACE, WHERE ARE THEY GOING TO BE? HOW WE CAN HELP THEM? HOW LONG IT'S GOING TO TAKE TO YOU GUYS TO REPLACE THAT FACILITY, THAT CENTER? HOW LONG? WHEN? WHERE? WHAT PLACE ARE YOU GOING TO CHOOSE TO PUT THEM AT? T-5-19

I HOPE YOU UNDERSTOOD ME. MY ENGLISH IS NOT 100 PERCENT, BUT I'M TRYING TO SPEAK IN ENGLISH BECAUSE IT'S IMPORTANT TO ME THAT THE PEOPLE FEEL WE NEED THAT HELP. WE

NEED TO KNOW ABOUT THAT PLACE. I'M INVOLVED WITH LONG BEACH ALLIANCE FOR CHILDREN WITH ASTHMA FOR MANY YEARS BECAUSE I HAVE A CHILD. RIGHT NOW INVOLVED WITH LONG BEACH RESIDENTS IN POWER BECAUSE I HAVE BEEN SEEING THE DISPLACEMENT NOT ONLY FOR ALL THESE THINGS THAT ARE HAPPENING. BECAUSE MANY CORPORATIONS ARE BUYING THE BUILDINGS, AND THEY ARE DISPLACING THE PEOPLE. AND YOU GUYS GOING TO DISPLACE THE ONLY PLACE THAT WE HAVE FOR THOSE HOMELESS PEOPLE, THE PEOPLE WHO DOESN'T HAVE ANY PLACE WHERE TO GO.

I WOULD LIKE TO KNOW WHERE AND WHEN THAT PLACE IS GOING TO BE REPLACED, AND AS SOON AS POSSIBLE, BECAUSE WE HAVE BEEN WAITING FOR MANY YEARS WITH THIS THING. I HAVE BEEN INVOLVED WITH THIS THING SINCE 1999, THAT MY DAUGHTER START HAVING ASTHMA. THANK YOU. T-5-20

MS. MCCORMICK: THANK YOU.

I'D LIKE TO CALL UP SELENA AZUETA AND JESSICA FIGUEROA.

MS. AZUETA: HI, GOOD EVENING. MY NAME IS SELENA AZUETA. I LIVE IN LONG BEACH IN THE WRIGLEY AREA, RIGHT ON 710 AND PCH. I AM PART OF LONG BEACH ALLIANCE FOR CHILDREN WITH ASTHMA. I HAVE TWO DAUGHTERS, ONE WHO HAS ASTHMA. I AM HERE TODAY TO VOICE MY CONCERN OVER MY CHILDREN'S HEALTH. WE'VE WORKED SO HARD IN CONTROLLING MY DAUGHTER'S TRIGGERS, AND WE DO SEE PAINFUL AND VERY SCARY ER VISITS. I WOULD LIKE FOR MY DAUGHTER AND OTHER CHILDREN WITH ASTHMA TO BE ABLE TO

STEP OUTSIDE WITHOUT FEAR OF TRIGGERING AN ASTHMA ATTACK BY ALL THE POLLUTION WE'RE SURROUNDED WITH.

WE NEED A REAL ZERO-EMISSIONS PLAN BECAUSE WHAT'S PROPOSED IS JUST NOT ENOUGH FOR OUR CHILDREN'S HEALTH. THANK YOU. T-5-21

MS. MCCORMICK: THANK YOU.

JESSICA AND THEN RIGHT AFTER, JORGE RIVERA.

GO RIGHT AHEAD.

MS. FIGUEROA: HI, GOOD AFTERNOON. MY NAME IS JESSICA FIGUEROA. I'M A COMMUNITY HEALTH WORKER FOR LONG BEACH ALLIANCE FOR CHILDREN WITH ASTHMA, ALSO KNOWN AS LACA. I PROVIDE ASTHMA HOME VISITS TO FAMILIES LIVING NEAR THE 710 FREEWAY.

WIDENING THE 710 FREEWAY CREATES MORE TRAFFIC. MORE TRAFFIC CREATES MORE HEALTH PROBLEMS SUCH ASTHMA, CANCER, MEMORY LOSS IN SENIORS, AND LOW BIRTH RATES. WIDENING THE T-5-22

710 FREEWAY CREATE DISPLACEMENT, WHERE HUNDREDS OF VULNERABLE PEOPLE OF COLOR WILL BE LEFT HOMELESS OR WOULD HAVE TO LOOK FOR A HOME THAT IS WAY BEYOND THEIR BUDGET. I KNOW, BECAUSE T-5-23

FAMILIES THAT I PROVIDE ASTHMA HOME VISITS TO LIVE NEAR THE 710 FREEWAY. THESE FAMILIES DON'T HAVE THE MEANS TO MOVE BECAUSE THEY LIVE PAYCHECK TO PAYCHECK.

SO WHAT DOES THE COMMUNITY WANT? WE WANT OUR VOICES TO BE HEARD. NO DISPLACEMENT. THANK YOU. T-5-24

MS. MCCORMICK: THANK YOU.

JORGE RIVERA, AND THEN AFTER YOU, SIR, IS REBECCA SERACOPOLOUS.

GO AHEAD.

MR. RIVERA: MY NAME IS JORGE RIVERA. I'M PROJECT DIRECTOR OF LIBRE, LONG BEACH RESIDENTS IN POWER. WE ARE A HOUSING JUSTICE ORGANIZATION HERE IN THE CITY OF LONG BEACH. WE FIGHT FOR RENTERS' RIGHTS AND MORE AFFORDABLE HOUSING, SO THIS PROJECT IS SOMETHING THAT IS CONNECTED TO OUR WORK BECAUSE, OBVIOUSLY, THERE IS GOING TO BE DISPLACEMENT, AND WE'RE REALLY CONCERNED WITH THAT.

WE ARE DEFINITELY CONCERNED ABOUT THE ZERO-EMISSIONS STANDARD. WE WANT ZERO EMISSIONS IF THIS IS GOING TO MOVE FORWARD. WE DON'T WANT NEAR ZERO EMISSIONS. AS IT STANDS RIGHT NOW, WE ALREADY SPOKE, YOU ALREADY HEARD FROM A LOT OF PEOPLE THAT HAVE CHILDREN WITH ASTHMA. WE HAVE A LOT OF FOLKS THAT HAVE ASTHMA, HAVE THE ISSUES, AND WE JUST DON'T NEED ANY ADDITIONAL POLLUANT IN OUR COMMUNITY. SO IF THIS IS GOING TO GO THROUGH, THEN WE WANT YOU TO REALLY WITHOLD AND UPHOLD MANDATE AND SPECIFIC ELEMENTS THAT ARE ACTUALLY GOING TO ACHIEVE A ZERO-EMISSION VISION, NOT A NEAR ZERO. THAT'S JUST NOT GOOD ENOUGH FOR OUR COMMUNITY. T-5-25

ALSO, WE ARE IMPROVING -- WE ARE TRYING TO IMPROVE THE HEALTH OF OUR HOMES AND THE CONDITIONS, AND SO WE JUST DON'T NEED ANY ADDITIONAL POLLUTANTS TO TRY TO FIGHT, FIGHT THE ISSUES THAT WE'RE ALREADY EXPERIENCING HEALTH-WISE. AS

IT STANDS RIGHT NOW IN THE DOWNTOWN AREA, OUR LIFE SPAN IS DECREASED BY SEVEN TO 11 YEARS, AND SO THE EXPANSION OF THE FREEWAY IS JUST GOING ADD TO THAT. SO IF YOU NEED TO TAKE ADDITIONAL TIME TO STUDY THIS, THEN I SAY, TAKE ADDITIONAL TIME. I'D RATHER YOU TAKE IT, THAN TAKE IT FROM OUR LIVES BECAUSE THAT'S WHAT'S IMPORTANT TO US. T-5-25

ALSO, WE'RE PART OF A LOCAL HIRE COALITION, AND WE TRY TO ENSURE THAT OUR RESIDENTS ARE RECEIVING JOBS SO THAT THEY CAN PAY RENT, ESPECIALLY WITH THE INCREASING RENTS IN OUR COMMUNITY. WE WANT TO ENSURE THAT YOU ARE ACTUALLY IMPLEMENTING A LOCAL HIRE POLICY, WHICH WAS SUPPOSED TO BE PUT IN BEFORE THE DRAFT EIR CAME OUT. AND SO WE HOPE THAT YOU FULFILL THAT PROMISE, THAT YOU MAKE SURE OUR RESIDENTS ARE GETTING JOBS, ESPECIALLY IF YOU'RE BRINGING A PROJECT INTO THIS PLACE, INTO THIS COMMUNITY, THAT'S GOING TO BE DISPLACING PEOPLE FROM THEIR HOMES. T-5-26

IT'S GOING TO BE DISPLACING THE MULTI-SERVICE CENTER, WHICH IS ALREADY SERVICING OUR HOMELESS POPULATION, AND WE DON'T HAVE ANY PROMISES THAT THAT'S GOING TO BE RELOCATED. SO WHAT'S GOING GOING TO HAPPEN IN THE MEANTIME? YOU THROWING MONEY AT THE PROBLEM BECAUSE YOU'RE DISPLACING A MULTI-SERVICE CENTER DOES NOT ENSURE THAT IT'S GOING TO FIND ANOTHER HOME, AND IT'S NOT GOING TO ENSURE THAT IT FINDS A HOME WHERE THE SERVICES ARE NEEDED. SO WE WANT TO MAKE SURE YOU'RE NOT DOING -- YOU'RE NOT DISPLACING THE SERVICES THAT T-5-27

ARE ALREADY ATTENDING TO OUR HOMELESS POPULATION.

AND WE ALSO WANT TO MAKE SURE THAT -- WE WANT TO REQUEST THE 120-DAY EXTENSION OF THE DRAFT EIR. OUR LOCAL DISTRICT PERSON, DINA GONZALEZ, HERE IN THE CITY OF LONG BEACH, WHO IS ALSO THE CHAIR OF THE I-710 PROJECT COMMITTEE JUST SENT IN A LETTER REQUESTING THE SAME. SO WE HOPE THAT YOU RECEIVE THAT LETTER AND YOU TAKE THAT INTO DEEP CONSIDERATION BECAUSE I SAW THAT TABLE WITH ALL THOSE DIFFERENT TOOK BOOKS OF 10,000 PAGES, AND WE NEED SOME TIME TO BE ABLE TO COMPILE A RESPONSE TO THAT. THANK YOU. T-5-28

MS. MCCORMICK: THANK YOU.

REBECCA, AND AFTER REBECCA IS MARTHA.

GO AHEAD.

MS. SERACOPOLOUS: HI, I'M REBECCA SERACOPOLOUS WITH BIKEABLE COMMUNITIES, A CYCLING ORGANIZATION HERE IN LONG BEACH. AND I WANT TO TALK ABOUT THE DIVERGENT DIAMOND INTERSECTIONS, THAT OPTION FIVE AND OPTION SEVEN ARE PROPOSINGING. WE ARE OPPOSED TO THAT BECAUSE THEY'RE SIMPLY NOT SAFE FOR PEDESTRIAN AND CYCLISTS. THEY DON'T WORK. THEY MAKE THE SITUATION WORSE, ESPECIALLY OFF THE 710 AND PCH. THAT SITUATION IS ALREADY BAD FOR KIDS CROSSING FROM THE EAST SIDE, TRYING TO GET TO CABRILLO HIGH SCHOOL EVERY DAY, HUNDREDS OF OF STUDENTS ON BIKES AND WALKING. T-5-29

AND WE'RE PROPOSING SEPARATE BIKE AND PEDESTRIAN FACILITIES AT ANAHEIM, PCH, AND DEL AMO, CLASS-ONE CYCLING T-5-30

FACILITIES, AND ON PCH, THE CONNECTION WOULD BE CLASS FOUR, FROM PACIFIC AVENUE ON THE EAST AND CABRILLO HIGH SCHOOL ON THE WEST, FOR ANAHEIM, CLASS-FOUR CONNECTIONS FROM DAISY AVENUE TO THE EAST TO NINTH STREET ON THE WEST, AND CLASS-FOUR CONNECTIONS FROM THE LA RIVER ON THE EAST AND THE METRO BLUE LINE ON THE WEST FOR DEL AMO. THANK YOU. T-5-30

MS. MCCORMICK: OKAY. THANKS VERY MUCH.

MARTHA AND THEN -- FORGIVE ME. (INAUDIBLE).

GO AHEAD.

MS. COTA: GOOD AFTERNOON, EVERYONE. MY NAME IS MARTHA COTA, AND I'M REPRESENTING LATINOS IN ACTION. I LIVE IN THE CITY OF LONG BEACH. AS EVA RAMIREZ SAID, IT IS INCREDIBLE, 1999. I AM LOOKING AT THOSE TWO GENTLEMAN THAT I HAVE BEEN SEEING FOR MANY YEARS. I'M GLAD THAT YOU'RE STILL HERE SO THAT I CAN TELL YOU THAT HOW IS IT THAT YEARS HAVE GONE BY, AND WE ARE STILL LISTENING AND TALKING ABOUT ALL THE NEEDS THAT THE COMMUNITY HAVE? DO YOU REALLY WANT TO HEAR WHAT OUR NEEDS ARE AND WHAT WE WANT? SO DO WHAT WE ARE ASKING FOR. T-5-31

DON'T WASTE ANY MORE MONEY INTO PUTTING THIS, TAKE THIS OUT, AND DOING SO MANY STUDIES. IT IS AMAZING THAT THAT STUDY HAS BEEN GOING ON FOR SO LONG AND NOTHING COMES OF IT. T-5-32 IN THE MEANTIME, CHILDREN AND THE FAMILIES AND COMMUNITIES ARE DYING OF CANCER, ASTHMA. AND MY SON HAS ASTHMA, AND SIX, SEVEN YEARS AGO, I ENDED UP HAVING ASTHMA MYSELF. AND IN

2009, I GOT CANCER. AND I DON'T THINK IT'S FAIR THAT COMPANIES ARE ALWAYS THINKING OF BENEFITS FOR THEMSELVES, FOR COMPANIES, AND CORPORATION BUT NOT FOR THE COMMUNITY.

AND I WOULD ASK YOU: HOW WOULD YOU FEEL IF YOU HAD HAD TO HAVE THAT JOB, EIGHT HOURS OF THE JOB THAT RENE CASTRO DOES? AND THEN I WOULD ASK YOU HOW YOU FEEL ABOUT HAVING THAT MASK AND WORKING WITH IT. AND THERE'S SOMETHING ELSE, THAT REPORT THAT YOU PUBLISH THAT HAS ABOUT 10,000 PAGES ON IT, HAS SO MANY CONCENTS AND WORDS AND EVERYTHING OR ALL KINDS OF TECHNICALITIES, HOW ARE WE GOING TO UNDERSTAND THAT? PLEASE BE AWARE. THANK YOU. T-5-33

MS. MCCORMICK: THANK YOU VERY MUCH.

MS. PAK: GOOD EVENING, MY NAME IS PAK (INAUDIBLE) I AM A RESIDENT OF LONG BEACH FOR THE PAST 25 YEARS. I LIVE HERE. I WORK HERE. I HAVE TWO CHILDREN, BOY HAS ALLERGIES, AND GIRL HAS ASTHMA. FOR THOSE OF YOU WHO ARE PARENTS, PROBABLY YOU CAN APPRECIATE MY CONCERNS AND ANXIETY AND WORRIES. WHEN YOUR OWN CHILDREN CANNOT BREATH, WHEN THEY HAVE HEALTH TROUBLES AND THEY CANNOT BREATH, AND YOU FEEL SO HELPLESS, YOU KNOW, YOU DON'T KNOW WHAT TO DO. I CRY, I WORRY, AND ALL I CAN RESORT TO IS GIVING THEM MORE MEDICATIONS, TAKING THEM TO THE HOSPITAL, TO THE EMERGENCY ROOM.

AND IT'S NOT LIKE I COULD JUST PACK MY BAG AND MOVE TO A BETTER LOCATION BECAUSE I'VE LIVED -- I BOUGHT A HOME.

I'VE LIVED AT THIS HOME FOR THE PAST 20 YEARS AND, YOU KNOW, I'VE WORKED, I SAVED MONEY TO PAY FOR THIS HOME, AND I CAN'T JUST LEAVE. SO PLEASE CONSIDER US AND AND OUR DIFFICULTIES IN YOUR STUDIES, IN YOUR DECISION-MAKING. YOU HAVE TO CONSIDER THE HUMAN FACTOR, YOU KNOW, THE PEOPLE WHO LIVE ALONG THIS PROJECT, YOU KNOW, THE PEOPLE WHO WORK, WHO TRY TO MAKE A LIVELIHOOD FOR THEMSELVES, FOR THEIR FAMILIES, AND WHO ARE TRYING TO LIVE IN THIS COMMUNITY AND MAKE THIS COMMUNITY WORK. T-5-34

I THINK THE BOOKS YOU HAVE IN THE BACK IS PROBABLY YOU GUYS WERE JUST PRODUCING THEM FOR YOUR OWN READING PLEASURE, BUT WE CAN'T UNDERSTAND THEM. THANK YOU.

MS. MCCORMICK: I'D LIKE TO INVITE LAURA CORTEZ TO COME UP, AND THEN JAN VICTOR ANDASON.

MS. CORTEZ: GOOD AFTERNOON, MY NAME IS LAURA CORTEZ WITH LONG BEACH ALLIANCE FOR CHILDREN WITH ASTHMA. I'M A RESIDENT OF THE CITY OF BELL GARDENS.

SO (INAUDIBLE) AND A FEW OTHERS HAVE MENTIONED, WE'VE BEEN AROUND THE STRUGGLE SINCE 2002. THEY HAVE SEEN -- WELL, THEY HAVE SEEN, REALLY, THE COMMUNITY MEMBERS COME, COMMUNITY MEMBERS GO, AND GET TIRED OF SAYING THE SAME THINGS FOR SO LONG. AND SO CALTRANS AND CONSULTANTS STILL DO NOT ADDRESS HOW IMPARITIVE IT IS TO LISTEN TO THE COMMUNITY. C8-7 AND 22.1 WERE COMMUNITY DRIVEN. 22.1 HAS NOT BEEN COMPLIED WITH. ZERO EMISSIONS IN THIS DOCUMENT IS A SMOKE T-5-35

SCREEN BECAUSE THERE IS NO SUBSTANCE OR ASSURANCE OF REAL ZERO EMISSIONS GOING DOWN THIS CORRIDOR.

T-5-35

DISPLACEMENT, ZERO EMISSIONS, AND COMMUNITY BENEFITS CAN ALL HAPPEN TOGETHER. WHEN YOU ALL STOP SAYING NO, AND INSTEAD STOP ASKING HOW, WE WILL FIND A SOLUTION. THANK YOU.

MS. MCCORMICK: JAN, AND THEN ALSO MARIA GARCIA.

CAN YOU GIVE US YOUR NAME AND -- FIRST AND LAST NAME, PLEASE.

MR. ANDASON: GOOD EVENING, MY NAME IS JAN VICTOR ANDASON. I AM A COMMUNITY MEMBER AND ORGANIZER WITH ECR COMMUNITIES FOR ENVIRONMENTAL JUSTICE. I ORGANIZE IN LONG BEACH, BUT I LIVE IN CARSON, THE CITY OF CARSON.

I IMMIGRATED FROM THE PHILIPPINES IN 1997, AND I MOVED TO WEST LONG BEACH, AND THEN SHORTLY, AFTER A COUPLE OF YEARS, SEVEN, SIX, SEVEN YEARS, WE MOVED TO CARSON. BUT IN THE TWO DECADES I'VE LIVED IN THE UNITED STATES, I'VE KNOWN POLLUTION. THAT'S THE ONLY AIR I'VE EVER BREATHED, TAKEN IN, AND THAT'S THE ONLY AIR I'VE EVER KNOWN. MY BROTHER WAS BORN A YEAR AFTER WE MOVED FROM THE PHILIPPINES, AND HE, IN HIS YOUNG LIFE, HAD TO DEAL EVERY SINGLE NIGHT WITH GETTING ON A NEBULIZER. AND IF YOU DON'T KNOW WHAT A NEBULIZER MEANS, IT MEANS THAT HE CAN'T BREATH AT NIGHT ON HIS OWN BECAUSE THE AIR IS SO BAD BECAUSE OF THE POLLUTION THAT WE DEAL WITH ON A DAILY BASIS, NOT JUST FROM THE 710, BUT EVERYTHING THAT WE ALREADY DEAL WITH.

AND THAT'S WHY I'M HERE TODAY. THAT'S WHY MANY OF US ARE HERE TODAY. WE'RE ASKING FOR REAL SOLUTIONS TO IMPROVE THE CONDITION OF OUR LIVES, NOT JUST HERE IN LONG BEACH, IN CARSON, BUT ACROSS THE REGION. AND SO FOR ME, THIS IS WHY MANY OF US ARE ASKING FOR ZERO EMISSIONS. IT'S NOT JUST THIS IDEA OF LET'S JUST THROW MONEY AROUND. BECAUSE IS IT REALLY -- IS THERE TOO GREAT OF A COST WHEN IT COMES TO PREVENTING HEALTH ISSUES, WHEN IT COMES TO INVESTING IN THE FUTURE GENERATIONS THAT'S GOING TO BE BREATHING IN THE AIR? IS THERE REALLY A COST THAT'S TOO HIGH? T-5-36

THAT'S WHY WE ARE ASKING NOT FOR NEAR ZERO EMISSIONS BUT FULL ZERO EMISSIONS. WHY IS THAT SO DIFFICULT, WHEN EVERYBODY BREATHS IN AIR? WHY IS IT SO DIFFICULT FOR US TO GET CLEAN AIR? AND SO FOR ME, THAT'S WHY I'M HERE, THAT'S WHY MANY OF THE FOLKS HAVE BEEN HERE SINCE 1999. AND I'M SURE FOLKS HAVE BEEN TALKING ABOUT THIS FOR YEARS. AND WHAT WE'RE ASKING, NOT JUST FOR YOU TO LISTEN, TO STUDY, BUT ACTUALLY GIVE US -- TO MAKE THE SOLUTIONS A REALITY BECAUSE AFTER THIS MEETING, WE'RE GOING GO BACK HOME, WE'RE GOING TO DRIVE UP THE 710, PROBABLY LIVE RIGHT NEXT TO THE CORRIDOR, AND WE'RE GOING TO DEAL NOT JUST WITH THE POLLUTION. WE'LL SEE THE PARTICULATES WHEN WE WIPE OUR WINDOWS, AND ON A DAILY BASIS, WITH OUR CHILDREN, OUR FRIENDS, OUR FAMILY GETTING ASTHMA ATTACKS. AND SO THAT'S WHY WE'RE PUSHING FOR ZERO EMISSIONS.

AND I ALSO WANT TO TALK ABOUT SOMETHING THAT'S REALLY IMPORTANT. A STRUGGLE IN THIS PROJECT TOO IS, HOW DO WE INVEST IN THE COMMUNITY NOT JUST AROUND HEALTH, BUT AROUND JOBS. RIGHT NOW IN LONG BEACH, WE'RE IN ONE OF THE ZIP CODE WITH THE HIGHEST UNEMPLOYMENT RATES. AND SO IF THIS IS A MULTI-BILLION-DOLLAR PROJECT, LET'S INVEST IN HEALTH. LET'S INVEST IN LOCAL JOBS FOR THE COMMUNITIES IMPACTED DAILY. AND LET'S MAKE THIS NOT JUST A PROJECT TO BUILD A BIGGER FREEWAY BUT INVESTMENT IN THE FUTURE OF OUR REGION, OF OUR COMMUNITY. AND THIS IS WHY WE'RE ALL HERE. THANK YOU. T-5-37

MS. MCCORMICK: MARIA GARCIA AND THEN YANELI PEREZ.

GO RIGHT AHEAD.

MS. GARCIA: THANK YOU. GOOD AFTERNOON, MY NAME IS MARIA GARCIA, AND I AM A LONG BEACH RESIDENT -- ACTUALLY, NORTH LONG BEACH, WHERE IT'S ONE OF THE PARTS IS MORE CONTAMINATED. AND I'M A MOTHER OF TWO KIDS, AND I'M ALSO A GRANDMA. AND I'M HERE BECAUSE BEING WORKING IN LONG BEACH AND (INAUDIBLE) WITH ASTHMA, SEEING ALL THESE YEARS, FOR 14 YEARS, ALL OF THESE FAMILIES SUFFERING WITH KIDS WITH ASTHMA JUST BEING IN EMERGENCY ROOM, HOSPITALIZED, YOU KNOW, I WOULD LOVE TO SEE YOU GUYS GO AND VISIT THE CHILD HAVING AN ASTHMA ATTACK IN THE HOSPITAL. IT'S SO DIFFICULT FOR PARENTS.

SO NOT ONLY THE FAMILIES I VISIT, YOU KNOW, MY FAMILY, YOUR FAMILIES, I WANT TO ENCOURAGE TO BE ZERO EMISSIONS, BECAUSE HAVING ZERO EMISSIONS IN ONE OF THE PARTS T-5-38

NOT NEAR ZERO, ZERO EMISSIONS. IT'S THE WAY WE ARE GOING TO BE GETTING THE BETTER HEALTH. AND ZERO EMISSIONS MUST INCLUDE EMISSIONS (INAUDIBLE) CORRIDOR BECAUSE EMISSIONS COMMUNITIES NEED TO CLEAN UP OUR AIR. WE DESERVE GOOD HEALTH AND OUR KIDS -- EXCUSE ME -- GROWING UP HEALTHY AND NOT SUFFERING ASTHMA OR ANOTHER RESPIRATORY PROBLEMS. T-5-38

I AM AGAINST DISPLACEMENT AND JUST WANT YOU ALL TO THINK, IF YOU WILL BE LIVING IN THOSE HOUSES BEING SENIORS AND LIVING ALL YOUR LIFE THERE, AND HOW YOU FEEL LIKE SOMEBODY COME AND SAY "GET OUT FROM YOUR HOUSE," FROM ONE DAY TO ANOTHER, AND YOU DON'T HAVE PLACE TO GO? I DON'T WANT TO THINK THESE SENIORS THEY ARE GOING TO BE HAVING A BETTER LIFE IF THEY MOVE. SO JUST CONSIDER WHEN YOU DISPLACE THESE COMMUNITY CENTERS, ALL THESE HOUSES YOU PLANNING TO MOVE FROM THE FREEWAYS, AROUND THE FREEWAYS, WHAT THESE PEOPLE, THEY ARE GOING TO BE DOING AND HOW THEIR LIFE IS GOING TO BE WITH THESE CHANGES, PUT IN, YOU KNOW, A LOT OF PRESSURES STRESS, AND MORE DIFFICULTIES IN THEIR HEALTH. SO THANK YOU SO MUCH FOR HEARING ME. I HOPE YOU KNOW MY THROAT DOESN'T -- T-5-39

MS. MCCORMICK: THANK YOU VERY MUCH.

MS. GARCIA: THANK YOU SO MUCH. THINK ABOUT IT.

MS. MCCORMICK: THANK YOU.

YANELI AND THEN MARIBEL FLOREZ.

MS. PEREZ: I DON'T KNOW HOW YOU COULD SIT THERE AND NOT HAVE A DRY EYE BECAUSE I MISS BEING OUTSIDE. I MISS

SEEING MY DAUGHTER PLAY OUTSIDE. I LIVE HERE TWO YEARS, AND I JUST SEE MY DAUGHTER SUFFER WITH ASTHMA THIS PAST WEEK. IT'S BEEN THE WORST FOR ME, SEEING HER BLEEDING OUT OF HER NOSE, WITH BLOOD CLOTS COMING OUT OF HER NOSE, NOT BEING ABLE TO BREATH AT NIGHT, HOPING. YOU JUST SIT THERE AND NOT THINK THAT WE NEED AIR TO BREATH, ALL THESE PEOPLE SUFFERING, AND YOU'RE KICKING THEM OUT OF THEIR HOUSE.

I MEAN, IT'S MY CHILD. YOU MAY NOT CARE BECAUSE SHE'S NOT YOUR CHILD, BUT SHE'S MINE. WHEN SHE CAN'T PLAY OUTSIDE -- I CAN'T LET HER PLAY OUTSIDE HERE, WHERE I LIVE, IN WILMINGTON. IT'S HORRIBLE. I HATE LIVING THERE. AND I JUST LEAVE AND GO SOMEWHERE ELSE BECAUSE I HAVE TO LIVE THERE BECAUSE OF MY MONEY PROBLEMS. AND THEN KNOWING THAT I HAVE CANCER, IT'S THE WORSE THING. I HAVE ASTHMA, CANCER. MY DAUGHTER HAS ASTHMA. IT'S JUST THE WORST, KNOWING THAT WE LIVE HERE AND THEN THE PEOPLE DON'T CARE ABOUT WILMINGTON OR LONG BEACH OR THE CLEAN AIR OR PEOPLE. IT'S JUST HORRIBLE.

AND WHAT I'M TRYING TO SAY IS THAT WE WANT ZERO EMISSIONS, JUST PLEASE CONSIDER IT, AND PLEASE THINK ABOUT IT OR PICK UP A FREAKING SOUL AND JUST DO IT. THANK YOU. T-5-40

MS. MCCORMICK: THANK YOU. AND THEN JENNIFER BEAVER.

MS. TORRES: HELLO, MY NAME IS NAREIDA TORRES, AND I'M A MEMBER OF THE LONG BEACH LATINOS IN ACTION CALIFORNIA. AND I'M FROM THE CITY OF LONG BEACH, WHERE I WAS GOING TO

TALK ABOUT THE EIR, THE EXPANSION THIS YEAR, THE NO DISPLACEMENT, ABOUT THE PEOPLE, LIKE THE ONE SHE'S BEEN PAYING HER HOUSE FOR 20 YEARS, AND YOU'RE JUST GOING TO TELL HER "OKAY. I'M THE BEST PLACE. I NEED TO GET OUT OF HERE," BECAUSE YOU'RE ONLY THINKING ABOUT MONEY, MONEY, MONEY, MONEY. EVERYBODY JUST THINKING ABOUT THAT. T-5-41

ANOTHER THING, IT'S ABOUT THE HEALTH OF THE PEOPLE HERE, IN THE CITY OF LONG BEACH. DON'T YOU SEE ALL THESE FREEWAYS AROUND US? WE HAVE THE 22. WE HAVE THE 605. WE HAVE THE 91. WE HAVE THE 405. AND THEN YOU WANT TO EXPAND THE 710, BUT YOU DON'T THINK ABOUT THE HEALTH OF THE PEOPLE HERE, IN THE CITY OF LONG BEACH. T-5-42

I'VE BEEN LIVING HERE SINCE 1994, AND ALL I'VE BEEN HEARING ABOUT IS ABOUT JUST THINKING ABOUT ALL THE PEOPLE, OF THEIR HEALTH. PEOPLE THAT HAS BEEN SUFFERING, YOU DON'T THINK ABOUT THAT. OTHER THING IS THAT YOU JUST THE ONLY THING IS THINKING ABOUT, LIKE YOU SAID, ABOUT MONEY, AND THE HEALTH OF THE PEOPLE, YOU DON'T THINK ABOUT THAT.

SO -- AND WHAT THEY HAVE BEEN TELLING YOU TOO IS ABOUT ALL THOSE PAPERS THAT YOU HAVE THERE, IT'S BEEN -- WE DON'T UNDERSTAND WHAT THEY SAY BECAUSE YOU ALL ARE ONLY THINKING ABOUT YOU. WHY YOU DON'T TAKE MORE DAYS, 120 DAYS MORE, SO WE CAN ALL KNOW WHAT IS ALL ABOUT, THAT. THANK YOU. T-5-43

MS. MCCORMICK: THANK YOU.

JENNIFER, AND THEN AFTER JENNIFER, ALLEN TOCA.

GO AHEAD.

MS. BEAVER: GOOD EVENING, AND THANK YOU FOR THE CHANCE TO COMMENT ABOUT THE PROPOSED 710 EXPANSION. JENNIFER BEAVER, PROUD WRIGLEY NEIGHBORHOOD RESIDENT FOR THE PAST 27 YEARS. AS MANY HAVE REFERENCED PREVIOUSLY, I HAVE A KIND OF A STRANGE FEELING OF DE-JA-VOUZ ALL OVER AGAIN. WE'VE BEEN TALKING ABOUT THE 710 FOR MANY YEARS, AND MANY OF THE ISSUES KEEP COMING UP AGAIN AND AGAIN.

ONE THING THAT A VERY ARTICULATE SPEAKER FROM USC MENTIONED EARLIER, PARTICULATES FROM THE 710 CAN TRAVEL UP TO A MILE, YET MR. MCCANN MENTIONED ONLY THOSE WITHIN ABOUT 500 FEET OF THE FREEWAY HAVE BEEN NOTICED ABOUT THE PROPOSED EXPANSION. I WOULD SUGGEST AND IMPLORE YOU TO EXTEND YOUR COMMUNITY OUTREACH TO THOSE WITHIN A MILE OF THE 710 FREEWAY, SO THAT THEY ALSO HAVE THE OPTION OF LEARNING HOW THIS PARTICULATE WILL AFFECT THEM. PLEASE EXTEND YOUR OUTREACH TO EVERYONE, THE BUSINESS AND THE RESIDENTS, WITHIN A MILE OF THE 710 FREEWAY, AND EXTENT THE COMMENT PERIOD AS WELL. THANK YOU. T-5-44

MS. MCCORMICK: THANK YOU.

ALLAN, AND THEN ELLIOTT GONZALEZ.

MR. TOLKOFF: GOOD EVENING, MY NAME IS ALLAN TOLKOFF. I'M A WRIGLEY RESIDENT ALSO. AND ONE OF THE POINTS THAT MY WIFE JUST MADE, I'LL CROSS OFF MY LIST. I'D LIKE TO

THANK MR. KOSINSKI, BECAUSE YOU SAID SOMETHING THAT -- I MEAN THIS IN THE MOST POLITE POSSIBLE WAY. I THINK HE HAD THE MOST TRUTH OF ANYTHING I'VE HEARD FROM ONE OF THE EXPERTS FROM OUT OF TOWN THAT'S TELLING US WHAT WE NEED. AND YOU SAID TONIGHT THAT NO MATTER WHAT HAPPENS WITH ALL THESE POTENTIALS, THEY WILL ALLL HAVE ADVERSE CONSEQUENCES FOR US. AND THAT WAS ABSOLUTELY BRILLIANT, BECAUSE IT'S TRUE.

I WOULD LIKE TO FURTHER REFINE THAT, IF YOU DON'T MIND, WITH MY OWN WORDS, AND IT BOILS DOWN TO THIS: THE WALLETS OF THE PEOPLE WHO WILL BENEFIT FROM THE PORT ARE MORE IMPORTANT THAN THE HEALTH OF THE PEOPLE WHO LIVE NEAR THE PORT.

SO ON TO MY SPECIFIC REQUESTS. WE'VE GOT -- I THINK THIS IS AN $8,000,000,000 PROJECT, AND THERE'S $1,000,000,000 ALREADY SET ASIDE, AND WE HAVE THIS ALAMEDA CORRIDOR THAT IS NOT TECHNICALLY DORMANT, BUT IT'S CERTAINLY UNDER-UTILIZED. WOULD YOU PLEASE CONSIDER TAKING SOME OF THIS MONEY, SUBSIDIZING THE PEOPLE WHO DRIVE THE TRUCKS TO PUT THEIR MATERIAL ON THE RAIL? T-5-45

MY SECOND SPECIFIC RECOMMENDATION IS: WHAT DO WE HAVE TO DO TO COME INTO THE 21ST CENTURY, LIKE SO MANY OTHER PORTS, AND UTILIZE ON-DOCK RAIL? I KNOW IT'S COMPLICATED. I'VE HEARD REPORTS ABOUT IT. BUT COME ON, FOLKS, IF WE CAN'T DO THIS IN THE UNITED STATES AND A LOT OF COUNTRIES CAN, I'M NOT BUYING WHAT'S BEING SOLD. I'M SORRY. WE CAN DO THIS T-5-46

BETTER.

HOW MUCH TIME HAVE I GOT LEFT, PLEASE?

MS. MCCORMICK: A LITTLE BIT MORE TIME.

MR. TOLKOFF: WELL, NOT JUST A LITTLE.

MS. MCCORMICK: KEEP GOING, YOU'VE GOT ABOUT A MINUTE.

MR. TOLKOFF: A MINUTE. I'D LIKE TO POINT OUT THE WONDERFUL PLANNING THAT OUR EXPERTS FROM OUT OF TOWN HAVE PROVIDED FOR US. WHEN MY LOVELY, WONDERFUL WIFE AND I MOVED HERE, WE ENTERED ESCROW 27 DAYS, (INAUDIBLE) YEARS, AND SIX DAYS AGO, ONE OF THE REASONS WE PICKED OUR WRIGLEY HOME IS BECAUSE, ACCORDING TO ALL THE EXPERTS, INCLUDING CALTRANS, THIS IS THE CLEANEST AIR IN THE UNITED STATES OF AMERICA. I AM NOT KIDDING YOU. WE ARE EDUCATED PEOPLE. WE ARE INTELLIGENT. WE KNOW HOW TO DO OUR RESEARCH.

WE PICKED THE HOME, IN PART, BECAUSE HE HAD A BABY COMING INTO THE WORLD. AND 20 YEARS LATER, THE WONDERFUL FOLKS AT USC SAID "OH, SORRY, THE EXPERTS WERE WRONG. IT'S ACTUALLY THE WORST AIR IN THE COUNTRY." THANK YOU, THANK YOU, REALLY.

LET ME POINT OUT A COUPLE OF OTHER PLANS THAT THE EXPERTS HAVE --

MS. MCCORMICK: IF I MAY ASK YOU TO WRAP UP YOUR COMMENTS.

MR. TOLKOFF: I'D BE HAPPY TO WRAP UP IF YOU DON'T

MIND.

MS. MCCORMICK: OKAY. GO AHEAD AND WRAP IT UP.

MR. TOLKOFF: YOU TOLD US HOW GREAT ABOUT 15 YEARS AGO THE ALAMEDA CORRIDOR WAS GOING TO BE, AND IT'S OBVIOUSLY BEEN PRETTY DARN CLOSE TO A FAILURE. NOW THE EXPERTS ARE TELLING US THAT TWO-AND-A HALF-BLOCKS EAST OF MY HOUSE, THE SALVATION FOR EVERYTHING, IS THE BLUE LINE AND, THEREFORE, WE SHOULD HAVE MORE DENSITY. SO 15 YEARS AGO A TRAIN FAILED, NOW IT'S GOING TO WORK, AND WE STILL AREN'T LOOKING AT THIS BOONDOGGLE OF MONEY THAT WE'VE SPENT OVER THERE. I THINK ITS $2,000,000,000, 15 YEARS AGO. WHEN ARE WE GOING TO GET OUR PLANNING DONE RIGHT, PLEASE? THANK YOU VERY MUCH FOR YOUR ATTENTION.

MS. MCCORMICK: THANK YOU. I'D LIKE TO INVITE ELLIOTT GONZALEZ AND THEN AMY RASMUSSEN AFTER YOU.

THANK YOU GO. RIGHT AHEAD, SIR.

MR. GONZALEZ: YES, SO I JUST WANTED TO --

MS. MCCORMICK: GIVE US YOUR NAME, SIR.

MR. GONZALEZ: ELLIOTT GONZALEZ.

MS. MCCORMICK: THANK YOU.

MR. GONZALEZ: I DO SUPPORT THE ADVOCACY FOR CLEAN ENERGY, INCLUDING ENERGY THAT'S RENEWABLE ENERGY. I'M WITH AN ORGANIZATION CALLED STOP FRACKING LONG BEACH. I'M A DEDICATED ENVIRONMENTALIST. AND ONE THING THAT I'VE BEEN STUDYING IS THE IMPACTS OF OIL LOGGING, OIL AND GAS, WHICH IS

THE SAME INDUSTRY. THE OIL INDUSTRY AND THE GAS INDUSTRY ARE THE SAME INDUSTRY, AND WE SPENT $390,000,000 IN CALIFORNIA ALONE. I WANT TO SHOW THAT THIS IS A PERFECT EXAMPLE OF WHAT THAT LOBBYING LOOKS LIKE.

SO THIS SUPPOSED NEAR-ZERO-TRUCK OPTION, THIS NEW TRUCK OPTION, IT'S PRETTY MUCH WHAT WE'VE SEEN OVER THE PAST DECADE, WHERE YOU'RE ASKING EVERYONE TO SWITCH OVER TO A NATURAL-GAS-BURNING VEHICLE. NATURAL GAS IS A FOSSIL FUEL. IT'S FRACKED USUALLY. IT'S EXTRACTED BY THE SAME PEOPLE WHO BROUGHT YOU OIL, BY THE SAME PEOPLE WHO BROUGHT YOU ALL THESE PROBLEMS THAT WE'RE TALKING ABOUT -- CANCER, ASTHMA, LIFE-THREATENING PROBLEMS, THINGS THAT PEOPLE LIVE WITH, THINGS THAT PEOPLE ARE DRYING FROM.

SO I JUST WANT TO MENTION THAT THAT'S WHAT THIS IS, THIS NEAR ZERO. WE'RE NOT ASKING FOR NEAR ZERO. WE'RE NOT SAYING WE NEED REDUCED NATURAL GAS. WE ARE SAYING WE NEED TO GO OFF OF FOSSIL FUELS. WE NEED CLEAN ENERGY. PEOPLE HAVE BEEN SAYING THAT FOR A LONG TIME NOW, "CLEAN ENERGY NOW." THAT'S AN OLD, THAT'S AN OLD SAYING. T-5-47

AND YOU LOOK NOW, THINGS ARE GETTING WARMER. CLIMATE CHANGE IS REAL, HAS ALWAYS BEEN REAL. THERE WAS A DEBATE DURING A TIME THERE SHOULD HAVE BEEN IMMEDIATE ACTION, AND NOW WE'RE IN A WARMING CLIMATE. IF WE ARE SERIOUS ABOUT TAKING ON CLIMATE CHANGE, THAT MEANS WE HAVE TO BE COMMITTED TO USING TECHNOLOGY THAT DOES NOT REQUIRE FOSSIL FUELS. THIS

FOSSIL FUEL MUST BE STORED, IT MUST BE EXTRACTED, AND IT'S VOLATILE IN EVERY STEP OF THE WAY.

ONCE IT IS BURNED INTO THE ATMOSPHERE, WHERE IT HAS NO BUSINESS BEING BURNED, IT WILL LEAD TO THE WARMING OF THE PLANET. IT WILL CONTINUE THAT, AND WILL MAKE IT MORE LIKELY OUR CHILDREN WILL HAVE A PLANET THAT IS UNINHABITABLE. WE KNOW THAT IS WHAT THE FUTURE IS GOING TO BE. WE NEED TO TAKE THAT SERIOUSLY. IF I KNOW THIS, AND I DON'T HAVE A COLLEGE DEGREE, I'M NOT REALLY THAT EDUCATED, I AM COMMITTED TO TAKING ON CLIMATE CHANGE. I TAKE THAT SERIOUSLY. BUT IF I KNOW THIS AND I'M NOT AN EXPERT, I'M SURE THAT THE EXPERTS KNOW THIS.

WHY IS IT THAT THE EXPERTS ARE PLANNING SOMETHING THAT REQUIRES FOSSIL FUELS? HOW ARE THEY PLANNING ON MAINTAINING INFRASTRUCTURE THAT RELIES ON FOSSIL FUELS IN 2017? WHY ARE WE TALKING ABOUT EXPANDING A FREEWAY IN 2017? NO, WE NEED TO TALK ABOUT EXPANDING THE METRO. WE NEED TO TALK ABOUT THE BIKE ROADWAYS. THESE AREN'T JUST LIKE SIDE PROJECTS. THIS IS THE INFRASTRUCTURE THAT WE HAVE ALWAYS BEEN CALLING FOR FOR THE PAST TWO OR THREE DECADES. T-5-48

YOU KNOW, WE ARE SEEING THE CHILDREN THAT HAVE ASTHMA ARE GROWING UP, AND THEY'RE NOW ADVOCATING FOR THE SAME THINGS THAT THEIR MOMS WERE ADVOCATING FOR. THIS IS REALLY SAD. SO, YOU KNOW, I CAME HERE REALLY FOR THE COMMUNITY, FOR ECR, FOR THE ALLIANCE FOR CHILDREN WITH

ASTHMA. I FEEL LIKE YOU GUYS NEVER REALLY LISTEN. YOU KNOW, NONE OF THESE COMMENTS ARE MOOT BUT, YOU KNOW, I DO SUPPORT THE COMMUNITY, SO THAT'S WHY I'M HERE.

MS. MCCORMICK: THANK YOU.

(INAUDIBLE) AND THEN KEVIN GOYNES.

GO AHEAD, AMY.

MS. RASMUSSEN: GOOD EVENING, MY NAME IS AMY CABRERRA RASMUSSEN. I'M AN ASSOCIATE PROFESSOR OF POLITICAL SCIENCE AT CAL STATE LONG BEACH, AND I RESEARCH ENVIRONMENTAL HEALTH POLICY ISSUES. I'VE ALSO BEEN WORK WITH THE BUILDING HEALTHY COMMUNITIES LONG BEACH ENVIRONMENTAL HEALTH WORK GROUP FOR SEVERAL YEARS, AND I'M HERE TONIGHT JUST TO ADD MY VOICE TO THE MANY COMMUNITY RESIDENTS AND ADVOCATES HERE TONIGHT, WHO HAVE BEEN WORKING ON THIS ISSUE FOR, AS YOU'VE HEARD, ALMOST TWO DECADES.

MAKE NO MISTAKE, WE ARE IN A PUBLIC HEALTH CRISIS HERE IN LONG BEACH AND IN SOUTHERN CALIFORNIA. COUNTLESS COMMUNITY VOICES OVER THE YEARS AND NUMEROUS MEDICAL AND (INAUDIBLE) STUDIES HAVE CLEARLY SUBSTANTIATED THE PUBLIC HEALTH IMPACT OF POLLUTION FOR GOODS MOVEMENT, AND WE KNOW THAT WORKING CLASS COMMUNITIES OF COLOR BEAR THE GREATEST BURDEN.

AS A POLITICAL SCIENTIST, I KNOW THAT PROBLEMS THAT SEEM OVERWHELMING IN SCOPE THAT GO ON FOR YEARS ARE DIFFICULT TO TACKLE. IT IS EVEN HARDER WHEN THESE CRISES ARE SLOW

MOVING, WITH MANY CAUSE TO BLAME, RATHER THAN BEING DRAMATIC OR SUDDEN LIKE, SAY, A HURRICANE. EVEN WHEN THESE TYPES OF OF PROBLEMS ARE TACKLED, PROGRESS IS USUALLY SLOW AND INCREMENTAL. YET, THE 710 PROJECT IS A RARE MOMENT WHERE REAL AND SIGNIFICANT IMPROVEMENTS TO COMMINITY HEALTH ARE POSSIBLE, BUT ONLY IF OUR ACTIONS AND PLANS ARE BOLD, THAT THEY HAVE TEETH, AND THAT THEY TRULY INCORPORATE COMMUNITY NEED AND PRIORITIES.

FIRST, I WOULD ECHO WHAT MANY OTHERS HAVE SAID, THAT THE COMMENT PERIOD NEEDS TO BE EXPANDED TO GIVE PEOPLE TIME TO BE ABLE TO UNDERSTAND THE DRAFT EIR. I HAVE A PH.D., AND I STILL HAVEN'T MADE IT THROUGH THE ENTIRE DRAFT. SECONDLY, THE PLAN SHOULD ENDORSE AND FULLY INCENTIVIZE ZERO EMISSIONS. PERIOD. NEAR ZERO IS NOT SUFFICIENT TO PROTECT PUBLIC HEALTH, AND I THINK THAT THAT COMMENT HAS BEEN MADE VERY CLEARLY HERE TONIGHT. THIRD, THE PROJECT MUST MAINTAIN COMMUNITY INTEGRITY. WHAT I MEAN BY THIS IS THAT WE MUST AVOID DISPLACEMENT WHEN AT ALL POSSIBLE. AND IF IT IS ABSOLUTELY UNAVOIDABLE, WE MUST PROVIDE ASSISTANCE FOR THOSE WHO ARE AFFECTED, ESPECIALLY VULNERABLE POPULATION, LIKE HOMELESS AND OTHERS.

FINALLY, I WOULD SAY THAT ANY ENACTED PLAN SHOULD PRIORITIZE AND FACILITE THE TRAINING AND HIRE OF LOCAL RESIDENTS FOR GOOD-PAYING JOBS TO HAVE THE MOST SIGNIFICANT LONGTERM -- IMPACT. IN SHORT, OUR POLICIES AND THE

T-5-49

T-5-50

T-5-51

T-5-52

IMPLEMENTATION MUST LIVE UP TO OUR VALUES. WHAT HAPPENS HERE, IN SOUTHERN CALIFORNIA, CAN IMPACT OUR COMMUNITY, BUT IT CAN ALSO CHANGE MARKET INCENTIVES, AND IT CAN SET AN EXAMPLE FOR THE STATE AND THE ENTIRE NATION. WHAT HAPPENS HERE MATTERS. THANK YOU VERY MUCH.

MS. MCCORMICK: THANK YOU.

HILDA AND THEN FATIMA CANERA.

YOU CAN PULL THAT DOWN. WE CAN HEAR YOU.

MS. DUENAS: HI, GOOD AFTERNOON. MAY NAME IS HILDA DUENAS. I LIVE IN THE BORDER OF CARSON AND LONG BEACH NEAR TO THE FREEWAY 710 AND 410 -- 405, SORRY. I AM MEMBER OF AND I SUPPORT LATINOS IN ACTION TOO. I'M HERE SUPPORTING MY COMMUNITY AND THE ORGANIZATION THAT I HAVE ALREADY MENTIONED. I AM ASKING FOR ZERO EMISSIONS. I AM REQUESTING 120 EXTRA DAYS IN ORDER TO REVIEW THE EIR. IT IS VERY PAINFUL FOR ME TO SEE OUR COMMUNITY SUFFERING AND FOR THE PAIN THAT PEOPLE ARE FEELING RIGHT HERE IN THIS ROOM, AND THEIR FAMILIES AND THEIR FRIENDS. I SYMPATHIZE WITH THEM BECAUSE I HAVE GONE THROUGH THE SAME SUFFERING MYSELF. T-5-53 T-5-54

MY YOUNGEST DAUGHTER ALSO HAS BEEN SUFFERING WITH ASTHMA. I ALSO HAVE MY SMALL GRANDSON, WHO IS FOUR YEARS OLD, AND HE'S HAVING RESPIRATORY PROBLEMS. OFTENTIMES WHEN I TAKE HIM TO THE PARK, HE WILL BE ILL. THE FOLLOWING DAY, HE GETS FEVER, THE CHILLS, AND THESE ARE VERY STRANGE ILLNESSES THAT SET ON SUDDENLY. I TAKE HIM TO THE PARK BECAUSE I LIVE

VERY CLOSE OR FEET AWAY FROM MANY FREEWAYS, AND WE GET A LOT OF AIR POLLUTION AND ALL OF THESE MOLECULES THAT COME INTO THE AIR THAT TRAILERS AND TRUCKS ARE EMITTING.

WHEN MY DAUGHTER WAS YOUNG, SHE WAS TO THE WEBSTER SCHOOL IN WEST LONG BEACH. I OFTEN TIMES HAD TO BE ABSENT FROM WORK OR LEAVE WORK BECAUSE I HAD TO TAKE HER TO THE DOCTOR OR HOSPITAL BECAUSE SHE HAD ASTHMA. AND THE REASON I'M HERE IS TO ASK YOU, ALL THE REPRESENTATIVES HERE, TO LISTEN TO US AND TO LISTEN TO ALL OUR COMMENTS FROM PEOPLE THAT ARE PRESENT, AS WELL AS PEOPLE THAT ARE NOT PRESENT TODAY, THAT WE LISTEN TO WHEN WE ARE IN OUR IN CITY HALL MEETINGS OR IN OUR OWN ORGANIZATIONAL MEETINGS, THEY HAVE A LOT OF COMPLAINTS, AND THEY NEED TO BE HEARD.

MS. MCCORMICK: THANK YOU.

MS. DUENAS: THANK YOU.

MS. MCCORMICK: FATIMA, AND THEN BELINDA WATSON.

CAN I HAVE YOUR NAME, PLEASE?

MS. CARRERA: HELLO, MY NAME IS FATIMA CARRERA, AND I AM A MEMBER OF EAST YARDS COMMUNITY FOR ENVIRONMENTAL JUSTICE, AND I AM HERE TO TALK ABOUT THE IMPACTS THAT THE EXPANSION WILL HAVE ON COMMUNITY MEMBERS SURROUNDING THE 710, FREEWAY, NOT ONLY IN TERMS OF HEALTH BUT ALSO IN TERMS OF THEIR LIVING SITUATIONS.

WE KNOW THAT DISPLACEMENT IS INEVITABLE. A COUPLE OF MY FRIENDS HAVE ALREADY RECEIVED, YOU KNOW, NOTIFICATIONS

THAT THEY WILL BE POTENTIALLY DISPLACED. THEY DON'T HAVE ANYWHERE ELSE TO MOVE, AS IS THE CASE FOR A LOT OF MEMBERS SURROUNDING THE 710 FREEWAY SINCE IT'S, YOU KNOW, LOW INCOME PEOPLE-OF-COLOR COMMUNITIES THAT WE'RE TALKING ABOUT. NOT ONLY WILL PRIVATE HOMES BE AFFECTED, BUT ALSO COMMUNITY RESOURCES, WHICH WE REALLY NEED IN THIS REGION, SUCH AS A MULTI-SERVICE CENTER, WHICH PROVIDES SHELTER FOR THE HOMELESS, AND KEEP IN MIND THAT THE LA AND THE LONG BEACH AREA IS CONSIDERED ONE OF THE MOST POPULATED AREAS IN TERMS OF HOMELESSNESS.

I LIVE RIGHT OFF THE 710 FREEWAY, RIGHT BETWEEN THE FLORENCE AND FIRESTONE EXITS, AND I HAVE BEEN LIVING THERE FOR THE PAST TEN YEARS, WHICH IS WHERE I MOVED WHEN I CAME HERE FROM MEXICO TEN YEARS AGO. I'VE BEEN A RUNNER FOR A WHILE, AND DUE TO THE LACK OF PARKS AND PLACES TO EXERCISE, WE'VE BEEN FORCED TO, LIKE, PRACTICE AND RUN AROUND MY NEIGHBORHOOD. SO HAVING, LIKE, RAILROADS, REFINERIES, 710 FREEWAY, LIKE, THE 405, WE'RE LIVING RIGHT IN THE MIDDLE OF FOUR MAJOR FREEWAYS. ALL THAT POLLUTION JUST KIND OF STICKS IN THE CENTER, AND WE'RE FORCED TO SOMEHOW LIVE WITH THAT.

I NO LONGER RUN, BUT MY SIBLINGS ARE NOW FORMING PART OF CROSS-COUNTRY TEAMS AND THE MARATHONS, PRACTICING FOR THE MARATHONS. FOR A WHILE NOW MY SISTER HAS BEEN EXPERIENCING RECURRING NOSE BLEEDS, AND THANKFULLY WE DON'T SUFFER FROM ASTHMA, BUT WE DO HAVE A MYRIAD OF DIFFERENT

ILLNESSES RUNNING THROUGH MY FAMILY. I KNOW THAT IT'S NOT JUST GENETIC BECAUSE GENETIC IS ONLY A SMALL PORTION, WHICH IS, IT CAN ONLY BRING ABOUT, LIKE, THE ILLNESS DUE TO THE ENVIRONMENTAL SITUATION OR -- YEAH, THAT WE LIVE IN.

SO I WANT TO ASK YOU TO INVEST ON ZERO EMISSIONS AND NOT NECESSARILY ON THE EXPANSION OF WHAT WOULD BE ANOTHER SOURCE OF ILLNESS FOR US, NOT ONLY IN TERMS OF ASTHMA AND CANCER BUT A MYRIAD OF OTHER PROBLEMS. ONE-DOLLAR INVESTMENT IN CLEAN AIR LEADS TO THREE TO $8 SAVING IN HEALTH COSTS, AND I THINK THAT WE SHOULD BE REALLY FOCUSING ON PREVENTION RATHER THAN STRESSING LATER ON IN THE FUTURE ABOUT HOW WE CAN SOLVE THOSE PROBLEMS. T-5-55

FINALLY WE ASK THAT YOU EXTEND THE COMMENTING PERIOD TO 120 DAYS. THANK YOU. T-5-56

MS. MCCORMICK: THANK YOU.

BELINDA AND THEN SUZANNE BROWN.

MS. WATSON: HI, I'M BELINDA WATSON, AND I AM CONCERNED ABOUT SOME OF THE IMPROVEMENTS THAT THEY WANT TO DO TO THE FREEWAY. MY FIRST TIME ACTUALLY EVER SEEING SOME OF THE RECOMMENDATIONS WAS JUST TODAY, SO -- BUT WHAT I SAW, I DIDN'T LIKE, IN THAT IT SEEMS LIKE THE FOCUS IS TO IMPROVE THE ACCESS ON THE -- NOT ACCESS, BUT ONCE YOU'RE ON THE FREEWAY, THE AMOUNT OF TIME ON THE FREEWAY, BUT IT'S NOT CONCERNED ABOUT GETTING ONTO THE FREEWAY.

SO IN THE PROPOSAL, THEY ARE REMOVING SOME ACCESS TO

THE 710 AND THE 405. I LIVE IN WRIGLEY, AND SO I'M VERY CLOSE TO THE 710 AND 405. SO THE REMOVING ACCESS TO THE 405 FROM OFF OF PACIFIC AND THEN REMOVING IT OFF OF WARDLOW, SO IN A WAY I WOULD BE HAPPY, BUT ON THE OTHER PART WOULD BE THAT NOW WE'RE GOING HAVE MORE CONGESTION ON WILLOW. SO GETTING ONTO WILLOW AND GETTING ONTO THE STREETS WHERE FREEWAY IS, IS GOING TO BE PROHIBITIVE AND NOT EFFECTIVE ONCE WE PUT INTO ALL THOSE CHANGES, SO I'M CONCERNED ABOUT THAT. T-5-57

I'M CONCERNED ABOUT THE MULTI-LEVEL, HAVING A MULTI-LEVEL FREEWAY THERE. BY HAVING MULTI-LEVEL, IT'S -- I HEAR THAT IT'S GOING TO BE FOR ZERO EMISSION AND THINGS LIKE THAT, BUT BECAUSE I LIVE NEXT TO THE METRO RAIL AS WELL, WHAT WAS SAID IN THE BEGINNING, IT COMES -- ONCE IT'S BUILT, THEN IT'S GOING TO BE USED FOR OTHER PURPOSES AS WELL AND MAY NOT DO WHAT'S IT'S INTENDED. I'M REALLY CONCERNED ABOUT IT BEING HIGH, ADDING MORE POLLUTION INTO THE NEIGHBORHOOD, AND ALSO SOUND. SO EVEN THOUGH THERE IS SOME PROPOSAL THERE, I'M JUST NOT CONVINCED THAT THAT WILL ACTUALLY HAPPEN BECAUSE OF WHAT WE HAVE ALREADY. T-5-58

I THINK I NEED MORE TIME TO UNDERSTAND WHAT THE IMPACT IS TO THE WARDLOW, WILLOW, WRIGLEY AREA SO THAT I CAN BEST UNDERSTAND WHAT'S BEING PROPOSED AND WHAT -- AND HOW I COULD MAKE SOME RECOMMENDATIONS FOR THE FUTURE. SO I WOULD LIKE IT TO BE EXTENDED, AS WELL. T-5-59

MS. MCCORMICK: OKAY. THANK YOU VERY MUCH.

SUZANNE.

MS. BROWN: GOOD EVENING.

MS. MCCORMICK: EXCUSE ME. AND THEN JIM DONNELY.

MS. BROWN: GOOD EVENING, MY NAME IS SUZANNE BROWN. I'M A SENIOR ATTORNEY AT THE LEGAL AID FOUNDATION OF LOS ANGELES IN THE LONG BEACH OFFICE, AND WE'RE ALSO A MEMBER OF (INAUDIBLE).

MY COMMENTS TONIGHT WILL BE FOCUSED ON OUR CONCERNS REGARDING DISPLACEMENTS AND LOSS OF ECONOMIC OPPORTUNITIES. THE LONG BEACH MULTI-SERVICE CENTER, WHICH IS THE PRIMARY POINT OF ENTRY FOR HOMELESS PERSONS SEEKING SERVICES IN LONG BEACH, WILL BE DISPLACED BY THE PROJECT. THE MSC HOUSES, 12 PUBLIC AND PRIVATE-PARTNER ORGANIZATIONS WHO PROMOTE SELF-SUFFICIENCY AND REBUILD THE LIVES OF THOSE EXPERIENCING HOMELESSNESS. THE MSC AVERAGES 26,000 CLIENT VISITS PER YEAR, AND SERVICES RANGE FROM SHOWERS, LAUNDRY, MAIL, MESSAGE CENTERS TO STREET OUTREACH, VAN (INAUDIBLE) TRANSPORTATION, MEDICAL CARE, INTEGRATED CASE MANAGEMENT, AND HOUSING ASSISTANCE.

RELOCATION OF THE MSC WILL BE INCREDIBLY DIFFICULT, IF NOT IMPOSSIBLE, DUE TO THE SENSITIVE NATURE OF ITS LAND USE. CALTRANS HAS TOLD US IN PRIVATE MEETINGS THAT IT'S VERY LIKELY THAT THE MULTI-SERVICE CENTER WILL BE RELOCATED OUTSIDE OF THE CITY OF LONG BEACH BECAUSE THERE IS NOWHERE ELSE IN THE CITY TO PLACE IT. THIS IS ABSOLUTELY

T-5-60

UNACCEPTABLE FOR THE RESIDENCE OF LONG BEACH WHO DEEPLY RELY ON THE SERVICES PROVIDED BY THE CENTER.

IN ADDITION TO OUR CONCERN ABOUT THE DISPLACEMENT OF THE MULTI-SERVICE CENTER, WE EXTREMELY CONCERNED ABOUT THE DISPLACEMENT OF THE BELL SHELTER AND THE HOMES IN COMMERCE. THIS FREEWAY CAN AND SHOULD BE DESIGNED WITHOUT ANY DISPLACEMENTS AT ALL. LASTLY, THE ISSUE OF DISPLACEMENTS, WE'VE BEEN TOLD BY CALTRANS IN SACRAMENTO THAT UNDOCUMENTED HOUSEHOLDS ALONG THE CORRIDOR ARE NOT ELIGIBLE FOR RELOCATIONS ASSISTANCE BECAUSE THIS WILL NOT BE APPROVED BY THE FEDERAL GOVERNMENT. SO IT IS UNACCEPTABLE FOR CALTRANS TO RELY ON RELOCATIONS LAWS TO SAY THAT EVERYTHING IS GOING TO BE OKAY FOR PEOPLE WHO ARE GOING TO LOSE THEIR HOMES, HAVE NO MONEY, AND BE ON THE STREET. T-5-60

ON THE ISSUE OF ECONOMIC DEVELOPMENT, DEPENDING ON WHICH ALTERNATIVE IS SELECTED, THE PROJECT WILL CREATE UP TO 180,000 NEW JOBS, MANY OF THOSE LIVING-WAGE CONSTRUCTION JOBS. IT IS ANTICIPATED THAT ALTERNATIVE SEVEN WOULD GENERATE EVEN MORE JOBS AS A RESULT OF THE ZERO-EMISSION TECHNOLOGY. WITHOUT A LOCAL AND TARGETED HIRING POLICY, LOW-INCOME RESIDENTS AND RESIDENTS OF COLOR ALONG THE CORRIDOR WILL NOT BENEFIT FROM THE VAST ECONOMIC DEVELOPMENT OPPORTUNITIES CREATED BY THIS PROJECT. UTILIZING A LOCAL AND TARGETED HIRING POLICY HAS THE ADDITIONAL BENEFIT OF REDUCING VEHICLE MILES TRAVELED TO WORK, WHICH (INAUDIBLE) REDUCES T-5-61

GREENHOUSE GAS EMISSIONS, SO IT ALSO HAS ENVIRONMENTAL BENEFITS AS WELL.

MOTION 22.1 VERY CLEARLY DIRECTED CALTRANS AND METRO TO DEVELOP A LOCAL AND TARGETED HIRING POLICY IN CONJUNCTION WITH COMMUNITY-BASED ORGANIZATIONS BY THE RELEASE OF THE EIR AT THE LATEST. OUR PHONE HAS NOT RUNG. WE HAVE NOT HAD ONE MEETING. THIS HAS NOT HAPPENED. THIS IS ALSO UNACCEPTIBLE. AND YES, WHILE, UNFORTUNATELY, FHWA PILOT PROGRAM THAT OBAMA STARTED THAT WOULD ALLOW FOR LOCAL HIRE WITH FEDERAL HIGHWAY FUNDS HAS BEEN RECENTLY DISCONTINUED AS OF LAST WEEK, WE CAN STILL HAVE A TARGETD HIRING POLICY WITH ANY DOLLARS FROM THE FEDERAL HIGHWAY ADMINISTRATION. WE CAN SEGMENT THOSE POLICIES, THOSE DOLLARS, AND USE EVERY OTHER DOLLAR FOR THIS PROJECT TO GET LOCAL AND LOW-INCOME HIRING SO OUR COMMUNITIES BENEFIT. THANK YOU. T-5-61

MS. MCCORMICK: THANK YOU.

MR. DANO: GOOD AFTERNOON, MY NAME IS JIM DANO. I ALSO LIVE VERY CLOSE BY. I LIVE OF OF SIXTH STREET AND THE 710 CORRIDOR HERE. I THINK THAT WE'RE LOOKING AT, TALKING ABOUT PARTICULATE MATTER. IT'S THE RUBBER. A LOT OF IT'S THE RUBBER THAT COMES OFF OF THE TRUCKS WITH THE -- ALSO THE DIESEL FULE. WE NEED TO HAVE ZERO-EMISSION.

IF YOU TALK TO THE PORT, IT'S ALL ABOUT BUSINESS, AND THIS IS ABOUT ALTERNATIVES. YOU'RE PUTTING BILLIONS AND BILLIONS OUT THERE. IT'S GOT TO BE A RAIL-TO-DOCK SYSTEM. T-5-62

IT SHOULD BE A MAG-LEV, WHICH IS THE MAGNETIC LEVITATION, THAT WILL CAUSE NO INERTIA, YOU DON'T HAVE ANY OF THE CARBON EXPULSIONS FROM THE SEMIS AND WHATNOT. THERE'S NO RUBBER DISLODGING. YOU CAN PUT IT -- IF YOU WANT TO, PUT IT RIGHT UP THE LA RIVER. TAKE IT ALL THE WAY UP BY RAIL, ALL THE WAY TO THE ANTELOPE VALLEY. PLENTY OF LAND, THEY GOT THAT BIG DISTRIBUTION CENTER, AND THEN FROM THERE, TRANSPORT IT TO WHERE YOU NEED. T-5-62

YOU'VE GOT FAR TO MUCH POPULATION HERE TO BE DEALING WITH THIS. QUITE HONESTLY, IF EVERYONE HERE WOULD RAISE THEIR HAND AND SAY, "WHO ISHERE FOR ZERO EMISSIONS?" I IMAGINE EVERYBODY WOULD SAY "I DON'T WANT ANY EMISSIONS. I DON'T WANT TO HAVE ANY OF THIS CARBON RAINING DOWN ON ME," CERTAINLY WITHOUT HAVING AN ELEVATED TRUCK ROUTE.

SINCE WE'RE TALKING BILLIONS OF DOLLARS, IN THE MEANTIME -- AND I ALSO SUFFERED FROM ASTHMA WHEN I WAS A CHILD. LUCKILY, I HAVE OUT GROWN MOST OF IT. WHY DON'T WE TAKE $1,000,000,000, OR A TEN PERCENT OF WHAT YOU'RE PROPOSING, AND SET UP, INSTANTLY, SATELLITE ASTHMA CENTERS ALONG THE 710, TO AFFECT ALL THESE KIDS THAT ARE DEALING WITH IT. PROBABLY ONE GENERATION, YOU'LL ELIMINATE ASTHMA IF YOU GIVE THEM ZERO EMISSIONS, GIVE THEM TREATMENT THAT THEY NEED RIGHT NOW, NOT SIX YEARS FROM NOW, NOT TEN YEARS FROM NOW. THAT GENERATION IS WASTED. IMMEDIATELY START DOING THAT, YOU MIGHT ONLY BE LOOKING AT TEN CENTERS UP AND DOWN THE T-5-63

CORRIDOR.

T-5-63

GET THEM THE HELP THEY NEED, AND LET'S QUIT PLAYING GAMES HERE. THIS IS ABOUT BUSINESS, THE PORT WANTS MONEY, YOU GUYS WANT MONEY, NOTHING AGAINST YOU, BUT YOU WANT MONEY TO BUILT THIS CORRIDOR OR WHATEVER IT IS THAT YOU'RE GOING TO BUILD, WHICHEVER WAY YOU'RE GOING TO DO IT, AND LET'S HELP THE POPULATION OUT. THANK YOU.

MS. MCCORMICK: THANKS.

IS KIMBERLY AMAYA HERE? AND THEN LAURIE ANGEL. KIMBERLY? AND THEN LAURIE.

MS. AMAYA: HELLO, GOOD EVENING, MY NAME IS KIMBERLY AMAYA, AND I'M A MEMBER OF EAST YARD COMMUNITIES FOR ENVIRONMENT JUSTICE. I AM -- I LIVE IN THE WEST SIDE OF LONG BEACH, AND I'M HERE TO SPEAK ABOUT THE ZERO EMISSION THAT WAS PROPOSED BECAUSE MY COMMUNITY IS ALREADY SUFFERING FROM THE DAILY IMPACTS OF POLLUTION, AND I PERSONALLY HAVE MANY FRIENDS, NEIGHBORS, AND FAMILY MEMBERS THAT HAVE ASTHMA, CANCER, OR OTHER TYPES OF DISEASES. AND I ALREADY -- SORRY. I PERSONALLY KNOW TWO PEOPLE WHO HAVE PASSED AWAY FROM AILMENTS, AND I WAS -- I JUST WANT TO SEE ZERO EMISSIONS IN THE PROJECT BECAUSE THE COMMUNITY, AS I SAID BEFORE, THEY'RE ALWAYS IMPACTED BY THE POLLUTION, AND WE DESERVE TO HAVE CLEAN AIR.

T-5-64

AND RECENTLY I WENT ON A TRIP WHERE WITH THE AIR WAS CLEAN AND FRESH, AND USUALLY I HAVE BREATHING PROBLEMS WHERE

CHEST PAINS. WHEN I WAS UP THERE, I -- ALL OF THOSE PROBLEMS WERE GONE. ONE DAY AFTER I CAME BACK, I HAD MY PROBLEMS AGAIN. AND EVEN LIKE EARLIER TODAY, MY CHEST FELT TIGHT, AND I WANT YOU TO INVEST MONEY IN ZERO EMISSIONS. I WANT TO SEE THE HEALTH OF THE COMMUNITY AND NEEDS ARE PUT FIRST. THE LIVES OF THE RESIDENTS SHOULD COME BEFORE THE PROFIT OF THE GOVERNMENTS. AND UNFORTUNATELY OR FORTUNATELY, IN THE END, THE HEALTH AND LIVES OF THE COMMUNITY WILL BE IN YOUR HANDS, AND YOUR NAMES WILL BE LINKED TO THIS FINAL DECISION.

I ALSO WANT TO REQUEST 120-DAY EXTENSION ON THE DEIR. AND THANK YOU. T-5-65

MS. MCCORMICK: YOU'RE WELCOME. THANK YOU.

LAURIE AND THEN JULIUS CLAWSON.

MS. ANGEL: MY NAME IS LAURIE ANGEL, AND I LIVE IN THE JANE EVANS NEIGHBORHOOD. I'M ACTIVE IN THE NEIGHBORHOOD ASSOCIATION. I'VE LIVED THERE ALMOST 30 YEARS.

THIS IS A NORTH LONG BEACH AREA, AND JUST LIKE THE WEST SIDE, WRIGLEY, IT'S A CHALLENGED AREA. WE GET THE BRUNT OF A LOT OF ENVIRONMENT JUSTICE ISSUES, AND I NEVER HAD ASTHMA UNTIL I MOVED HERE, AND NOW I HAVE IT. UNFORTUNATELY, THE ECONOMY SEEMS TO BE VERY DEPENDENT ON THE GROWTH OF THE PORT, AND PERSONALLY I THINK IT'S A BAD IDEA TO HAVE SO MUCH OF THE CONCENTRATED GOODS OF THE UNITED STATES IN ONE PLACE, JUST FROM A STRATEGIC POINT OF VIEW, ANYWAY. SO I THINK THE CONSTANT DRUM BEAT TO GROW AND ACCOMMODATE MORE GOODS

MOVEMENT, YOU KNOW, NOT ONLY IS IT HARMING US, BUT IT, YOU KNOW, IT'S JUST STRATEGICALLY NOT A GOOD THING TO DO.

THAT BEING SAID, I DO APPRECIATE THE WORK THAT WAS DONE ON THE DRAFT EIR. I HAVEN'T HAD A CHANCE TO READ THROUGH. I'M KIND OF DISAPPOINTED THAT WE ARE HERE, BASICALLY COMMENTING ON THE THOUSANDS OF PAGES THAT VERY, VERY FEW, IF ANY OF US, HAVE HAD A CHANCE TO TAKE A LOOK AT. AND I WAS WONDERING, HOW DO WE COMMENT ON IT WHEN WE HAVEN'T EVEN REALLY BEEN EXPOSED TO WHAT IT IS THAT YOU'RE PUTTING FORWARD? AND I THINK THIS IS KIND OF A CART BEFORE THE HORSE, AND THINK, TRUTHFULLY, GIVEN SOME IN-DEPTH HEARINGS THAT INFORMED THE COMMINITY ABOUT WHAT YOU'RE PLANNING ON DOING SO THAT WE'RE NOT -- I MEAN, WE ARE HEARING THE DRUM BEAT ABOUT ASTHMA AND HEALTH, BUT WE REALLY DON'T EVEN -- MOST OF US DON'T KNOW EXACTLY WHAT IT IS THAT YOU'RE EVEN PUTTING FORWARD. T-5-66

I APPRECIATE THE FACT THAT YOU'RE PLANNING ON HAVING SEPARATE TRUCK LANES. WE TALKED ABOUT THAT. IT'S DISAPPOINTING THAT WE HAVEN'T USED THE ALAMEDA CORRIDOR AND OTHER RAIL OPTIONS. AND I'M WONDERING IF THERE'S A WAY TO APPLY INTELLIGENT TRANSPORTATION FOR THE TRUCK LANES THAT ARE PLANNED, WHICH WOULD BE ZERO EMISSIONS, TO THE MOST PART, AS FAR AS I CAN TELL, AND HAVING IT APPLY TO THAT MOVEMENT. I BELIEVE THAT THEY'VE BEEN ABLE TO DO THAT WITH TRUCKS. AND AS DIFFICULT AS THE TRUCKS ARE FOR OUR TRAFFIC, HAVING THEM T-5-67

SEPARATED AND IN LIKE SOME KIND OF A CONVEYOR -- I AM NOT EXACTLY SURE HOW IT WORKS. IT MIGHT BE A VIABLE OPTION IF IT ISN'T TO AWFULLY EXPENSIVE. T-5-67

SO BASED ON THE FACT THAT THE COMMUNITY HAS NOT BEEN BROUGHT UP TO DATE ABOUT WHAT'S GOING ON WITH THE PLAN, I THINK IT'S IMPORTANT TO EXTEND THE PERIOD UNTIL AFTER YOU'VE HAD AN OPPORTUNITY TO SHARE MORE WITH THE COMMUNITY ABOUT WHAT IT IS THAT YOU'RE PLANNING ON DOING. A HALF AN HOUR WHERE YOU CAN HARDLY HAVE AN OPPORTUNITY TO SEE EACH STATION JUST REALLY WASN'T ENOUGH. THANK YOU. T-5-68

MS. MCCORMICK: THANK YOU.

AFTER JULIUS CALASON, AND THEN (INAUDIBLE).

MR. CALASON: GOOD EVENING, MY NAME IS JULIUS CALASON. I AM A MEMBER OF EAST YARD COMMUNITIES FOR ENVIRONMENTAL JUSTICE. I LIVE IN LONG BEACH, DISTRICT SEVEN, ZIP CODE, 90810. AND AS A WEST SIDE LONG BEACH RESIDENT FOR 13 YEARS, AIR POLLUTION HAS BECOME A NORMAL TO ME. I AM EXPOSED TO IT ON THE NORTH SIDE FROM THE 405 FREEWAY, THE WEST SIDE, THE REFINERIES, WHICH ONE OF THEM TO TO JUST GOT APPROVED TO EXPAND OPERATIONS, THE SOUTH SIDE, PACIFIC COAST HIGHWAY, WHERE A HIGH VOLUME OF TRUCKS PASS BY EVERY DAY, AND FINALLY ON THE EAST SIDE, THE I-710 FREEWAY, THE FOCAL POINT OF TONIGHT'S MEETING.

AND I WANT TO ECHO AND REINFORCE AND ASK, AS MANY OF THE PREVIOUS SPEAKERS THAT CAME BEFORE ME, IN THAT THIS T-5-69

PROJECT SHOULD PRIORITIZE A LOCAL HIRING POLICY, NO DISPLACEMENT OF HOMES, AND ADAPTING A ZERO-EMISSIONS TECHNOLOGY TO ACHIEVE THE FIRST GOAL EXPLICIT STATED IN THE DISPLAY BOARD IN THE BACK, WHICH IS TO IMPROVE AIR CARE QUALITY AND PUBLIC HEALTH. ULTIMATELY, WE WANT OUR REPRESENTATIVES OF THIS PROJECT TO STAND WITH THE COMMUNITY AND REQUEST THE DRAFT EIR COMMENT PERIOD BE EXTENDED TO 120 DAYS. T-5-69 T-5-70 T-5-71 T-5-72

AND WE CAN'T AND WE DON'T STOP COMING TO THESE MEETINGS MASS FORCE AND DROVES BECAUSE THIS IS PEOPLE'S LIVES, IT'S OUR LIVES THAT ARE AT STAKE. THANK YOU.

MS. MCCORMICK: THANK YOU.

(INAUDIBLE) AUGUSTINE, AND THEN BRIAN BREN.

MR. AUGUSTINE: GOOD EVENING, (INAUDIBLE) AUGUSTINE, 18-YEAR-OLD COLLEGE STUDENT, AND CURRENT RESIDENT OF LONG BEACH. I AM A MEMBER OF EAST YARD COMMUNITIES FOR ENVIRONMENT JUSTICE.

OVER THE YEARS HAVE I DEVELOPED THESE BREATHING PROBLEMS THAT WERE NON-EXISTANT TO ME PRIOR TO ME LIVING HERE. I LIVED IN THE PHILIPPINES FOR 13 YEARS, IN WHICH THOSE SUBURBAN PARTS WERE GRASSLANDS AND CLEAN AIR WERE PRESENT. AFTER MIGRATING HERE, I HAD GRADUALLY BREATHING PROBLEMS, AS STATED EARLIER. WHEN I JOINED THE EAST YARD COMMUNITES FOR ENVIRONMENTAL JUSTICE, I REALIZED THAT THE LIKELY REASON FOR THESE COMPLICATIONS ARE THE CARBON

EMISSIONS FROM CARS, TRUCKS, AND OTHER VEHICLES THAT PASS THROUGH THE STREETS AND THE HIGHWAYS, ALSO THE REFINERIES, BUT THAT'S A DIFFERENT STORY.

I LIVE ON FASHION AVENUE, WHICH IS VERY CLOSE TO BOTH THE LA RIVER AND 710 FREEWAY. I LOVE BIKING AND CYCLING OR WHICHEVER YOU WANT TO CALL IT. THIS PREVIOUS SUMMER I HAD BIKED TO DOWNTOWN LONG BEACH AND THE BEACH ALMOST EVERY WEEK, AND I WANT TO SUGGEST IMPROVEMENTS SUCH AS WIDENING THE BIKE PATH, ENSURING THAT BIKING IS SAFE EVEN DURING THE NIGHT. THIS WILL ENCOURAGE MORE PEOPLE TO BIKE AND REDUCE OUR CURRENT TOTAL EMISSIONS. T-5-73

ALSO, AS A COLLEGE STUDENT I TAKE THE BUS EVERY SINGLE DAY FROM PCH TO SANTA FE TO CAL STATE LONG BEACH, AND DOING SO MADE ME REALIZE THAT THESE BUSES ARE EVERYWHERE, IN THE STREETS AND MY NEIGHBORHOOD AND EVERYONE ELSE'S NEIGHBORHOODS. I WANT TO SEE ZERO EMISSIONS TO DECREASE THE POLLUTION WITH THE CLOSEST (INAUDIBLE) TO OUR RESIDENTS. ALSO, I WANT TO SEE ZERO-EMISSIONS TRUCKS THAT FREQUENTLY PASS THROUGH THE FREEWAY TO HELP DECREASE CITY POLLUTION, ESPECIALLY AROUND THE WRIGLEY AREA AND THE WEST SIDE OF LONG BEACH, WHICH I LIVE IN. T-5-74

WHY ZERO EMISSIONS? IT'S BECAUSE THE HEALTH OF OUR PEOPLE TAKES PRIORITY, ESPECIALLY THE HEALTH OF OUR POSTERITY. LET'S BE REAL AND NOT LIE TO OURSELVES ABOUT THIS BECAUSE IF AND ONLY IF THIS PROJECT IS ALL ABOUT MONEY AND

PROFIT WITHOUT REGARD TO THE HEALTH OF THE YOUNG, THEN THERE WILL BE NO ONE TO INVENST THE MONEY FOR IN THE NEAR FUTURE. THE EFFECT OF THESE PROJECTS WILL OUTLIVE THE MOST US, INCLUDING MYSELF AND THE YOUNGEST OF US, SO WHY NOT USE THE MONEY NOW TO MAKE THE BEST PROJECT ENVIRONMENTALLY SO OUR FUTURE GENERATIONS WILL HAVE LESS PROBLEMS TO DEAL WITH?

THIS IS OUR PEOPLE'S MONEY, AND WE WILL SPEND TO IT MAKE THE LIVES OF OUR CHILDREN AND GRANDCHILDREN BETTER, AND SO ON, BETTER. MY PUSH FOR THIS IMPROVEMENT INCLUDES AN EXTENSION OF THE REVIEWING OF THIS PROJECT BY RESIDENTS TO 120 DAYS, AND POSSIBLY EVEN MORE. THANK YOU. T-5-75

MS. MCCORMICK: THANK YOU.

MR. BREN: GOOD EVENING, MY NAME IS BRIAN BREN, I LIVE HERE FOR MORE THAN 30 YEARS. I'M CAMBODIAN AMERICAN. I'M NOT REPRESENTING THE CAMBODIAN COMMUNITY, BUT AS YOU KNOW, NOT JUST CAMBODIAN, COMMUNITY OUTSIDE CAMBODIA. I KNOW ABOUT THIS MEETING ABOUT TEN MINUTES AGO, BEFORE THE MEETING START. I'M NOT PREPARED TO TALK.

LIVING HERE MORE THAN 30 YEARS, I WITNESS A LOT. BACK IN THE '80S, I LIVE IN THE WEST SIDE. IN THE MORNING I TURNED GREY, AND PEOPLE SAY MAYBE I DON'T HAVE ENOUGH SLEEP. EVEN I HAVE ENOUGH SLEEP, MY EYES STILL TURNED RED. I SAID, "SOMETHING'S WRONG." DRIVING ON THE 710 FREEWAY, THE TRUCKS DRIVE SO FAR, A LOT OF TRUCK. BUT IN THE '80S, IT WAS VERY DANGEROUS.

AND WHAT HAPPENED TO ALAMEDA CORRIDOR? I LEARN THAT THEY SPENT ABOUT ALMOST $2,000,000,000 TO BUILD ALAMEDA CORRIDOR, AND I HOPE THAT CAN SOLVE A LOT OF PROBLEM. NOW COME HERE AGAIN, YOU WANT TO EXPAND THE FREEWAY, I BELIEVE EXPAND THE FREEWAY THAT WILL CROSS THE PEOPLE IN THE NEIGHBORHOOD. I THINK IT VERY LITTLE BENEFIT, TO MY OPINION. BENEFIT COMING IN MORE THAN THE TIME A MILLION TIMES. T-5-76

SO I KNOW YOU WORK VERY HARD, YOU BALANCE THAT, BUT THE POOR PEOPLE IN THE COMMUNITY, WHAT WILL THEY GET? YOU USED THE WORDS "PUBLIC SAFETY," 'SAFETY' TO IMPRESS THEM. BUT I DIDN'T SEE THAT. THEIR LIVES ARE IN DANGER, AND YOU SAY "PUBLIC SAFETY," AND THEIR LIVE ARE IN DANGER BY THE HEALTH ISSUE. T-5-77

SO I KNOW YOU WORK VERY HARD, YOU THINK CAREFULLY, BUT NOT BENEFIT TO THE COMMUNITY. I'M ASKING THE REPRESENTATIVE IN THIS TOWN, MAKE SURE THAT YOU TALK TO YOUR PEOPLE, PEOPLE THAT VOTE YOU TO BE IN THE OFFICE. YOU'RE NOT REPRESENTING BIGGER COMPANY. SO I KNOW AND I HOPE YOU CAN DO MORE TO THE COMMUNITY AND HEAR MORE. T-5-78

IT'S NOT JUST I KNOW EVERYONE HAS TO DO BUSINESS, BUT POOR PEOPLE IN THIS NEIGHBORHOOD, I DIDN'T SEE THEY DO ANYTHING. THEIR PROPERTY VALUE GO DOWN. MY FRIENDS CALL ME, OKAY, TAKE A WALK ON THE LA RIVER AND SAID SOME OF THE WATER SMELL AND SAID "YOU SHOULD GO TO THE AREA AWAY FROM THE 710 FREEWAY BECAUSE LOT OF, YOU KNOW, TRUCKS, A LOT OF POLLUTION

IN THERE." SO I SEE THEY BENEFIT A FEW BUT FOR PROGRAM TO MAKE THE COMMUNITY SILENT, BUT I DON'T THINK WE ARE GOING TO BE SILENT ANYMORE. SO PLEASE CONSIDER THAT OUR LIVES, SAFETY -- WHAT YOU SAID HERE -- IT'S NOT COMPARED TO OUR LIVES, REASONABLE, IN THIS KIND OF NEIGHBORHOOD. AND THANK YOU.

MS. MCCORMICK: THANK YOU, THANK YOU, BRIAN.

LEE WHITE, LEE WHITE, AND THEN BEATRIZ DESMOND.

MS. WHITE: HELLO, MY NAME IS LEE WHITE, AND I'M A RESIDENT OF COUNCIL DISTRICT SEVEN. I'M HERE TO TALK ABOUT MY PLEA FOR THE I-710 ZERO EMISSIONS, ZERO, AS IN NO NUMBER. T-5-79

I RECALL A CHRISTMAS WHERE MY ENTIRE FAMILY -- I HAVE TWO DAUGHTERS -- AND MY HUSBAND AND I ALMOST CANCELLED CHRISTMAS BECAUSE NONE OF US CAN BREATHE. WE WERE ALL VERY SICK FROM THE BAD AIR, HAVING LIVED IN THE WEST SIDE AT THE TIME. AND I DETERMINED THAT WASN'T GOING TO HAPPEN TO US, SO I DEMAND THAT WE HAVE CHRISTMAS. MY DAUGHTER AT THE TIME WAS DIAGNOSED WITH SEASONAL ASTHMA, BY I KNEW WHAT IT WAS. SHE WAS AFFECTED BY THE AIR THAT WE BREATHE WHEN SHE HAD THE WALK TO SCHOOL, WHEN SHE WOULD GO OUTSIDE TO PLAY, AND WHEN WE DID ANY ACTIVITIES. SHE WAS ALWAYS EFFECTED, ESPECIALLY IN THE SUMMER MONTHS, WHEN THERE WAS NO RAIN.

SO I AM HERE TO ASK THAT YOU ALL REALLY CONSIDER ZERO EMISSIONS. RIGHT NOW, EVEN SPEAKING, I WAS OUT FOR A WALK YESTERDAY, SCHOOL STARTED. AND SO I WALKED TO THE WEST T-5-80

SIDE. I LIVE IN WRIGLEY, AND GOING OVER THE BRIDGE AFTER HAVING NOT DONE SO FOR NEARLY A YEAR BECAUSE I'D BEEN INVOLVED WITH FAMILY ACTIVITIES AWAY FROM LONG BEACH, MY LUNGS BURNED AND HURT SO BAD JUST IN THAT SHORT DISTANCE. AND I HAVE BEEN VERY ACTIVE ALL MY LIFE, SO I HAD FORGOTTEN, AFTER NOT WALKING OVER THE BRIDGE, JUST HOW BAD IT IS.

THE OTHER THING IS WHEN WE WERE ON THE WEST SIDE AND WE KEPT GETTING SICK, AND I HAD NEVER BEEN SICK, WE DECIDED THAT IT WAS TIME TO MOVE, SO WE DECIDED TO BUY A HOUSE. THAT'S WHEN WE DECIDED TO BUY OUR HOME IN WRIGLEY. NOW, OVER THE NEARLY 18 YEARS SINCE THAT TIME, I HAVE WORKED WITH MY FAMILY TO HAVE A BETTER QUALITY OF LIFE AND START GARDENING. AND THEN I HAVE BEEN LEARNING, WHAT'S THE POINT IN GARDENING, WITH THE AIR BEING SO BAD THAT OUR SOIL IS CONTAMINATED? OUR SOIL. I WANT GOOD NUTRITION, AND I WANT TO MAKE THAT HAPPEN FOR MYSELF AND MY FAMILY, AND I'M LIMITED.

SO PLEASE TAKE THE CONSIDERATION OF MAKING OUR LIVES BETTER SO THAT WE CAN STAY IN HOUR COMMUNITY.

MS. MCCORMICK: THANK YOU VERY MUCH.

BEATRIZ.

MS. TALISMAN: GOOD EVENING, MY NAME IS BEATRIZ TALISMAN. I'M HERE REPRESENTING MY CHILDREN, WHO ARE NOT ABLE TO COME, AND REPRESENT THEMSELVES AND MYSELF. ALL THREE OF THEM, INCLUDING MYSELF, HAVE ASTHMA AND THIS IS WHAT I HAVE TO CARRY EVERY DAY OF MY LIFE, THIS. IT WAS VERY

DIFFICULT WHEN I FIRST GOT ACQUAINTED WITH THIS ILLNESS. I WAS VERY AFRAID. AND AS A MOM, IT IS VERY DIFFICULT HAVING ASTHMA MYSELF, BECAUSE IN ORDER TO TAKE CARE OF KIDS WITH ASTHMA, YOU SHOULD BE 100 PERCENT YOURSELF.

I ALSO HAVE BEEN TO THE HOSPITAL FOR A WEEK EVERY SINGLE DAY WITH MY CHILDREN. AND I HAVE A SON, A CHILD, WHO IS 14, ONE IS TEN, AND ONE IS FOUR, AND I HAVE TO KEEP TAKING THEM TO -- I HAVE TO TAKE ONE OF THEM ONE WEEK AND THEN ANOTHER ONE ANOTHER WEEK AND THEN THE THIRD ONE ANOTHER WEEK, AND IT IS VERY DIFFICULT FOR ME. AND I HAVE TO BECOME A NURSE. I HAVE TO LEARN TO BECOME A NURSE BECAUSE I HAVE TO KEEP GIVING THEM THEIR MEDICATION, EACH ONE OF THEM. AND I AM REALLY AFRAID OF FORGETTING WHEN I GIVE THE MEDICATION TO ONE OF THEM OR THE OTHER.

I WOULD ALSO LIKE FOR THESE REPRESENTATIVES TO GO TO THE HOSPITAL FOR ONE DAY AND TO SEE HOW CHILDREN CRY, HOW MOTHERS CRY, AND SOME OF THEM CANNOT BREATHE. AND THEY SHOULD BE ABLE TO GO AT LEAST ONE DAY, ONE TIME, AND THEY COULD SEE THAT SOMETIMES THERE'S NO BEDS FOR THE CHILDREN. THEY HAVE TO WAIT OUTSIDE. AND IT'S VERY DIFFICULT FOR ME AS A MOTHER TO LIVE THROUGH THAT. I WANT ZERO EMISSIONS SO THAT IT DOESN'T IMPACT MY CHILDREN. AND NOT JUST MY CHILDREN AND MYSELF, BUT OTHER FAMILIES AS WELL. T-5-81

AND I'M HERE BECAUSE I -- TO TELL THAT YOU I'M ALSO TAKING SOME CLASSES OR I HAVE TAKEN CLASSES AT THE ALLIANCE

IN LONG BEACH, AND I HAVE DONE -- I HAVE BEEN TAKING THOSE CLASSES FOR MY KIDS BECAUSE I REALLY NEED TO KNOW THE ILLNESS. IT IS SOMETHING YOU HAVE TO GET TO KNOW. THANK YOU.

MS. MCCORMICK: OKAY. THANK YOU VERY MUCH. SO I'M GOING TO REQUEST, IS THERE ANYONE ELSE HERE THAT WOULD LIKE TO SPEAK THIS EVENING? ONE PERSON? CAN YOU FILL OUT A SPEAKER CARD FOR US? OH, YOU SUBMITTED A SPEAKER CARD IN THE COMMENT BOX? WELL, COME ON UP, COME ON UP, AND WE'LL GET YOUR NAME. THANK YOU FOR MAKING SURE WE KNEW THAT YOU WERE HERE. GIVE US YOUR FIRST AND LAST NAME, PLEASE.

MS. MARTINEZ: MY NAME IS LILLY MARTINEZ, AND I WORK FOR THE CHILDREN'S CLINIC, SERVING CHILDREN AND THEIR FAMILIES. AND I WANTED TO START OFF BY THANKING EVERYONE THAT'S HERE. I KNOW OUR CONGRESSMAN LOWENTHAL'S OFFICE IS HERE AND CONGRESSWOMAN AND SENATOR LARA'S OFFICE IS HERE.

THIS IS MY WORK FAMILY. I WAS VERY, VERY SAD LAST WEEK ON SATURDAY. WE HAD THIS EXACT SAME MEETING IN THE CITY OF PARAMOUNT, WHERE ONLY EIGHT PERCENT OF US GO TO COLLEGE, AND THERE'S A 60 PERCENT HIGH SCHOOL GRADUATION RATE, AND MORE THAN 80 PERCENT OF US ARE BROWN. AND ONLY SEVEN PEOPLE CAME, AND THAT WAS REPRESENTING ONLY THREE OR FOUR HOUSEHOLDS, AND THAT INCLUDED MYSELF AND MY PARTNER.

I'M SO HAPPY THAT ALL OF YOU ARE HERE. THERE'S MORE DIVERSITY IN LONG BEACH, AND WE ALL WORK TOGETHER. IT'S A

VERY BIG CITY, BUT WE ALL KNOW EACH OTHER. I'M SO HAPPY THAT ALL OF OUR PUBLIC OFFICIALS ARE HERE, THE COMMUNITY-BASED ORGANIZATIONS, HOUSING ORGANIZATIONS, THE NEIGHBORHOOD ASSOCIATIONS ARE HERE, AND THIS IS HOW OUTREACH IS DONE. I'M SORRY CALTRANS, BUT WE REALLY NEED TO WORK ON OUTREACH IF WE WANT PEOPLE TO KNOW. T-5-82

THANK YOU, LABACA. THANK YOU, EAST YARD. THANK YOU, ALL OF THE ORGANIZATIONS HERE THAT DID THE OUTREACH. THIS IS MY FAMILY, AND THEY ARE HERE. I FEEL SO GOOD TODAY.

I JUST WANTED TO SAY THAT I WANTED TO ADD TO MY PUBLIC COMMENTS FROM LAST WEEK. I HAVE THREE THINGS TO CONSIDER. THE IMPACT OF TRAFFIC ON THE STREET. WE KEEP TALKING ABOUT THE FREEWAY, AND LAST WEEK I TALKED TO THE ENGINEERS THAT CAME FROM CALTRANS, AND THEY SAID THEY WERE MAKING REALLY GREAT IMPROVEMENTS ON THE RAMPS. AND I ASKED WHY ARE THOSE IMPROVMENTS BEING MADE, AND THEY SAID THAT THAT'S SO THAT THEY CAN MOVE MORE TRAFFIC FASTER THROUGH THESE AREAS.

LAST QUARTER, IN LAST THREE MONTHS, I STARTED FEELING THE IMPACTS. THE PORT OF LONG BEACH INCREASED THEIR VOLUME OF TRANSPORTATION OF CONTAINERS FIVE PERCENT, AND MY CITY, MY AREA STARTED TO LOOK LIKE WILMINGTON, AND WE ALREADY HEARD ONE OF THE RESIDENTS FROM WILMINGTON. T-5-83

THERE WAS A SLEW OF TRUCKS PARKED ALL THE WAY DOWN MY STREET AND ALL THE WAY IN FRONT OF THE SCHOOL. SCHOOL

STARTED, AND PARENTS COULD NOT PARK THEIR CARS TO DROP OF THEIR CHILDREN BECAUSE ALL THE TRUCKS WERE IN THE WAY. AND WE LITERALLY GET STUCK IN OUR NEIGHBORHOOD. I AM CAPTIVE IN MY NEIGHBORHOOD BECAUSE THERE'S A LONG LINE IN FRONT OF THE WAY -- ONLY WAY TO GET OUT OF MY HOUSE, AND I CAN'T GET OUT. SO PLEASE CONSIDER -- AND THIS MEANS THAT THERE'S -- THERE IS NO ZERO EMISSIONS. THE TRUCKS MIGHT BE CLEANER, BUT IF WE HAVE A LOT OF CARS SITTING THERE IN TRAFFIC IDLING, THEY'RE POLLUTING. T-5-83

I ALSO WANT TO CONSIDER THE RIPPLE EFFECT. THIS IS BECOMING MORE ATTRACTIVE TO ENVIRONMENT -- IT'S BECOMING A MORE ATTRACTIVE ENVIRONMENT FOR LOW-PAYING JOBS. WITH MORE TRAFFIC, WE'RE GOING TO BE MORE ATTRACTIVE TO MORE FACTORIES, MORE WAREHOUSES, AND COMPANIES THAT EMIT HAZARDOUS MATERIALS THAT PAY VERY, VERY POOR WAGES. WE NEED MORE VARIABILITY, MORE VARIABLE WORK OPPORTUNITIES IN OUR PLACE OF WHERE WE LIVE. T-5-84

LASTLY, I WANT YOU TO CONSIDER THE VALUE OF PEOPLE AND THE QUALITY OF LIFE. WE ARE LOW INCOME, WE'RE BROWN, AND WE'RE BLACK, AND THEY GET TAKEN ADVANTAGE OF TIME AFTER TIME. THERE'S A REASON WHY THE FREEWAY STOPS IN PASADENA. IT'S NOT BEING BUILT, AND CALTRANS, IN THOSE BIG ONE-FOOT-THICK BINDERS THAT SAYS YOU HAVE TO SELL BACK THE HOUSES BECAUSE YOU COULDN'T BUILD THERE. T-5-85

MS. MCCORMICK: COULD YOU WRAP UP YOUR COMMENTS,

PLEASE?

MS. MARTINEZ: I'LL WRAP IT UP.

MS. MCCORMICK: THANK YOU.

MS. MARTINEZ: WHAT'S HAPPEING IN OUR NEIGHBORHOOD IS THAT WE HAVE YARDS WITH CONTAINERS THAT ARE STACKED SO HIGH, UP TO THE LEVEL OF A THREE AND FOUR-STORY BUILDING. THIS HAS STANDING WATER, WHICH CREATE VECTOR, AND IT'S A PUBLIC-HEALTH ISSUE. AND THE OPEN CONTAINERS, BECAUSE WE'RE HAVING A HOUSING PROBLEM, THE HOMELESS TAKE ADVANTAGE OF THAT, AND THEY ARE NOW LIVING INSIDE OF THE OPEN CONTAINERS. THIS IS GOING TO INCREASE BLIGHT. WHICHEVER ONE OF THE OPTIONS WE PICK IS GOING TO INCREASE BLIGHT, INCREASE TRAFFIC, INCREASE NOISE, INCREASE CRIME, AND WE WANT PEOPLE TO COME FIRST BEFORE MONEY. T-5-86

MS. MCCORMICK: THANK YOU. THANK YOU VERY MUCH. THAT ACTUALLY CONCLUDES OUR COMMENT PERIOD AND OUR SPEAKER PERIOD. OUR STATIONS ARE STILL OPEN, BUT I'D LIKE TO CLOSE OUR MEETING THIS EVENING WITH SOME COMMENTS FROM RON KOSINSKI.

MR. KOSINSKI: FIRST OF ALL, THANKS TO THOSE THAT STAYED HERE THIS LONG, AND WE APPRECIATE YOUR COMMENTS, AS WE MENTIONED BEFORE. WE THOUGHT THERE'S SOME VERY, VERY THOUGHTFUL COMMENTS HERE. I'D LIKE TO POINT OUT, I'VE GOT ASTHMA. MY SIX-YEAR-OLD GRANDDAUGHTER HAS ASTHMA. SEVERAL MEMBERS OF OUR ENVIRONMENT TEAM HAVE ASTHMA. AS ONE OF THE

SPEAKERS POINTED OUT, OUR NUMBER-ONE GOAL HERE IS TO IMPROVE AIR QUALITY, IMPROVE HEALTH. SO WE'RE HERE VERY SERIOUSLY ABOUT IMPROVING HEALTH.

NO DECISION IS GOING TO BE MADE FOR SOME TIME ON WHAT TO DO. WE'RE CERTAINLY GOING TAKE ALL THESE COMMENTS INTO ACCOUNT. AND FOR THOSE OF YOU WHO WANT TO BE INVOLVED -- AND I THINK WE'RE GOING TO MAKE SURE THAT THE MAILING LIST OF THE PEOPLE WHO SIGNED UP TODAY IS GOING TO BE GIVEN TO OUR CONSULTANTS SO THAT YOU WILL BE GIVEN NOTICES OF ALL OF THE COMMUNITY MEETINGS, THE VERY EXTENSIVE STRUCTURE OF COMMUNITY MEETINGS THAT HAVE BEEN TAKING PLACE AND WILL CONTINUE TO TAKE PLACE OVER THE NEXT YEAR. AND SO WE ENCOURAGE YOU TO CONTINUE TO PARTICIPATE IN THAT PROCESS.

SO WITH THAT, I'M GOING TO WRAP THIS UP. AND AGAIN, THANK YOU FOR YOUR EFFORTS, AND PLEASE BE CAREFUL AND DRIVE SAFELY ON THE WAY HOME.

(WHEREUPON THE PROCEEDING CONCLUDES AT 8:42 P.M.)

REPORTER'S CERTIFICATE

I, OLIVIA D. LIZARRAGA, C.S.R. No. 13475, a Certified Shorthand Reporter for the State of California, do hereby certify:

That said proceeding was taken before me at the time and place set forth and was taken down by me in shorthand and thereafter reduced to computerized transcription under my direction and supervision; and I hereby certify the foregoing is a full, true and correct transcript of my shorthand notes so taken.

I further certify that I am neither counsel for nor related to any party to said action nor in any way interested in the outcome thereof.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 12th day of September, 2017.



_____

OLIVIA D. LIZARRAGA
Certified Shorthand Reporter No. 13475

CERTIFIED COPY CERTIFICATE

I, Olivia Lizarraga, Certified Shorthand Reporter, No. 13475, hereby certify that the attached is a correct and certified copy of the proceeding, taken before me at the time and place therein stated.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Covina, California this 12th day of September, 2017.



OLIVIA LIZARRAGA, C.S.R. No 13475

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T-5-1

Caltrans and Metro acknowledge the commenter's concern regarding safety for bicyclists and pedestrians. The intersection of Hill St. and Baltic Ave., at the southwest corner of James A. Garfield Elementary, is approximately 1,800 feet west of the I-710 mainline. No improvements are proposed here as part of the I-710 Corridor Project build alternatives, and this intersection is entirely within the jurisdiction of the City of Long Beach. The commenter is encouraged to contact the City with their concerns.

T-5-2

Caltrans and Metro acknowledge the commenter's concern regarding air quality related to construction dust. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 in Section 3.13.4, Air Quality, of the RDEIR/SDEIS would provide for the installation of filters on the ventilation systems of sensitive receptors near I-710, including Muir Elementary. Measure AQ-2 lists the schools alphabetically and does not indicate the order that the schools would receive the air filters. In response to this and other comments, Measure AQ-2 has been revised to indicate that, should a build alternative be selected as the Preferred Alternative, coordination with school districts and other entities would occur to provide for the filtration systems to be in place prior to the start of construction. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative. Therefore, no construction related air quality impacts will occur and Measure AQ-2 will not be implemented. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-5-3

The commenter's support of Alternative 7 and clean emission freight corridor is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative. and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-4

The commenter's concern of health impacts related to air quality near freeways is acknowledged and included in the project record. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved with the build alternatives and public health risk would be reduced at most

locations, but there are a few near-roadway locations where there would be an increase in certain emissions.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for installation of air filtration systems for schools within 0.25 mile of I-710. Measure AQ-3 would provide for the installation of solid barriers and installation of vegetation where soundwalls are not proposed to disperse pollution and reduce pollutant concentrations downwind. Additionally, the build alternatives included programmatic components to help improve air quality and public health in the I-710 Corridor. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, Measures AQ-2 and AQ-3 will not be implement and the programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

Additionally, CARB and the SCAQMD are implementing programs and strategies to improve air quality near freeways. CARB is implementing several regulations such as the Truck and Bus Regulation, Pavley Standards, and Advanced Clean Cars Program to reduce emissions associated with vehicles traveling on the freeway. Besides this regulation, CARB is also in the process of developing other regulations that target buses and heavy-duty trucks such as the Innovative Clean Transit Regulation and the Advanced Clean Trucks Regulation. The SCAQMD is also implementing several control measures under the 2016 Air Quality Management Plan to encourage the deployment of ZE/NZE technologies.

T-5-5

As stated in Chapter 2.0, Project Alternatives, Section 2.3.2.1, in addition to the widening of existing bridges and overcrossings to accommodate bicycle and pedestrian traffic, five pedestrian and bicycle-only bridges are proposed under Alternative 5C and three pedestrian and bicycle-only bridges are proposed under Alternative 7. The bridges would span I-710, and in some cases the Los Angeles River or Metro Rail lines and would provide for improved bicycle and pedestrian connectivity within the corridor. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative and therefore these pedestrian and bicycle improvements would not be implemented. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

As stated in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, several other transportation projects and studies in the Gateway Cities subregion (and beyond) have also progressed in their respective planning processes. The Gateway Cities COG, in coordination with Metro, developed several studies on Goods Movement, Commuter Rail, and other modes of transportation in the

area in order to inform their Strategic Transportation Plan (STP), an integrated transportation plan for the cities of the subregion. The STP is inclusive of freeways, arterial highways, transit, bikeways, pedestrian facilities, technology, and goods movement and provides an integrated, multimodal program of potential projects that move the member cities closer to achieving their goals of improving mobility, accessibility, sustainability, and the increased safety of the subregion's transportation system. The STP also includes a funding and financing plan for implementation purposes. Another important objective of the STP is to increase connectivity of the subregion's bicycle and pedestrian network by connecting gaps in the network and providing more connectivity to transit. Potential multi-jurisdictional bicycle and pedestrian projects are contained in the STP's Active Transportation Plan.[1]

T-5-6

When capacity is added to freeways, traffic volumes on the freeways increase as motorists shift routes to take advantage of the improved travel conditions offered by the capacity increase. While some of this traffic may represent new vehicle trips, much of the observed increase in traffic comes from trips that were already being made before the increase in highway capacity, or that reflect predictable behavior accounted for in travel demand forecasts. "Induced travel" is characterized as the additional demand for travel that occurs as a result of a decrease in the generalized cost of travel, including both travel-time and out-of-pocket costs. The I-710 Corridor is part of a highly congested metropolitan roadway network and is located within an urbanized area that is essentially built out. Given the high levels of congestion in peak periods, the I-710 travel demand forecast model is particularly sensitive to changes in travel times. The proposed improvements included in the build alternatives would improve speeds and would reduce travel times on the I-710, which in turn would attract more traffic to the facility relative to the No Build Alternative. The modernization of the current freeway design proposed as part of the build alternatives would improve traffic operations and safety, and the analysis shows that even carrying higher traffic volumes than the No Build Alternative, the build alternatives would provide an improved Level of Service (LOS), which is indicative of reduced traffic congestion. The predicted shifts in traffic were accounted for in the analysis presented in Section 3.5 of the RDEIR/SDEIS for both Alternatives 5C and 7. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative and the improvements to circulation under the build alternatives would not be realized. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

[1] Gateway Cities Council of Governments (Gateway Cities COG). Website: http://www.gatewaycog. org/gateway/initiatives-and-projects/strategic-transportation-plan/?cat=Strategic+Transportation+Plan +Resources.

T-5-7

As discussed in Section 2.3.2.3 in Chapter 2.0, Project Alternatives, of the RDEIR/SDEIS, because the future technology cannot be predicted with certainty, Alternative 7 was assumed to be ZE "technology neutral" so that it could accommodate at least one type of ZE heavy-duty truck that is in commercial mass production before the build alternatives would complete final design (should a build alternative be selected as the Preferred Alternative). Because construction would have been several years away, selection of specific technology would have been premature. Alternative 7 was analyzed as technology-neutral so that future selection of technology would not be artificially limited. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative and therefore, ZE technology will not be employed as part of the build alternatives.

T-5-8

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk except at a few near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measure AQ-2 would provide for installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

T-5-9

The projections of freight transportation supporting the analyses in the I-710 RDEIR/SDEIS are based upon, and consistent with, the forecasts and assumptions adopted by the Southern California Association of Governments (SCAG), which is the federally recognized regional transportation planning agency for a six-county region in the Los Angeles metropolitan area. Collaborating with the Ports of Long Beach and Los Angeles, Caltrans, Metro and other agencies, they have developed forecasts for the year 2035 of freight travel in their region. The I-710 Corridor travel demand forecast assumptions and methodology developed to forecast the volumes, modes, and routes of freight transport are described in the *Technical Memorandum – I-710 Corridor Project RDEIR/SDEIS Travel Demand Modeling Methodology* (June 2017). While there is always uncertainty in forecasts 20 years into the future, the forecasting methodology is based upon both observed travel relationships and causal factors and is calibrated and validated to closely replicate recent observed traffic volumes. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Please also refer to Section 1.9 of this appendix for more information regarding the Alameda Corridor and its interface with I-710.

T-5-10

The San Pedro Bay Ports Clean Air Action Plan (CAAP) Update was adopted in November 2017. The cumulative analysis contained in Section 3.25 of the RDEIR/SDEIS reflects the information that was available at the time the RDEIR/SDEIS was being prepared. At that time, limited information regarding the CAAP Update was available. Similarly, the SCAG 2012 RTP/SCS was used as the basis for the growth and modeling assumptions, as it was the RTP/SCS in effect at the time analyses for the RDEIR/SDEIS began.

T-5-11

The RDEIR/SDEIS analyzed traffic impacts beyond the limits of the physical improvements associated with the I-710 Corridor Project build alternatives. As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, the traffic Study Area includes the portion of I-710 from Ocean Blvd. in Long Beach to State Route 60 (SR-60). At the freeway-to-freeway interchanges, the Study Area extends one mile east and west of I-710 for the I-405, SR-91, I-105, and I-5 interchanges. In addition, a total of 177 local arterial roadway segments were included in the traffic Study Area and are shown on Figure 3.5-5 of the RDEIR/SDEIS. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-5-12

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period. Additionally, with regard to future demand for cargo containers to be transported to and from the Ports by rail instead of truck, the *Final Technical Memorandum - I-710 Railroad Goods Movement Study* (February 2009) found that although the rail operators have implemented a variety of operational strategies to meet container demand from the Ports, including using longer trains with higher utilization rates, the railroad system in the Alameda Corridor will not be able to handle the total container demand even with the rail system operating at maximum capacity.

At the assumed 43.2 million annual 20-foot equivalent units (TEUs) and 50 percent rail mode share of Port container volumes in 2035, the Alameda Corridor is forecast to be used by 80 to 125 trains per day from on-dock and near-dock intermodal rail facilities. Historical data and forecast trends indicate that 50 percent of all Port container transport will be by truck due to the high number of container destinations within 350 miles of the San Pedro Bay Ports. Even with this assumption, at the forecast level of 43.2 million annual TEUs in 2035, the rail system will be approaching capacity carrying this share of containers.

Rail is less expensive for transporting cargo containers destined for locations more than 550 miles from the Ports. As a result, approximately 50 percent of the cargo from the Ports is transported by rail and 50 percent by truck (*Final Technical Memorandum – I-710 Railroad Goods Movement Study* [2009]). Please also refer to Section 1.9 of this appendix for more information regarding the Alameda Corridor and its interface with I-710.

T-5-13

As discussed in Chapter 2.0, Project Alternatives, the build alternatives would include widening of existing bridges and overcrossings to accommodate bicycle and pedestrian traffic. Build alternative improvements would include Americans with Disabilities Act of 1990 (ADA)-compliant sidewalks and sufficient room for Class II bicycle lanes.

In addition, the I-710 Corridor Project Intelligent Transportation Systems/Transportation System Management (ITS/TSM)/Congestion Relief Program is a programmatic element included in the build alternatives. This program would intend to help address the I-710 Corridor Project goals of improving traffic safety, accommodating projected traffic volumes, and addressing increased traffic volumes resulting from projected growth in population, employment, and economic activities related to goods movement. Any proposed improvements associated with the build alternatives would be required to account for the safe movement of bicycles and pedestrians and be consistent with “Complete Streets” principles. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by

Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details.

T-5-14

The commenter's opposition to a project that results in any impacts and requires mitigation is acknowledged and noted in the project record. An Air Quality/Health Risk Assessment was conducted for the project and is discussed in Section 3.13, Air Quality, of the RDEIR/SDEIS. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. However, the build alternatives would decrease DPM emissions (the primary contributor to air quality-related cancer risk) compared to both the 2012 Baseline and the 2035 No Build Alternative. Although emissions would increase at some near-roadway locations, there would not be an increase in cancer risk compared to 2012 Baseline conditions. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for the installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more information on the Community Health Benefit Program.

T-5-15

The commenter's support for the No Build Alternative is acknowledged and included in the project record. As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-5-16

Please refer to Section 1.2 of this appendix for more details regarding the length of the comment period for the RDEIR/SDEIS, as well as outreach efforts over the life of the project. In an effort to make the RDEIR/SDEIS materials as accessible as possible, Metro and Caltrans translated the RDEIR/SDEIS executive summary into Spanish, Khmer, Korean, Tagalog, and Vietnamese. In addition, Spanish interpreters, Spanish-speaking staff, and American Sign Language interpreters were made available at all three public hearings, with a Khmer interpreter also being made available at the August 31, 2017 hearing in Long Beach (because of the large Cambodian population in the immediate area).

T-5-17

Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of this Final EIR/EIS for more information regarding the outreach efforts ongoing through the life of the project. In addition to the advertising done in accordance with the requirements of CEQA and NEPA, individual postcards announcing the availability of the RDEIR/SDEIS and the public hearings were sent to residences and businesses within a 500-foot radius of the I-710 Corridor improvements proposed under the build alternatives.

T-5-18

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period. Caltrans and Metro acknowledge the size and complexity of the RDEIR/SDEIS, and that is why summaries were provided as part of the document. These summaries were provided in several languages to ensure readers throughout the corridor had an opportunity to understand the information presented.

T-5-19

The commenter's concern regarding the displacement of the Long Beach Multi-Service Center is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-5-20

The commenter's concern regarding the displacement or elimination of homeless services associated with the build alternatives is acknowledged and included in the project record.

However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-5-21

The commenter's support of a ZE alternative is acknowledged and included in the project record. As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of I-710 Clean Truck Program.

T-5-22

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, two of the purposes of the project are to accommodate projected traffic volumes and to improve air quality and public health. As discussed in Section 5.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, the build alternatives would improve traffic operations along the I-710 Corridor. Increases in traffic volumes along I-710 are anticipated due to regional growth in traffic. The I-710 Corridor Project build alternatives are proposed to accommodate projected traffic growth.

As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk except at a few near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 for more information regarding the Community Health Benefit Program.

T-5-23

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment

T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-5-24

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-5-25

The commenter's support of a ZE alternative is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. However, the build alternatives would decrease DPM emissions (the primary contributor to air quality-related cancer risk) compared to both the 2012 Baseline and the 2035 No Build Alternative. Although emissions would increase at some near-roadway locations, there would not be an increase in cancer risk compared to 2012 Baseline conditions. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However,

as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

T-5-26

As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, implementation of local hire programs will no longer be applicable.

T-5-27

The commenter's concern regarding the displacement of the Long Beach Multi-Service Center is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-5-28

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-5-29

As discussed in Section 3.5.1 of the RDEIR/SDEIS, bicyclists and pedestrians were a consideration in the design of the build alternatives at all local interchanges, including diverging diamond interchange (DDI) configuration interchanges. Should a build alternative be selected as the Preferred Alternative, appropriate treatments would be applied to balance vehicle, bicycle, and pedestrian use. Should a build alternative be selected as the Preferred Alternative, Caltrans' *Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians* (Complete Intersections Guide) (2010) would be used during the design process, as would Caltrans' Design Information Bulletin (DIB) 90, *Diverging Diamond Interchange,* and the *Highway Design Manual* (6th edition, December 2018). Also, because sidewalks would be improved, bikeways and trails would be maintained, and bicycle and pedestrian connectivity would be enhanced, the I-710 Corridor Project build alternatives would improve conditions for pedestrian and bicycle travel. In addition, as discussed in Section 2.3, with respect to "Complete Streets" improvements associated with the build alternatives, the inclusion of pedestrian paths (sidewalks, curb ramps, and crosswalks) and sufficient outside shoulder width to accommodate Class II bikeways on local street crossings would be provided as part of local interchange modifications. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative and no changes to roadways and associated bikeways and pedestrian facilities will occur as a result of the build alternatives. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative.

T-5-30

As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Therefore, no changes to roadways and associated bikeways and pedestrian facilities will occur as result of the build alternatives. Please also refer to Response to Comment T-5-29 regarding pedestrian and bicycle facilities.

T-5-31

Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of this Final EIR/EIS for more information regarding the outreach efforts ongoing through the life of the project. Public input over the life of the project development process has been invaluable in revising and refining the build alternatives, programmatic elements, and mitigation measures outlined in this Final EIR/EIS and, as discussed in more detail in Section 1.1 of this appendix, one of several balancing factors in the identification of a Preferred Alternative.

T-5-32

The I-710 Corridor Project build alternatives span approximately 19 miles and over a dozen local jurisdictions in a dense, highly urbanized area of Los Angeles County. The I-710 freeway serves as a local connector as well as a goods movement connection to the rest of the world via the Ports of Los Angeles and Long Beach. Hence, development of the build alternatives has taken time to ensure that all the necessary stakeholders have been appropriately consulted and coordinated with and to ensure that the public participation components of applicable State and Federal laws have been complied with. The input provided by stakeholders has been invaluable in creating build alternatives that are sensitive to the needs of the communities and also addressing the transportation needs of the I-710. For more information regarding the public outreach process of the project, please refer to Section 1.2 of this appendix.

T-5-33

It is Caltrans' goal that environmental documents are written with their audience in mind; that is, the general public. It can be difficult to balance that need with the often highly technical information and analyses contained within them and the requirements for disclosure under CEQA and NEPA. Part of the required review process for all Caltrans environmental documents is a "Technical Edit" Review which ensures, among other things, that plain language be used that can be understood by both the public and decision-makers. The I-710 Corridor Project RDEIR/SDEIS and this Final EIR/EIS were subject to this review, and the Project Team will continue to look for ways to simplify language that may be confusing or highly technical. In an effort to make information as accessible as possible, specialists on the Project Team were available at each public hearing to answer questions and clarify information.

T-5-34

Both CEQA and NEPA require impacts to the human environment be assessed as a result of the project in addition to assessing impacts to the physical and biological environment, and that information can be found the RDEIR/SDEIS and this Final EIR/EIS in Section 3.1, Land Use, Section 3.2, Growth, Section 3.3, Community Impacts, Section 3.4, Utilities and Emergency Services, Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, Section 3.6, Visual/Aesthetics, and Section 3.7, Cultural Resources. As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no impacts to the human or physical environment will occur.

T-5-35

Please refer to Section 1.8 of this appendix for detailed information on how the I-710 Corridor Project complied with Motion 22.1. Regarding zero emissions, the RDEIR/SDEIS analyzed Alternative 7, which included a "Clean-Emission Freight Corridor" that would restrict the use of the freight corridor to ZE/NZE trucks rather than conventionally powered diesel trucks. The build

alternatives include programmatic elements which includes a I-710 Clean Truck Program. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-36

The commenter's support of a ZE alternative is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-37

The I-710 Corridor Project build alternatives would utilize local hire programs. In addition, the build alternatives include programmatic components that would help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, since a build alternative has not been selected as the Preferred Alternative, the local hire program and the programmatic elements proposed as part of the build alternatives will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

T-5-38

The commenter's support of a ZE alternative is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-39

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-5-2,

the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-5-40

The commenter's support of a ZE alternative is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-41

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-5-42

Health risk was considered as part of the environmental analysis in the RDEIR/SDEIS. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. However, the build alternatives would decrease DPM emissions (the primary contributor to air-quality-related cancer risk) compared to both the 2012 Baseline and the 2035 No Build Alternative. Although emissions would increase at some near-roadway locations, there would not be an increase in cancer risk compared to 2012 Baseline conditions. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for the installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health

in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

T-5-43

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-5-44

Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of the Final EIR/EIS for more information regarding the outreach efforts ongoing through the life of the project. Although the use of postcard notification was limited to a 500-foot radius of the I-710 freeway, other methods of notification served a much larger area, such as advertisements in public newspapers.

T-5-45

Please refer to Section 1.9 of this appendix for more information regarding the Alameda Corridor and its interface with the I-710 Corridor. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative.

T-5-46

According to cargo forecasts provided by the San Pedro Bay Ports for the I-710 studies, the future horizon year forecast for cargo volume at the two Ports is projected to be nearly 41.4 million twenty-foot equivalents (TEUs) by year 2035, compared to 14.1 million in the base year of 2012. Maximum goods movement by rail is an underlying assumption of all the alternatives analyzed in the I-710 Corridor Project EIR/EIS.

By 2035, it is estimated that 40 percent of Port container traffic will be carried by rail, either on-dock (30.5 percent) where trains are loaded and formed within the marine terminals, or at near-dock/off-dock rail facilities (9.5 percent) where containers are carried by truck to rail facilities near the Ports or within the Los Angeles region. This compares with approximately 26 percent on-dock rail in 2012. While the percentage increase in on-dock rail seems small, due to the large forecast

increase in total container volumes handled by the Ports, the on-dock rail container volume itself is forecast to increase by over 300 percent.

With regard to future demand for cargo containers to be transported to and from the Ports by rail, the *Final Technical Memorandum – I-710 Railroad Goods Movement Study* (February 2009) found that although the rail operators have implemented a variety of operational strategies to meet container demand from the Ports, including using longer trains with higher utilization rates, the freight railroad system alone will not be able to handle the total container demand.

There are constraints that limit the ability of the overall rail system to handle more freight beyond a 40 percent share in the future. While there is a clear desire to increase the percentage of on-dock rail, there is not enough physical space within the marine terminals to load and build trains to meet the projected demand without further physical expansion of the Ports. The San Pedro Bay Ports have recently undertaken additional rail studies to examine ways to further maximize efficiencies of terminal operations in order to boost train operations to the greatest extent feasible with their goal of achieving 30-35 percent of total container volume being handled on-dock.

However, the primary reason why on-dock rail cannot serve all of the Port cargo trips within the region is because many of these trips (60 percent of the cargo in 2035) are either true local truck trips or they are transload-secondary trips. Freight rail is a less expensive mode of transporting cargo containers destined for inland locations more than 550 miles from the Ports. On the other hand, shorter, highly dispersed trips throughout the SCAG region (i.e., true local truck trips, transload-secondary truck trips) can only be served by trucks using the region's freeway and roadway network.

A true local truck trip is a truck trip from the Ports that carries a cargo container to a local warehouse or distribution center or retail store within the SCAG region. Approximately 80 percent of the Port truck trips (i.e., those trips that originate at the Ports) are destined to locations within 20 miles of the Ports; 16 percent are headed to the Inland Empire or Orange County, and the remaining 6 percent to North Los Angeles County/San Gabriel Valley or other local destinations within the region.

Transloading is when cargo, which arrives in international containers, is transferred to domestic containers at transload centers or warehousing located throughout the SCAG region. Once transloaded, cargo within domestic trailers is carried by truck to other destinations within the region, or it is carried by truck to intermodal (off-dock) rail yards within the region for transport by rail to destinations outside of Southern California.

T-5-47

The commenter's support of a ZE alternative is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected

as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-48

The infrastructure improvements proposed under both build alternatives would accommodate ZE/NZE passenger vehicles and trucks in the exact same manner in which the current gasoline-powered vehicles are accommodated. In addition to infrastructure, the I-710 Clean Truck Program (referred to in the RDEIR/SDEIS as the I-710 Corridor Project Zero Emission/Near Zero Emission Truck Technology Deployment Program), which is a programmatic element of the build alternatives, would subsidize the purchase and use of ZE/NZE heavy-duty trucks within the I-710 Corridor. Transit and bicycle/pedestrian improvements, including a programmatic transit element, are proposed as part of the build alternatives, but transit and bicycle/pedestrian improvements alone would not meet the purpose and need for the project, specifically the need to address goods movement within the corridor. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details.

T-5-49

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-5-50

The commenter's support of a ZE alternative is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-51

The commenter states that displacements must be avoided whenever possible and, if not avoidable, assistance should be provided to those affected by displacements. Design refinements to minimize acquisition of property and displacements under the build alternatives have been ongoing since the start of project development. As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-5-52

As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, implementation of local hire programs will no longer be applicable.

T-5-53

The commenter's support of a ZE alternative is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-54

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-5-55

The commenter's support of a ZE alternative is acknowledged and included in the project record. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there would be a few near-roadway locations where there would be an increase in certain emissions. However, the build alternatives would decrease DPM emissions (the primary contributor to air-quality-related cancer risk) compared to both the 2012 Baseline and the 2035 No Build Alternative. Although emissions would increase at some near-roadway locations, there would not be an increase in cancer risk compared to 2012 Baseline conditions. When compared to the 2035 No Build Alternative, both build alternatives would reduce cancer risk at most locations; however, a small increase in cancer risk would occur at some locations within 100 meters of I-710. For Alternative 5C, the maximum increase in risk would be approximately three in one million. The primary location of the increased risk for Alternative 5C would occur along a small portion of I-710 just south of SR-60. For Alternative 7, the increase in risk would be less than one in one million.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for the installation of solid barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health

in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more detailed information on the Community Health Benefit Program.

T-5-56

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-5-57

Generally, long-term benefits of the I-710 Corridor Project build alternatives would include improvements to access and congestion relief on highways and local roadways. Although it would be possible that some freeway users, such as those originating in the Wrigley area of Long Beach, would experience longer travel times to access the freeway system, travel times on I-710 would be shorter. The build alternatives proposed improvements to remove the multiple bottlenecks at the I-710/I-405 freeway-to-freeway interchanges would require the removal of the Pacific Ave. and Wardlow Rd. ramps. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-5-58

The multi-level feature described by the commenter is the freight-only corridor proposed under Alternative 7 which would be elevated in several places along the I-710 Corridor. Alternative 7 has not been identified as the Preferred Alternative. Multi-level, grade-separated roadway structures are common features at freeway-to-freeway interchanges. To address existing safety and operational deficiencies at these locations, these multi-level structures were integral to all build alternatives that were considered. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative and these multi-level structures will not be constructed.

T-5-59

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-5-60

The commenter's concern regarding the potential displacement of the Multi-Service Center and Bell Shelter is acknowledged and included in the project record. As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-5-61

As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, implementation of local hire programs will no longer be applicable. Please refer to Section 1.8 of this appendix for more information on Motion 22.1.

T-5-62

The I-710 Corridor serves many different kinds of trucks, headed to a wide variety of land uses distributed throughout the I-710 Corridor Study Area and within the greater Los Angeles metropolitan area. While much of the cargo that moves through the Ports is directly loaded onto rail at on-dock and near-dock rail facilities, many freight containers have local destinations throughout the region. Approximately 80 percent of the Port trucks are traveling to locations within 20 miles of the Ports and must rely on the local and regional freeway/roadway network to complete their journeys. The widely dispersed nature of the origin and destination points for trucks utilizing I-710 is mainly governed by the numerous locations of the land uses throughout the region – transload facilities, intermodal facilities, warehousing, industrial, manufacturing, and commercial uses - that receive and distribute goods. With regard to the desire for ZE vehicles, the I-710 Corridor Project build alternatives would include a program that would deploy ZE/NZE trucks on I-710, which would reduce DPM on the I-710 freeway relative to the No Build conditions. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.3 of this appendix and Response to Comment T-5-46 regarding the I-710 Clean Truck Program.

T-5-63

As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk except at a few near-roadway locations. Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would require installation of solid

barriers where soundwalls are not proposed and installation of vegetation to disperse pollution and reduce pollutant concentrations downwind. Additionally, the I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, Measures AQ-2 and AQ-3 will not be implemented and the Community Health Benefit Program will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

T-5-64

The commenter's support of a ZE alternative is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program. In addition, please refer to Response to Comment T-5-63.

T-5-65

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-5-66

Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of the Final EIR/EIS for more information regarding the outreach efforts ongoing through the life of the project. Public input over the life of the project development process has been invaluable in revising and refining the build alternatives, programmatic elements, and mitigation measures outlined in the Final EIR/EIS and, as discussed in more detail in Section 1.1 of this appendix, one of several balancing factors in the identification of a Preferred Alternative. The I-710 Corridor Project Team is aware that the RDEIR/SDEIS and Final EIR/EIS contain technical information and analyses and have held hundreds of meetings over the life of the project to brief local elected officials, community groups, local committees, and others about the project and its potential impacts.

T-5-67

As discussed in Section 2.3.2.2, Alternative 7: I-710 Modernization Plus Freight Corridor (Zero-Emissions Vehicles), Alternative 7 also included the assumption that all trucks using the freight corridor would have an automated vehicle control system that would steer, brake, and accelerate

the trucks under computer control while traveling on the freight corridor. Because the future technology cannot be predicted with certainty, the exact technology has not been determined. Alternative 7 was analyzed in the RDEIR/SDEIS as ZE "technology neutral" so that it would be able to accommodate at least one type of ZE heavy-duty truck that is in commercial mass production before the project would complete final design (should Alternative 7 be selected as the Preferred Alternative). Because the design Alternative 5C does not include a separate dedicated freight-only corridor, platooning strategies like the ones outlined in the comment are not feasible. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-5-68

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-5-69

As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, implementation of local hire programs will no longer be applicable.

T-5-70

The commenter's concern regarding displacement of people as a result of the build alternatives is acknowledged and included in the project record. As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, displacements would no longer be necessary.

T-5-71

The commenter's support of ZE technology is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-72

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-5-73

As discussed in Chapter 2.0, Project Alternatives, and Section 2.3.2.1 of this Final EIR/EIS, the build alternatives would include widening of existing bridges and overcrossings to accommodate

bicycle and pedestrian traffic. Improvements would include ADA-compliant sidewalks and sufficient room for Class II bicycle lanes. The appropriate safety lighting would be provided at night on the modified and proposed pedestrian and bicycle facilities of the build alternatives. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative and therefore improvements to pedestrian and bicycle facilities will not be implemented. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-5-74

The commenter's support of ZE trucks is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-75

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

T-5-76

As stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative. Please also refer to Section 1.9 of this appendix for more information regarding the Alameda Corridor and its interface with the I-710 Corridor.

T-5-77

It should be clarified that the use of the terms safety and public safety within the context of the I-710 Corridor Project purpose and need statement refers to improving traffic conditions and the geometric design of the roadway related to collisions and truck/auto mix, and is not related to air quality. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, another purpose of the project is to improve air quality and public health. As discussed in Section 3.13, Air Quality, in the RDEIR/SDEIS, all build alternatives would generally improve air quality and reduce public health risk. Along the I-710 Corridor, air quality would be improved and public health risk would be reduced at most locations, but there are a few near-roadway locations where there would be an increase in certain emissions.

Should a build alternative be selected as the Preferred Alternative, Measures AQ-2 and AQ-3 would reduce exposure to emissions at near-roadway locations. Measure AQ-2 would provide for the installation of filters on the ventilation systems of schools near I-710. Measure AQ-3 would provide for installation of solid barriers where soundwalls are not proposed and installation of

vegetation to disperse pollution and reduce pollutant concentrations downwind. In addition, the build alternatives include programmatic components to help improve air quality and public health in the I-710 Corridor. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, Measures AQ-2 and AQ-3 will not be implemented, and the Community Health Benefit Program will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more information regarding the Community Health Benefit Program.

T-5-78

In order to assist local officials in disseminating information to their constituents, the I-710 Corridor Project Team conducted briefings with local elected officials upon request on the project and potential impacts over the life of the project development efforts.

T-5-79

The commenter's support of zero emissions is acknowledged and included in the project record. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative and Section 1.3 of this appendix for additional discussion of the I-710 Clean Truck Program.

T-5-80

Please refer to Response to Comment T-5-79 regarding the zero-emissions freight corridor.

T-5-81

Please also refer to Response to Comment T-5-79 regarding the zero-emissions freight corridor. As discussed in Section 1.2.2 in Chapter 1.0, Proposed Project, of the RDEIR/SDEIS, one of the purposes of the project is to improve air quality and public health. The I-710 Corridor Community Health Benefit Program is a programmatic component of the build alternatives and would take the form of a grant program structured to provide corridor communities the opportunity to implement projects or outreach activities that would improve air quality and public health related to I-710 travel and goods movement. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, programmatic elements will not be implemented by Caltrans

as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

T-5-82

Please refer to Section 1.2 of this appendix and Chapter 5.0, Comments and Coordination, of the Final EIR/EIS for more information regarding the outreach efforts ongoing through the life of the project. In addition to the advertising done in accordance with the requirements of CEQA and NEPA, individual postcards announcing the availability of the RDEIR/SDEIS and the public hearings were sent to residences and businesses within a 500-foot radius of the improvements proposed for the build alternatives.

T-5-83

Please refer to Section 1.3 of this appendix for more information regarding the I-710 Clean Truck Program. As was described in more detail in Section 1.2.1.2 of the RDEIR/SDEIS, based on an examination of existing travel conditions and projected future traffic (2035), the I-710 Corridor currently experiences, and will continue to experience, capacity and operational problems due to a number of interrelated factors, including, but not limited to, lack of major facility improvements, extensive population growth in the area, the containerization of ocean-going freight, and significant growth in international trade. Therefore, as indicated in Section 1.2.2.1 of the RDEIR/SDEIS, the proposed build alternatives intend to accommodate projected traffic volumes and to address increased traffic volumes resulting from projected growth in population, employment, and economic activities related to goods movement. Truck traffic backing up into communities in the I-710 Corridor is one of the issues that the build alternatives were designed to address so that there would be an improvement in traffic flow and reduction in travel times on I-710, and would thus attract more truck trips to use I-710 rather than city streets.

Additionally, the air quality analyses performed for the RDEIR/SDEIS account for pollutant emissions from both autos and trucks, as well as the effects of traffic congestion and associated idling.

However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative improvements to circulation resulting from the build alternatives would not be realized. Please refer to Section 1.1 of this appendix for a discussion on the identification of the Preferred Alternative.

T-5-84

The Project Team thanks you for your comments. Caltrans and Metro acknowledge the fact that its proximity to the Ports makes the I-710 Corridor area attractive to trucking and warehousing

operations; however, as transportation agencies, Caltrans and Metro do not have the authority to regulate the wages paid by those industries. Also, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative.

T-5-85

Caltrans and Metro acknowledge that the I-710 Corridor is home to a substantial number of minority and low-income communities. In order to address potentially disproportionate impacts to these environmental justice populations resulting from the build alternatives, Measures C-6, C-7 and C-8 (please refer to Section 3.3.3.7 of this Final EIR/EIS) were proposed. In addition, the Community Health Benefit Program proposed as a programmatic element of the build alternatives would give funding preference to projects benefitting environmental justice populations nearest the I-710 freeway facility. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Since a build alternative has not been selected as the Preferred Alternative, Measures C-6, C-7, and C-8 will not be implemented and the Community Health Benefit Program will not be implemented by Caltrans as the lead agency under CEQA and NEPA and as the owner/operator of the I-710 freeway. Please refer to Section 2.3.2.1 of this Final EIR/EIS for further details. Please also refer to Section 1.10 of this appendix for more detailed information regarding the Community Health Benefit Program.

Additionally, it should be noted that Caltrans is legally obligated to sell the State-owned homes along what is known as the “Meridian Corridor” by Assembly Bill 580, which codified amendments to California Government Code 54237 in 2016.

T-5-86

It is unclear from the comment where these stacked containers are occurring within the I-710 Corridor area. However, container storage is not allowed within State right-of-way. Caltrans and Metro are sympathetic to the issues raised in the comment, and the commenter is encouraged to contact the local jurisdiction to resolve these issues. Please refer to Response to Comment T-5-83 for more information regarding traffic within the corridor. However, as stated in Response to Comment T-5-2, the No Build Alternative has been selected as the Preferred Alternative. Therefore, no impacts will occur as a result of the build alternatives.

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T-6

I-710 Corridor Project EIR/EIS

Recirculated Draft Environmental Impact Report/
Supplemental Draft Environmental Impact Statement

Public Hearing

August 31, 2017

-o0o-

Cesar Chavez Park Community Center
401 Golden Avenue
Long Beach, California 90802

Pages: 1 to 3

Job No. 151555

Reported By: Vanna Saavedra, CSR
CSR NO. 14030

LONG BEACH, CALIFORNIA, THURSDAY, AUGUST 31, 2017;

6:40 P.M.

-OOO-

MS. SYRACOPOULOS: So I'm with Bikeable Communities. We're a cycling nonprofit here in Long Beach and we would like to see alternative bike and pedestrian facilities specifically on Del Amo, PCH, and Anaheim. The separate bike and pedestrian facilities at Hill and Spring will help but are not sufficient. Bicyclists and pedestrians will not and should not be expected to go miles out of their way to be able to safely cross a street. We propose grade separated facilities at Anaheim, PCH, and Del Amo. With PCH, complete streets Class 4 connections on PCH extending between Pacific Avenue on the east and Cabrillo High School on the west. On Anaheim, complete streets Class 4 connections from Daisy Avenue to the east to Ninth Street on the west. And on Del Amo, complete streets Class 4 connection to the LA River on the east and Metro Blue line on the west. That's it. T-6-1

MS. SHOAG: I am just asking for a 120-day extension so there's time for everyone to review all of the materials. T-6-2

(Whereupon, the comment period closed at 8:44 P.M..)

REPORTER'S CERTIFICATE

I, VANNA SAAVEDRA, CSR No. 14030, Certified Shorthand Reporter for the State of California, do hereby certify;

That said proceeding was taken before me at the time and place set forth and was taken down by me in shorthand and thereafter reduced to computerized transcription under my direction and supervision; and I hereby certify the foregoing is a full, true, and correct transcript of my shorthand notes so taken.

I further certify that I am neither counsel for nor related to any party to said action nor in any way interested in the outcome thereof.

Witness my hand this 6th day of September, 2017.



VANNA SAAVEDRA
Certified Shorthand Reporter No. 14030

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T-6-1

As discussed in Section 3.5.1 of the RDEIR/SDEIS, bicyclists and pedestrians were a consideration in the design of the build alternatives at of all local interchanges, including diverging diamond interchange (DDI) configuration interchanges. Should a build alternative be selected as the Preferred Alternative, appropriate treatments would be applied to balance vehicle, bicycle, and pedestrian use. Should a build alternative be selected as the Preferred Alternative, Caltrans' *Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians* (Complete Intersections Guide) (2010) would be used during the design process for either of the build alternatives, as would Caltrans' Design Information Bulletin (DIB) 90, *Diverging Diamond Interchange,* and the *Highway Design Manual* (6th edition, December 2018). Also, because sidewalks would be improved, bikeways and trails would be maintained, and bicycle and pedestrian connectivity would be enhanced, the I-710 Corridor Project build alternatives would improve conditions for pedestrian and bicycle travel. In addition, as discussed in Section 2.3, with respect to "Complete Streets" improvements associated with the build alternatives, the inclusion of pedestrian paths (sidewalks, curb ramps, and crosswalks) and sufficient outside shoulder width to accommodate Class II bikeways on local street crossings would be provided as part of local interchange modifications. However, Caltrans, as lead agency under CEQA and NEPA (as assigned by the Federal Highway Administration [FHWA]), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), has identified Alternative 1 (No Build) as the Preferred Alternative and therefore, improvements to pedestrian and bicycle facilities will not be implemented. Please refer to Section 1.1 of this appendix for further discussion on the identification of the Preferred Alternative. Since the No Build Alternative has been selected as the Preferred Alternative, no changes to roadways and associated bikeways and pedestrian facilities will occur as result of the build alternatives.

T-6-2

Please refer to Section 1.2 of this appendix regarding the extension of the public comment period.

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Appendix W I-710 Clean Truck Program Description

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I-710 Clean Truck Program

Program Description

Draft

September 18, 2020

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I-710 Clean Truck Program

1. Introduction

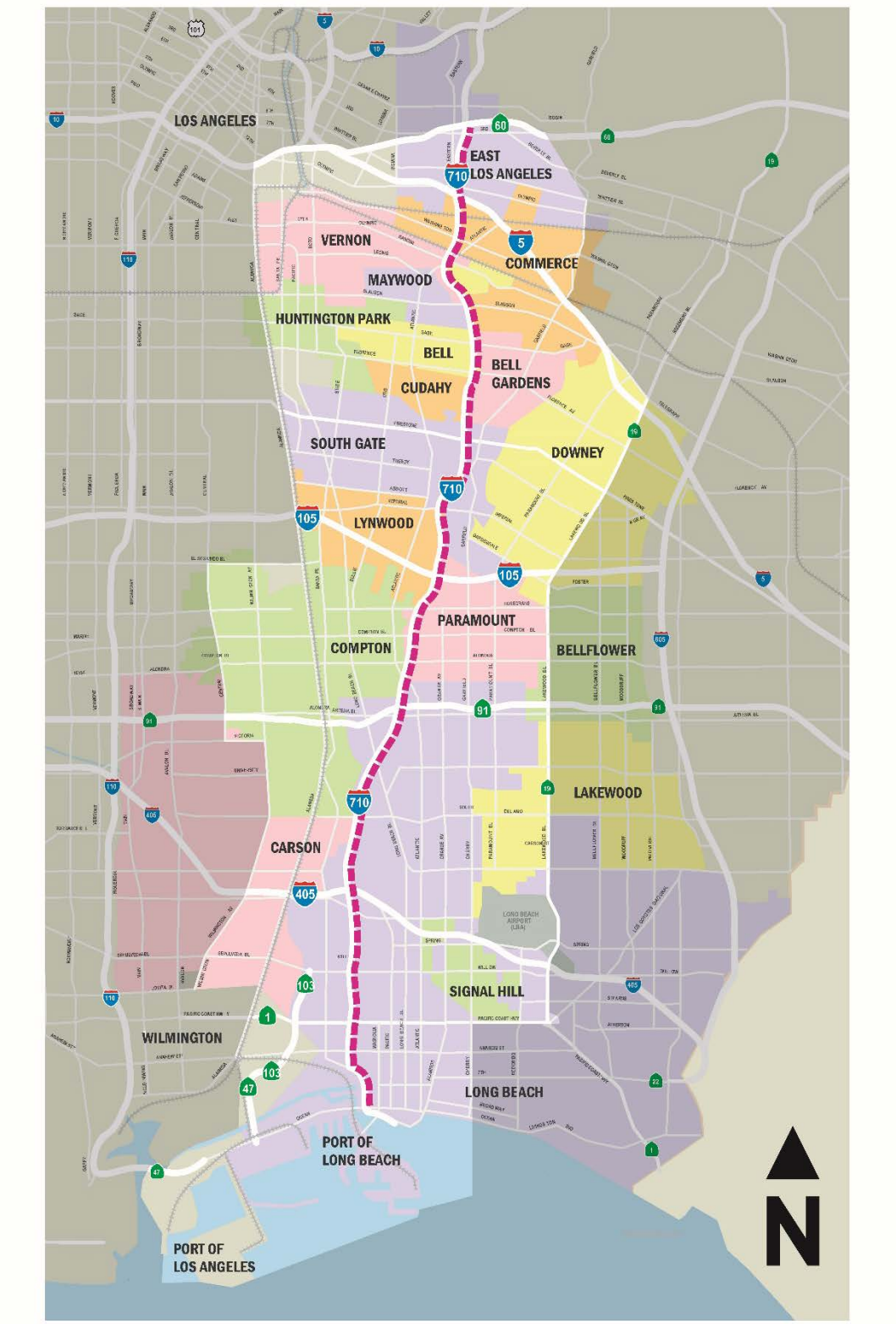
The I-710 Clean Truck Program (or "Program") is an element of the I-710 Project that will put 4,000 zero- and near-zero emissions trucks on I-710, so that 4,000 fewer diesel trucks would travel through I-710 communities. The I-710 Clean Truck Program is designed to improve both existing and future air quality for people that live, work, and play near the I-710 freeway.

As part of the overall I-710 Project, the I-710 Clean Truck Program will be implemented in parallel with the proposed operational and capacity improvements to the I-710 freeway as well as in conjunction with other I-710 programs, including the I-710 Early Action Soundwall Program, the I-710 Community Health Benefit Program, and the I-710 Congestion Relief Program. For a complete description of the entire I-710 Project, please refer to Chapter 2 of the I-710 Corridor Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS.) While there are several programs and initiatives throughout the state and the Southern California region that seek to implement near zero- and zero-emissions trucks, the I-710 Clean Truck Program focuses exclusively on the I-710 Corridor. See Figure 1, I-710 Corridor Study Area, for a map of the I-710 Corridor.

Chief among these other state and regional programs are: California's Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP), the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program), and the San Pedro Bay Ports Clean Air Action Plan (CAAP). As the I-710 Clean Truck Program is further developed and moves into implementation, Metro will continue to coordinate with the California Air Resources Board, the South Coast Air Quality Management District, and the Ports of Los Angeles / Long Beach as part of an integrated approach to achieving cleaner air associated with heavy duty truck movement. A key forum for these cooperative discussions will be the I-710 Air Quality Steering Committee (I-710 Steering Committee), which is described under Program Organization Roles and Responsibilities.

The I-710 Clean Truck Program is structured to bring NZE/ZE trucks specifically to the I-710 Corridor communities and thus it supplements and complements the HVIP, Carl Moyer, and CAAP programs. The basis of the I-710 Clean Truck Program is the deployment of 4,000 NZE/ZE trucks within the I-710 Corridor, which would otherwise not occur through these other programs as the I-710 Project is developed and implemented. Moreover, these additional I-710 Program trucks would be required to travel within the I-710 Corridor as opposed to elsewhere within the region.

Figure 1. I-710 Corridor Study Area



As part of its strategy to advance goods movement technologies throughout Los Angeles County - including near zero- and zero-emissions trucks – Metro established the Countywide Clean Truck Initiative (CCTI) in late 2019. Please see Appendix A for information on Metro's Countywide Clean Truck Initiative. Several of the goals of the CCTI are shared by the I-710 Clean Truck Program. The I-710 Clean Truck Program is an early initiative within the CCTI. Further, the CCTI provides a useful institutional basis, as well as organizational support, for the I-710 Clean Truck Program.

2. Program Organization

2.1. I-710 Clean Truck Program Memorandum of Understanding

In October 2019, a Memorandum of Understanding (MOU) was executed among the Los Angeles County Metropolitan Transportation Authority (Metro), the California Department of Transportation - District 7 (Caltrans – District 7), the Gateway Cities Council of Governments (Gateway Cities COG), and the Southern California Association of Governments (SCAG) to establish the framework for the development of the I-710 Clean Truck Program. The MOU also provided for the formation of the I-710 Steering Committee, which is charged with guiding the development of the I-710 Clean Truck Program. Please refer to Appendix B for a copy of the *Memorandum of Understanding Creating the I-710 Corridor Air Quality Steering Committee*.

The MOU also outlined the primary responsibilities of the I-710 Steering Committee, which are to:

a. Further develop implementation details, including eligibility requirements, institutional arrangements, management, and administration for the Clean Truck Emissions Program.*
b. Explore and identify funding opportunities, financial impact, and other implementation factors along with the development of a phasing plan for the achievement of the funding target developed by Caltrans and Metro for the Clean Truck Emissions Program, and the more comprehensive goals, based on existing and new potential funding, including local, state, federal and private resources. This includes collaborating with the Port of Long Beach, the Port of Los Angeles, and the South Coast Air Quality Management District in identifying funding and project/program opportunities to implement.
c. Develop a strategy that outlines the progressive transition to ZEVs in the I-710 Corridor starting with the latest feasible and sustainable technologies.
d. Identify and evaluate other potential strategies to address the air quality concerns in the I-710 Corridor.
e. Obtain or assist with obtaining funding to implement the Clean Truck Emissions Program and more comprehensive programs.
f. Issue quarterly reports on the development and progress toward the established and agreed upon goals. The progress reports will be presented to the governing bodies of the participating agencies and those of other agencies as necessary.

* Please note that the "Clean Truck Emissions Program" referenced in the MOU has been titled the I-710 Clean Truck Program.

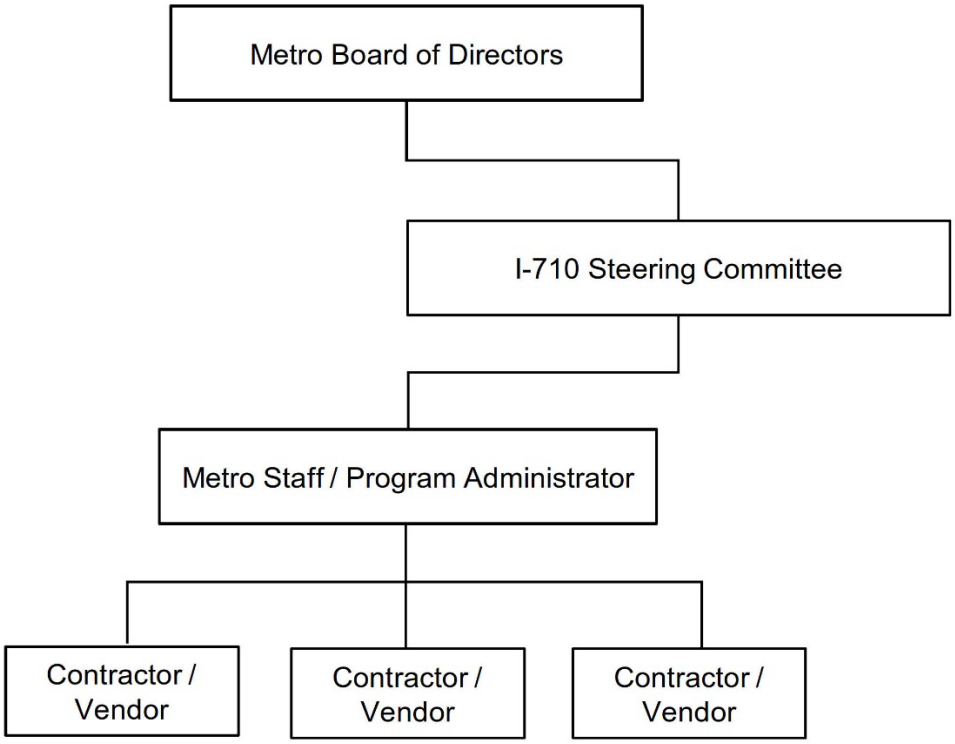
2.2. Implementing Agency

Metro will serve as the Implementing Agency and Program Administrator for the I-710 Clean Truck Program, with the assistance of the I-710 Steering Committee.

2.3. Organization Chart

Figure 2 illustrates the organizational framework for the I-710 Clean Truck Program.

Figure 2. I-710 Clean Truck Program Organization Chart



Metro Board of Directors: As the implementing agency, the Metro Board of Directors will have full responsibility and authority for I-710 Clean Truck Program development and implementation. The Metro Board of Directors will also have final approval of all major policy decisions related to the Program. Consistent with the I-710 Corridor EIR/EIS and conformity finding, the Board will provide overall policy direction on Program goals, objectives, and implementation through Board action. The Metro Board will also provide a public forum to review and consider features of the I-710 Clean Truck Program, including public board meetings and reports on various aspects and progress made on implementing the Program.

I-710 Steering Committee: The membership of the I-710 Steering Committee will be a steering committee drawn largely from the larger CCTI Working Group and supplemented by additional stakeholders – specifically those representatives from selected agencies and localities who have a focused interest in the I-710 Corridor and who are prepared to devote

the time and effort to successfully launch and oversee the Program. At a minimum, the I-710 Steering Committee will include the signatory parties of the I-710 Clean Truck Program MOU – Metro, Caltrans-District 7, Gateway Cities COG, and SCAG – along with representatives from FHWA, SCAQMD, CARB, EPA, the Port of Long Beach, and the Port of Los Angeles. In addition to the responsibilities outlined in the I-710 Clean Truck Program MOU, the I-710 Steering Committee will ensure consistency with Board-approved Program goals and objectives as well as ensure that Program milestones and Program NZE/ZE travel requirements are met. The I-710 Steering Committee will also review, advise, and make recommendations on all key facets of Program development, implementation, and funding, as well as Program tracking, monitoring, and reporting.

Metro Staff / Program Administrator: Metro will serve as the day to day Administrator for the Program. The function of Program Administrator will be performed by Metro staff or by a contractor hired by Metro or by a combination of the two. The Program Administrator will be responsible for developing proposals and options to present to the I-710 Steering Committee on Program development, implementation, funding opportunities, rankings and selections, and Program awards. The Program Administrator will also be responsible for day to day activities associated with managing contracts with recipients of Program funds, managing agreements with partner agencies for grants and funding, developing fiscal plans and budgets, ensuring compliance with Program requirements, tracking NZE/ZE truck vehicle miles traveled (VMT), and preparing status reports and presentations to the I-710 Steering Committee and Metro Board of Directors.

Contractors / Vendors: At its discretion, Metro may elect to contract with consultants, agencies, organizations, or vendors to implement specific tasks associated with Program Administration. These activities could include, but not limited to, tasks such as procuring software and Automated Vehicle Locator (AVL) equipment to monitor NZE/ZE truck travel within the I-710 Corridor; development and maintenance of a NZE/ZE truck VMT data base; Program website development and maintenance; and preparation of grant proposals; along with specialty services related to zero emissions technologies, financial and auditing services, and marketing services for Program outreach and recruitment.

Further detail on roles and responsibilities associated with Program development, implementation, and management is outlined in Appendix C, I-710 Clean Truck Program Roles and Responsibilities.

3. Program Goals and Milestones

3.1. Near Zero Emissions / Zero Emissions (NZE/ZE) Trucks

The primary goal of the I-710 Clean Truck Program is to improve both existing and future air quality within the Corridor, especially for those who are located near the I-710 freeway. Of

particular concern is diesel particulate matter from the projected operation of heavy duty trucks on I-710 that contributes to cancer risk and other public health concerns within the I-710 Corridor.

The I-710 Clean Truck Program seeks to accomplish this goal by deploying 4,000 NZE/ZE trucks in the I-710 Corridor by 2035. A significant portion of the truck trips that are currently served by diesel trucks on I-710 would be taken over by these NZE/ZE trucks. Through implementation of the Program, the number of diesel truck trips on I-710 would be reduced relative to the future No Build condition. Therefore, a related objective of the Program is to reduce the number of I-710 diesel truck trips, both now and in the future, by the time the I-710 Corridor Project is constructed by 2035.

Original forecasts for the I-710 Clean Truck Program estimated that for 4,000 trucks to be deployed, approximately $100 million in incentive funding would be needed for truck owner-operators to enable them to transition from diesel trucks to near zero- and zero emissions trucks. In March 2017, the Metro Board of Directors raised the funding target level for the Program from $100 million to $200 million. [Note: the cost for the full Program will ultimately depend upon the future costs of developing near zero and zero emissions vehicle technologies relative to the costs of owning and operating conventional diesel trucks among other factors.] In April 2020, the Metro Board programmed $50 million in locally controlled funds to provide funding for the Initial Deployment Phase of the I-710 Clean Truck Program and to leverage the remaining funds required for full Program implementation.

The following milestones, as shown in Figure 3, have been established for the I-710 Clean Truck Program based on funds identified to date, targets established by the Metro Board of Directors, and the anticipated pace of freeway construction for the overall I-710 Project.

Figure 3. I-710 Clean Truck Program Major Milestones

Deployment Phase	Timeframe	NZE/ZE Trucks
Initial Phase *	2022 - 2025	600 NZE/ZE Trucks
Phase 2	2026 – 2030	1,700 NZE/ZE Trucks
Phase 3	2031 - 2035	1,700 NZE/ZE Trucks
Full Program (Total)	2022 - 2035	4,000 NZE/ZE Trucks

* To date, Metro has secured $50 million to implement the Initial Phase of the I-710 Clean Truck Program

It is Metro's intention, along with support from Caltrans District 7, the Gateway Cities COG, SCAG, and SCAQMD, to begin the I-710 Clean Truck Program as soon as feasible upon approval of the I-710 Corridor Project EIR/EIS. It is important to the communities that line the I-710 freeway to

begin to turn over diesel trucks to NZE/ZE trucks as soon as possible to maximize the air quality benefits to be achieved through the Program. As stated above, Metro has already secured $50 million and intends to utilize these funds for the Initial Deployment Phase and to help secure more funding for the overall Program for subsequent phases.

The Initial Deployment Phase, including the approach used to determine the level of NZE/ZE trucks and diesel truck trip reductions in the I-710 Corridor, is described in Section 10, Initial Deployment Phase - Technical Demonstration.

Responsibility for ensuring Program compliance with achieving reasonable progress towards planned milestones for NZE/ZE Truck Deployment shall reside with the I-710 Steering Committee, with technical support provided by Metro. See Appendix C, I-710 Clean Truck Program Roles and Responsibilities. Throughout the duration of the Program, the I-710 Steering Committee shall monitor and review plans for construction staging on an annual basis to ensure that appropriate levels of NZE/ZE trucks are proposed and delivered through the Program to match the pace of freeway construction and to ensure reasonable progress towards each planned milestone. The I-710 Steering Committee shall also review the number of diesel truck trips to be reduced for each planned, future construction stage relative to the No Build condition using methods and metrics similar to those outlined in Section 10, Initial Deployment Phase – Technical Demonstration. Another important aspect of this compliance process is to ensure that recipients of Program funds meet their NZE/ZE travel requirements, as measured by vehicle miles traveled in the I-710 Corridor. See Section 8, Tracking, Monitoring, and Reporting for further details on this aspect of the Program.

3.2. Zero Emission Truck Fueling/Charging Infrastructure

In addition to the deployment of 4,000 NZE/ZE trucks needed to reduce diesel truck trips in the I-710 Corridor, another goal of the I-710 Clean Truck Program is to assist in the future market transition from diesel and near zero emissions trucks over to zero emissions trucks to facilitate reductions in greenhouse gases as a means to help combat climate change. For this reason, the I-710 Clean Truck Program includes a program feature that allows for the funding of up to 20 electric charging stations and 10 hydrogen refueling stations for zero emissions heavy duty trucks. The main purpose of the power infrastructure feature of the Program is to encourage the future development and deployment of zero emissions trucks through the provision of seed funding of selected charging/hydrogen refueling projects within the I-710 Corridor. [Note: near zero emissions trucks do not utilize electrical charging or hydrogen refueling stations.]

The charging and refueling stations will be targeted to locations served by heavy duty vehicles such as intermodal terminals (ports/rail yards) and warehouse/distribution centers within the travel shed of the I-710 Corridor. This infrastructure effort will be accomplished in partnership with the Ports, Freight railroads and other stakeholders.

As Program Administrator, Metro staff will be responsible for working with the I-710 Steering Committee to develop the Program criteria for partnering with agencies, local jurisdictions, non-

profit, and private organizations to help facilitate the development of the electric charging stations/hydrogen fueling stations within the I-710 Corridor. The Program criteria shall consider factors such as proposed site location, feasibility, capacity, implementation timeline, operational efficacy, as well as the capability and financial reliability of the Partner Agency(s)/Organization(s). The I-710 Steering Committee will assist Metro by helping to identify partner agencies and organizations that will be responsible for constructing the stations. The I-710 Steering Committee will also review, advise, and make recommendations on conditions and terms of Partner agreements for recipients of Program seed funding for the siting and development of the proposed electric charging stations/hydrogen refueling stations within the I-710 Corridor.

The Partner agreements for the Zero Emission Truck Fueling/Charging Infrastructure projects will be implemented between 2022 and 2035. The initial round of funding for this aspect of the I-710 Clean Truck Program will be established within three years after the Final EIR/EIS is conclusively determined to be valid under CEQA and NEPA or by final judgment or final adjudication.

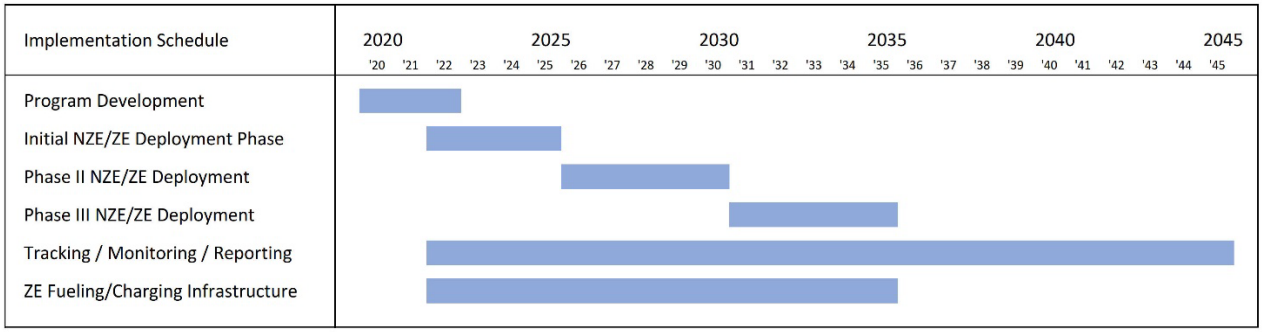
4. Schedule for Implementation

As explained above, it is Metro's intention to begin the I-710 Clean Truck Program as soon as feasible upon approval of the I-710 Corridor Project EIR/EIS.

The I-710 Clean Truck Program will be implemented in parallel with the other elements of the overall I-710 Project once the Final EIR/EIS is conclusively determined to be valid under CEQA and NEPA or by final judgment or final adjudication. The first annual funding contribution for the program will be provided either prior to or within twelve months of the programmed allocation of construction funding for I-710. The I-710 Clean Truck Program will be scaled consistent with the staged construction of the I-710 Project. Full deployment of the I-710 near zero- and zero-emissions trucks is projected to occur by 2035.

The following schedule, provided in Figure 4, has been developed for program implementation consistent with the planned milestones described in Section 3, Program Goals and Milestones.

Figure 4. I-710 Clean Truck Program Implementation Schedule



As shown in Figure 4, full Program deployment of all 4,000 NZE/ZE trucks would occur prior to 2035. However, the duration of the Program would extend for a minimum of ten years beyond 2035 to ensure that all recipients of project funds meet their I-710 travel requirements as well as other Program requirements for the full life of the NZE/ZE trucks to be funded through the I-710 Clean Truck Program.

5. Program Eligibility Requirements

5.1. Eligible Participants

Individual owner-operators, as well as privately-owned fleets with heavy duty trucks that travel frequently on I-710, would be eligible to receive incentive funding (or lease subsidies) for the acquisition of near zero- and zero-emissions trucks through the Program.

5.2. Emissions Standards

In order to qualify for Program funding, NZE/ZE trucks must meet minimum requirements for emissions standards and amount of travel within the I-710 Corridor. Heavy-duty (Class 8) trucks must meet minimum requirements for near zero- and zero-emissions standards by being certified by the California Air Resources Board (CARB) at or below the optional 90% lower oxides of nitrogen (NOx) standard of 0.02 grams per brake horsepower-hour of oxides of nitrogen (g/bhp-hour NOx) and/or by meeting current CARB and/or South Coast Air Quality Management District (SCAQMD) zero emissions technology definitions. No diesel-powered truck would be eligible.

The I-710 Clean Truck Program will not prescribe any specific ZE or NZE technology for eligibility as long as the minimum requirements for emissions standards are met. In this regard, the I-710 Clean Truck Program is technology neutral. As it is the objective of the Program to encourage participation in order to maximize NZE/ZE travel within the I-710 Corridor and eliminate diesel truck emissions, several different near zero-emissions and zero-emissions technologies, ranging from liquified natural gas (LNG) and compressed natural gas (CNG) powered vehicles to battery electric (BEV) and hydrogen fuel cell vehicles, currently qualify for Program funding.

As the I-710 Clean Truck Program matures and new vehicle technologies are developed, Metro will work with the I-710 Steering Committee to monitor emerging or new NZE/ZE technologies to assess their potential eligibility to meet the emissions standards established for the Program. It is envisioned that zero emissions vehicle technologies will become commercially available in the future. The I-710 Steering Committee will also develop strategies to incentivize the progressive transition to ZE vehicles in the I-710 Corridor starting with the latest feasible and sustainable technologies.

5.3. I-710 Travel Requirements

In order to receive Program funds, owners/operators must agree to requirements for travel in the I-710 Corridor. This agreement will be specified in a contractual agreement with each funding

recipient. Funding recipients will be required to consistently meet average weekday vehicle miles traveled (VMT) thresholds within the twenty-mile I-710 Corridor. VMT is a measure that takes into account both the number of NZE/ZE heavy duty truck trips (i.e., volumes) as well as the distances that those NZE/ZE heavy duty trucks travel within the I-710 Corridor during these trips. VMT is a measure that also accommodates a wide variety of travel patterns within the I-710 Corridor, as some NZE/ZE trucks will make many, short trips and yet others will make fewer, but longer distance trips to achieve their VMT goals.

To ensure compliance with Program criteria, the truck owners would need to report travel on I-710. It is currently envisioned that the VMT data would be collected via an automated vehicle locator, a GIS monitoring device, based on geofencing within the I-710 Corridor, which would be certified annually. In addition, the vehicle locator VMT data will be gathered and reported to allow for six-month check ins, so that the I-710 Steering Committee can monitor VMT compliance for recipient trucks. It is anticipated this information would be made available online (with adequate privacy protections in place) to individual truck owner-operators and to Metro staff. NZE/ZE trucks which receive Program incentive funds for purchase will be monitored for a minimum of ten years to ensure that the NZE/ZE truck is utilized within the I-710 Corridor. For additional discussion on Program monitoring activities and compliance, please refer to Section 8, Tracking, Monitoring, and Reporting.

As stated above, there will be a minimum VMT travel commitment for each NZE/ZE truck that receives Program funds. The minimum commitment will be structured to reach the VMT estimates in the EIR/EIS analysis, which are based on VMT Program averages per truck. The objective of the Program is to produce 42.5 VMT per NZE/ZE truck per weekday for the Program, *in aggregate, on average*, for each deployment phase up to 4,000 NZE/ZE trucks, which will be reported annually. Metro staff, under the guidance of the I-710 Steering Committee, will monitor and report Program compliance via an annual report. The Metro Board has the authority to fund additional NZE/ZE trucks (or offer other incentives) to ensure that the Program continues to meet its NZE/ZE VMT goals.

The methodologies utilized in the I-710 Corridor EIR/EIS to establish these VMT thresholds for the full I-710 Clean Truck Program are provided in Appendix D. Appendix D also includes information on the projected number of diesel truck trip reductions for the full Program of 4,000 NZE/ZE trucks when implemented in conjunction with the I-710 freeway improvements included in the overall I-710 Project (Alternative 5C).

As the Program matures, the I-710 Steering Committee may include provisions in the Program to allow for variations or tiering in individual truck VMT requirements for future applicants to optimize NZE/ZE travel in the I-710 Corridor in aggregate. In other words, some trucks may receive more Program dollars for higher VMT travel requirements and others less, just as long as the Program I-710 NZE/ZE VMT totals are consistent with the EIR/EIS estimates and meet or exceed targets established for each NZE/ZE truck deployment phase.

Further, in order to ensure that the progression of Program NZE/ZE deployment matches the actual pace of I-710 freeway construction as the I-710 Project is implemented, NZE/ZE truck deployment levels and corresponding VMT targets will be established for each major construction stage as these construction stages are identified, prioritized, and programmed for implementation. *At a minimum, the construction of any segment along I-710 shall not result in an increase of diesel truck trips relative to the No Build condition.* An example of this process is provided in Section 10, Initial Deployment Phase - Technical Demonstration.

5.4. Other Program Requirements

At this stage, it is envisioned that all Program trucks would be new NZE/ZE trucks or new NZE/ZE engines. Metro staff and the I-710 Steering Committee will establish minimum maintenance requirements for NZE/ZE trucks that receive project funds, including those needed to maintain the truck's warranty. Further, it is advised that these minimum maintenance requirements be tailored to the specific manufacturer recommendations for NZE/ZE trucks. For example, the Program recipient would be required to adhere to the guidelines and schedules for maintenance established by the manufacturers including, but not limited to, regularly scheduled maintenance items as listed in each truck owner's / maintenance manual (e.g., oil changes, brake inspections / changes, filter replacements, lubrications, fluid checks and top offs) and the proper use and upkeep of the emissions control system(s) on each truck. All Program NZE/ZE trucks shall comply with all CARB truck operational requirements for near zero-emissions (low NOx) and zero-emissions vehicles.

There is no age requirement for I-710 diesel trucks that will be displaced by the I-710 Clean Truck Program NZE/ZE trucks. However, information on the age and type of diesel truck may be collected during the application process to evaluate the strength of the application and/or used in the ranking of awards. As the I-710 Clean Truck Program matures, additional requirements may be added in keeping with future CARB rule-making and the future commercial availability of ZE trucks.

6. Program Development

6.1. Program Recruitment

As the I-710 Clean Truck Program is a voluntary, competitive award program, an important part of Program Development will be in identifying potential Program applicants for recruitment into the Program, especially for the first few years of the Program. Metro staff will work with SCAQMD, the Ports, members of the trucking industry, members of the I-710 Steering Committee, and other key stakeholders to develop lists of potential candidates for the Program. Special attention will be given to targeting those truck fleets and owner-operators that serve originations and destinations in the I-710 travel shed and that perform a drayage function within the I-710 Corridor. Under the guidance of the I-710 Steering Committee, Metro will also develop a promotional, educational, and recruitment plan for the I-710 Clean Truck Program. This will include the implementation of a website dedicated to the I-710 Clean Truck Program as well as a social media

presence. The Program website will provide information on Program application guidelines and requirements; schedules and deadlines for each recruitment cycle; description of ranking criteria and scoring for Program awards; Program incentives and penalties; and sample contracts and sample completed application forms. The website will also provide a forum for responding to questions and answers from Program applicants. In addition, a series of public workshops will be held prior to each recruitment cycle to promote the I-710 Clean Truck Program, provide educational materials, and to obtain feedback from potential applicants.

6.2. Program Manual

As part of Program Development, Metro and the I-710 Steering Committee will develop an I-710 Clean Truck Manual, which addresses the following elements and features:

- Program Application Materials / Guidelines / Appendices
- Program Eligibility Requirements, which must include specific Program eligibility criteria that have been developed to date (i.e., heavy-heavy duty trucks [Class 8] that adhere to accepted SCAQMD/CARB standards for near zero-emissions and zero-emissions trucks.)
- Description of NZE/ZE Truck VMT requirements and procedures consistent with Program milestones established for each deployment phase
- Description of funding incentives
- Description of Program penalties
- Program NZE/ZE truck maintenance requirements and certifications
- Description of Program auditing requirements
- Program educational, recruiting, promotional materials for posting on the I-710 Clean Truck Program website
- Sample contract for recipients of Program funds

The I-710 Clean Truck Manual will be reviewed and approved by the Metro Board of Directors. The Manual will be a living document, which may be updated for each deployment phase, per the recommendation of the I-710 Steering Committee.

For more information on roles and responsibilities for Program Development, please refer to Appendix C, I-710 Clean Truck Program Roles and Responsibilities.

7. Program Implementation

For *each* deployment phase of the I-710 Truck Program, there will be a recruitment cycle and a call for Program applications.

The I-710 Steering Committee will play a significant role in this process. The I-710 Steering Committee shall review, advise, and make recommendations on the following aspects of Program implementation, including:

- Review and confirm NZE/ZE truck levels for each Deployment Phase up to the full Program total of 4,000 NZE/ZE trucks
- Review and confirm minimum NZE/ZE truck requirements for Program funding recipients to optimize NZE/ZE travel in the I-710 Corridor for each Deployment Phase
- Timelines for Program application/award process for Each Deployment Phase
- Verify and provide input on emerging or new NZE/ZE vehicle technologies that meet NZE/ZE standards per the Program Eligibility Criteria
- Funding incentives per ZE truck for each Deployment Phase
- Funding Incentives per NZE Truck for each Deployment Phase
- Program ranking criteria and weighting for each Deployment Phase, which take into account factors such as: age and type of trucks to be displaced, history of travel in the I-710 Corridor, projected NZE/ZE travel in the I-710 Corridor, equity/disadvantaged community status, and amount of requested incentive funds.
- Need for additional Program incentives or penalties, if warranted.

Once the Program applications have been received for each deployment phase, the I-710 Steering Committee shall:

- Review, advise, and make recommendations for Program rankings of Program applicants for each Deployment Phase.
- Make recommendations of Program awards for each Deployment Phase.

The I-710 Steering Committee shall also review, advise, and make recommendations on proposals for the development of electrical charging stations/hydrogen refueling stations on an on-going basis. This task shall include reviewing conditions and terms of Partner agreements.

The Metro Board of Directors shall have authority and responsibility for the following activities during Program implementation:

- Upon completion of first I-710 Project construction stage (the Early Action Program), validate and approve additional I-710 Project construction stages.
- Approval of scope and funding plan for each I-710 Project construction stage subsequent to the first one (the Early Action Program). The scope and funding plan for each construction stage helps determine the size, scope and schedule needed for each I-710 Clean Truck Program Deployment Phase.
- Approval of funding and NZE/ZE truck deployment levels for each I-710 Clean Truck Program Deployment Phase.

- Approval of Program subsidy awards for each I-710 Clean Truck Deployment Phase.
- Approval of final proposals and award of seed funding for the development and implementation of selected electric charging stations/hydrogen fueling stations within the I-710 Corridor. Approval of Partner agreements.
- Award of contracts for Program management support.
- Review of staff reports on Program status (annual review). Includes communication to the public and major stakeholders (including EPA) as to the development and implementation of the Program on an annual basis.

8. Tracking, Monitoring, and Reporting

8.1. Compliance with I-710 VMT Travel Requirements

To be eligible for funding from the I-710 Clean Truck Program, there will be minimum requirements for travel on the I-710 freeway. Upon Program award, truck funding recipients will be required to enter into a contractual agreement, which will include a provision that addresses the requirement that the NZE/ZE trucks operate on I-710 for the full ten-year period as well as meet I-710 Corridor VMT travel requirements.

As with other truck funding programs, compliance will be assessed annually, typically through a global positioning system (GPS-based) automatic vehicle locator or similar system that would log mileage within the I-710 Corridor limits. For a period of ten years after the funding is provided for purchase, a recipient truck that does not meet the annual minimum VMT requirement within the I-710 Corridor, will be required to reimburse one-fifth of the Program funding, or potentially up to their full Program funding amount. If the recipient truck fails to meet the annual VMT requirement for two years, all Program funding for that truck would have to be reimbursed. If the truck is sold during the ten-year period after funding is provided, the purchaser will be required to comply with the Program requirements. If the Program funding incentives are provided via a subsidized lease and if the NZE/ZE truck fails to meet its I-710 VMT travel requirement, then the operator of the NZE/ZE truck would be required to relinquish the truck for use by another Program applicant.

So that the I-710 Steering Committee can monitor VMT compliance for recipient trucks, the vehicle locator VMT data will be gathered and reported by Metro staff to allow for six-month check ins. Ideally, this information would be made available online (with adequate privacy protections in place) to individual truck owner-operators and to Metro staff to provide early warning indicators so that corrective action can be taken by recipients to get back on track before penalties are invoked. See Appendix C, I-710 Clean Truck Program Roles and Responsibilities.

In cases where full compliance is not achieved, then the reimbursed funds would be folded back into the Program for reallocation to a new (or the next) NZE/ZE truck applicant for travel on I-710. The I-710 Steering Committee may elect to change the specifics of the contract terms and Program requirements to optimize compliance and/or to maximize participation in the Program.

The I-710 Steering Committee will also monitor compliance for the Program as a whole and will have responsibility for implementing additional restrictions, penalties, incentives, or measures that may be included in the contractual agreement for future applicants to ensure that the Program continues to meet its NZE/ZE VMT and NZE/ZE truck goals. *At a minimum, the construction of any segment along I-710 shall not result in an increase of diesel truck trips relative to the No Build condition.*

Further, the budgets established for each deployment phase of the I-710 Clean Truck Program shall include a budgetary line item for an Incentive Reserve, which will provide contingency funding for added Program incentives that may be needed to fund additional NZE/ZE trucks or to encourage increases in NZE/ZE vehicle miles traveled as a corrective action to bring the Program back into compliance in order to meet its NZE/ZE VMT goals. Expenditures from the Incentive Reserve shall be managed by Metro, based on recommendations provided by the I-710 Steering Committee. The Incentive Reserve shall be set at 10% of the NZE/ZE Truck Incentive Funding levels established for each deployment phase. For an example of this budget allocation step, please refer to Section 10.5, Cost Breakdown - Initial Deployment Phase.

8.2. Other Compliance Activities and Reporting

Metro staff, under the guidance of the I-710 Steering Committee, will perform the following activities throughout the duration of the I-710 Clean Truck Program:

- Monitor individual NZE/ZE Truck VMT. Conduct 6-month check ins with incentive funding recipients. Recommend actions and follow through with implementing measures for funding recipients who need to get back on track.
- As warranted, develop proposals and options for corrective actions to demonstrate reasonable progress towards Program milestones for each deployment phase, including identification of need for additional Program incentives and/or penalties.
- Manage contracts with Program funding recipients. Oversee disbursement of incentive funds or vouchers. Ensure certification and compliance with contract terms, including NZE/ZE vehicle certifications, maintenance and warranty requirements.
- Monitor and enforce Partner agreements for the development of electric charging stations/hydrogen fueling stations.
- Provide annual staff reports to the Metro Board regarding Program status, including tracking of Program NZE/ZE Truck VMT.

Metro staff shall also:

- Provide regular reports on Program Revenues and Expenditures to the Metro Board (annual) and to the I-710 Steering Committee (quarterly).
- Arrange for Program audits and reporting to the I-710 Steering Committee and Metro Board.

- Update RTP/FTIP, as warranted, to reflect most current status of I-710 Clean Truck Program funding schedule.

9. Funding for the I-710 Clean Truck Program

The I-710 Clean Truck Program is part of the overall I-710 Project, which is included in the Financially-Constrained Plan element of the Adopted 2020 RTP under Project ID No. LA0B952. The estimated cost of the I-710 Clean Truck Program is accounted for in the overall $5.941 billion cost of the I-710 Project.

Estimates produced for the I-710 Corridor EIR/EIS show that approximately $100 million is needed to fund the Clean Truck Program. Metro and the I-710 Steering Committee will utilize a full suite of tools such as incentives, engine replacement, and joint funding opportunities to deliver 4,000 NZE/ZE trucks in the corridor. At this stage, the ultimate cost of the Program to fund 4,000 NZE/ZE trucks is not fully known as future incentive costs to turn over diesel trucks to NZE/ZE trucks will continue to shift based on the relative commercial availability of NZE/ZE trucks and based on market penetration of these technologies. To alleviate any doubt about the intent of Metro to implement the Program, the Metro Board raised the target level of the full Program to $200 million in March 2017 and directed staff to work with the I-710 Steering Committee and stakeholders to identify and secure the funds. It is important to note that the $200 million target may not be needed due to commercial bulk pricing, engine costs, new technology and other factors.

In April 2020, the Metro Board allocated $50 million in locally controlled funds to provide funding for the Initial Deployment Phase and to leverage the remaining $150 million. This initial infusion of $50 million represents a significant investment in the Program and underscores the agency's commitment to ensuring the Program's success.

With the assistance of the I-710 Steering Committee, Metro will continue to consider and pursue additional funding sources for the I-710 Clean Truck Program. These entities will work together to seek and utilize funding to implement the Program and will collaborate with other programs in the region to create a more informed and comprehensive approach to NZE/ZE deployment in the region. It is hoped that the initial investment of $50 million will make the I-710 Program more competitive for these funding sources as it offers local matching funds to attract additional regional, state, and federal funding to the I-710 Corridor, including TCEP funds, Prop 1B, CMAQ, and potentially state Cap and Trade funding.

10. Initial Deployment Phase - Technical Demonstration

As stated above, Metro has already allocated $50 million for the Initial Deployment Phase of the I-710 Clean Truck Program and to help leverage additional funds for the full Program of 4,000 NZE/ZE Trucks.

At a minimum, the Initial Deployment Phase must meet two critical objectives: (1) it must be feasible given the $50 million in funds that have been identified to date, and (2) the proposed level of NZE/ZE trucks in the Initial Deployment Phase must be sufficient to offset any potential increase in diesel truck trips for any of the initial construction stages on the I-710 freeway relative to the No Build condition. This section presents the relevant technical information used to define the Initial Deployment Phase. The following discussion also provides a technical demonstration of the major steps and technical considerations that should be taken into account in order to establish NZE/ZE truck levels and NZE/ZE VMT targets for each construction stage as the I-710 Project is implemented, using an early example drawn from the I-710 Project.

Please note that the methods utilized to provide the technical demonstration for the Initial Deployment Phase are the same as those used in the EIR/EIS analysis for the full I-710 Clean Truck Program assuming construction of the entire I-710 freeway project. Please refer to Appendix D for information on these methodologies and technical results for the full Program.

10.1. Candidate Construction Stages – I-710 Early Action Program

While the initial construction stage for I-710 has yet to be selected, Metro is currently working with the I-710 Technical Advisory Committee, its partner agencies, and the local jurisdictions within the I-710 Corridor to prioritize and select which construction segments should be first for design and eventual construction. This consultation process has yet to be completed, which will be necessary before the Metro Board makes its final determination. To date, the candidate list of construction segments has been narrowed to four potential segments on I-710, which are portrayed in Figure 5.

Figure 5. I-710 Early Action Program: Four Candidate Segments

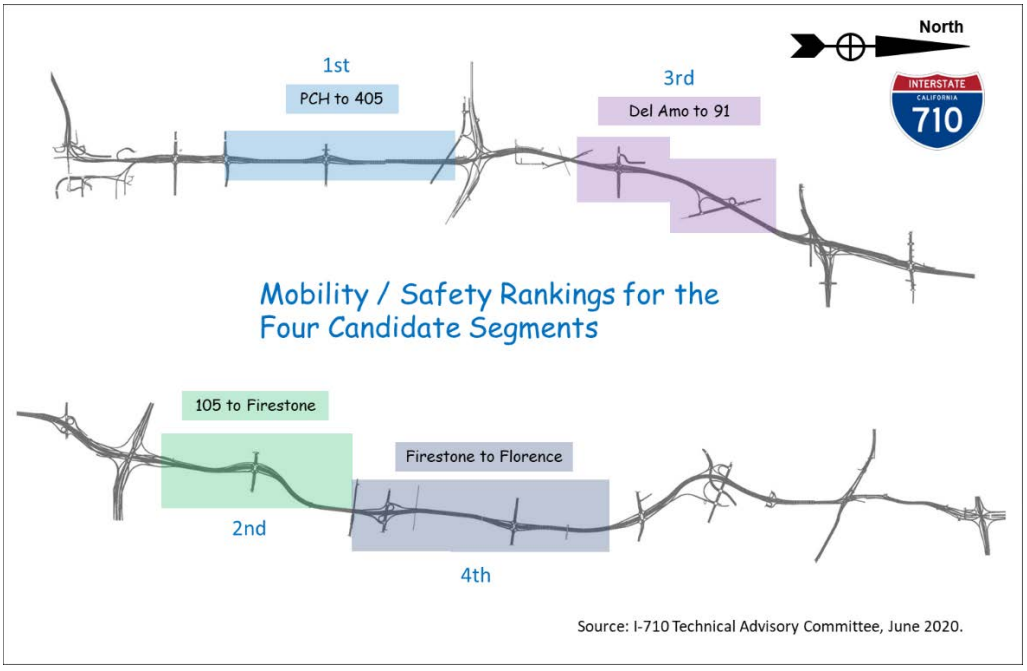


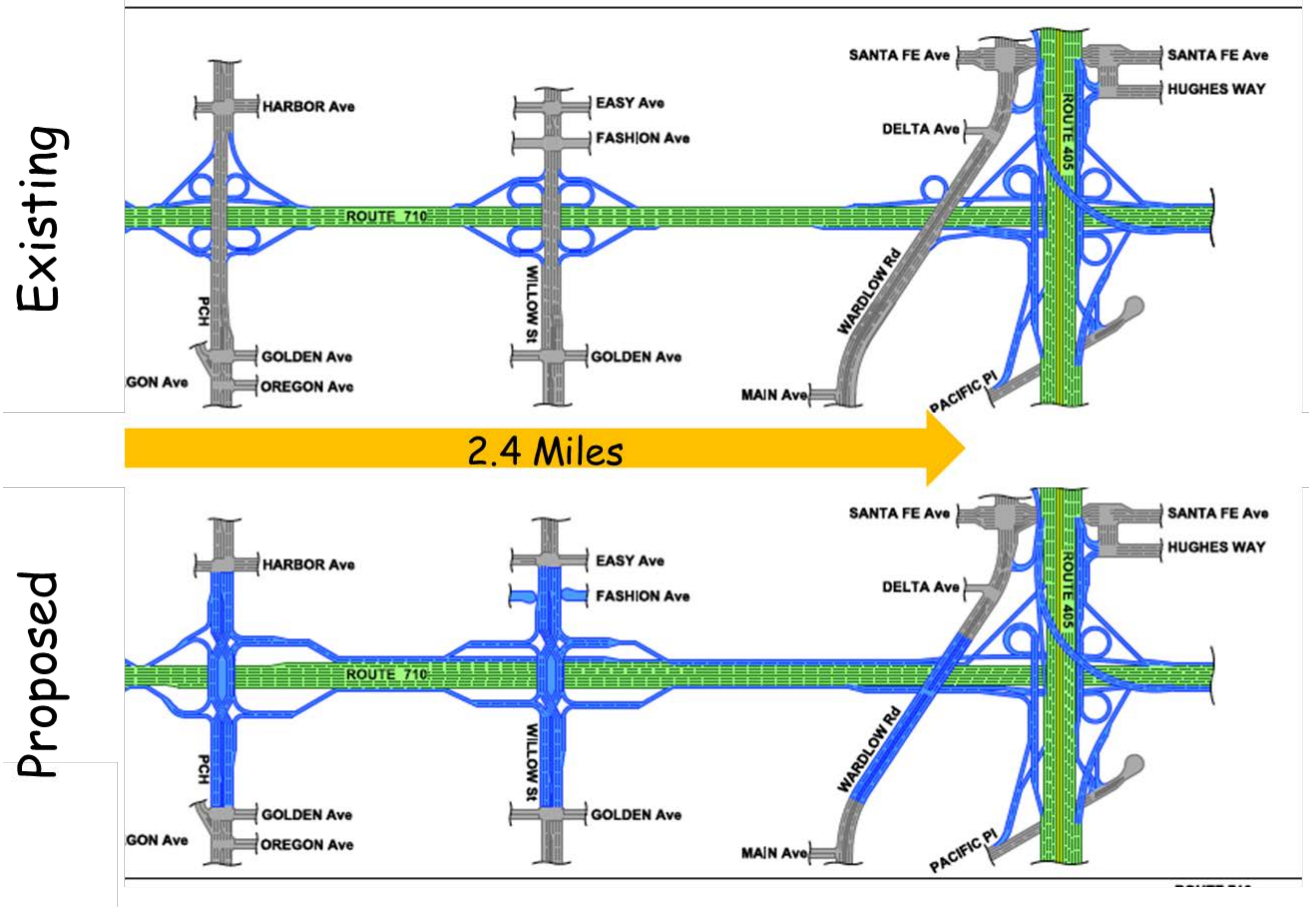
Figure 5 also presents the technical rankings of the candidate segments based on their relative ability to improve mobility and safety within the I-710 Corridor.

10.2. I-710, Pacific Coast Highway to I-405 Connectors

Of the four candidate segments on I-710, the proposed improvements in the segment between Pacific Coast Highway (PCH) and I-405 are the most extensive in terms of both physical and operational capacity relative to the other three. Schematics that portray the proposed geometric improvements for the four candidate segments are provided in Appendix E, Schematics for Potential Construction Segments.

This means that the I-710 (PCH to I-405) Segment would result in the greatest future increase in vehicle volumes relative to the no build condition, as both cars and trucks change their travel patterns to take advantage of improved travel conditions on I-710 relative to other route choices. As a consequence, Metro's technical team used this construction stage as a test case to define the Initial Deployment Phase for the I-710 Clean Truck Program. See the schematic provided in Figure 6 for a depiction of the proposed freeway improvements relative to the no build condition on I-710, between PCH and the I-405 freeway connectors.

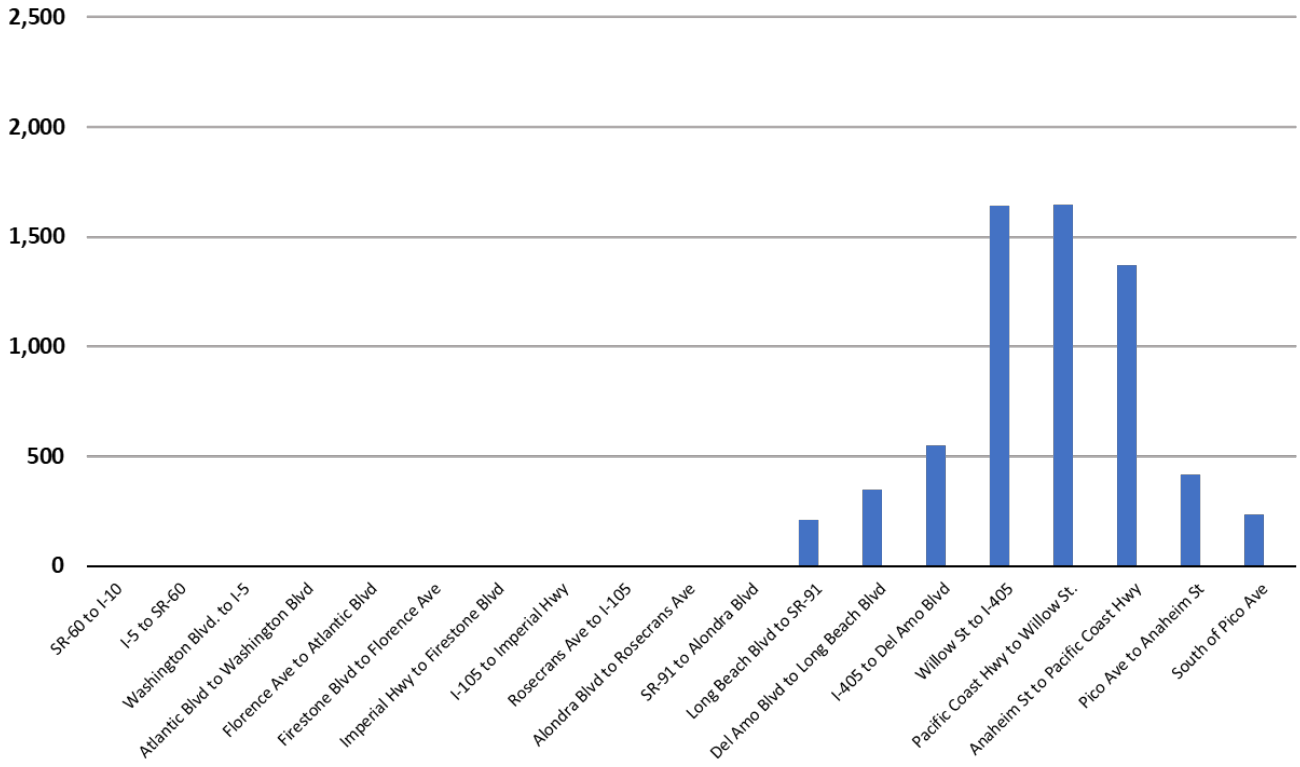
Figure 6. I-710: PCH to I-405 - Early Action Construction Segment



The technical team utilized the I-710 travel demand forecasting model to estimate the increases in truck traffic for the I-710, PCH to I-405 construction segment relative to the no build condition for the year 2035. This produced a "worst case" traffic increase scenario. The methodologies used to produce these results are the same as what was used to produce the traffic forecasts for the traffic operational analysis and as inputs for the air quality analysis used in the I-710 EIR/EIS.

The traffic results for the I-710: PCH to I-405 Construction Segment are portrayed in Figure 7.

Figure 7. Projected Increase in Daily Truck Trips in the I-710 Corridor
I-710: PCH to I-405 Early Action Construction Segment



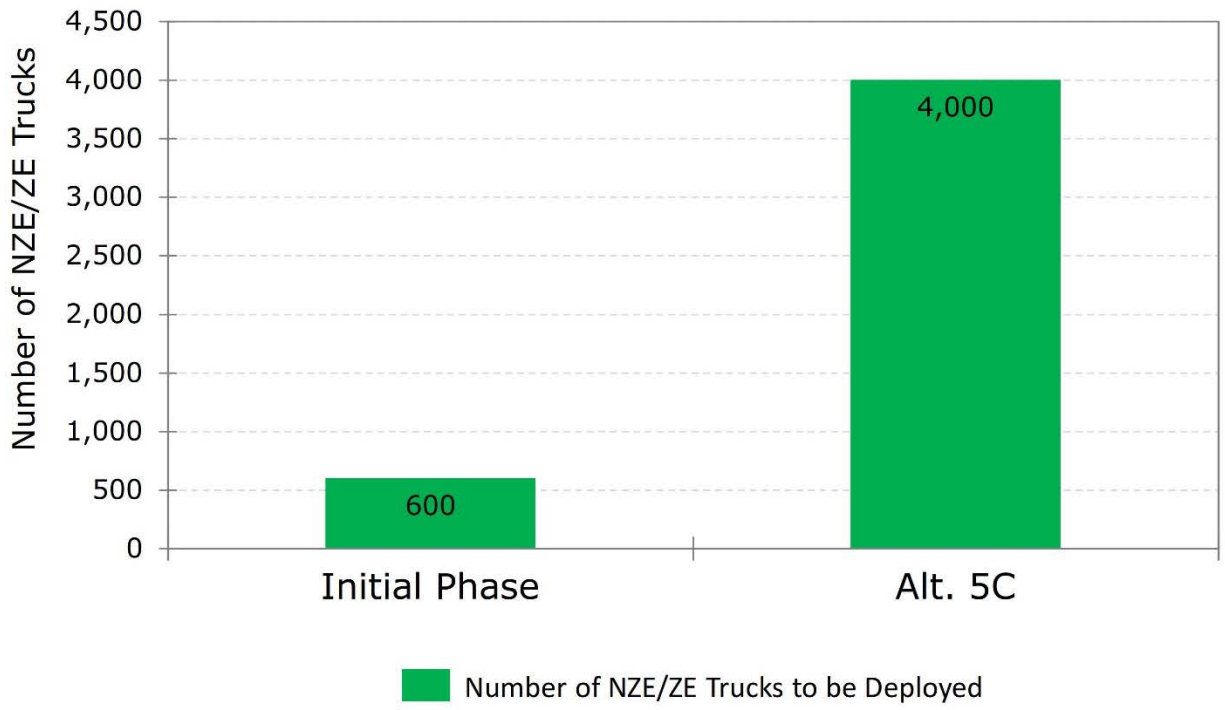
Source: I-710 Travel Demand Forecast Model

It is important to note that based on the model results, freeway improvements to just a single, discrete section of I-710 only influence traffic changes in the direct vicinity of the proposed construction segment. In this case, the effect tapers off completely by the time that these traffic flows reach the SR-91 freeway.

10.3. Establishing the Level of NZE/ZE Trucks for the Initial Deployment Phase

Based on the initial allocation of $50 million, the technical team produced a preliminary estimate of 600 NZE/ZE trucks for the Initial Deployment Phase. The Initial Deployment Phase would represent the first step of the I-710 Clean Truck Program, as depicted in Figure 8.

Figure 8. NZE/ZE Trucks for the Initial Deployment Phase

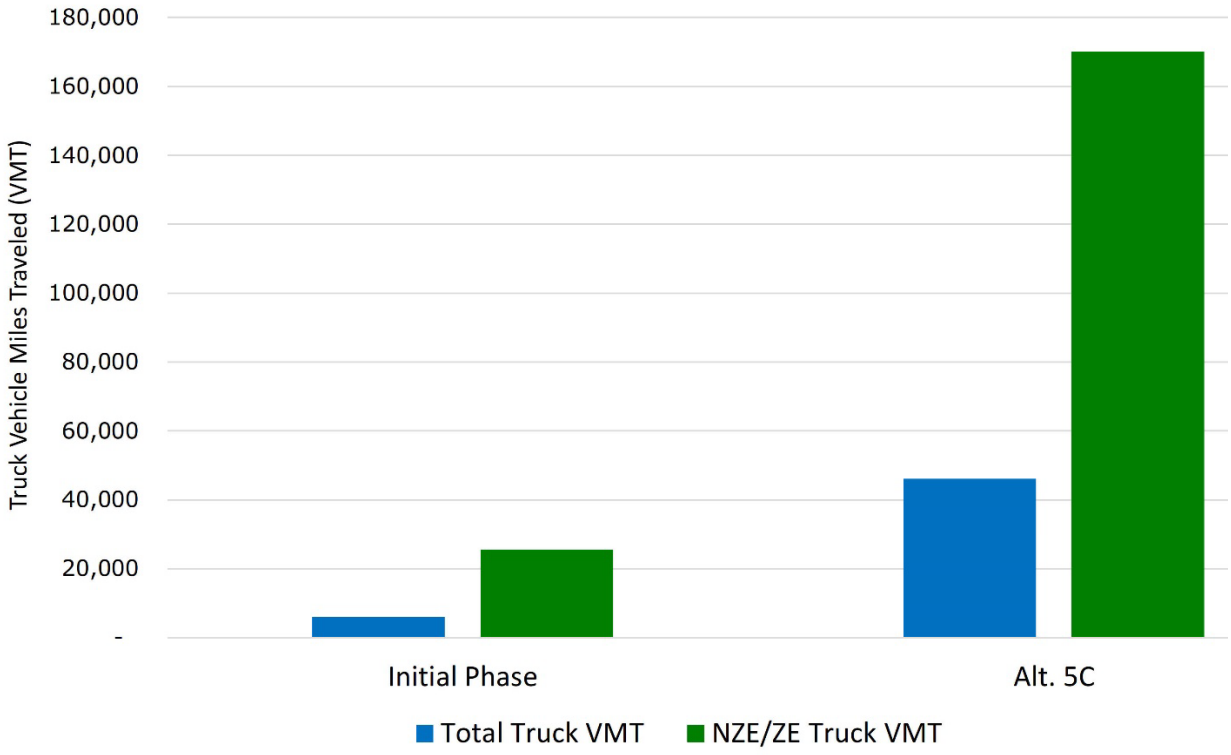


These 600 NZE/ZE trucks in the Initial Phase would be deployed along the entire twenty-mile I-710 Corridor.

Using the same NZE/ZE Truck to average daily NZE/ZE Trip conversion factors and average NZE/ZE truck trip lengths described in Appendix D, NZE/ZE Methodologies, an estimate of the NZE/ZE travel (vehicle miles traveled) was produced for the Initial Phase. For 600 NZE/ZE trucks, this results in 25,500 VMT per average weekday which would become NZE/ZE on I-710 as a consequence of the Initial Deployment Phase.

The green bars in Figure 9 show the total amount of daily truck VMT which would be NZE/ZE for the Initial Deployment Phase of 600 NZE/ZE trucks and compares that to the amount of daily truck NZE/ZE VMT for the full Program of 4,000 NZE/ZE trucks under Alternative 5C. The corresponding blue bars in the figure below, shows how much total daily truck VMT increases in the I-710 Corridor as a result of the I-710: PCH to I-405 construction stage and as a result of implementing the planned freeway improvements for the entire I-710 Project (Alternative 5C) respectively.

Figure 9. Change in Daily Truck VMT Relative to the No Build Alternative, I-710 (Ocean to SR-60)

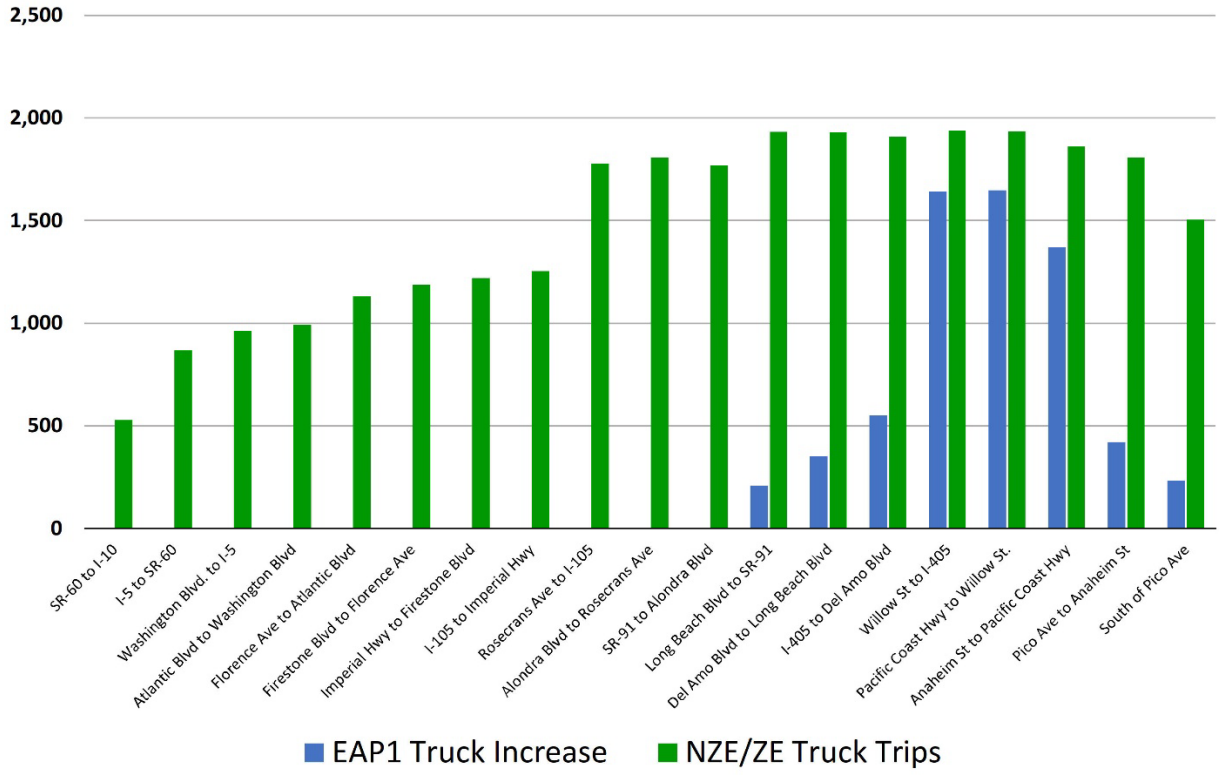


In this case, VMT is being used as a metric to make sure that the amount of daily NZE/ZE Truck VMT from the I-710 Clean Truck Program exceeds the projected increase in daily Truck VMT attributable to the proposed freeway improvements. Figure 9 shows that this is true for both the Initial Phase and for the I-710 Clean Truck Program as a whole.

In this technical demonstration, it is also important to ensure that the projected number of daily NZE/ZE truck trips for the Initial Deployment Phase exceeds the daily increase in projected truck trips associated with the implementation of the I-710: PCH to I-405 construction segment for all key segments within the I-710 Corridor.

Using the amount of NZE/ZE truck VMT from Figure 9 that was calculated for the Initial Deployment Phase relative to total daily I-710 Corridor truck VMT from the I-710 forecast model, it is possible to estimate the fraction of daily truck trips that will be NZE/ZE under the Initial Deployment Phase within the I-710 Corridor. The result from this calculation step is portrayed in the green bars in Figure 10.

Figure 10. Daily NZE/ZE Truck Trips from the Initial Deployment Phase Compared Side by Side with the Projected Increase in Daily Truck Trips from the I-710: PCH to I-405 Construction Stage within the I-710 Corridor



The green bars in Figure 10 show the projected daily NZE/ZE truck trips in the I-710 Corridor relative to the no build condition attributable to the 600 NZE/ZE trucks included in the Initial Deployment Phase. It is important to note that the Initial Deployment Phase of the I-710 Clean Truck Program would occur throughout the twenty-mile I-710 Corridor as opposed to being limited to any single section. The blue bars in Figure 10 portray the projected increase in daily truck trips that would occur as a consequence of implementing the I-710, PCH to I-405 Construction Segment (labeled EAP1 in Figure 10). This test demonstrates that the number of daily NZE/ZE truck trips exceed the projected increase daily truck trips for the tested construction stage. Moreover, this pattern holds true for all segments within the I-710 Corridor, even the section on I-710 between PCH and I-405.

Both the Daily NZE/ZE VMT measure and the Daily NZE/ZE Truck Trip measure provides the technical data necessary to demonstrate that 600 NZE/ZE trucks are appropriate level of NZE/ZE trucks for the Initial Deployment Phase. Also, since the I-710: PCH to I-405 construction stage is the largest of the candidate segments in terms of traffic, the number of NZE/ZE trucks included in the Initial Deployment Phase is also sufficient to pair with any of the potential construction segments currently under consideration.

10.4. Estimating the Diesel Truck Trip Reductions for the Initial Deployment Phase

An important objective of the deployment of near zero- and zero-emissions trucks in the I-710 Corridor is to reduce the number of diesel truck trips that would take place in the I-710 Corridor. Therefore, a final step in the data calculations for the Initial Deployment Phase is to estimate the diesel truck trip reductions for the 600 NZE/ZE trucks, once the average number of daily NZE/ZE truck trips have been determined as described in the above discussion.

Table 1 on the following page, portrays this data for each segment within the I-710 Corridor. The average daily truck trips for the No Build Alternative and for the I-710: PCH to I-405 construction stage (EAP1), shown in Columns [4] and [8] respectively, were produced by the I-710 travel demand forecast model using the methods that were applied in I-710 EIR/EIS analyses. It is important to note that the average daily truck trips in Columns [4] and [8] encompass light- and medium-heavy duty trucks in addition to heavy-heavy duty trucks. The I-710 model is able to provide these breakdowns by truck weight class. Column [7] in Table 1 shows the estimated NZE/ZE truck trips that would occur due to the deployment of 600 NZE/ZE trucks in the Initial Deployment Phase of the I-710 Clean Truck Program. Per the I-710 Clean Truck Program criteria, only heavy-heavy duty trucks (Class 8) trucks are eligible for Program incentive funding. Using factors on fuel type distribution by vehicle classification for Los Angeles County drawn from CARB's Emissions Factors (EMFAC2014) model, it is possible to estimate the number of gasoline versus diesel trucks for each segment in the I-710 Corridor for both the No Build and the Initial Deployment Phase/Construction Stage (EAP) scenarios assuming deployment by the Year 2024. This data is portrayed in Columns [1], [2], [5], and [6]. The number of diesel truck trip reductions in the I-710 Corridor that are shown in Column [9] is produced by directly comparing Column [5] with Column [1].

The orange bars in the bar chart shown in Figure 11, highlights these average daily diesel trip reductions in the I-710 Corridor attributable to the Initial Deployment Phase. This data also reflects the assumed implementation of the Initial Construction Stage, I-710: PCH to I-405, which was used as the worst case traffic option for this technical demonstration.

Table 1. Change in Daily Truck Volumes by Fuel Type – Initial Phase

Segment	I-710 Corridor Truck Volumes - Heavy Duty Trucks[1] (Annual Average Daily Traffic)											
	No Build				Initial Deployment Phase				Change in AADT Volumes (Increase / Decrease)			
		Non-Diesel[2]				Non-Diesel[2]						
	Diesel[2]	Gasoline[3]	NZE/ZE	Total[4]	Diesel[2]	Gasoline[3]	NZE/ZE[5]	Total[4]	Diesel[2]	Gasoline[3]	NZE/ZE[5]	Total[4]
SR-60 to I-10	17,430	2,213	0	19,643	16,922	2,195	526	19,643	-508	-18	526	0
I-5 to SR-60	26,865	2,850	0	29,716	26,028	2,823	865	29,716	-837	-28	865	0
Washington Blvd. to I-5	29,627	3,039	0	32,667	28,694	3,010	962	32,667	-933	-29	962	0
Atlantic Blvd to Washington Blvd	30,581	3,056	0	33,637	29,617	3,028	992	33,637	-964	-28	992	0
Florence Ave to Atlantic Blvd	33,280	2,845	0	36,125	32,183	2,813	1,129	36,125	-1,097	-32	1,129	0
Firestone Blvd to Florence Ave	34,699	2,794	0	37,493	33,545	2,763	1,185	37,493	-1,153	-32	1,185	0
Imperial Hwy to Firestone Blvd	35,375	2,656	0	38,031	34,187	2,626	1,218	38,031	-1,188	-30	1,218	0
I-105 to Imperial Hwy	36,288	2,657	0	38,944	35,065	2,627	1,252	38,944	-1,222	-30	1,252	0
Rosecrans Ave to I-105	50,012	2,789	0	52,801	48,267	2,758	1,776	52,801	-1,745	-31	1,776	0
Alondra Blvd to Rosecrans Ave	50,970	2,882	0	53,852	49,195	2,851	1,806	53,852	-1,774	-31	1,806	0
SR-91 to Alondra Blvd	49,590	2,699	0	52,289	47,855	2,669	1,765	52,289	-1,735	-30	1,765	0
Long Beach Blvd to SR-91	53,115	2,220	0	55,334	51,424	2,187	1,932	55,542	-1,691	-33	1,932	208
Del Amo Blvd to Long Beach Blvd	52,749	2,100	0	54,849	51,184	2,086	1,928	55,198	-1,565	-14	1,928	349
I-405 to Del Amo Blvd	51,870	1,830	0	53,701	50,510	1,834	1,906	54,250	-1,360	4	1,906	550
Willow St to I-405	50,448	1,045	0	51,493	50,095	1,103	1,936	53,133	-353	58	1,936	1,640
Pacific Coast Hwy to Willow St.	50,325	1,022	0	51,347	49,980	1,080	1,933	52,992	-345	58	1,933	1,645
Anaheim St to Pacific Coast Hwy	48,514	938	0	49,452	47,997	963	1,860	50,820	-517	25	1,860	1,368
Pico Ave to Anaheim St	46,818	421	0	47,239	45,399	453	1,806	47,657	-1,420	32	1,806	418
South of Pico Ave	38,903	275	0	39,178	37,611	296	1,503	39,410	-1,292	21	1,503	232
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]

Notes:

[1] Post processed vehicle trips were generated for calendar year 2035. Total truck trips include heavy duty truck vehicle classes (including port trucks).

[2] The share of diesel/non-diesel trips by fuel type is estimated using the EMFAC2014 vehicle fleet distribution determined from the EMFAC2014 output for VMT in Los Angeles County in 2024.

[3] Gasoline truck trips also include natural gas truck trips that do not meet the standard of a NZE/ZE vehicle.

[4] Total truck trips are the sum of diesel, gasoline, natural gas, and NZE/ZE trips.

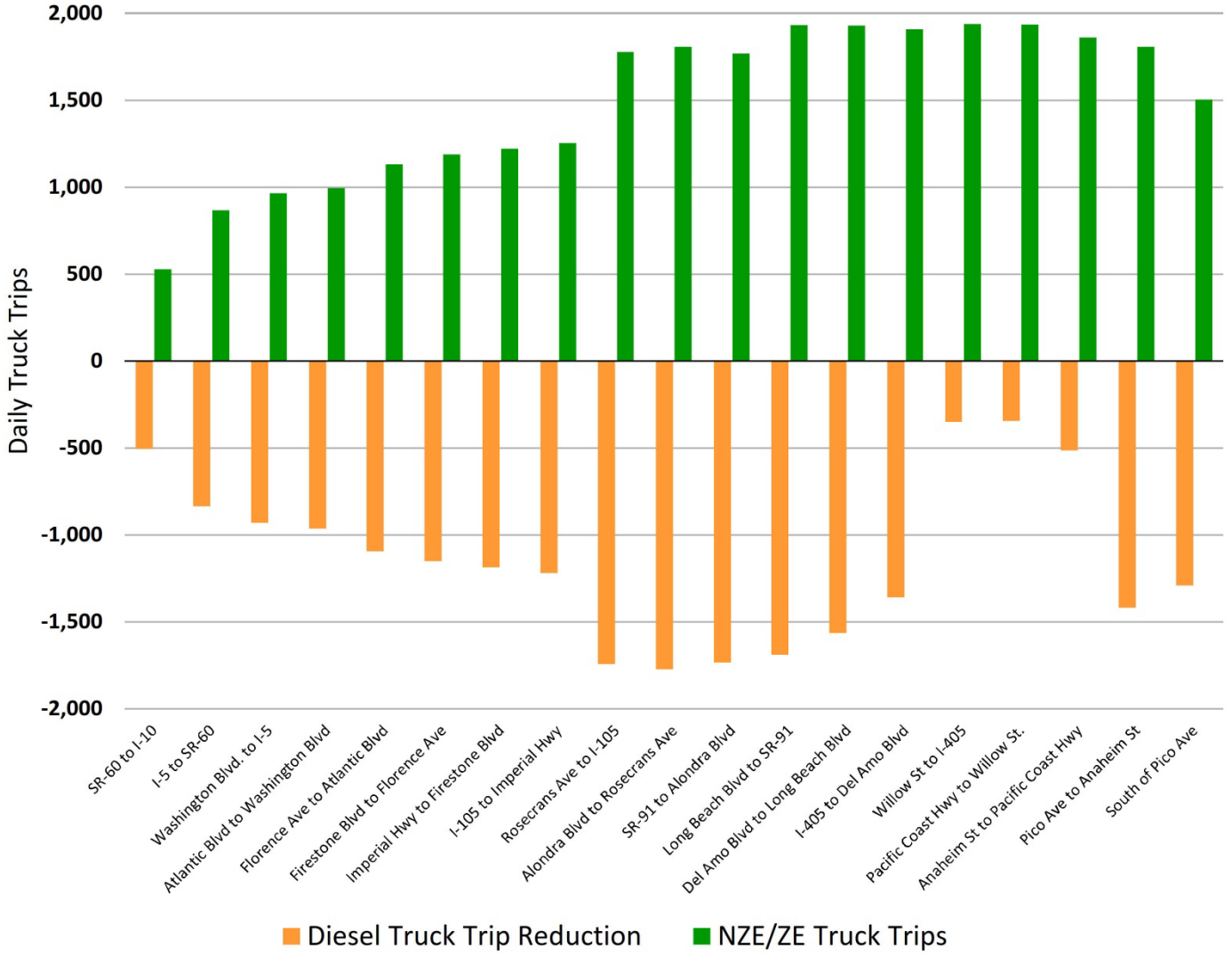
[5] NZE/ZE trips under EAP include the I-710 NZE/ZE Truck Deployment Program.

Abbreviations:

NZE/ZE - near zero emission/zero emission

AADT - annual average daily traffic

Figure 11. Reduction in Daily Diesel Truck Trips for the Initial Deployment Phase (Year 2024) with I-710: PCH to I-405 Initial Construction Stage, I-710 Corridor



10.5. Cost Breakdown – Initial Deployment Phase

The estimated Program costs for the Initial Deployment Phase range from 41 million to 50 million dollars as shown in Figure 12. This budget estimate includes funding for NZE/ZE Truck Incentives for the 600 NZE/ZE trucks that have been identified for the Initial Deployment Phase.

Figure 12. Estimated Costs – Initial Deployment Phase

	Low Scenario[1] Assume CARB HVIP Program Incentives	High Scenario[2] CARB HVIP Program Incentives x 25%
NZE/ZE Truck Incentives[3]	$ 33,300,000	$ 41,625,000
Incentive Reserve (@ 10%)[4]	$ 3,330,000	$ 4,162,500
Administrative & Support Costs[5]	$ 2,000,000	$2,000,000
ZE Power Infrastructure (Seed Funding)[6]	$ 2,000,000	$ 2,000,000
Total Estimated Cost	$ 40,630,000	$ 49,787,500

Notes:
1. Low Scenario assumes same as CARB HVIP Program Incentive Amounts per Class 8 ZE (BEV) and Low NOx (11.9 L Engine) Vehicle.
2. High Scenario assumes 25% higher cost over CARB HVIP unit incentive costs for Class 8 ZE (BEV) and Low NOx (11.9 L Engine) Vehicle.
3. Assumes 600 (Class 8) NZE/ZE Trucks, with 90% NZE and 10% ZE split.
4. Recommended Incentive Reserve is 10% of Estimated NZE/ZE Program Truck Incentive Cost.
5. Includes contractors, vendors, and monitoring/tracking systems.
6. Seed funding for Zero Emissions Power Infrastructure (electric charging stations, hydrogen refueling stations).

To address future uncertainty associated with the cost to own and operate ZE and NZE trucks relative to conventional diesel trucks in the I-710 Corridor, both a Low and a High Funding Scenario was developed to fully capture the potential range in costs for this budgetary line item. The Low Scenario utilizes current Funding Tables from CARB's HVIP Program to identify the unit costs for incentivizing zero emissions heavy duty vehicles ($150,000 per Class 8 battery electric truck) and for near zero emissions heavy duty vehicles ($45,000 per Low NOx Certified 11.9 Liter/0.02 g/bhp-hr Engine.) Given the present lack of commercial availability of zero emissions trucks, it is likely that demand for incentive funds from I-710 Clean Truck Program applicants will lean much more heavily towards near zero emissions vehicles. Therefore, for the purpose of this budget estimate, a split of 90% near zero-emissions trucks and 10% zero-emissions trucks was assumed for the 600 NZE/ZE trucks identified for the Initial Deployment Phase. [Note: the actual ratio of near zero-emissions trucks to zero emissions trucks may vary based on the number of applications received and based on the ranking and Program awards recommended by the I-710 Steering Committee during the first three years of the Program.]

For the upper end of the Program cost range, a High Funding Scenario was also developed. The High Funding Scenario adds a contingency factor of 25% to the NZE/ZE Truck Incentive

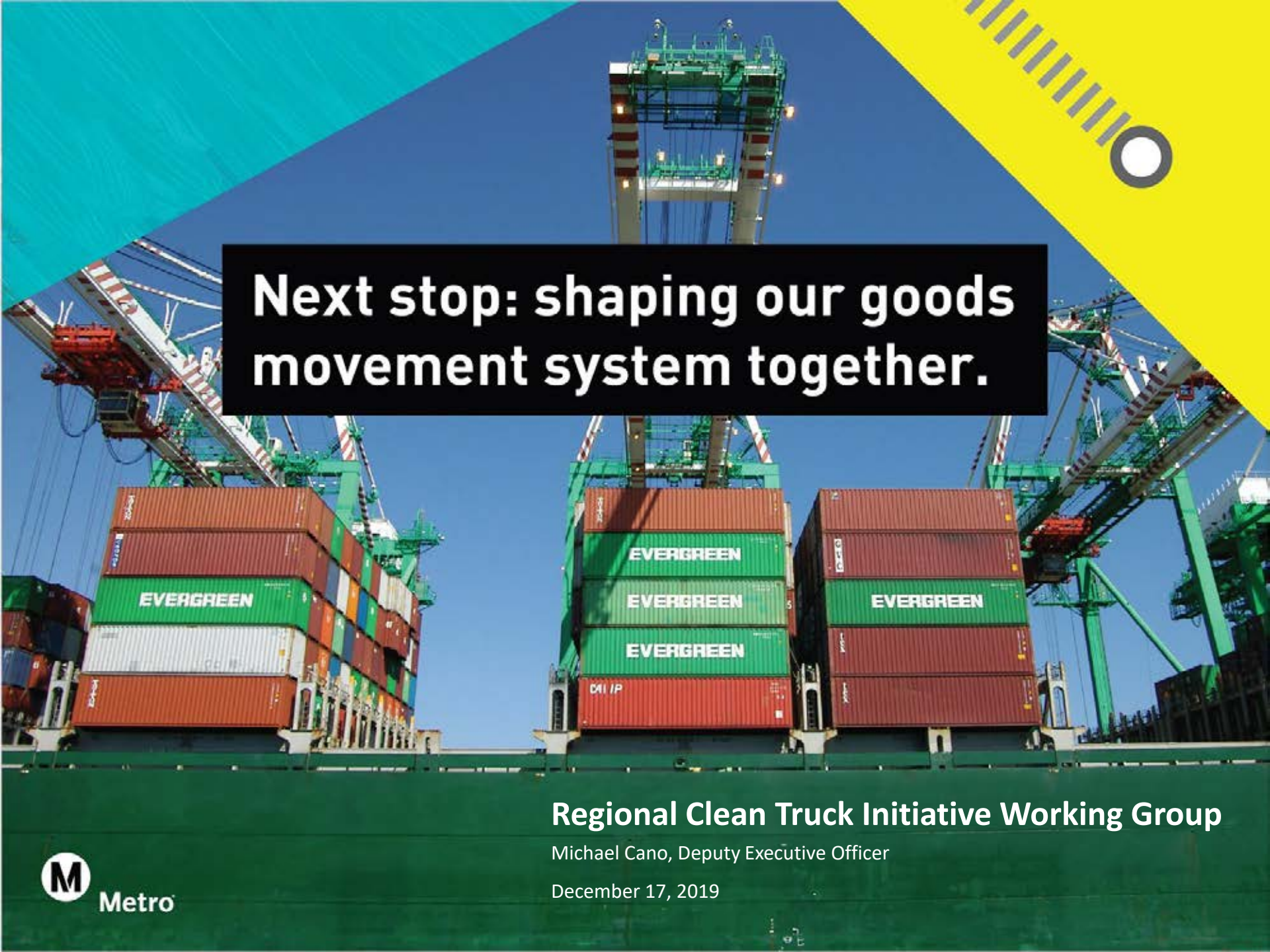
Funding in order to encourage full Program participation, should future NZE/ZE vehicle incentive requirements prove to be higher than anticipated upon Program implementation.

In addition, an Incentive Reserve has been established for the Initial Deployment Phase. Once the I-710 Clean Truck Program is up and running, it will be important to monitor Program NZE/ZE truck travel in the I-710 Corridor to ensure that Program certification requirements and VMT travel targets are met. For example, if some Program participants should fall behind their VMT goals in the I-710 Corridor, then it may be necessary to take corrective action, which could include enacting additional penalties, measures, or incentives for the Program as a whole. The purpose of the Incentive Reserve is to provide the resources needed to fund additional NZE/ZE trucks or to encourage increases in NZE/ZE vehicle miles traveled should those supplemental incentives prove to be necessary in order to bring the Program back into compliance with regard to its VMT goals. Expenditures from the Incentive Reserve shall be managed by Metro, based on recommendations provided by the I-710 Steering Committee. For the Initial Deployment Phase, the Incentive Reserve is set at 10% of the NZE/ZE Truck Incentive Funding levels for both the Low and the High Funding Scenarios.

Lastly, the budget for the Initial Deployment Phase accounts for Administrative & Support costs that will be necessary to manage the Program. The budget also accounts for seed funding to initiate Partnership Agreements to help facilitate the development of the electric charging stations/hydrogen fueling stations within the I-710 Corridor to further encourage the transition to zero emissions vehicles, which is another objective of the I-710 Clean Truck Program.

APPENDIX A

Metro's Countywide Clean Truck Initiative



Regional Clean Truck Initiative Working Group

Michael Cano, Deputy Executive Officer

December 17, 2019

Metro

Vision Statement

Metro's Mission: *To provide a world-class transportation system that enhances quality of life for all who live, work, and play within LA County.*

Goods Movement Strategic Plan Vision: Metro will become…

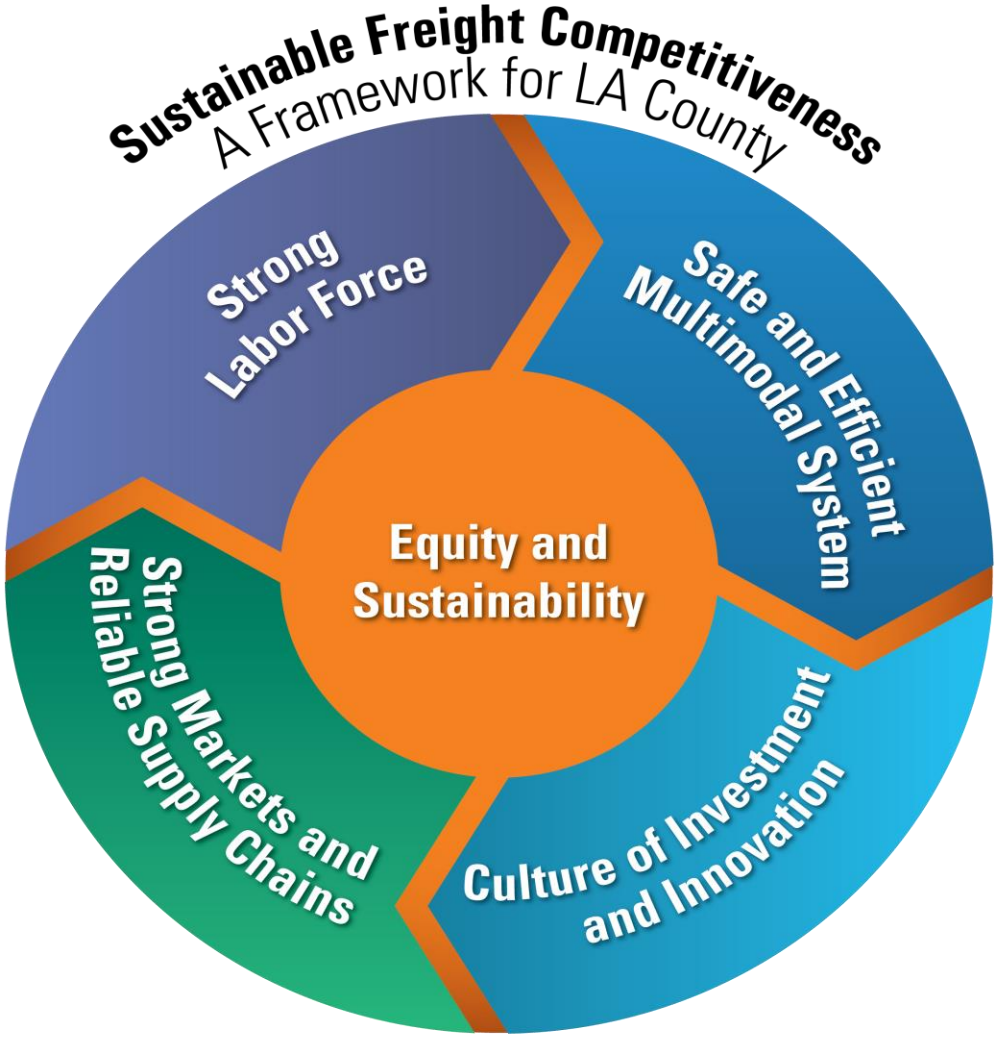
> …a ***national leader*** and ***regional partner*** in implementing a modern, responsive, resilient, and effective freight transportation system through policies, programs, and projects that support a competitive global economy.

> …a steward of ***equitable and sustainable investments*** and ***technological innovation*** that will increase regional economic competitiveness, advance environmental goals, and provide access to opportunity for County residents.

Metro



Sustainable Freight Competitiveness



Metro

Metro's Coordinated Planning Efforts



Metro

Public Health Impacts of Air Quality

The South Coast Air Basin – home to Los Angeles County – has the worst air quality in the nation

Primary source of air pollution comes from tailpipe emissions associated with the transportation sector – particularly from heavy-duty trucks

The residents along the I-710 suffer from poor air quality and public health impacts associated with truck movement along the corridor

Major equity impacts for some of the more vulnerable communities in Los Angeles County

Metro



Public Health Impacts of Air Quality

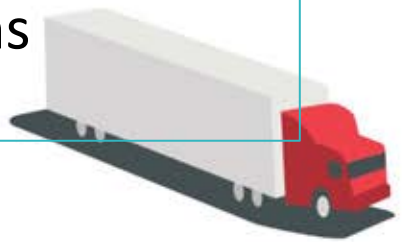
Traffic-related air pollutants known to impact public health include:

Pollutants:

- Ozone
- Diesel particulate matter
- PM_{10}
- $PM_{2.5}$
- Ultrafine particulates
- Carbon monoxide
- Nitrogen dioxide
- Sulfur dioxide
- Lead
- Benzene
- Formaldehyde
- Acrolein
- Acetaldehyde

Health Impacts:

- Asthma
- Respiratory diseases
- Cardiovascular diseases
- Cancer
- Premature death
- Mortality
- Preterm and low-weight births



Metro

Metro Board Directives

Metro Board Motions (March 2018) – I-710 South EIR/EIS

5.1: Hahn, Solis, Garcia & Dupont-Walker

- Change the ZE/NZE truck technology program to the **phased-in** "ZE Truck Technology Development Program".
- Increase program funding from $100 million to $200 million, and include in the Program **incentives and grants investment in the acceleration of ZE technology both for long-hauling trucks and for freeway infrastructure**, including but not limited to, "under the pavement" vehicle charging capacity as options to consider.
- **Convene a working group** to develop a policy recommendation for a full, ZE only, dedicated lane…on the entire 19-mile long stretch of the 710 freeway as part of the re-evaluation of the remaining elements of Alternative 5C after the Early Action Projects have been completed.

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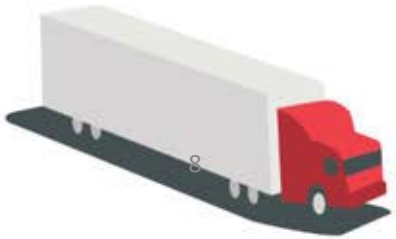
Metro Board Directives

5.2: Solis, Garcia, Ridley-Thomas, Butts, Najarian, & Hahn

Direct the CEO to establish **a working group** with the freight industry, air quality regulators, transportation and metropolitan planning agencies, the Gateway COG and other relevant stakeholders to **explore the lead authorities, financial impact and other implementation factors** related to:

- **Develop a strategic plan** that is consistent with the South Coast Air Quality Management Plans, **which expedites the transition from diesel freight trucks to NZE vehicles as soon as possible and outlines a transition to ZE vehicles as the cleanest, most reliable technology becomes available**
- Host an **industry forum** aimed at stimulating and accelerating the deployment of cleaner freight truck alternatives. Forum shall include topics such as: funding/financing, P3, new technologies, on/off dock rail support facilities, best practices R&D, demonstration projects, creative purchase/lease incentive programs, etc.

Metro



8

Governor's Executive Order N-19-19

Governor Newsome Issued the Executive Order (EO) in September 2019

Main Points:

- Leverage available state funding "to help reverse the trend of increased fuel consumption and reduce greenhouse gas emissions associated with the transportation sector".
- CalSTA Secretary David Kim will engage stakeholders on how best to implement the EO
- Implemented partially through California Freight Mobility Plan 2020 (in draft form now)



EXECUTIVE DEPARTMENT
STATE OF CALIFORNIA

EXECUTIVE ORDER N-19-19

WHEREAS California is proof that a bold climate agenda is good for the economy, for workers, for health and for our future, as evidenced by our state having achieved record economic growth while reaching some of the strongest climate goals in the world; and

WHEREAS in the face of inaction on climate change from the federal government, California is a global leader in climate change mitigation efforts through bold climate goals and actions, as well as leadership in the US Climate Alliance and Under2 Coalition, using the state's power as the fifth largest economy in the world to drive positive action; and

WHEREAS California has ambitious and essential climate goals to transition to a healthier, more sustainable and more inclusive economy, including: reducing greenhouse gas emissions 40 percent below 1990 levels by 2030; providing 100 percent of the state's electricity from clean energy sources by 2045; reducing methane emissions and hydrofluorocarbon gases by 40 percent; and adding five million zero-emission vehicles to California's roads by 2030; and

WHEREAS California has made substantial, measurable progress on many of the goals enumerated above, but in recent years, direct tailpipe emission from cars, ships, diesel trains, airplanes, and other transportation sources have remained a stubborn driver of greenhouse gas emissions, totaling 40.1 percent of all greenhouse gas emissions statewide; and

WHEREAS the California Air Resources Board has a fifty-year history of leading the globe in addressing harmful pollution through innovative air pollution control standards, including the nation's first NOx emissions standards for motor vehicles; and

WHEREAS California's renewable energy targets have spurred innovation and private investment in new technologies with California leading the nation in clean technology patents and bringing in more than 50 percent of all clean energy investment in the nation; and

WHEREAS the state has made significant progress in lowering greenhouse gas emissions and mitigating climate risk in California's own state government operations and public schools; and

WHEREAS achieving California's climate goals will require concerted commitment and partnership by government, the private sector, and California residents.



Goals for Today's Working Group

Framework for the Clean Truck Initiative

Goals for this group:

- Develop a comprehensive, timely, fundable, implementable and broadly supported Clean Truck Initiative for the Metro Board to support, invest in, and seek supporting policies and vital funding through partnership with regional, state and federal stakeholders and agencies

- Provide a clear accounting of the landscape of cleaner truck technology – including equity community concerns, barriers to implementation, status of technology, infrastructure needs, truck driver needs, and funding needs – to inform the Metro Board on clean truck issues through the Metro Goods Movement Strategic Plan

- Become a recurrent advisory group to the Metro Board for all issues related to the implementation of clean truck technology within LA County

Concept for Working Group Meetings

Today:

- Convene stakeholders to explain purpose of the regional Clean Truck Initiative
- Through presentation and a constructive dialogue, identify the key challenges, barriers, opportunities, and community needs that surround the development of the Initiative
- Identify additional areas of inquiry for this working group and additional stakeholders for outreach by Metro
- Listen, share, discuss. No decisions made today on the specifics of a funding plan or preferred technology

Concept for Working Group Meetings

Next Meetings (Early 2020):

- Report back on comprehensive assessment of issues raised at the first meeting
- Develop the equity framework associated with implementing the Clean Truck Initiative
- Identify and discuss existing efforts to implement clean truck technology (e.g., Port Clean Truck Program, Gateway COG 710 Prototype, LACI) – and how the Initiative can complement and support these efforts
- Identify and discuss policy needs and available funding opportunities
- Construct the Clean Truck Initiative in a collaborative manner with the purpose of it being presented to the Metro Board for consideration

Truck Information

Truck Tailpipe Emissions Factors

Pollutants of Concern (Heavy-Duty Truck Tailpipe Emissions)	**Diesel Trucks (in 2035)**	**ZE / NZE Trucks**	**ZE Trucks**
NO_X	0.2 g/bhp-hr	0.02 g/bhp-hr	0.00 g/bhp-hr
PM_{10} / $PM_{2.5}$	0.01 g/bhp-hr	0.01 g/bhp-hr	0.00 g/bhp-hr
Major toxics	DPM and diesel gaseous toxics	NG toxics (gaseous and particulate)	0

DPM: Diesel Particulate Matter
NG: Natural Gas

Compare NZE & ZE Truck Performance

	Conventional Diesel Truck 	Near Zero Emission Truck 	Zero Emission Truck 
			
Diesel Particulate Matter* (DPM) (lb/10,000 miles)	0.38	0	0
Nitrogen Oxides* (NO_X) (lb/10,000 miles)	54.4	5.4	0
Greenhouse Gases* (GHG) (MT CO_2e/10,000 miles)	11.3	11.3	0
Approx. number of Trucks per $100 million of Funding**	N/A	4,000 Trucks	1,520 Trucks

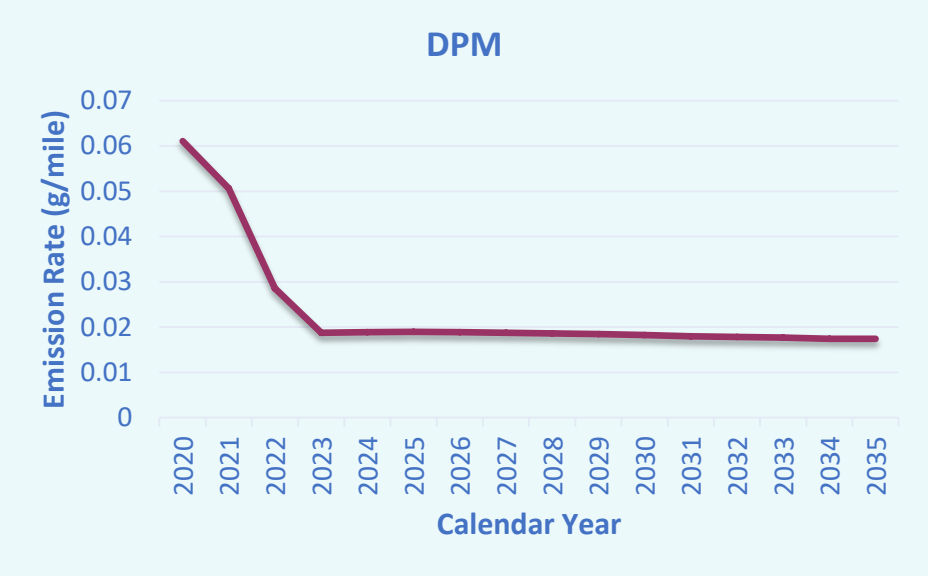
* Running Exhaust emission factors are based on EMFAC2017 for heavy-heavy duty trucks in Los Angeles County for calendar year 2035.

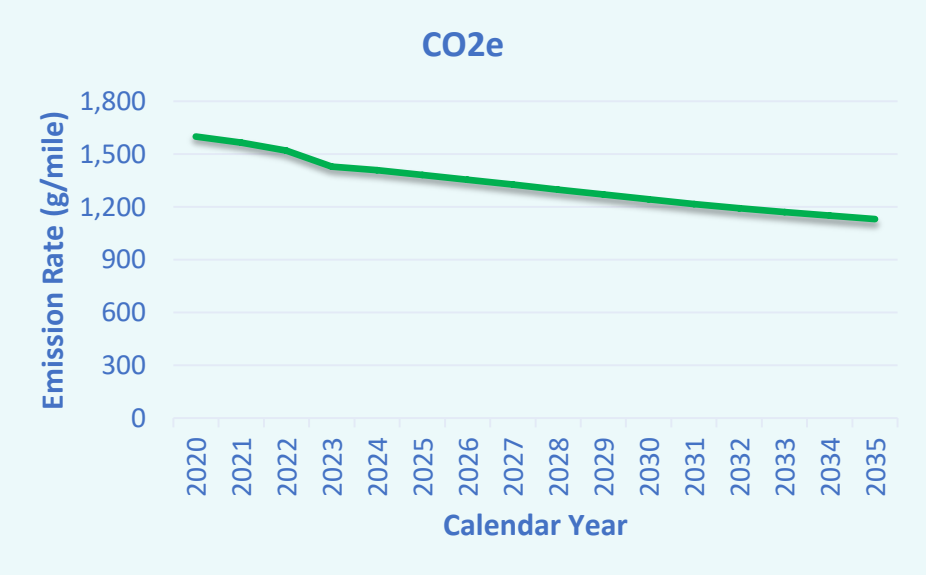
** Unit costs represent incremental, average costs of zero emissions trucks (battery electric, fuel cell vehicles) from I-710 Zero Emissions Truck Commercialization Study, assuming pre-2035 deployment (Calstart, 2013).

Metro

Emission Rate Trends for Conventional Diesel Trucks

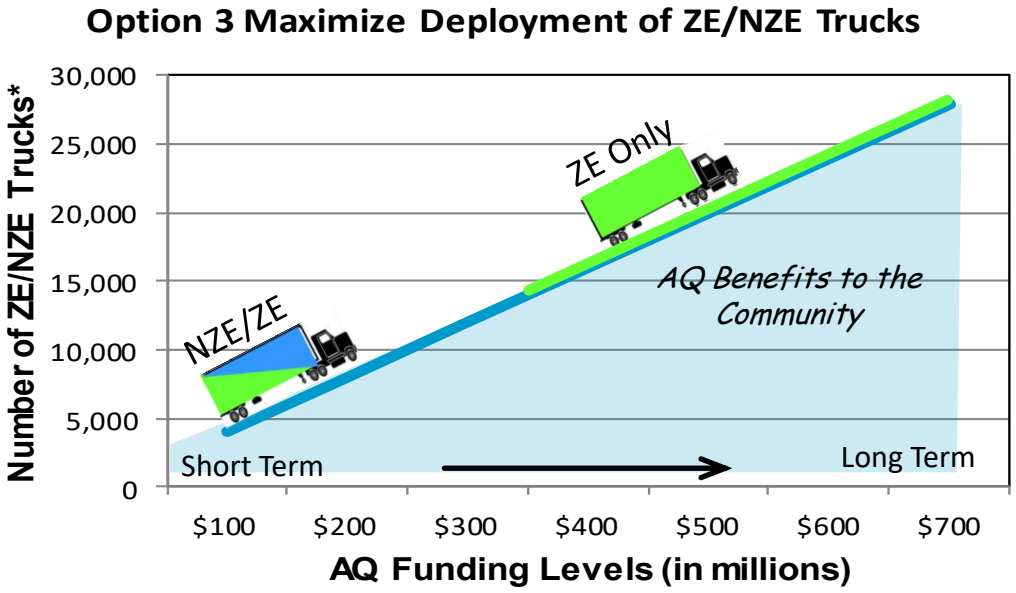






Metro

I-710 ZE/NZE Deployment Strategy



Maximize Number of "Clean Emissions" Trucks and Air Quality Benefits

- Begin with mix of ZE and NZE trucks in the near term
- Transition to ZE trucks as ZE trucks become commercially available and affordable.
- Partner with SCAQMD, EPA, CARB to pursue grant funding outside of the project programmed funds to support health-benefit investments.

Metro



Los Angeles County
Goods Movement Strategic Plan

Clean Truck Initiative Working Group

December 17, 2019

Prepared by Arellano Associates

Metro



Clean Truck Initiative Working Group

Location **Gateway Cities Council of Governments**

Date **Tuesday, December 17, 2019** **12:00 PM -- 3:00 PM**

ATTENDEES:

PUBLIC SECTOR

Alison Linder, SCAG
Allison Yoh, Port of Long Beach
Dan Kopulsky, Caltrans
David MacGregor, County of Los Angeles
Deanna Matsumoto, CSULB CiTTI/METRANS
Denise Gailey, Air Quality Management District (AQMD)
Erick Martell, Port of Los Angeles
Gary Gero, LA County
Genevieve Giuliano, USC/METRANS
Hilary Norton, CTC/Fixing Angelinos Stuck in Traffic (FAST)
James Shankel, Caltrans
Jocelyn Rivera, LA County, Fourth District
Karen Heit, Gateway Cities Council of Governments
Keith Lehto, County of LA Public Works
Kerry Cartwright, Port of Los Angeles
Kevin Barker, California Energy Commission
Luke Klipp, City of Long Beach
Matthew Arms, Port of Long Beach
Matt Miyasato, Air Quality Management District (AQMD)
Max Reyes, City of Los Angeles
Michael Ervin, Supervisor Hahn's Office
Nancy Pfeffer, Gateway Cities Council of Governments
Paul Hubler, San Gabriel Valley Council of Governments
Steve Lantz, South Bay Council of Governments
Sue Dexter, USC/METRANS
Sydney Vergis, California Air Resources Board (CARB)
Waqas Rehman, LA County, First District
Wayne Nastri, Air Quality Management District (AQMD)



PRIVATE SECTOR

Aaron Gillmore, BYD Motors
Damon Hannaman, Southern California Edison
Enzo Bauk, US Hybrid
John Gerra, BYD Motors
Justin Loyear, Cummins Westport
Kevin Maggay, SoCal Gas
Matt Schrap, California Fleet Solutions/Velocity Vehicle Group
Mike Ippoliti, HDR
Varalakshmi Jayaram, Ramboll
Vincent Pellecchia, BYD Motors

NON-GOVERNMENTAL ORGANIZATIONS

Alex Mitchell, Los Angeles Cleantech Incubator (LACI)
Angelo Logan, Occidental College
Bill Van Amburg, Calstart
Greg Roche, Clean Energy Fuels
Jennifer Ganata, Communities for a Better Environment
Joe Lyou, Coalition for Clean Air
Karla Sanchez, Harbor Trucking Association
Marc Carrel, BREATHE LA
Mariela Manzo, NRDC
Marnie Primmer, Future Ports
Niki Okuk, Calstart
Raj Dhillion, BREATHE LA
Todd Campbell, Clean Energy Fuels
Weston LaBar, Harbor Trucking Association

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Sohrab Mikanik, Arellano Associates
Danielle Rodriguez, Arellano Associates



Introduction

The Los Angeles Metro has initiated a Goods Movement Strategic Plan (Plan) for Los Angeles County to address the issues facing goods movement throughout the region. The Plan will focus on improving the region's multimodal freight system, a critical element of LA County's overall surface transportation system.

Through collaboration and dialogue with the many goods movement stakeholders in Los Angeles County, Metro has identified the urgent need, as an early action program of the Goods Movement Strategic Plan, to develop a regional strategy and implementation plan to accelerate the introduction of cleaner truck technology on our many highways and local roads. This initiative will build upon ongoing efforts undertaken in Los Angeles County, such as the Clean Truck Program implemented by the Ports of Long Beach and Los Angeles as part of the Clean Air Action Plan and the Mobile Source Air Pollution Reduction Review Committee investments for cleaner truck technology implementation.

The purpose of the Clean Truck Initiative Working Group is to develop the regional cleaner truck initiative for the Goods Movement Strategic Plan and the Gateway Cities' proposal. The outcomes of the discussion with the key stakeholders will be presented at the next Freight Working Group meeting in March 2020.

Clean Truck Initiative Working Group

The Clean Truck Initiative Working Group Meeting was held at Gateway Cities Council of Governments on December 17, 2019. The meeting was attended by 58 participants from a wide range of public, private and non-governmental sector organizations.

This meeting was organized into two parts: opening remarks and an overview of Metro's Regional Clean Truck Initiative, followed by a group discussion. The introductions and opening remarks were presented by Michael Cano, Deputy Executive Officer, Goods Movement and State Policy and Programming, Metro. He then provided a brief overview of Metro's Regional Clean Truck Initiative. After the introduction and overview, Hilary Norton, Commissioner, California Transportation Commission was invited to the podium to provide opening remarks.

Bill Van Amburg, Executive Vice President, Calstart opened up the group discussion portion of the meeting by providing a overview of the various topics and issues that would be the focus of the discussion. Mr. Cano, supported by Marnie Primmer, Executive Director, FuturePorts facilitated the discussion. Participants provided their thoughts on the first two topics, State of



Technology and Infrastructure Deployment. After a short break, the room re-assembled to explore the remaining topics: Trucking Industry Perspective, Funding Sources and Regulatory Environment.

Prior to the meeting, the Working Group received an overview of the agenda, as well as two Metro Board Motions that were passed on March 1, 2018 related to the I-710 South EIR/EIS Project. After the group discussion, participants engaged in a lightning round and the meeting was concluded.

Agenda Items

A. Welcome & Introductions (Michael Cano, Deputy Executive Officer, Metro)

Michael Cano opened the meeting and reviewed the agenda that included an overview of what was to be presented. He then thanked Nancy Pfeffer, Executive Director, Gateway Cities Council of Governments for hosting the meeting. Participants then went around the room for self-introductions

B. Opening Remarks (Michael Cano, Metro)

Mr. Cano's opening remarks began with highlighting the importance of the Goods Movement Strategic Plan for LA County. He acknowledged that goods movement is complex and involves many needs in the region and affects many people and communities. Creating a Plan takes a lot of work, collaboration and partnership. The Plan will be presented to the Metro Board for review and consideration in 2020.

Mr. Cano reiterated that Metro's vision is to provide a world-class transportation system that enhances quality of life for individuals in LA County. Goods movement takes a backseat in interest in the transportation industry, however, Mr. Cano noted the issues associated with goods movement, such as air quality. The Strategic Plan Vision that is being developed envisions Metro as a national leader and regional partner within a framework of equitable and sustainable investments.

The Clean Truck Initiative is a part of a broader element in the Plan focused on clean freight. Metro has been reaching out to rail partners, including Metrolink and Lossan in the discussion of ways to make clean locomotives and improve the air quality in the region. The Plan will be an outcome of discussions with stakeholders on a sustainable



freight competitiveness framework for LA County, which includes listening to all stakeholders. The ultimate goal is to create a higher quality of life for those who live in LA, to breathe better air quality and to be able to travel efficiently in the region. Mr. Cano emphasized that this idea is driving the Goods Movement Plan.

He mentioned the Vision 2028 was adopted by the Metro Board. He hopes to broaden the definition of what mobility means and what it entails. Metro's Long Range Transportation Plan (LRTP) is currently being developed in parallel with Vision 2028. These Plans are all guided by the Equity Platform.

C. Overview: Metro's Clean Truck Initiative (Michael Cano, Metro)

Mr. Cano went on to describe some of the issues that are associated with the 710 EIR, including air quality and public health. The purpose of this meeting is to partner with agencies, such as AQMD and SCAG, to implement projects and programs to improve the air quality in the impacted communities. Primary source of poor air pollution comes from tailpipe emissions. Does not want to lose sight of the major issues surrounding the 710 project, especially the imbalance of equity that affects the communities surrounding the area. The work that Metro is doing in the Freight Working Group and other conversations that take place with stakeholders are, ultimately, to improve the quality of life for those communities that are negatively impacted. Mr. Cano noted that currently, the Board is made up of all five LA County Supervisors, Mayor Garcetti and his appointees, and representatives from all four sectors of LA County (Gateway Cities, South Bay, San Gabriel Valley and North Counties).

Mr. Cano highlighted the two motions that were passed in March 2018. The first motion was passed to phase in zero-emissions technology. The goal for this is to make the 710 a near zero-emission corridor. The second motion that was passed the same day was to create a Working Group for these efforts. The Clean Truck Initiative Working Group, among other stakeholder meetings, will satisfy this Board motion. He hopes that the meetings will identify the barriers, challenges and tools that are necessary to develop effective policies. Ultimately, this practice will become an institutionalized element to work with stakeholders to solve clean truck issues for the years to come. Mr. Cano's goal is to have that incorporated in the Plan that will be presented to the Board. The purpose of the Clean Truck Initiative Working Group is to lay the groundwork for what is



needed to move forward and to discuss other clean truck efforts that are taking place at other agencies such as the ports, and AQMD.

After the overview, Mr. Cano introduced Hilary Norton, California Transportation Commissioner who provided opening remarks.

D. Opening Remarks from CTC Commissioners and Board Officers (Hilary Norton, Commissioner, CTC)

Ms. Norton took the podium and thanked Mr. Cano, Metro and Gateway Cities for planning the Clean Truck Initiative Working Group. She highlighted California Freight Mobility Plan, which the CTC will finalize in 2020. Ms. Norton mentioned that when the region succeeds economically, the state succeeds as well. She thanked everyone in the room for their collaboration and is excited to move forward with an efficient Plan.

Mr. Cano took a moment to recognize representatives from LA County Board of Supervisors' Offices, including Supervisor Solis and Supervisor Hahn. Mr. Cano then called upon Bill Van Amburg, Executive Vice President, Calstart to transition into the group discussion portion of the meeting.

E. Group Discussion

Mr. Van Amburg was asked to shed light on the context of certain issues that would be brought up during the group discussions. He made a note that the discussion topics were separated into five sections: State of Technology, Infrastructure Deployment, Trucking Industry Perspective, Funding Sources and Regulatory Environment.

State of Technology is the core category of discussion. Mr. Van Amburg reported that a few years ago, Calstart, on behalf of Metro and Gateway Cities, created a commercialization plan for zero emission transportation for the 710 corridor. He highlighted the progress and steps that have been made to reach that goal. He noted that Calstart has also been making strides assessing needs of users and working with the State of California to develop an investment strategy. There has been rapid progress and interest in urban delivery, transit, bus and heavy regional.

He highlighted the shifts in the industry, mentioning that today you can't implement a program at scale. It is crucial to think and as, "What is the strategy for using multiple technologies" and "How do we support these multiple technologies appropriately? He



also encouraged participants to think about rapid evolution of technology because there is no one-size-fits-all approach. There is significant, ongoing pressure to reduce carbon emissions. There needs to be 60% or more reduction of NOx and other pollutants from transportation. There has been progress in finding solutions and multiple pathways are being discovered, such as ultra-low carbon fuel, including electricity or natural gas use fuel. There is a tremendous pressure on diesel, which is causing the current administration to move forward with a plan to use a version to lower NOx in trucking in real-world conditions. Renewable fuels are increasingly available because of the low-carbon fuel standard in California. Energy storage is steadily decreasing in size and cost, while increasing in capability. Trucks are moving from the pilot stage and carrying cargo, and new capabilities are emerging. We are aligning with what we're seeing around the world. We need to grow that supply chain if we want to lower the cost. It is important for the region to focus on this effort, drive the market, and help others adopt these technologies.

Mr. Cano returned to the podium to thank Mr. Van Amburg and introduce Marnie Primmer, Executive Director, FuturePorts as a moderator for the group discussion. He then opened the floor to participants to begin the discussion.

Julia Lester, 710 Air Quality Consultant, Ramboll, then provided a brief presentation related to trucks and their impact on air quality.

*Please see **Appendix F, slides 14-18** for the Truck Information section of the presentation, **Appendix G** for the Calstart Presentation and **Appendix H** for the Group Discussion Transcription.*

F. Break

Participants discussed the first two topic areas, State of Technology and Infrastructure Deployment. Mr. Cano dismissed the room for a short break. At the conclusion of the break, participants gathered to discuss the remaining three topics: Trucking Industry Perspective, Funding Sources, and Regulatory Environment.

G. Adjournment

At the conclusion of the group discussion, Mr. Cano thanked the Metro and the Consultant team for their efforts, and the Working Group participants for their attendance. He dismissed the participants at 3:00 PM.



Appendix A: Agenda

Los Angeles Metro

Los Angeles County Goods Movement Strategic Plan

Clean Truck Initiative Working Group Agenda

December 17, 2019 12:00 PM – 3:00 PM 16401 Paramount Blvd., Paramount, CA 90723

12:00 – 12:20 PM **Gathering/Networking/Lunch**

12:20 – 12:30 PM **Welcome and Introductions – Michael Cano**

12:30 – 12:45 PM **Overview: Metro's Regional Clean Truck Initiative**

12:45 – 12:55 PM **Opening Remarks from CTC Commissioners and Board Officers**

12:55 – 2:45 PM **Group Discussion Introduction – Michael Cano**

Purpose of the discussion is to help us better understand participant Perspectives on the key issues most significantly impacting Implementation of a clean truck initiative regionally and specifically for the I-710 Corridor. The outcome of this discussion will help inform our thinking on the potential for a countywide Clean Truck Initiative as an early action program in the Goods Movement Strategic Plan covering strategies and policies to pursue, and how best to prioritize goals to implement this initiative in a focused and expedited manner.

For each topic area listed below, we would like to cover the Key Questions in our discussion:

- ***Topic Areas for Discussion***
  - 1:00 PM State of Technology
  - 1:25 PM Infrastructure Deployment
  - 1:45 -1:55 PM Break
  - 1:55 PM Trucking Industry Perspective
  - 2:15 PM Funding Sources
  - 2:25 PM Regulatory Environment
- ***Key Questions on the Clean Truck Program***
  - What are the challenges facing LA County in developing a Clean Truck Initiative?
  - What strategies (policies, projects, programs) could address these?
  - Are there immediate steps that can be taken ("early wins") to address these issues?
  - What should Metro do to pursue these? What should Metro not do?
  - How can Metro develop a fundable, implementable program?

2:45 – 3:00 PM Lightning Round, Next Steps, and Wrap Up



Appendix B: Clean Truck Working Group Roster

Los Angeles County
Metropolitan Transportation Authority
One Gateway Plaza
Los Angeles, CA 90012-2952
213.922.2000 Te
metro.net

Metro

Clean Truck Initiative Working Group Roster

CATEGORY	NAME	POSITION	ORGANIZATION
Public Sector			
Council of Governments	Nancy Pfeffer	Executive Director	Gateway Cities COG
Council of Governments	Karen Heit	Transportation Analyst	Gateway Cities COG
Council of Governments	Paul Hubler	Director of Government and Community Relations	San Gabriel Valley COG
Council of Governments	Steve Lantz	Transportation Director	South Bay COG
Educational/ Research Institute	Deanna Matsumoto	Career and Technical Education Specialist	CSULB CiTTI/METRANS
Educational/ Research Institute	Genevieve Giuliano	Director	USC/METRANS
Educational/ Research Institute	Sue Dexter	Lead Instructor and Capstone Advisor	USC/METRANS
Local Government	David MacGregor	Assistant Deputy Director, Road Maintenance	LA County Department of Public Works (LADPW)
Local Government	Gary Gero	Chief Sustainability Officer	Los Angeles County
Local Government	Keith Lehto	Assistant Deputy Director	LA County Department of Public Works (LADPW)
Local Government	Luke Klipp	Board Deputy	City of Long Beach
Local Government	Max Reyes	Senior Management Analyst	City of Los Angeles
Local Government	Waqas Rehman	Director of Planning and Development	Office of Los Angeles County Supervisor Hilda Solis
Local Government	Michael Ervin	Assistant Deputy of Transportation	Office of Los Angeles County Supervisor Janice Hahn
Local Government	Jocelyn Rivera	Deputy	Office of Los Angeles County Supervisor Janice Hahn
Ports	Allison Yoh	Director of Transportation Planning	Port of Long Beach
Ports	Matthew Arms	Acting Director of Environmental Planning	Port of Long Beach
Ports	Kerry Cartwright	Director of Goods Movement	Port of Los Angeles
Ports	Erick Martell	Legislative Representative	Port of Los Angeles
Regulatory Agencies	Denise Gailey	Manager, State/Federal Legislation, EJ, SBA	Air Quality Management District (AQMD)
Regulatory Agencies	Matt Miyasato	Deputy Executive Officer, Science and Technology Advancement	Air Quality Management District (AQMD)
Regulatory Agencies	Wayne Nastri	Executive Officer	Air Quality Management District (AQMD)
Regulatory Agencies	Sydney Vergis	Assistant Division Chief	California Air Resources Board (CARB)
State	Kevin Barker	Chief of Staff	California Energy Commission
Transportation Agencies	Dan Kopulsky	Chief, Regional Planning and Goods Movement.	Caltrans
Transportation Agencies	Hilary Norton	Commissioner	CTC/Fixing Angelinos Stuck in Traffic (FAST)
Transportation Agencies	James Shankel	Senior Environmental Planner	Caltrans
Transportation Agencies	Alison Linder	Senior Regional Planner	Southern California Association of Governments SCAG
Private Sector			
Business	Mike Ippoliti	Automated, Connected & Electric Vehicle Project Manager	HDR
Economic Development	Varalakshmi Jayaram	Managing Consultant	Ramboll
OEM	Aaron Gillmore	Vice President	BYD Motors
OEM	John Gerra	Senior Director, Business Development	BYD Motors
OEM	Vincent Pellecchia	Strategic Account Manager	BYD Motors

OEM	Enzo Bauk	Senior Mechanical Engineer	US Hybrid
OEM	Justin Loyear	Pacific Regional Sales Manager	Cummins Westport
Trucking	Matt Schrap	President	California Fleet Solutions/Velocity Vehicle Group
Utilities	Damon Hannaman	Senior Advisor	Southern California Edison
Utilities	Kevin Maggay	Program Manager	Southern California Gas
Non-Governmental Organizations			
Business	Alex Mitchell	Senior Vice President, Market Transformation	Los Angeles Cleantech Incubator (LACI)
Environmental Advocacy	Angelo Logan	Program Director	Occidental College, Moving Forward
Environmental Advocacy	Greg Roche	Vice President	Clean Energy Fuels
Environmental Advocacy	Todd Campbell	Vice President, Public Policy and Regulatory Affairs	Clean Energy Fuels
Environmental Advocacy	Jennifer Ganata	Senior Staff Attorney	Communities for a Better Environment
Environmental Advocacy	Joe Lyou	President & CEO	Coalition for Clean Air
Environmental Advocacy	Marc Carrel	President & CEO	BREATHE LA
Environmental Advocacy	Raj Dhillon	Manager of Advocacy and Public Policy	BREATHE LA
Environmental Advocacy	Mariela Manzo	Program Assistant	NRDC
Freight Industry	Marnie Primmer	Executive Director	Future Ports
Trucking	Bill Van Amburg	Vice President	Calstart
Trucking	Niki Okuk	Program Manager	Calstart
Trucking	Karla Sanchez	Director of Programs & Communications	Harbor Trucking Association
Trucking	Weston LaBar	Executive Director	Harbor Trucking Association



Appendix C: Invitation

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Te
metro.net

Metro

11/25/2019

Ian MacMillan
AQMD
21865 Copley Drive
Diamond Bar, CA 91765

Dear Ian,

Metro's Goods Movement Planning Team, in support of our development of the Los Angeles County Goods Movement Strategic Plan, invites you to participate in a special working group meeting focused on the development of a regional clean truck initiative on December 17, 2019 from 12:00 PM – 3:00 PM at Gateway Cities Council of Governments, 16401 Paramount Blvd. Paramount, CA 90723. Lunch will be available starting at noon.

Through collaboration and dialogue with the many goods movement stakeholders in Los Angeles County, Metro has identified the urgent need, as an early action program of our Goods Movement Strategic Plan, to develop a regional strategy and implementation plan to accelerate the introduction of cleaner truck technology on our many highways and local roads. This initiative will build upon ongoing efforts undertaken in Los Angeles County, such as the Clean Truck Program implemented by the Ports of Long Beach and Los Angeles as part of the Clean Air Action Plan and the Mobile Source Air Pollution Reduction Review Committee investments for cleaner truck technology implementation.

To accomplish this important goal, Metro understands that it must bring together key experts and leaders across the region with knowledge of the various elements that will be necessary to develop a successful regional clean truck program. At this meeting we anticipate a robust and honest discussion on the many existing obstacles and barriers to such a program, opportunities and strategies to overcome these challenges, and how best to shape this initiative to achieve success through collaboration among and broad support from our key stakeholders.

As part of this initiative, Metro recognizes the need to prioritize a strategy to deliver cleaner trucks to be operated along the heavily traveled Interstate 710 that serves our Ports, intermodal rail yards, logistics centers, and other freight needs along the corridor. To that end the Gateway Cities Council of Governments has developed a concept paper, titled the *I-710 Clean Truck Prototype Incentive Program*, to catalyze a focused discussion on the various issues involved with introducing cleaner truck technology that will relieve the health impacts suffered by disadvantaged communities adjacent to this vital trade corridor in accordance with the commitments made by the Metro Board in the I-710 environmental document. We will receive a presentation on this concept and hold a discussion on how best to implement such a proposal as part of our working group meeting.

We highly value your expertise and knowledge of this subject matter and would greatly appreciate your input at our December 17th meeting. We plan to convene this group of stakeholders on a regular basis to develop the regional cleaner truck initiative for our Goods Movement Strategic Plan and the Gateway Cities' proposal. The outcomes of this discussion

Metro

with you and other key stakeholders will be presented at the next Freight Working Group meeting in March 2020.

We look forward to engaging in meaningful dialogue with you and our stakeholders on this important initiative, and we would ask that you send your RSVP to Akiko Yamagami at YamagamiA@metro.net . We appreciate your input, your support, and your leadership in helping Metro accomplish this regional vision and in helping our team develop a transformative Goods Movement Strategic Plan to serve the many needs of our residents in Los Angeles County.

With great appreciation,



Michael Cano
Metro | Deputy Executive Officer, Goods Movement



Appendix D: Meeting Hand-Outs

File#: 2018-0053, **File Type:** Motion / Motion Response **Agenda Number:** 5.1

REGULAR BOARD MEETING
MARCH 1, 2018

REVISED Motion by:

HAHN, SOLIS, GARCIA, AND DUPONT-WALKER

Related to Item 5: I-710 South EIR/EIS Project

The 710 Freeway is a major transportation corridor not only for daily commuters, but also for freight movement from the Ports of Los Angeles and Long Beach to the nation. While "goods movement" is a major economic driver for our region, it comes at a high cost for the many communities and residents along the 19 mile freeway. For many years, children and adults alike have suffered from serious health issues as a result of the pollution emitted by the trucks delivering freight inland, and neighborhoods have been severely impacted by congestion and traffic. This freeway is known as the "diesel death zone."

For 15 years, Metro has partnered with Caltrans, the Gateway Cities Council of Governments, the Ports, the individual cities along the 710, community activists and others, to develop different 'alternatives' to re-imagine the 710 in a way that balances commerce and environmental responsibility.

There are now three alternatives for the Metro Board to choose from: "No Build", "Sc" and "7." Both include a funding target of $100 million for the purchase of "Near Zero" (NZE) or "Zero" emission (ZE) trucks that would travel on the 710 corridor. Yet, according to AQMD, even taking into consideration either build alternative, "the region will need substantial additional emission reductions to attain the National Ambient Air Quality Standards." Additionally, Metro has reported that greenhouse gas tailpipe emissions would be reduced by nearly the same levels for either alternative.

Dedicating the funding exclusively to "zero emission" technology once is available and requiring only ZE vehicles be allowed - once they are constructed - could improve air quality standards significantly. The technology for long haul trucks that would emit NO poisonous fumes is emerging quickly, as exhibited by leading auto manufacturers such as Tesla and Daimler AG. Freeways in China, Israel and Norway are being constructed to have electric chargers embedded under the pavement, thus enabling electric vehicles - both cars and long haul trucks - to charge their batteries as they are moving. This significant investment by Metro can be a game-changing accelerator of "zero emission" technology, eliminating the need to subsidize "near zero" emission vehicles.

The future 710 freeway must not be a "diesel death zone" but a corridor where freight can be moved quickly without impairing the health of communities alongside the 710 Freeway. Both can be

achieved.

SUBJECT: REVISED MOTION BY DIRECTORS HAHN, SOLIS, GARCIA, AND DUPONT-WALKER

WE THEREFORE MOVE to direct the Metro CEO and Staff to, as part of, staff recommended Locally Preferred Alternative Sc:

A. Change the Zero Emission/Near Zero Emission truck technology development program to the phased-in "Zero Emission Truck Technology Development Program."

B. Increase program funding target from $100 million to $200 million, and include in the Program incentives and grants investment in the acceleration of zero emission technology both for long hauling trucks and for freeway infrastructure, including but not limited to, "under the pavement" vehicle charging capacity as options to consider.

C. Convene a working group comprised of the California Air Resources Board (GARB), California State Department of Transportation (Caltrans), Southern California Association of Governments (SCAG), South Coast Air Quality Management District (AQMD), California Transportation Commission (CTC), the Ports of Los Angeles and Long Beach, zero-emission industry experts and other key stakeholders to develop a policy recommendation for a full, zero-emission only, dedicated lane including, but not limited to "rechargeable roadways" on the entire 19 mile long stretch of the 710 freeway, and include this as part of thefinal EIR/EIS document, presented in the September2018 Metro board meeting. as part of the reevaluation of the remaining elements of Alternative Sc, after the Early Action Projects have been completed.

File #: 2018-0068, **File Type:** Motion / Motion Response **Agenda Number: 5.2**

REGULAR BOARD MEETING
MARCH 1, 2018

Motion by:

SOLIS, GARCIA, RIDLEY-THOMAS, BUTTS, NAJARIAN, AND HAHN

Related to Item 5: 1-710 South Corridor Project

Local communities along the 1-710 freeway are plagued with life-threatening health ailments resulting from traffic-related pollution in the corridor. As such, communities have been united and explicitly clear that existing conditions are simply unacceptable and they demand and deserve relief. Nevertheless, gaining consensus on a Locally Preferred Alternative for the 1-710 South Corridor Project has been incredibly challenging due to limited right of way, public health concerns and sensitivities surrounding environmental and social justice issues.

After years of vigorous scientific environmental impact analysis, multiple engineering design variations, extensive community outreach, and thoroughly exploring all feasible alternatives, Metro staff has concluded that Alternative 5C is the most viable and cost-effective solution to maximize regional benefits related to safety, mobility, health and the environment while minimizing impacts to local communities. However, the air quality benefits proposed by Alt. 5C are largely contingent on substantial funding becoming available to deploy near-zero and zero-emission trucks to reduce pollutants such as diesel particulate matter, nitrogen oxide, carbon dioxide and others. Moreover, the regional mobility benefits rely on the assumption that passenger vehicle trips are transferred to the mainline freeway versus utilizing local arterials and residential streets, which helps alleviate "cut-through traffic" in surrounding communities. Unless these assumptions materialize the primary goals of this project may not come to fruition. It may be prudent to take a more modest approach to improving the 1-710 South corridor.

An Alt. 5C Early Action Program presents an opportunity to utilize programmed funding to sequence and complete smaller scale projects over the next decade and realize incremental benefits as soon as possible.

Any deviation from implementing viable and reasonable solutions as soon as possible will only prolong the necessary relief and further place these communities at risk.

SUBJECT: MOTION BY DIRECTORS SOLIS, GARCIA, RIDLEY-THOMAS, BUTTS, NAJARIAN, AND HAHN

WE THEREFORE MOVE that the Board adopt Alternative 5C as the Locally Preferred Alternative for the 1-710 South Corridor Project FEIR/FEIS (inclusive of Motion 22.1 from October 2015) and expedite the delivery of an Early Action Program (EAP) that emphasizes the following:

A. Projects that deliver the most immediate and significant benefits related to safety, mobility and air quality;

B. Projects that can be implemented with minimal or no displacement of residences, businesses, and sensitive land uses;

C. Developing a local/targeted hiring policy that is applicable to any and all eligible funding sources;

D. Conduct an operational performance analysis upon completion of the Early Action Program utilizing the most current State and local evaluation measures and standards to re-evaluate and re-validate the remaining elements of Alternative 5C, especially identifying opportunities to further reduce property impacts;

E. Return to the board upon completion of the aforementioned directive to seek further consideration and authorization related to implementing the balance of improvements in Alternative 5C.

FURTHER MOVE that the Board direct the CEO to establish a working group with the freight industry, air quality regulators, transportation and metropolitan planning agencies, the Gateway Council of Governments and other relevant stakeholders to explore the lead authorities, financial impact and other implementation factors related to:

A. Develop a strategic plan that is consistent with the South Coast Air Quality Management Plans, which expedites the transition from diesel freight trucks to near-zero emission vehicles as soon as possible and outlines a transition to zero-emission vehicles as thecleanest, most reliable technology becomes available;

B. Host an industry forum aimed at stimulating and accelerating the deployment of cleaner freight truck alternatives. The forum shall include, but not be limited to topics such as funding and financing, public-private partnerships, new technologies, on- and off-dock rail support facilities, best practices research and development, demonstration programs (example: rechargeable roadways), creative purchase/lease incentive programs, etc.;

C. Develop and evaluate multiple scenarios for a comprehensive congestion demand management program, to be evaluated independently, that focuses on separating freight and non-freight vehicles (i.e. dedicated toll lanes) within the existing rights of way on freeways facilities throughout Los Angeles County with priority on Near-Zero and Zero-Emission vehicles;

D. Develop an overarching transportation demand management (TOM) strategy consistent with the larger, previously approved TOM strategy development process that will minimize the impact of goods movements and people in the surrounding communities along the 1-710 corridor.

FURTHER MOVE that the CEO works with the Gateway Cities Council of Governments to assess the effectiveness and recommend potential improvements to the community participation structure that was established for the environmental review period. Report back to the board in 120 days.

FURTHER MOVE that, as part of its NextGen Bus Study, Metro evaluate the feasibility of implementing high-frequency bus service in accordance with Motion 22.1 (October 2015).



Appendix E: Sign-In Sheets



Metro Goods Movement Strategic Plan

Clean Truck Working Group

December 17, 2019 – 12:00 - 4:00 PM

Sign-in Sheet

Name	Organization	Initials
Alex Mitchell	Los Angeles Cleantech Incubator (LACI)	✓
Aaron Gillmore	BYD Motors	✓
Abas Goodarzi	US Hybrid	
Adrian Martinez	Earthjustice	
Alison Linder	SCAG	✓
Allison Yoh	Port of Long Beach	✓
Bill Van Amburg	Calstart	✓
Chris Cannon	Port of Los Angeles	
Cris Liban	Metro	✓
Damon Hannaman	SoCal Edison	✓
Dan Kopulsky	Caltrans	✓
Dave MacGregor	County of LA Public Works	✓
David Libatique	Port of Los Angeles	
Deanna Matsumoto	CSULB Cittl/METRANS	
Ernesto Chaves	Metro	✓
Enzo Bauk	US Hybrid	✓
Fran Inman	CTC (Majestic Realty, Inc.)	
Gary Gero	LA County	✓
Genevieve Giuliano	USC/METRANS	✓
Greg Roche	Clean Energy Fuels	✓
Hilary Norton	CTC (Fixing Angelenos Stuck In Traffic (FAST))	✓
Jennifer Ganata	Communities for a Better Environment	✓
Joe Lyou	Coalition for Clean Air	✓
John Boesel	Calstart	
Justin Loyear	Cummins Westport	✓



Name	Organization	Initials
Keith Lehto	County of LA Public Works	✓
Ken Chawkins	SoCal Gas	
Kerry Cartwright	Port of Los Angeles	✓
Kevin Barker	California Energy Commission	✓
Luke Klipp	City of Long Beach	✓
Mariela Manzo	NRDC	✓
Marisa Creter	San Gabriel Valley Council of Governments	
Marnie Primmer	Future Ports	✓
Matt Miyasato	AQMD	✓
Matt Schrap	California Fleet Solutions/Velocity Vehicle Group	✓
Matthew Arms	Port of Long Beach	✓
Michael Ervin	LA County, Fourth District	✓
Mike Bush	NEXT Trucking	
Mike Ippoliti	HDR	✓
Nancy Pfeffer	Gateway Cities Council of Governments	✓
Norm Emerson	Gateway Cities Council of Governments	
Paul Hubler	San Gabriel Valley Council of Governments	✓
Paul Backstrom	Metro	✓
Phillip Fine	SCAQMD	
Sharon Weissman	City of Long Beach	✓
Stephanie Cadena	Gateway Cities Council of Governments	✓
Steve Cliff	California Air Resources Board	
Steve Lantz	South Bay Cities Council of Governments	✓
Sue Dexter	USC/METRANS	✓
Sydney Vergis	California Air Resources Board	✓
Todd Campbell	Clean Energy Fuels	✓
Tom Swenson	Cummins Westport	
Varalakshmi Jayaram	710 EIR Consultant	✓
Vincent Pellecchia	BYD Motors	✓
Waqas Rehman	LA County, First District	✓
Weston LaBar	Harbor Trucking Association	✓



Name	Organization	Initials
Karla Sanchez	HTA	✓
James Shankel	Caltrans	✓
Wayne Nastri	AQMD	✓
Karen Heit	Gateway Cities COG	✓
Niki Okuk	Calstart	✓
Max Reyes	City of LA	✓
Marc Carrel	Breathe LA	✓
Raj Dhillon	Breathe LA	✓
Erick Martell	POLA	✓
Angelo Logan	Occidental College	✓
Denise Gailey	AQMD	✓
Kevin Maggay	SoCal Gas	✓
John Gerra	BYD	✓
Jocelyn Rivera	LA County, fourth District	✓
Julia Lester		



Name	Organization	Initials
Danielle Rodriguez	Arellano Associates	✓
Sohrab Mikanik	Arellano Associates	✓
Susan De Santis	Arellano Associates	✓
Art Sohikian	AVS Consulting	✓
Elaine McKenzie	Cambridge Systematics	
Jim Brogan	Cambridge Systematics	✓
Lila Singer Burke	Cambridge Systematics	
Akiko Yamagami	Metro	✓
Anna Lee	Metro	✓
Cris Liban	Metro	
Ernesto Chaves	Metro	✓
Mark Yamarone	Metro	
Michael Cano	Metro	✓
Paul Backstrom	Metro	✓



Appendix F: Regional Clean Truck Initiative Working Group Presentation



Regional Clean Truck Initiative Working Group

Michael Cano, Deputy Executive Officer

December 17, 2019

Metro

Vision Statement

Metro's Mission: *To provide a world-class transportation system that enhances quality of life for all who live, work, and play within LA County.*

Goods Movement Strategic Plan Vision: Metro will become…

> …a ***national leader*** and ***regional partner*** in implementing a modern, responsive, resilient, and effective freight transportation system through policies, programs, and projects that support a competitive global economy.

> …a steward of ***equitable and sustainable investments*** and ***technological innovation*** that will increase regional economic competitiveness, advance environmental goals, and provide access to opportunity for County residents.

Metro



Sustainable Freight Competitiveness



®Metro

Metro's Coordinated Planning Efforts



Metro

Public Health Impacts of Air Quality

The South Coast Air Basin – home to Los Angeles County – has the worst air quality in the nation

Primary source of air pollution comes from tailpipe emissions associated with the transportation sector – particularly from heavy-duty trucks

The residents along the I-710 suffer from poor air quality and public health impacts associated with truck movement along the corridor

Major equity impacts for some of the more vulnerable communities in Los Angeles County

Metro



Public Health Impacts of Air Quality

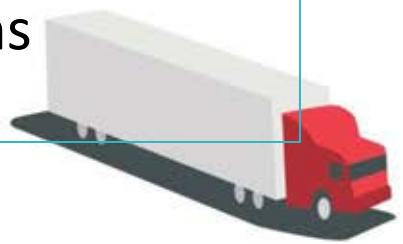
Traffic-related air pollutants known to impact public health include:

Pollutants:

- Ozone
- Diesel particulate matter
- PM_{10}
- $PM_{2.5}$
- Ultrafine particulates
- Carbon monoxide
- Nitrogen dioxide
- Sulfur dioxide
- Lead
- Benzene
- Formaldehyde
- Acrolein
- Acetaldehyde

Health Impacts:

- Asthma
- Respiratory diseases
- Cardiovascular diseases
- Cancer
- Premature death
- Mortality
- Preterm and low-weight births



Metro

Metro Board Directives

Metro Board Motions (March 2018) – I-710 South EIR/EIS

5.1 : Hahn, Solis, Garcia & Dupont-Walker

- Change the ZE/NZE truck technology program to the **phased-in** "ZE Truck Technology Development Program".
- Increase program funding from $100 million to $200 million, and include in the Program **incentives and grants investment in the acceleration of ZE technology both for long-hauling trucks and for freeway infrastructure**, including but not limited to, "under the pavement" vehicle charging capacity as options to consider.
- **Convene a working group** to develop a policy recommendation for a full, ZE only, dedicated lane…on the entire 19-mile long stretch of the 710 freeway as part of the re-evaluation of the remaining elements of Alternative 5C after the Early Action Projects have been completed.

Metro



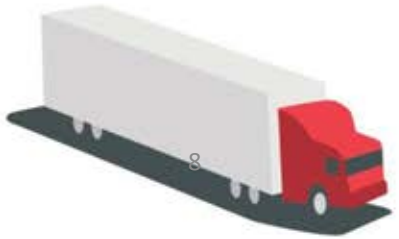
Metro Board Directives

5.2 : Solis, Garcia, Ridley-Thomas, Butts, Najarian, & Hahn

Direct the CEO to establish **a working group** with the freight industry, air quality regulators, transportation and metropolitan planning agencies, the Gateway COG and other relevant stakeholders to **explore the lead authorities, financial impact and other implementation factors** related to:

- **Develop a strategic plan** that is consistent with the South Coast Air Quality Management Plans, **which expedites the transition from diesel freight trucks to NZE vehicles as soon as possible and outlines a transition to ZE vehicles as the cleanest, most reliable technology becomes available**
- Host an **industry forum** aimed at stimulating and accelerating the deployment of cleaner freight truck alternatives. Forum shall include topics such as: funding/financing, P3, new technologies, on/off dock rail support facilities, best practices R&D, demonstration projects, creative purchase/lease incentive programs, etc.

Metro



8

Governor's Executive Order N-19-19

Governor Newsome Issued the Executive Order (EO) in September 2019

Main Points:

- Leverage available state funding "to help reverse the trend of increased fuel consumption and reduce greenhouse gas emissions associated with the transportation sector".
- CalSTA Secretary David Kim will engage stakeholders on how best to implement the EO
- Implemented partially through California Freight Mobility Plan 2020 (in draft form now)



EXECUTIVE DEPARTMENT
STATE OF CALIFORNIA

EXECUTIVE ORDER N-19-19

WHEREAS California is proof that a bold climate agenda is good for the economy, for workers, for health and for our future, as evidenced by our state having achieved record economic growth while reaching some of the strongest climate goals in the world; and

WHEREAS in the face of inaction on climate change from the federal government, California is a global leader in climate change mitigation efforts through bold climate goals and actions, as well as leadership in the US Climate Alliance and Under2 Coalition, using the state's power as the fifth largest economy in the world to drive positive action; and

WHEREAS California has ambitious and essential climate goals to transition to a healthier, more sustainable and more inclusive economy, including: reducing greenhouse gas emissions 40 percent below 1990 levels by 2030; providing 100 percent of the state's electricity from clean energy sources by 2045; reducing methane emissions and hydrofluorocarbon gases by 40 percent; and adding five million zero-emission vehicles to California's roads by 2030; and

WHEREAS California has made substantial, measurable progress on many of the goals enumerated above, but in recent years, direct tailpipe emission from cars, ships, diesel trains, airplanes, and other transportation sources have remained a stubborn driver of greenhouse gas emissions, totaling 40.1 percent of all greenhouse gas emissions statewide; and

WHEREAS the California Air Resources Board has a fifty-year history of leading the globe in addressing harmful pollution through innovative air pollution control standards, including the nation's first NOx emissions standards for motor vehicles; and

WHEREAS California's renewable energy targets have spurred innovation and private investment in new technologies with California leading the nation in clean technology patents and bringing in more than 50 percent of all clean energy investment in the nation; and

WHEREAS the state has made significant progress in lowering greenhouse gas emissions and mitigating climate risk in California's own state government operations and public schools; and

WHEREAS achieving California's climate goals will require concerted commitment and partnership by government, the private sector, and California residents,



Goals for Today's Working Group

Framework for the Clean Truck Initiative

Goals for this group:

- Develop a comprehensive, timely, fundable, implementable and broadly supported Clean Truck Initiative for the Metro Board to support, invest in, and seek supporting policies and vital funding through partnership with regional, state and federal stakeholders and agencies

- Provide a clear accounting of the landscape of cleaner truck technology – including equity community concerns, barriers to implementation, status of technology, infrastructure needs, truck driver needs, and funding needs – to inform the Metro Board on clean truck issues through the Metro Goods Movement Strategic Plan

- Become a recurrent advisory group to the Metro Board for all issues related to the implementation of clean truck technology within LA County

Concept for Working Group Meetings

Today:

- Convene stakeholders to explain purpose of the regional Clean Truck Initiative
- Through presentation and a constructive dialogue, identify the key challenges, barriers, opportunities, and community needs that surround the development of the Initiative
- Identify additional areas of inquiry for this working group and additional stakeholders for outreach by Metro
- Listen, share, discuss. No decisions made today on the specifics of a funding plan or preferred technology

Concept for Working Group Meetings

Next Meetings (Early 2020):

- Report back on comprehensive assessment of issues raised at the first meeting
- Develop the equity framework associated with implementing the Clean Truck Initiative
- Identify and discuss existing efforts to implement clean truck technology (e.g., Port Clean Truck Program, Gateway COG 710 Prototype, LACI) – and how the Initiative can complement and support these efforts
- Identify and discuss policy needs and available funding opportunities
- Construct the Clean Truck Initiative in a collaborative manner with the purpose of it being presented to the Metro Board for consideration

Truck Information

Truck Tailpipe Emissions Factors

Pollutants of Concern (Heavy-Duty Truck Tailpipe Emissions)	**Diesel Trucks (in 2035)**	**ZE / NZE Trucks**	**ZE Trucks**
NO_X	0.2 g/bhp-hr	0.02 g/bhp-hr	0.00 g/bhp-hr
PM_{10} / $PM_{2.5}$	0.01 g/bhp-hr	0.01 g/bhp-hr	0.00 g/bhp-hr
Major toxics	DPM and diesel gaseous toxics	NG toxics (gaseous and particulate)	0

DPM: Diesel Particulate Matter
NG: Natural Gas

Compare NZE & ZE Truck Performance

	Conventional Diesel Truck 	Near Zero Emission Truck 	Zero Emission Truck 
			
Diesel Particulate Matter* (DPM) (lb/10,000 miles)	0.38	0	0
Nitrogen Oxides* (NO_X) (lb/10,000 miles)	54.4	5.4	0
Greenhouse Gases* (GHG) (MT CO_2e/10,000 miles)	11.3	11.3	0
Approx. number of Trucks per $100 million of Funding**	N/A	4,000 Trucks	1,520 Trucks

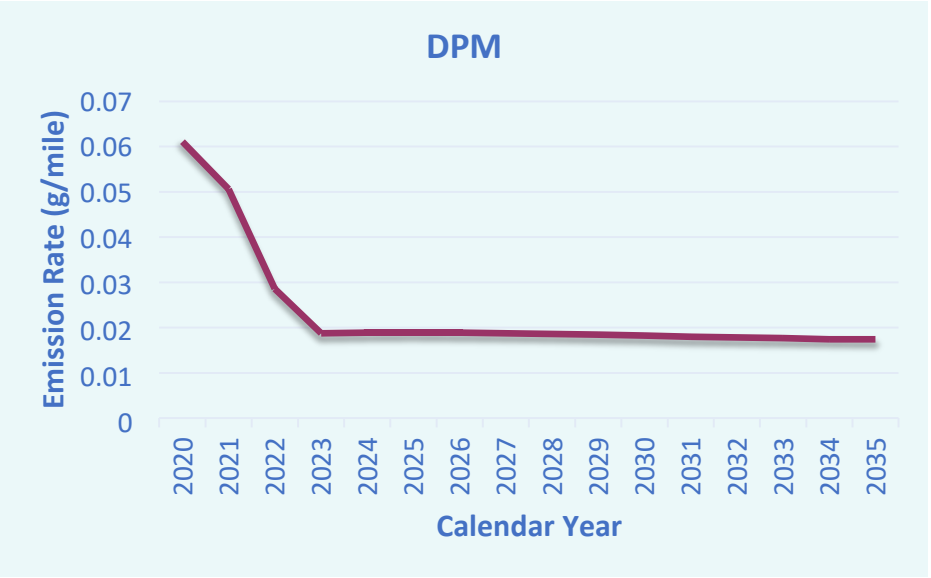
* Running Exhaust emission factors are based on EMFAC2017 for heavy-heavy duty trucks in Los Angeles County for calendar year 2035.

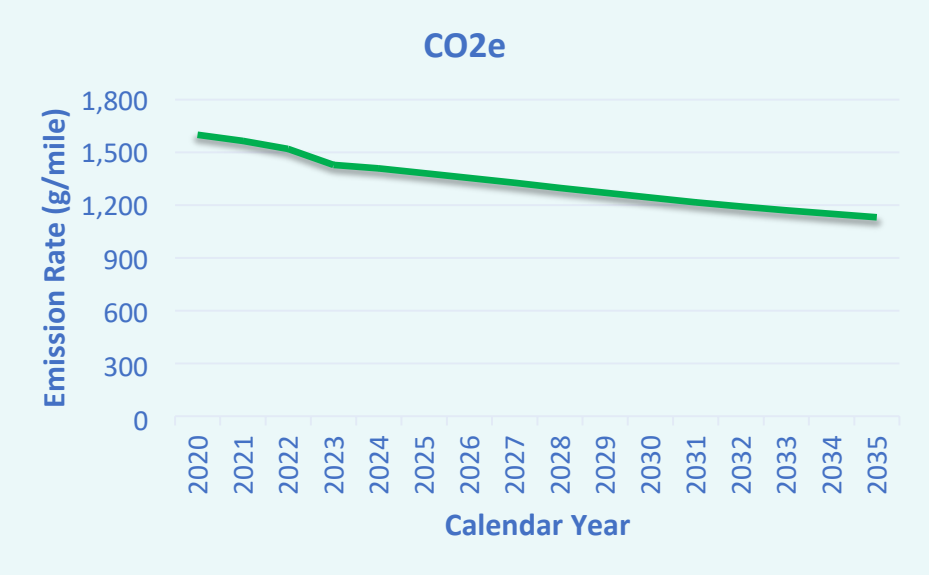
** Unit costs represent incremental, average costs of zero emissions trucks (battery electric, fuel cell vehicles) from I-710 Zero Emissions Truck Commercialization Study, assuming pre-2035 deployment (Calstart, 2013).

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Emission Rate Trends for Conventional Diesel Trucks

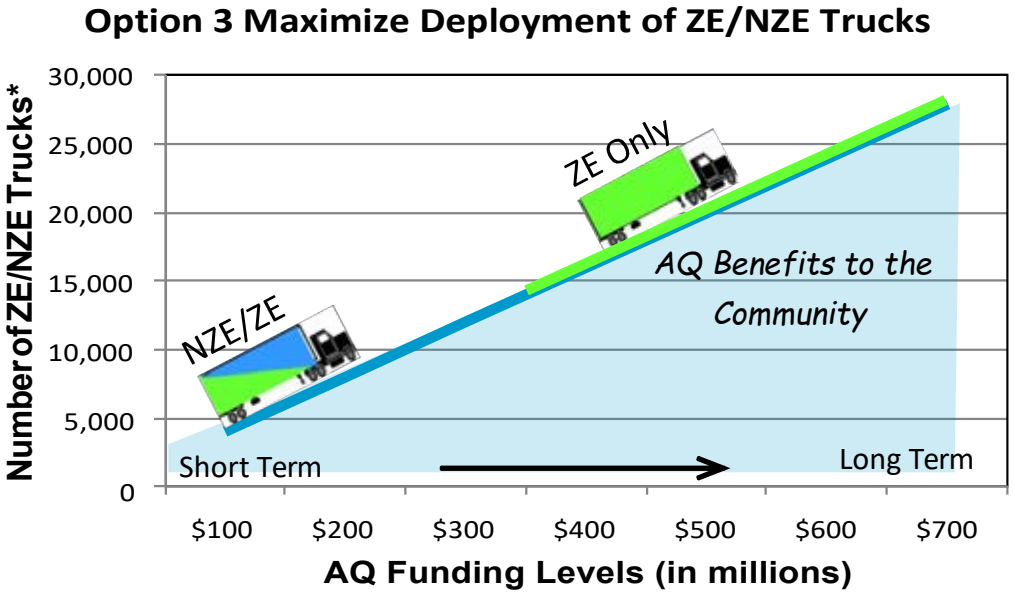






Metro

I-710 ZE/NZE Deployment Strategy



Maximize Number of "Clean Emissions" Trucks and Air Quality Benefits

- Begin with mix of ZE and NZE trucks in the near term
- Transition to ZE trucks as ZE trucks become commercially available and affordable.
- Partner with SCAQMD, EPA, CARB to pursue grant funding outside of the project programmed funds to support health-benefit investments.

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Appendix G: Calstart Presentation

State of Technology



- Rapid evolution underway – there is no one fixed answer, there will be multiple solutions in play and capabilities in five years will be much greater than today – multiple ways to get low NOx, low carbon good movement
- Tremendous pressure on diesel to meet fuel economy and air emissions standards at same time – 0.015-0.05 NOx coming
- Renewable fuels increasingly available due to LCFS but have production limits
- Energy storage (batteries) steadily decreasing in size, cost and increasing in capability – Class 8 regional trucks now in multiple demonstrations
- Growing global supply chain for ZE and NZE components and vehicles is leading to steady cost reductions



Most current strategy and investment plan: https://ww2.arb.ca.gov/sites/default/files/2019-09/fy1920fundingplan-appd.pdf

Infrastructure Deployment

- Transit buses are the learning platform for HD on ZE (battery electric and H2 fuel cell)
- Different model for users – fuel providers new, lead times for installation extended; requires more planning
- For battery electric, first infrastructure at depots/yards; will expand to regional charging “hubs” and along corridors;
- For H2, ideally need high-volume centralized sites with production on site or near
- Truck stop owners becoming interested in electricity and H2
- Public infrastructure decent for natural gas in key regions and some corridors; providers will build as demand grows



Most current strategy and investment plan: https://ww2.arb.ca.gov/sites/default/files/2019-09/fy1920fundingplan-appd.pdf

Trucking Industry Perspective

- Manufacturers
  - Realize transformation to lower carbon and emissions trucks and equipment coming – part of global market
  - Are investing in new tech and platforms and all OEMs have some ZE platforms coming by 2021/22
  - Concerned about market demand and acceptance and infrastructure on pace of change needed
- Users
  - Larger operations exploring business case and use profiles; TCO looks good in increasing # of applications; smaller operations need support and information
  - Concerned with first price; infrastructure timing and roll-out; service and support
  - Realize it will take a change in process – some looking at “all-in” lease covering infra, maintenance



Most current strategy and investment plan: https://ww2.arb.ca.gov/sites/default/files/2019-09/fy1920fundingplan-appd.pdf

Funding Sources

- In State
  - California has most aggressive funding and investment in US; maybe second only to China – need multi-year commitment
  - CARB (demos, pilots and early market purchase incentives – HVIP, CORE)
  - CalSTA – infrastructure and transit
  - CEC – infrastructure, fuel development
  - Utilities – infrastructure deployment
  - Ports – Clean Air Plan and investments (infrastructure)
  - Air districts – program state and local funds regionally for vehicle deployment incentives (Moyer, MSRC, 617, VW)
  - New local sales tax to raise funds for goods movement investments under consideration for So Cal
  - Metro – local tax measures added to federal
- Federal
  - DOE – demonstration and development
  - FHWA – corridors of national concern; clean corridors (infrastructure) – new STA could include funding of infrastructure
  - MARAD - harborcraft



Most current strategy and investment plan: https://ww2.arb.ca.gov/sites/default/files/2019-09/fy1920fundingplan-appd.pdf

Regulatory Environment

- **SB 32 (Climate Change) – cut GHG emissions 40% below 1990 levels by 2030; goal 80% GHG cut by 2050 – updated to carbon neutral by 2045**
- **Extreme Air Quality Non-attainment (LA Region, Central Valley) – deadlines in 2023 and 2031**
- Gov. Executive Order – 50% petroleum reduction by 2030
- Low Carbon Fuel Standard (LCFS) – secured through 2030
- Utilities – 50% renewable energy by 2030 – updated to 50% by 2026; 60% by 2030; 100% by 2045
- Carbon Cap and Trade – secured through 2030 (funding)
- **Clean Air Action Plan at San Pedro Ports – ZE operations by 2030; ZE trucks by 2035; differential rate structure for clean trucks by ~2023**
- **Advanced Clean Truck Rule – proposed rule by end of 2019; 3+% trucks ZEV starting 2023**
- Sustainable Freight Plan – being acted on and invested in

Table A-1. ZEV Sales Percentage Schedule

Model Year	Class 2b-3 Group*	Class 4-8 Group	Class 7-8 Tractors Group
2024	3%	7%	3%
2025	5%	9%	5%
2026	7%	11%	7%
2027	9%	13%	9%
2028	11%	24%	11%
2029	13%	37%	13%
2030 and beyond	15%	50%	15%

*Excluding pickup trucks until the 2027 model year

- CPUC rule making on M/HD EV infrastructure investments from utilities – approved ~$1B investment and rate recovery
- HVIP (Clean Truck and Bus Incentives) - $142m in 2019/20



Most current strategy and investment plan: https://ww2.arb.ca.gov/sites/default/files/2019-09/fy1920fundingplan-appd.pdf



Appendix H: Group Discussion Transcription

Los Angeles County
Metropolitan Transportation Authority
One Gateway Plaza
Los Angeles, CA 90012-2952
213.922.2000 Te
metro.net

Metro

Clean Truck Initiative Working Group – Group Discussion

State of Technology

Michael Cano, Metro: Let's start with the CNG folks. Who is comfortable talking about CNG in terms of what is the actual state of technology and availability of trucks and the standards that they are meeting?

Justin Loyear, Cummins Westport: As far as availability and scaling, Cummins makes about three million diesel and natural gas engines a year. Right now, we're into the 10 thousands in a year as far as natural gas is concerned. When you say scalability, writing a check and having them done, it can happen. We build the natural gas engines on the same lines that the diesel engines get built on. All the major truck manufacturers offer our engines; there was a big back log with trucks as far as purchasing ability, but that back log is gone now. There are no delays as far as trucks being built here. We're operating with very large customers right now like UPS, and LA Metro is one of our largest natural gas operating customers right now. I believe that they placed an order for about 400 buses and most of those are natural gas and we're in the process of building them right now. Natural gas is here, it's ready, available and scalable.

Bill Van Amburg, Calstart: To add a little more color to what Justin just said, last quarter we reached a milestone in southern California, that is we sold over 100 engines of these low NOx engines in the Ports of Long Beach and LA, a lot of that truck traffic travels up and down the 710 Corridor. These are all new engines that were mentioned earlier, the new technology that was introduced in 2018. There's been a strong market demand and we have support from our friends at AQMD with grant funding to make that possible because these trucks have to compete in the market against the existing fleet of various diesel trucks and it's hard to do no matter what type of clean truck it is. These are very expensive pieces of equipment and they have to compete with virtually free diesel trucks. By the end of this year, the Ports will have about 150 of these low NOx trucks. This is where we can legally haul 95,000 pounds on public roads which is heavier than the 80,000 pounds. It's a very exciting project.

Genevieve Guiliano, USC/METRANS: I have a question I'm hoping somebody in the room can answer. Is there anybody who can talk about the availability of hybrid technology trucks?

Enzo Bauk, US Hybrid: We attach the hybrid with a hand transmission that is low NOx, but we also produce hybrids that use more battery fuel. This is called series hybrid. Most of these technologies are running at the Port of Long Beach right now.

Marnie Primmer, FuturePorts: When we talk about technology, we are thinking about different aspects of technology. First, there is the engine technology. Then, there is also infrastructure that supports the deployment of alternative fuel vehicles in and around the ports around the 710 Corridor, in order to make those vehicles efficient and successful in implementing zero or a near-zero emissions strategy. Can we have someone talk about some of the infrastructure that is being put in place to support this technology?

Damon Hannaman, SoCal Edison: We have been doing some pilots with the Port of Long Beach, but right now we are really focused on our transport program. It is our offering to provide infrastructure to the energy-user customer. We will be installing infrastructure, pulling in our equipment, installing panels for the customer. It is what we call a make-ready position for electric vehicle servicing equipment. Right now, we are in the middle of two pilot programs for the Port of Long Beach. One is our battery-electric cranes, but we are finishing laying infrastructure support and tractors on a charging system for that. Outside of the terminal, we have a project with SSA Marine. They have vehicles that will be moving cargo from their terminals to locations where we will be providing infrastructure support there too. This program right now has about 60 applications. We would love to have this all taken care of within five years.

Steve Lantz, South Bay Council of Governments: When you talk about electrifying drayage and buses, are you using the same common facility? What is the business plan for this?

Damon Hannaman, SoCal Edison: We don't have a public location, but there are plans for truck stops. The program has a minimum requirement of two vehicles. We know that everyone is not going to transform their fleets immediately, so we are going to work with them and grow. We are working with transit agencies outside of this group and looking at shared sites, like regional depots. There might be some solutions there. We're looking at lower voltage over longer periods of time.

Marnie Primmer, FuturePorts: Are there innovations on the technology side for the infrastructure as well as the engine technology?

Damon Hannaman, SoCal Edison: We are not only looking at the lower power units, but we are also looking at 200 KW units at 48 volts, so you can go from a very short charge time to a longer charge time, and that's the major operation on these. A lot of the yard tractors we are looking at shorter charge times to meet the needs of their labor. We are looking at that for our drayage vehicles too.

Nancy Pfeffer, Gateway Cities Council of Governments: I heard you have an investment program of $350 million dollars, are your priorities driven simply by customer's requests?

Damon Hannaman, SoCal Edison: Customers have to apply for the program, and they have to own and operate the site they manage. We have not gotten into a public site yet, but I'm sure that's not far behind. We have two charging units to Port of LA and Port of Long Beach. There will be public charging at those locations.

Hilary Norton, CTC: As you're comparing technologies, are we also looking at where trucks are idling overnight and the air quality issues about those locations? We're addressing air quality issues in terms of infrastructure. Are we also quantifying the size of cargo space among all the different types of technologies? The cargo space is not the same. It's important as we are trying to take on these different comparisons. We need to look at gains and losses and how to make up the overall cost.

Matt Miyasato, AQMD: To answer Dr. Guiliano's question, hybrids are not what they were originally, but I think now they have gone all on electric and it's refreshing to see. Right now, we are working on developing different technologies for the DOE. When we talk about scales, it is great to have these prototypes to show what can be done, but we need to work with the big OEM's. The only technology that is commercially available that is on the market that's cost-effective is natural gas. It is about 90 percent cleaner. We would love to see something else. When we look at 10 years out, we're looking at more electric technology. In the meantime, its good to have smaller class sizes. We see that as a great asset if you have near zero or natural gases.

Joe Lyou, Coalition for Clean Air: This is a glass half empty, glass half full situation. There is no perfect solution at this point in time. We are looking at battery electric and natural gas solutions. As Matt says, nobody is looking at a combination. Nobody is going that route for production. There is a draw back no matter where you go. If its electric, it takes too long to charge, uses too much energy. But that is a glass half full point of view because cost of battery is going down, energy density is improving. All the issues are being addressed. Trucks are expensive and limiting and we know infrastructure is a problem. We are investing in that and all the problems can eventually go away. It would be nice to have a leader in natural gas. The cost will come down, so there are reasons to be optimistic. We need to invest in near zero emissions so we can solve these issues faster. We need a pathway to get to zero. Unless we invest, we can't achieve our goals.

Marnie Primmer, FuturePorts: I'm hearing it's an "all the above" , not an "either or" solution .

Joe Lyou, Coalition for Clean Air: In terms of policymakers, we have to invest in zero emissions to get there. In the short term, we have the Clean Air Act and requirements for that. The sanctions we face are not as heinous - it is going to be real and devastating. There won't be funding for those transportation projects. If we don't work at all levels, it is impossible to get where we need to get.

Luke Klipp, City of Long Beach: I wanted to note that hearing all the different numbers with technology and engines is challenging. What is the current state and expectation of how things are going to change? What would it look like with a specific investment? I have no idea what some of the numbers mean. Frankly, what I'm getting from this discussion is that we are far from an environment where there is an overwhelming amount of vehicles that are zero or near-zero emissions and I am not sure how we are going to get there.

Michael Cano, Metro: Thank you. As someone who has been in both worlds, the translation of this to policy makers is a significant task in itself. They need to understand recommendations in order to make decisions and what it all means.

Vincent Pellecchia, BYD Motors: When we are talking about moving freight, we are talking about different types of trucks. The trucks that BYD makes are the duty cycle and range that our customers ask for. In terms of drayage, it is shorter. For tractors, we are providing the amount of time customers need to complete duty cycles. There are no complaints of charge because we work with customers on what charge times they need. Electricity is becoming cleaner. We can produce at a significant scale, and BYD is commercially available.

Angelo Logan, Moving Forward: I wanted to say having a conversation about technology is premature until we have a better understanding of what the truck initiative is. Right now, it is all inclusive. We have no understanding of what the scope is. I want us to have a better understanding of what the scope and operations are. It will help us understand what infrastructure needs are and the range. Can we get a better understanding? Ours is regional and I want to know, how does that fit into the development of the 710 process and region at large?

Michael Cano, Metro: That's a fair question. The intent of this initiative is regional for LA County. We understand the strategies involved are different for Corridors. We have to tailor the approach to the need. We have truck initiatives to implement on the 710 Corridor. The 710 Corridor strategy may be different than the regional discussion. We have issues on the 57, 60, in the San Gabriel Valley, and many other areas. What we're trying to do now is get information out there and find solutions that can be applied on a regional basis as well as to meet the needs of specific corridors. The issues on the 710 overlap greatly, but we will keep that in mind. This is more gathering for the entire region so we can understand investments made for different areas and the region. We need scopes and a concept of what we are doing for different projects.

Person D: We should be keeping an eye on other technologies that we can be using. People are getting smarter about using battery storage, especially mobile charging sites. But also there are challenges in using battery storage and incurring excess weight costs.

Sue Dexter, USC/METRANS: I have recently been talking to drayage operators along the 710. I have asked, what is your range requirement between charges? They are saying between 200-300 miles. From an operation perspective, that is what I am hearing as a researcher.

Julia Lester, 710 Air Quality Consultant, Ramboll, then provided a brief presentation related to trucks and their impact on air quality. She began her presentation by discussing truck tailpipe emissions factors and provided a chart that showed pollutants of concern that are in heavy-duty truck tailpipe emissions and compared that to diesel trucks in 2035, ZE and NZE trucks. Ms. Lester noted that NZE trucks are 90% less NOx emissions than diesel trucks. The presentation then continued with a comparison of NZE and ZE truck performance, followed by emission rate trends for conventional diesel trucks. Participants were informed that there are more cost-effective benefits from NZE, especially as technology matures and moves toward ZE. Ms. Lester concluded by discussing the I-710 ZE/NZE Deployment Strategy. Following the presentation, participants were given the opportunity to ask questions and continue the group discussion.

*Please see **Appendix F, slides 14-18** for the Truck Information section of the presentation.*

The following comments relate to Ms. Lester's presentation.

Weston LaBar, Harbor Trucking Association: Where do you get the definition of a near-zero emissions engine?

Julia Lester, Ramboll: The near- zero emissions engine was first discussed in the 2016 Air Quality Management Plan, spearheaded with the Environmental Protection Agency. The definition at that time was it was the lowest demonstrated NOx level which was .02 or 90% reduction.

Weston LaBar, Harbor Trucking Association: To use .02 as a reduction is problematic at this point in time and it is not an acceptable legal definition. The EPA has not come up with that yet. We have argued that in order to enforce a near-zero emissions standard, there has to be some sort of approval by EPA, which at this point in time, there is not. With the port, they do not have the ability to move forward with a Clean Truck Program fee until there is a legal definition of what near-zero emissions standard is. Our understanding with the EPA is that they are working toward a federal standard which might be higher than .02. To move forward with that will create legal issues with those who try to pursue a standard without the legal authority to do so.

Sydney Vergis, California Air Resources Board: I would contend that we both have a very different legal opinion on that, as well as our ability to implement our own program.

Julia Lester, Ramboll: These are for incentive programs, and not legal a legal standard.

Kevin Maggay, SoCal Gas: I do not have legal opinion to share. I don't think the slide illustrates that natural gas engines operate much more efficiently versus diesel. That 90% reduction can be modified. The greenhouse gases shows the same number. This is not enough to get people to switch over. It's important to show the scale of the problem here.

Julia Lester, Ramboll: I do not disagree with what you are saying now, as this was prepared a couple of years ago and I know things have changed.

Bill Van Amburg, Calstart: Do everything you can now and plan for a transition later. You do not want to pin yourself in a corner but have a policy that encourages rapid change. We need to start building early versions. Players are already in the market and ramping up. Have duel path ways and have global commercial vehicles drive to zero. You can do it right now, but maybe over time; in the meantime, have the cleanest carbon fuels available now. Another thing is that the market structures can have beneficial results on user choice. POLA and POLB are looking at different pricing models. A clean truck will pay less and a dirtier truck will pay more. If I can do three or four turns a day instead of two, I will figure out how to make a cleaner truck work. That can be a powerful tool. CARB does have a voluntary low NOx standard. There are various pieces of California legislation already at voluntary low NOx standards.

Todd Campbell, Clean Energy Fuels: I wanted to touch on the argument that a standard has a short shelf life. Where we stand in a legal position of .02 that is going to move. It could be .015 and that would be good for breathers if it was. Thank you, Julia, for your presentation. The numbers that were used looked to be certification numbers. There are two ways to look at emissions- certification and lifecycle. We need to look more at life cycle. The grid does have impacts and there are emissions that are happening. I hope we do that. The second thing, more important than CNG and hybrid, we need to figure this out and how we build the technology. This is a real threat to our region. It is air pollution and diesel. It has been a great tool, but it is impacting peoples lives. Diesel emissions are five to nine times higher. This has been backed up by UC Riverside, and we need to pay attention when looking at certification numbers that were established in 2010. They are far worse now.

Matt Miyasato, AQMD: We are going to be faced with challenges. Weston and PMSA might not take to that. About 160,000 vehicles in the slide, what class of vehicles were covered?

Julia Lester, Ramboll: I believe the 160,000 was class eight.

Matt Schrap, California Fleet Solutions/ Velocity Vehicle Group: For understanding technology availability, it would be helpful to have a breakdown of how the truck classes work. We operate 1,500 vehicles in California. There are different weight classes. When I look at medium duty, there is more potential for near-zero emissions. This is there today and it is happening. ZE is beautiful, but there's some interim stuff that needs to happen. If my clients and Weston's members are not ready to step up to this, they are not going to do it. They will use diesel trucks until they are forced not to in 2035.

Waqas Rehman, LA County, First District: I heard there was a requirement by 2023. What kind of reduction will be required even with the 710 Corridor project? I need a better understanding of that.

Julia Lester, Ramboll: The zero-emissions and near zero emission meets the requirements under CEQA analysis. The AQMD people are the experts. The most difficult road is ozone standard. ZE or NZE get us where we need to be going.

Damon Hannaman, SoCal Edison: We are focused on reduction. We want emissions-free sources. Our plan is to be 80 percent emissions free by 2030 and completely free by 2045. We are processing 35,000 connections for systems. We are working with customers on infrastructure charging, but also working with energy restorage. There will be a mix of things, but we are working toward being completely emissions free.

Trucking Industry Perspective

After a short break, participants re-assembled to discuss the remaining topics.

Michael Cano, Metro: What are the challenges and goals for this program for it to be successful in trucking?

Weston LaBar, Harbor Trucking Association: Earlier I wanted to point out that there are certain requirements that should take place when we mandate things. From a member standpoint, we need the opportunity to have an even playing field. We have had members that have been procuring near-ZE vehicles, then if the standard got changed to 0.15, all of those folks invested in equipment would get penalized for buying equipment too early. That is why we need a definition that is enforced for these things. We have concerns but our goal is to work with stakeholders to have a sustainable corridor. We have two focuses. How are we a sustainable partner in the supply chain? How can we meet the economic demands of our customers? This needs to be a partnership.

Let me tell you our concerns because they are different than what you might think. There are short-term concerns over the technology and cost. We feel like between now and 2035 we can get an affordable ZE truck. We will demonstrate pilot programs. We have members that have ZE and NZE trucks. The feedback is that a ZE truck does not do what a diesel truck does. If you are an overweight company, public policy is a big issue. A battery truck is heavier. Unless we get an exemption, we are having issues. That puts us at a disadvantage. From a policy standpoint we are not able to meet those standards because of weight. We also have local municipalities that are putting into place, based on allocations from SB1, they are putting fees on the trucking industry. Carson is a great example. Carson gets the same amount of funding as Beverly Hills because they have the same population, however, the impact is different. The have an extended overweight corridor and they have turned to the trucking industry to fill the funding

gap. We now have to pay a road impact or mitigation fee. My members are now subjected to possibly paying a fee because they invested in what they thought was a solution. This needs to be clarified at a state level. It's not fair to put a fee on a truck just because it is heavier. We have members that procured ZE trucks. The ports will tell you trucking has been great at finding a path. We do not have a resolution to our issues. That is a disincentive to move toward ZE. We have weight issues, fee issues, fee issues on technologies, what is exempt? Are we going to be double taxed on the 710 Corridor? Is it intended that we will carry the load for the entire industry? That is unreasonable and unfair. There are policy issues that need to be addressed. I do want to thank Clean Energy and SoCal Gas for helping us. We are doing our part, but we have issues. I have to pay a 12% sales tax on a truck. We need to look at trucks that are made and bought in California. That is a huge opportunity. We can redeploy that work since the aerospace industry is dwindling. If there is something taken up by the State, lets create incentives. That handles the policy stuff.

For infrastructure, a huge concern is that we have members that have 250 trucks. They have their third BYD truck, but they are capped at three. We have smaller carriers that have no ability to get more electric infrastructure, so they are capped at two. We need some assemblance of what the rates are going to look like. My members need clarification and infrastructure to be ready if we are going to deploy technology. We have lessons learned from the first Clean Truck Program. We need more demo programs and pilot programs. If we mandate things that don't work, it will set things back. Member are testing ZE tech and EV solutions, but we need standards from the EV community as well. There are different concerns beyond cost or availability.

In all, we are looking for a partnership for a reasonable pathway. All we hear is that we are the dirty truckers killing everyone up and down the710 Corridor. We have invested more resources than anyone else has. The ports made us get more expensive equipment and we have less productivity. Whatever we can do to lower the cost and increase productivity, that allows us to be more profitable, make ports more competitive, and be beneficial for everyone. This is a multi-faceted approach. We want to have a sustainable solution, but we need environmental folks to work with us.

Bill Van Amburg, Calstart: How do we actually reward people who are buying clean technology? Originally, it was one of the goals for the 710. It is good to list problems and start tackling them. Let's take legislation out there and work together. I also agree to not pay taxes on incremental cost. These are doable actions if we can work together.

Weston LaBar, Harbor Trucking Association: I'm hoping there is going to be an openness to that. We find that we are often the target but get no credit for progress. If you bought something, a truck brought it. One of the real things we deal with is everyone wants their package within 24 hours but they don't want a warehouse located where they live. We would like to see a real study done on a lifecycle on manufacturing and energy standpoint. What is the true emissions of a truck? How is the power generated? I do not know the effects on climate change. We know what it does for air quality, but we need more academic studies. A lot of the matters are coming from brakes and tires, which are not surprising, but these are new things we need to understand and not just put a band-aid on it.

Kevin Maggay, SoCal Gas I think the weight is an issue and there should be exemptions. But this is not entirely fair for disadvantaged communities. I have cautions about weight exemptions.

Person F: I know we talked about technology getting better, but I have a question related to infrastructure. There are no standards for charging equipment. To buy a ZE truck, you need a charger. How do we overcome that challenge? Does the grid have the capacity for that many trucks on the road? Do we have capacity for that many charging ports? What do I do if there is a blackout? I will need to run my business. I think we need several different technologies and not just electric. Those are the big challenges that I see.

Damon Hannaman, SoCal Edison: There are a couple more things I want to touch on. Utilities have programs available to push electrification through that the municipalities do not have yet and that does need to be pushed. EVSC and SoCal Edison is helping push those standards through programs. Finally, we are developing demand response programs to help manage the cost after implementing new technology.

As far as the other concerns, wildfires and things like that have been specific to circuits and there are ways to be strategic in alerting customers at least an hour in advance. If there is a large blackout, electricity is not the only thing that will not be available. Gas and others will be affected as well. In terms of grid capacity, the state has flattened out in consumption due to energy-saving policies and there is a lot of room for growth.

Regulatory Environment

Todd Campbell, Clean Energy Fuels: DOE and natural gas can work in the state. We should never have a policy that punishes early adopters of new technology, because that is unfair. The industry has worked together for a weight exemption and we should work together toward a bill to eliminate the sales tax.

Alison Linder, SCAG: I just wanted to point out some of SCAG's interests and that is how to best support these emerging technologies. There needs to be more public charging infrastructure, but also how do we make that work?

Genevieve Guiliano, USC/METRANS: We should be encouraging the issue of standards at the State level. There is an opportunity to build in standards so that they lasts in the long run. Also, drayage is not the majority of trucking. There needs to be a broader market for this and we need an industry-wide perspective, or else the costs will never go down.

Sydney Vergis, California Air Resources Board: In any serious study on life-cycle analysis comparing diesel trucks to ZE trucks, the lowest NOx will be ZE. SB1 does mandate that any heavy-duty truck that is not compliant starting January 1 will have their DMV registration revoked. It does not matter what kind of long-haul you have, if it is not 2010 or newer then no registration. Appropriations for grant programs happen annually. Also the Advanced Clean Truck Regulation mandated that manufacturers Class 4-8 will have to fit a manual requirement. This is already currently in progress and there are more regulations in the works.

Wayne Nastri, AQMD: 2020 will be a big deal for us. Contingency measures will need to be submitted to the USEPA. If I were a pessimistic person, I would say that the federal government would most likely reject those contingency measures and start sanctions which will impact everyone in this room. If I were a skeptic, I would say that the current administration wants to punish California by seeing cargo in the ports divert. The administration might want to look at directing cargo to other US Ports. The largest emissions reduction now needs to be 45 percent lower NOx by 2023). SB-732 gives voters the decision to invest in technology if they want to or not. It has been calculated that $1-2 billion dollar a year will be spent in years to come just in conforming in technology.

Niki Okuk, Calstart: This is in response to Sydney's comment earlier, but 40 percent of trucks need to retire within three years. Truckers and owners will be scrambling to buy trucks. They will be looking to diesel, but now there is an opportunity to put the clean trucks on their radars.



Appendix I: Event Photos


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APPENDIX B

Memorandum of Understanding Creating the I-710 Corridor Air Quality Steering Committee

Memorandum of Understanding
Creating the I-710 Corridor Air Quality Steering Committee to Implement the I-710 Clean Truck Emissions Program

This Memorandum of Understanding Creating the I-710 Corridor Air Quality Steering Committee to Implement the I-710 Clean Truck Emissions Program ("MOU") is entered into between the Los Angeles County Metropolitan Transportation Authority ("Metro"), the California Department of Transportation ("Caltrans"), the Southern California Association of Governments ("SCAG"), and the Gateway Cities Council of Governments ("Gateway Cities COG"), (collectively the "Parties"). In order to implement the program contemplated herein, the Parties have voluntarily arrived at the following mutual understandings and agreements.

Recitals

WHEREAS, the I-710 Freeway is a major transportation corridor (I-710 Corridor) accommodating both daily commutes and significant freight movement to and from the Ports of Los Angeles and Long Beach.

WHEREAS, Caltrans and Metro have partnered with the Gateway Cities COG, the Ports of Los Angeles and Long Beach, the Cities along the I-710 Corridor, and community groups and worked with the California Air Resources Board (CARB), SCAG and the South Coast Air Quality Management District (SCAQMD) to identify features for the I-710 Corridor Project that improve mobility, support commerce, and address air quality and public health concerns in the corridor.

WHEREAS, Caltrans and Metro have prepared a draft Environmental Impact Statement and Environmental Impact Report ("EIS/EIR") for the I-710 Corridor Project. On March 1, 2018, the Metro Board of Directors identified Alternative 5C as the Locally Preferred Alternative ("LPA") for the I-710 Corridor Project. Caltrans has endorsed Metro's recommendation to advance Alternative 5C as the Preferred Alternative through the I-710 EIS/EIR. Alternative 5C includes the I-710 Zero Emission/Near Zero Emission Truck Technology Deployment Program (also known as the I-710 Clean Truck Emissions Program or "Program" herein) as a focused I-710 incentive program for heavy-duty trucks that meet or exceed CARB's 0.02 g/bhp-hr NOx standard (i.e., Zero Emission ("ZE")/Near Zero Emission ("NZE") trucks).

WHEREAS, within the greater project area, several agencies have published commitments to development of ZE/NZE trucks and understand that deployment will take a collaborative approach. The Parties will form a Steering Committee (and invite other agencies to join the Steering Committee) to implement the I-710 Clean Truck Emissions Program (which qualifies for and contributes to each agency's plans and goals as identified and summarized below and more comprehensibly described in Appendix A) in the I-710 Corridor to improve air quality for communities along the corridor.

a. SCAQMD: 2016 Air Quality Management Plan ("AQMP") seeks to leverage strong federal, state, and local partnerships to secure incentive funding and supporting infrastructure for early deployment of zero and near-zero technologies, inclusive of the mobile source sector, specifically heavy-duty trucks.

b. SCAG: 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy and 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy include a commitment to reduce emissions from transportation sources to comply with SB 375 by pledging to a broad deployment of zero and near zero emission transportation technologies especially in the goods movement system.

c. Port of Long Beach: The 2017 San Pedro Bay Ports Clean Air Action Plan ("CAAP") Update set the Port of LB on the path to zero emission goods movement, with a goal of transitioning terminal equipment to zero emissions by 2030 and on-road trucks by 2035.

d. Port of Los Angeles: The Zero Emission Technologies effort, including the San Pedro Bay Ports CAAP, Zero Emissions Roadmap commits to finding new ways to reduce emissions from ships, trains, trucks, harbor craft, and cargo handling equipment with the goal of eliminating all pollution from port-related operations. The Port Zero-Emissions White Paper outlines a specific plan of action including expanded development and testing of zero emission technologies, identification of new strategic funding opportunities, and new planning for long-term infrastructure development.

e. California Air Resources Board: The CARB Mobile Source Strategy: Further Deployment of Cleaner Technologies: On-Road Heavy-Duty Vehicles control measure in the 2016 AQMP and CARB's related State Implementation Plan ("SIP") submittal to USEPA commits to expanding and enhancing existing incentive funding and innovative funding programs for heavy-duty vehicles to increase the emphasis on and support for purchase of near-zero and zero emission equipment. Furthermore, full implementation of this CARB measure would require funding approximately 15,000 to 20,000 trucks per year over a seven year period, depending upon the availability of vehicles and engines certified to the ZE and/or NZE standards.

f. USEPA: The National ZEV Investment Plan commits to $1.2 billion (outside California) and $800 million (within California) for a total of $2 billion in funding over 10 years for zero emission vehicle ("ZEV") infrastructure, education, and access. The funding supports the increased adoption of ZEV technology by installing ZEV fueling infrastructure (for both electric- and hydrogen-powered cars), funding brand-neutral consumer awareness campaigns that will help grow the ZEV vehicle market, and investing in projects such as car-sharing programs that will increase access to ZEVs for all consumers in California, including those in lower-income and disadvantaged communities.

The Clean Diesel Program provides support for projects that protect human health and improve air quality by reducing harmful emissions from diesel engines. This program includes grants and rebates funded under the Diesel Emissions Reduction Act ("DERA"). The program solicited proposals nationwide for projects that achieve significant reductions in diesel emissions in terms of tons of pollution produced and exposure, particularly from fleets operating in areas designated by the Administrator as poor air quality areas. Eligible diesel vehicles, engines and equipment include school buses, class 5 – class 8 heavy-duty highway vehicles, locomotive engines, marine engines, nonroad engines, and equipment or vehicles used in construction, handling of

cargo (including at ports or airports), agriculture, mining or energy production (including stationary generators and pumps).

The Cleaner Trucks Initiative ("CTI") is a future planned rulemaking to update standards for nitrogen oxide ("NOx") emissions from highway heavy-duty trucks and engines. USEPA expects that heavy-duty trucks will be responsible for one-third of NOx emissions from transportation in 2025. Updating these standards will result in NOx reductions from mobile sources and could be one important way that allows areas across the U.S. to meet National Ambient Air Quality Standards for ozone and particulate matter.

WHEREAS, the Parties to this MOU wish to implement the I-710 Clean Truck Emissions Program (which qualifies for and contributes to each agency's plans and goals discussed above) in the I-710 Corridor to improve air quality for communities along the corridor. The purpose of this MOU is to clarify the Parties' interests, commitments, roles and responsibilities in the implementation of the I-710 Clean Truck Emissions Program.

THEREFORE, in furtherance of this MOU and incorporating by reference the above Recitals, the Parties agree as follows:

1.0 I-710 Clean Truck Emissions Program

The I-710 Phased-In Zero Emission Truck Technology Development Program (also known as the I-710 Clean Truck Emissions Program) is a component of Alternative 5C, also known as the Preferred Alternative ("PA"), for the I-710 Corridor Improvement Project. The Clean Truck Emissions Program would seek funding to assist individual owner-operators and privately owned truck fleets to subsidize the purchase of heavy duty zero or near zero emission trucks for use within the I-710 Corridor as well as seed money for electric charging stations and hydrogen refueling stations within the I-710 Corridor. The recharging/refueling stations would be constructed near locations served by heavy-duty vehicles such as intermodal terminals at the ports, rail yards, warehouses, and distribution centers. The Clean Truck Emissions Program is consistent with goals and strategies of the SCAQMD 2016 AQMP and the 2016 AQMP Funding Plan, as well as other similar clean technology incentive programs administered by the SCAQMD. The Clean Truck Emissions Program is also consistent with the plans, goals and strategies of the other Parties to this MOU as described above.

2.0 I-710 Corridor Air Quality Steering Committee

The Clean Truck Emissions Program addresses one element of the overall air quality/environmental improvement needs of the corridor. It will take a collaborative effort of all the Parties and Steering Committee members to be able to bring the Parties' plans and goals to fruition. Therefore, the Parties agree to form the I-710 Corridor Air Quality Steering Committee ("Committee"),that will consist of the Parties to this MOU and subsequent invited agencies, funding partners and industry engine/truck providers and users. The formation of the Committee will allow for a more comprehensive approach and faster implementation of the improvements/incentives, goals, plans and the Clean Truck Emissions Program. The Parties to this MOU agree to have a representative actively serve on the Committee.

3.0 Responsibilities of the Committee

The Committee will:

a. Further develop implementation details, including eligibility requirements, institutional arrangements, management, and administration for the Clean Truck Emissions Program.

b. Explore and identify funding opportunities, financial impact, and other implementation factors along with the development of a phasing plan for the achievement of the funding target developed by Caltrans and Metro for the Clean Truck Emissions Program, and the more comprehensive goals, based on existing and new potential funding, including local, state, federal and private resources. This includes collaborating with the Port of Long Beach, the Port of Los Angeles and the South Coast Air Quality Management District in identifying funding and project/program opportunities to implement.

c. Develop a strategy that outlines progressive transition to ZEVs in the corridor starting with the latest feasible and sustainable technologies.

d. Identify and evaluate other potential strategies to address the air quality concerns in the corridor.

e. Obtain or assist with obtaining funding to implement the Clean Truck Emissions Program and more comprehensive programs.

f. Issue quarterly reports on the development and progress toward the established and agreed upon goals. The progress reports will be presented to the governing bodies of the participating agencies and those of other agencies, as necessary.

4.0 TERM

4.1. The term of this MOU will begin on the Effective Date and shall continue until Program is fully implemented or until terminated by the Parties.

5.0 AMENDMENT

5.1. Amendment of any provision of this MOU shall be effective only if in writing and signed by authorized representatives of the Parties.

6.0 MISCELLANEOUS

6.1. Effective Date. The date the last signatory executes the MOU.

6.2. Assignment. The Parties shall not assign rights or responsibilities under this MOU without written permission from the remaining Parties.

6.3. Governing Law; Venue. This MOU, and any claims relating to or arising out of this MOU, whether arising in contract, tort, or otherwise, shall be governed and construed in accordance with the laws of the State of California, without giving effect to conflicts of laws and principles. Any action or proceeding between the

Parties relating to this MOU shall take place in the State of California in the County of Los Angeles.

6.4. Notices. Any notice required or permitted hereunder shall be in writing and shall be given to each Party's Designated Representative at the address below, or at such other address as the Party may hereafter specify in writing. Such notice shall be deemed given: upon personal delivery to the appropriate address; or three (3) business days after the date of mailing if sent by certified or registered mail; or one (1) business day after the date of deposit with a commercial courier service offering next business day service with confirmation of delivery. Each Party may change the Designated Representative as needed and shall provide notice to the other Parties by email of the change.

6.5. Dispute Resolution. In the event of any dispute between the Parties arising out of or in connection with this MOU, the Parties shall attempt, promptly and in good faith, to resolve any such dispute. If the Parties are unable to resolve any such dispute within a reasonable time (not to exceed thirty (30) days), then either Party may submit such dispute to non-binding mediation in Los Angeles County, California. Each Party shall bear its own expenses in connection with the mediation and share equally the fees and expenses of the mediator. If the dispute cannot be resolved through mediation within a reasonable time, then the Parties shall be free to pursue any right or remedy available to them under applicable law. The requirements of this section shall not preclude a Party from pursuing equitable relief, if delay in seeking such relief may result in irreparable harm to such Party.

6.6. Force Majeure. Subject to the express provisions of Section 4 (Term) above, no Party will be deemed in default of this MOU to the extent that performance of its obligations or attempts to cure any breach are delayed or prevented by reason of any event beyond the reasonable control of such Party, which event was not caused by such Party's negligence and could not have been avoided by such Party's commercially reasonable efforts (including, but not limited to, any act of God, fire, earthquake, natural disaster, accident, pandemic, labor unrest, civil disobedience, acts of terrorism or act of government), and provided further that such Party gives other Parties written notice thereof promptly and, in any event, within five (5) business days of discovery thereof, and thereafter uses its best efforts to continue to so perform or cure. In the event of such a force majeure event, the time for performance or cure will be extended for a period equal to the duration of the force majeure event plus reasonable repair timeframes, but in no event more than thirty (30) days unless agreed upon by the Parties.

6.7. No Third Party Beneficiaries. This MOU is executed and entered into by the Parties solely for their benefit, and for no other party (including without limitation any individual employee, officer, director, contractor or agent of a Party).

6.8. Counterparts. This MOU may be executed in one or more counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument.

6.9. Waiver; Modification. No amendment, modification, waiver or supplement shall be made with respect to this MOU or any provision of this MOU by course of

performance, or by the failure of a Party to object to a deviation from the terms of this MOU. Any waiver, modification or amendment of any provision of this MOU shall be effective only if in writing and signed by authorized representatives of the Parties.

6.10. Complete Understanding. This MOU and any attached exhibits, schedules and addenda, all of which are incorporated into this MOU by this reference, constitute the full and complete understanding and agreement of the Parties relating to the subject matter hereof and supersede all prior understandings and agreements relating to such subject matter. The provisions of this MOU shall prevail over any conflicting provisions in any purchase order, acceptance notice or other document generated by the Parties except as expressly provided in the preceding sentence.

7.0 EXECUTION

7.1. By their signatures below, each of the following represents that it has authority to execute this MOU and to bind the Party on whose behalf the execution is made.

IN WITNESS WHEREOF, this MOU has been executed by each of the Parties as of the date set forth next to such Party's authorized representative's signature.

[Signature Page to follow.]

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Signature of Individual

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Appendix A

Examples of Agencies Plans and Goals to Implement Clean Truck Emissions Technology

a. SCAQMD: 2016 Air Quality Management Plan (AQMP)

Page 5 Executive Summary: *Identify and secure significant funding for incentives to implement early deployment and commercialization of zero and near-zero technologies. The 2016 AQMP control strategy strongly relies on a transition to zero and near-zero emission technologies in the mobile source sector, including automobiles, transit buses, medium- and heavy-duty trucks, and off-road applications. The plan focuses on existing commercialized technologies and energy sources including their supporting infrastructure, along with newer technologies that are nearing commercialization based on recent demonstration programs and limited test markets. Prioritizing and expanding funding in Environmental Justice (EJ) areas will be sought.*

Page 4-3: *The 2016 AQMP relies strongly upon partnerships at federal, state, and local levels, seeking to expand existing collaborations and establish new coalitions. These strategies include aggressive new regulations and development of incentive funding and supporting infrastructure for early deployment of advanced control technologies… The SCAQMD will continue to support technology demonstration projects for both mobile and stationary sources and will work to create new or expanded funding opportunities for earlier deployment of cleaner technologies, thus contributing to a smooth transition to zero and near-zero emission technologies in the mobile and stationary source sectors.*

b. SCAG: 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

Page 107: *The 2016 RTP/SCS focuses on a two-pronged approach for achieving an efficient freight system that reduces environmental impacts. For the near term, the regional strategy supports the deployment of commercially available low-emission trucks and locomotives while centering on continued investments into improved system efficiencies. For example, the region envisions increased market penetration of technologies already in use, such as heavy-duty hybrid trucks and natural gas trucks. Applying ITS solutions to improve operational efficiency is also recommended. In the longer term, the strategy focuses on advancing technologies – taking critical steps now toward the phased implementation of a zero- and near zero-emission freight system. SCAG is cognizant of the need to incorporate evolving technologies with plans for new infrastructure. These include technologies to fuel vehicles, as well as to charge batteries and provide power. The plan to develop and deploy advanced technologies includes phased implementation, during which technology needs are defined, prototypes are tested and developed, and efforts are scaled up. The phases are summarized as follows:*

- *Phase 1: Project Scoping and Evaluation of Existing Work*
- *Phase 2: Evaluation, Development and Prototype Demonstrations*
- *Phase 3: Initial Deployment and Operational Demonstration*

- *Phase 4: Full-Scale Demonstrations and Commercial Deployment*

Page 43: *The* 2016 RTP/SCS Goods Movement Appendix *further details an updated environmental action plan for the goods movement system that builds on regional progress to date. This includes an Action Plan for Advancement of Zero-Emission Technology. As the four phases of the updated action plan are reviewed, the text also points to progress made related to specific action steps identified in 2012. The technology development and deployment plan is inclusive of all stages of technology development and deployment: beginning from an initial definition of key operational parameters, moving through prototype development, initial demonstration and evaluation, and eventually a staged roll-out. This start-to-finish framework is useful as there are many potential technologies available, each at different stages of readiness.*

Significant regional actions will be needed in order to realize this vision of a zero- and near zero-emission freight transportation system that meets regional objectives for long-term sustainability and can also meet the performance objectives required by industry. SCAG may act together with key partner agencies such as the Port of Los Angeles, the Port of Long Beach, the SCAQMD and the region's county transportation commissions to update and implement this plan as needed. Since SCAG adopted the 2012 RTP/SCS, the region has attracted outside funding and committed its own funding to support research and development efforts. Several studies have been conducted to date that contribute to "project scoping" by providing a greater understanding of the regional truck market and how truck use defines key performance parameters such as range and power needs. To evaluate and develop prototypes, three large-scale research and development efforts are underway to develop and test zero-emission trucks and charging infrastructure. These projects require continuing collaboration between original equipment manufacturers and public sector agencies.

c. Port of Long Beach

The 2017 San Pedro Bay Ports Clean Air Action Plan Update set the Port of Long Beach on the path to zero-emission goods movement, with a goal of transitioning terminal equipment to zero emissions by 2030 and on-road trucks by 2035.

d. Port of Los Angeles: Zero Emission Technologies

Although significant emissions reductions have been achieved under the San Pedro Bay Ports Clean Air Action Plan (CAAP), the Ports of Los Angeles and Long Beach (the San Pedro Bay Ports) continue to place great emphasis on green development, including a particular focus on zero emission technologies. Fostering the development of zero emission technologies is not only a key component of the Ports' plans to achieve their voluntary air quality goals, but it will also help to greatly reduce regional greenhouse gas emissions. To that effect, the San Pedro Bay Ports prepared a Zero-Emissions Roadmap designed to guide their actions going forward.

e. California Air Resources Board (CARB): 2016 AQMP Appendix IV-B CARB Mobile Source Strategy: "Further Deployment of Cleaner Technologies: On-Road Heavy-Duty Vehicles"

Page IV-B-50: *Overview: The goal of this proposed measure is to identify concepts that will further reduce NOx emissions. These concepts will include additional incentive funding and developing technologies to accelerate the penetration of near-zero and zero equipment beyond the rate of natural turnover achieved through implementation of the other proposed measures identified for on-road heavy-duty vehicles. This measure is specifically for the South Coast.*

Page IV-B-51: *Expand and enhance existing incentive and other innovative funding programs for heavy-duty vehicles to increase the emphasis on and support for purchase of near-zero and zero equipment. Funding mechanisms would target technologies that meet either lower NOx standards or are hybrid/zero-emission technologies. If incentive funding is the primary mechanism to achieve the scope of further technology deployment described above, funding would be required for approximately 15,000 to 20,000 trucks per year over a seven year period, depending upon the availability of zero-emission vehicles and engines certified to [C]ARB's optional low-NOx standards of 0.05 g/bhp-hr and 0.02 g/bhp-hr or other advanced hybrid/zero-emission technologies. The incentive funding required for this effort would go beyond the amount currently authorized for existing programs through 2023. Continued incentive funding post-2023 to further accelerate the deployment of trucks meeting or exceeding a 0.02 g/bhp-hr standard would provide additional reductions for 2031.*

Determination of the needed resources will be based on assessment of the incremental cost of technologies, cost effectiveness, and the type of financing mechanism employed. Funding needs and mechanisms will be identified working in collaboration with the District and other State agencies over the next several months.

f. USEPA: National ZEV Investment Plan

Page 3: *As required by Appendix C to the 2.0-Liter Partial Consent Decree entered by the U.S. District Court for the Northern District of California on October 25, 2016, Volkswagen Group of America is investing $1.2 billion over the next 10 years in zero emission vehicle (ZEV) infrastructure, education, and access outside California to support the increased adoption of ZEV technology in the United States, representing the largest commitment of its kind to date. Based on figures from the Council of Economic Advisors and U.S. Department of Transportation related to highway and transit investments, the $1.2 billion being spent here is estimated to support up to 15,000 jobs throughout the United States over the 10 year course of the investment [Dept. of Transportation, Council of Economic Advisors]. The first cycle of a separate investment of $800 million in California is the subject of the California ZEV Investment Plan, which was submitted to the California Air Resources Board on March 8.*

APPENDIX C

I-710 Clean Truck Program Roles and Responsibilities

I-710 Clean Truck Program Roles and Responsibilities

	Metro Staff / Metro Contractor (Program Administrator)	I-710 Steering Committee	Metro Board
Program Goals and Objectives	• Provides recommendations to the Metro Board for Program goals, objectives and implementation of the I-710 Clean Truck Program.	• Ensure Consistency with Board-approved Program goals and objectives as well as related Program milestones and Program NZE/ZE vehicle miles traveled (VMT) Targets.	• Consistent with the I-710 Corridor EIR/EIS and conformity finding, provide overall policy direction on Program goals, objectives and implementation through Board action. • Provide public forum to review and consider aspects of the I-710 Clean Truck Program, including public board meetings and reports on various aspects of and progress made on implementing the Program.
Program Development	• Develop and maintain Roster of I-710 Steering Committee Members • Provide Logistics and Support for Regular I-710 Steering Committee Meetings, including agendas and documentation of meeting minutes and actions • Develop Proposals and Present Options to the I-710 Steering Committee regarding: – Program Application Materials / Guidelines / Appendices – Program Eligibility Requirements, which must include specific Program Eligibility Criteria that have been developed to date (i.e., heavy-heavy duty trucks [Class 8] that adhere to accepted SCAQMD/CARB standards for zero emissions and near zero emissions trucks.) – Description of NZE/ZE Truck VMT Requirements and Procedures consistent with Program milestones established for each Deployment Phase – Description of Funding Incentives – Description of Program Penalties – Program NZE/ZE Truck Maintenance Requirements and Certifications – Description of Program Auditing Requirements – Program Educational, Recruiting, Promotional Materials for posting on the I-710 Clean Truck Program Website – Sample contract for recipients of Program funds – Criteria for partnering with agencies, local jurisdictions, non-profit, and private organizations to help facilitate the development of electric charging stations/hydrogen fueling stations within the I-710 Corridor. Criteria would include items such as proposed site location, feasibility, capacity, implementation timeline, operational efficacy, as well as the capability and financial reliability of the Partner Agency(s)/Organization(s). – Sample partner agreement for recipients of Program seed funding for electric charging stations/hydrogen refueling stations.	• Review, advise, and make recommendations on the I-710 Clean Truck Program Manual, including: – Program Application Materials / Guidelines / Appendices – Program Eligibility Requirements, which must include specific Program Eligibility Criteria that have been developed to date (i.e., heavy-heavy duty trucks [Class 8] that adhere to accepted SCAQMD/CARB standards for zero emissions and near zero emissions trucks.) – Minimum NZE/ZE Truck VMT Requirements and Procedures consistent with Program milestones established for each Deployment Phase – Funding Incentives – Program Penalties – Program NZE/ZE Truck Maintenance Requirements and Certifications – Program Auditing Requirements – Sample contract for recipients of Program funds • Review and advise on criteria for partnering with agencies, local jurisdictions, non-profit, and private organizations to help facilitate the development of electric charging stations/hydrogen fueling stations within the I-710 Corridor. Review sample partner agreement for recipients of Program seed funding for electric charging stations/hydrogen refueling stations. • Review Program Educational, Recruiting, Promotional Materials for posting on the I-710 Clean Truck Program Website • Make independent recommendations and provide suggestions to improve the Program, increase Program applicants and participation, and optimize NZE/ZE travel within the I-710 Corridor. • In addition to the I-710 Clean Truck Program, the I-710 Steering Committee will also share information to help inform the work of Metro's overall Countywide Clean Truck Initiative (CCTI), including sharing lessons learned and Program considerations for future phases of the CCTI.	• Review and offer input to the membership of the I-710 Steering Committee. • Approve the I-710 Clean Truck Program Manual, which includes: – Program Application Materials / Guidelines / Appendices – Program Eligibility Requirements, which must include specific Program Eligibility Criteria that have been developed to date (i.e., heavy-heavy duty trucks [Class 8] that adhere to accepted SCAQMD/CARB standards for zero emissions and near zero emissions trucks.) – Minimum NZE/ZE Truck VMT Requirements and Procedures – Funding Incentives – Program Penalties – Program NZE/ZE Truck Maintenance Requirements and Certifications – Program Auditing Requirements – Sample contract for recipients of Program funds • Approve criteria for partnering with agencies, local jurisdictions, non-profit, and private organizations to help facilitate the development of electric charging stations/hydrogen fueling stations within the I-710 Corridor.

* The I-710 Clean Truck Program is a voluntary, competitive grant award program. The delivery of Funding Incentives has yet to be determined and could take the form of voucher incentives towards the purchase of NZE/ZE heavy duty trucks or subsidized lease of NZE/ZE heavy duty trucks, among other delivery options.

	Metro Staff / Metro Contractor (Program Administrator)	I-710 Steering Committee	Metro Board
Program Implementation	• Provide regular reports on I-710 freeway programming and construction schedule, by major construction stage, to the I-710 Steering Committee. • Develop Proposals and Present Options to the I-710 Steering Committee regarding: – Timelines for Program Application/Award Process for Each Deployment Phase – Emerging or new NZE/ZE vehicle technologies that meet NZE/ZE standards per the Program Eligibility Criteria – Funding Incentives per ZE Truck for Each Deployment Phase – Funding Incentives per NZE Truck for Each Deployment Phase – Program Ranking Criteria & Weighting for Each Deployment Phase, which take into account factors such as: age and type of trucks to be displaced, history of travel in the I-710 Corridor, projected NZE/ZE travel in the I-710 Corridor, equity/disadvantaged community status, amount of requested incentive funds. – Need for additional Program Incentives or Penalties, if warranted • Conduct workshops to educate potential Program applicants. • Conduct call for applications for each NZE/ZE Truck Deployment Phase. • Review applications for completeness. Follow up with project applicants during application process. • Perform ranking analysis. Develop and present initial ranking recommendations for presentation to the I-710 Steering Committee. • Write staff reports to the Metro Board on recommended Program awards. • Implement contracts with Program funding recipients. Oversee disbursement of incentive funds or vouchers. • Identify partner agencies and organizations to facilitate the development of selected electric charging stations/hydrogen fueling stations within the I-710 Corridor. Develop proposals and make recommendations to the I-710 Steering Committee regarding award or contributions of Program seed funding for worthy projects per the Program criteria. Draft and implement Partner Agreements.	• Review, advise, and make recommendations on the I-710 Clean Truck Program, including: – Review and confirm NZE/ZE truck levels for *each* Deployment Phase up to full Program total of 4,000 NZE/ZE trucks – Review and confirm minimum NZE/ZE truck requirements for Program funding recipients to optimize NZE/ZE travel in the I-710 Corridor for each Deployment Phase – Timelines for Program Application/Award Process for Each Deployment Phase – Verify and provide input on Emerging or new NZE/ZE vehicle technologies that meet NZE/ZE standards per the Program Eligibility Criteria – Funding Incentives per ZE Truck for Each Deployment Phase – Funding Incentives per NZE Truck for Each Deployment Phase – Program Ranking Criteria & Weighting for Each Deployment Phase, which take into account factors such as: age and type of trucks to be displaced, history of travel in the I-710 Corridor, projected NZE/ZE travel in the I-710 Corridor, equity/disadvantaged community status, amount of requested incentive funds. – Need for additional Program Incentives or Penalties, if warranted. • Review, advise, and make recommendations for Program rankings of project applicants for Each Deployment Phase. • Make recommendations of Program awards for each Deployment Phase. • Review, advise, and make recommendations on proposals for the development of electrical charging stations/hydrogen refueling stations. Review conditions and terms of Partner Agreements.	• Upon completion of first I-710 Project construction stage (the Early Action Program), validate and approve additional I-710 Project construction stages. • Approval of scope and funding plan for each I-710 Project construction stage subsequent to the first one (the Early Action Program). The scope and funding plan for each construction stage helps determine the size, scope and schedule needed for each I-710 Clean Truck Program Deployment Phase. • Approval of funding and NZE/ZE truck deployment levels for each I-710 Clean Truck Program Deployment Phase. • Approval of Program subsidy awards for each I-710 Clean Truck Deployment Phase. • Approval of final proposals and award of seed funding for the development and implementation of selected electric charging stations/hydrogen fueling stations within the I-710 Corridor. Approval of Partner Agreements. • Award of contracts for Program Management support. • Review of staff reports on Program status (annual review). Includes communication to the public and major stakeholders (including EPA) as to the development and implementation of the Program on an annual basis.
Funding, Revenues, and Expenditures	• Develop annual Program budgets (capital and operating). • Work with the I-710 Steering Committee to identify funding opportunities. • Develop and submit grant proposals for regional, state, and federal funds. • Work with partner agencies and organizations to identify grant opportunities and funding sources to support the development and	• Review annual Program budgets (capital and operating). • Work with Metro/Program Administrator to identify funding opportunities for the Program. • Advise and provide input to support the development of grant proposals for regional, state, and federal funds. • Review fiscal plans for the I-710 Clean Truck Program for each Deployment Phase.	• Approval of fiscal plans and funding levels for the I-710 Clean Truck Program for each Deployment Phase. • Programming of approved $50 million as needed for the Program. • Approval of annual Program budgets (capital and operating).

* The I-710 Clean Truck Program is a voluntary, competitive grant award program. The delivery of Funding Incentives has yet to be determined and could take the form of voucher incentives towards the purchase of NZE/ZE heavy duty trucks or subsidized lease of NZE/ZE heavy duty trucks, among other delivery options.

	Metro Staff / Metro Contractor (Program Administrator)	I-710 Steering Committee	Metro Board
Funding, Revenues, and Expenditures (Continued)	implementation of electrical charging/hydrogen fueling stations for zero emissions trucks. • Develop fiscal plans for the I-710 Clean Truck Program for each Deployment Phase. • Program I-710 Clean Truck Program funds as part of the Metro budget process. • Program seed funding for electric charging station/hydrogen fueling station Partner Agreements as part of the Metro budget process. • Provide regular reports on Program Revenues and Expenditures to the Metro Board (annual) and to the I-710 Steering Committee (quarterly). • Update RTP/FTIP, as warranted, to reflect most current status of I-710 Clean Truck Program funding schedule.	• Review reports on Program Revenues and Expenditures on a regular (quarterly) basis.	
Tracking, Monitoring, and Reporting	• Establish Geo-Fencing Limits for the I-710 Corridor. • Procure/Disseminate Automated Vehicle Locator (AVL) Equipment or equivalent to Program Recipients, including third-party certification that equipment has been permanently affixed to the NZE/ZE vehicles. • Establish I-710 Clean Truck Program Website (also see Program Development above). • Establish and maintain NZE/ZE Truck VMT Tracking Database. • Track Program Awards. • Monitor NZE/ZE Truck VMT. Conduct 6-month check ins. Recommend actions and follow through with implementing measures for funding recipients who need to get back on track. • As warranted, develop proposals and options for corrective actions to demonstrate reasonable progress towards Program milestones for each deployment phase, including identification of need for additional Program incentives and/or penalties. • Monitor and enforce Partner Agreements for the development of electric charging stations/hydrogen fueling stations. • Write Staff Reports to the Metro Board regarding Program Status, including tracking of Program NZE/ZE Truck VMT.	• Provide Program oversight to ensure consistency with Program Objectives, Program Milestones, and Program NZE/ZE VMT Requirements. • Review status reports and monitor Program NZE/ZE VMT. • Review, advise, and make recommendations on corrective actions required to demonstrate reasonable progress towards Program milestones for each deployment phase.	• Review Program status, including tracking of Program NZE/ZE Truck VMT. • Authorize course corrections for the Program, as warranted, to ensure consistency with Program Objectives, Program Milestones, and Program NZE/ZE VMT targets.

* The I-710 Clean Truck Program is a voluntary, competitive grant award program. The delivery of Funding Incentives has yet to be determined and could take the form of voucher incentives towards the purchase of NZE/ZE heavy duty trucks or subsidized lease of NZE/ZE heavy duty trucks, among other delivery options.

APPENDIX D

I-710 Clean Truck Program
ZE/NZE Truck Vehicle Miles Traveled (VMT) Methodologies

FULL PROGRAM
4,000 ZE/NZE Trucks

<table>
<tr><th colspan="3">I-710 Corridor Project RDEIR/SDEIS
Response to Comments on “Not a Project of Air Quality Concern” Path</th></tr>
<tr><th>Reference</th><th>Comments</th><th>Responses</th></tr>
<tr><td>September 14, 2018 Teleconference Call Information Request
(Ben Machol)</td><td>Please provide additional information on the methodology that was used to develop the 24.64% ZE/NZE VMT estimate on I-710 for the 4,000 ZE/NZE trucks from the I-710 ZE/NZE Incentive Program.</td><td>The factors used to produce the VMT estimate for the I-710 ZE/NZE Truck Deployment Program were developed based on detailed discussions related to major I-710 truck markets and travel patterns in the I-710 Corridor. These discussions were conducted with SCAQMD staff over a period of several months between Feb. 2014 and May 2015. These steps are outlined as follows.
➢ The original focus for the I-710 ZE/NZE truck methodology was the proposed ZE/NZE Freight Corridor included in Alternative 7:
• The I-710 Travel Demand Forecast Model reports average daily vehicle trips for the Freight Corridor. Only trucks are eligible to use the Freight Corridor and the model assigned trucks to the Freight Corridor based on the relative attractiveness (in terms of travel times) of the Freight Corridor compared to other travel choices such as the adjacent I-710 general purpose lanes. The physical configuration of the Freight Corridor allowed for a straightforward examination of types of trips taking place, by truck travel market (Port trips, Transload-Secondary trips, Intermodal Domestic trips, and Pure Domestic trips [Light-, Medium- and Heavy-Heavies]), by average trip length.
• Using the above truck travel market analysis, Freight Corridor truck trips were converted into numbers of trucks (i.e., based on the average number of round trips per truck market type over the course of an average weekday). This step produced an estimate of the numbers of Freight Corridor trucks that would need to be incentivized to turn ZE/NZE for Alternative 7.
• The next step was to obtain an estimate endorsed by SCAQMD (with input from CARB) on a reliable, average unit incentive subsidy cost per ZE/NZE truck class [Light-, Medium-, and Heavy-Heavy] for the future year to utilize in the analysis. The unit costs were applied to the numbers of ZE/NZE trucks estimated for the Freight Corridor to produce a total ZE/NZE truck fleet cost estimate for Alternative 7.
➢ The same factors and steps developed for the Alternative 7 ZE/NZE methodology were utilized for the Preferred Alternative (Alternative 5C), only in reverse sequence:
• A target level cost for the ZE/NZE program component was established first ($100m). [Note: Alternative 5C was originally developed to be a more practical, less costly fall back option to Alternative 7. The internal target level of $100m for the ZE/NZE funding program was the maximum amount judged to be potentially feasible.]
• To optimize these program dollars and maximize air quality benefits, the funding for Alternative 5C was steered exclusively to Heavy-Heavy Duty Trucks (HHDT). The</td></tr>
</table>

		average unit ZE/NZE subsidy costs (average of $25k per Heavy-Heavy Duty Truck) developed for Alternative 7 were applied to the $100 m Alternative 5C target level ZE/NZE program cost to estimate the number of ZE/NZE trucks for Alternative 5C. [$1,000,000 Program / $25,000 per Truck ZE/NZE Incentive Cost = 4,000 ZE/NZE Trucks] • Using the same conversion factors developed for Alternative 7, the numbers of trucks were converted from trucks into average daily truck trips according to the respective major truck travel markets (Port trips, Transload-Secondary trips, Intermodal Domestic trips, and Pure Domestic trips). Further, since the subsidies would be provided to recipients on a VMT basis (i.e., eligible trucks would need to demonstrate that they traveled frequently on I-710 for sufficient distances), an estimate of the minimum VMT requirement for eligibility was established for the Program that aligned with the average trip lengths on I-710 for the high propensity truck travel markets (i.e., the Port trips, Transload-Secondary trips, Intermodal Domestic trips) as well as those Pure Domestic Heavy-Heavy Duty trips that would also make more than one roundtrip per day on I-710 on average. This is because even though the I-710 Corridor is over 19 miles in length per direction, not all of the trucks travel the full length of the Corridor. [No. of Round Trips per Truck per Weekday x No. of Directional Trips per Round Trip x Average Directional Trip Length x No. of ZE/NZE Trucks = Total Estimated ZE/NZE I-710 HHD Truck VMT. Or, 2 x 2 x 10.625 x 4,000 = 170,000.] • In order to estimate the percentage of I-710 HHD Truck VMT that would be ZE/NZE, total Daily HHD Truck VMT was extracted from the I-710 Travel Demand Forecast Model for Alternative 5C for the I-710 freeway traffic links only. [I-710 ZE/NZE HHDT VMT / I-710 HHDT VMT = I-710 ZE/NZE HHDT VMT Percentage. Or 170,000 / 689,925 = 24.64%.] • This last step – the I-710 ZE/NZE Program VMT conversion to the 24.64 percentage – was necessary for Alternative 5C, but not for Alternative 7. Since it is a funding program, the specific, future distribution of these ZE/NZE trips (i.e., exactly which individual trucks will be funded or the precise mix of the ZE/NZE fleet among the potential truck travel markets or where each truck enters and exits I-710) cannot be known; only that the funding program will produce a certain share or level of ZE/NZE VMT on I-710 based on the program requirements. This percentage was applied even-handedly to the Heavy-Heavy Duty Truck traffic – as only Heavy-Heavy Duty Trucks are eligible for program funds – to provide the final ZE/NZE estimates for I-710 traffic for the proposed project.

Table 1. Heavy Duty Truck Traffic[1]
I-710 Corridor Project

Segment	I-710 Corridor Truck Volumes - Heavy Duty Trucks[1] (Annual Average Daily Traffic)											
	2035 No Build				2035 Alternative 5C				Change in AADT Volumes (Increase / Decrease)			
		Non-Diesel[2]				Non-Diesel[2]				Non-Diesel[2]		
	Diesel[2]	Gasoline[3]	ZE/NZE	Total[4]	Diesel[2]	Gasoline[3]	ZE/NZE[5]	Total[4]	Diesel[2]	Gasoline[3]	ZE/NZE[5]	Total[4]
SR-60 to I-10	17,702	1,940	0	19,642	15,657	1,840	3,711	21,208	*-2,045*	*-100*	3,711	1,566
I-5 to SR-60	27,176	2,540	0	29,716	26,038	2,633	6,657	35,328	*-1,138*	93	6,657	5,612
Washington Blvd. to I-5	29,961	2,706	0	32,667	28,190	2,807	7,238	38,235	*-1,771*	101	7,238	5,568
Atlantic Blvd to Washington Blvd	30,926	2,712	0	33,638	27,963	2,784	7,086	37,833	*-2,963*	72	7,086	4,195
Florence Ave to Atlantic Blvd	33,549	2,576	0	36,125	31,237	2,725	8,415	42,377	*-2,312*	149	8,415	6,252
Firestone Blvd to Florence Ave	34,962	2,531	0	37,493	31,977	2,644	8,695	43,316	*-2,985*	113	8,695	5,823
Imperial Hwy to Firestone Blvd	35,626	2,405	0	38,031	32,105	2,470	8,848	43,423	*-3,521*	65	8,848	5,392
I-105 to Imperial Hwy	36,541	2,404	0	38,945	32,591	2,452	9,002	44,045	*-3,950*	48	9,002	5,100
Rosecrans Ave to I-105	50,281	2,520	0	52,801	40,365	2,406	11,610	54,381	*-9,916*	*-114*	11,610	1,580
Alondra Blvd to Rosecrans Ave	51,252	2,600	0	53,852	41,416	2,513	11,856	55,785	*-9,836*	*-87*	11,856	1,933
SR-91 to Alondra Blvd	49,851	2,438	0	52,289	40,106	2,333	11,571	54,010	*-9,745*	*-105*	11,571	1,721
Long Beach Blvd to SR-91	53,280	1,962	0	55,242	44,645	2,040	13,183	59,868	*-8,635*	78	13,183	4,626
Del Amo Blvd to Long Beach Blvd	52,936	1,855	0	54,791	44,772	1,951	13,279	60,002	*-8,164*	96	13,279	5,211
I-405 to Del Amo Blvd	52,092	1,589	0	53,681	44,026	1,685	13,116	58,827	*-8,066*	96	13,116	5,146
Willow St to I-405	50,712	892	0	51,604	43,888	1,062	13,508	58,458	*-6,824*	170	13,508	6,854
Pacific Coast Hwy to Willow St.	50,555	865	0	51,420	43,771	1,013	13,523	58,307	*-6,784*	148	13,523	6,887
Anaheim St to Pacific Coast Hwy	48,340	809	0	49,149	38,714	773	12,045	51,532	*-9,626*	*-36*	12,045	2,383
Pico Ave to Anaheim St	46,573	403	0	46,976	34,412	678	10,695	45,785	*-12,161*	275	10,695	*-1,191*
South of Pico Ave	38,546	265	0	38,811	31,129	470	9,796	41,395	*-7,417*	205	9,796	2,584

Notes:
[1] Total truck trips include heavy duty truck vehicle classes (including port trucks).
[2] The share of diesel/non-diesel trips by fuel type is estimated using the EMFAC2014 vehicle fleet distribution determined from the EMFAC2014 output for VMT in Los Angeles County in 2035.
[3] Gasoline truck trips also include natural gas truck trips that do not meet the standard of a ZE/NZE vehicle.
[4] Total truck trips are the sum of diesel, gasoline, natural gas, and ZE/NZE trips.
[5] ZE/NZE trips under Alternative 5C include the I-710 ZE/NZE Truck Deployment Program.

Abbreviations:
ZE/NZE - zero emission/near-zero emission
AADT - annual average daily traffic

Diesel Truck Trips on I-710

(Daily, Year 2035)

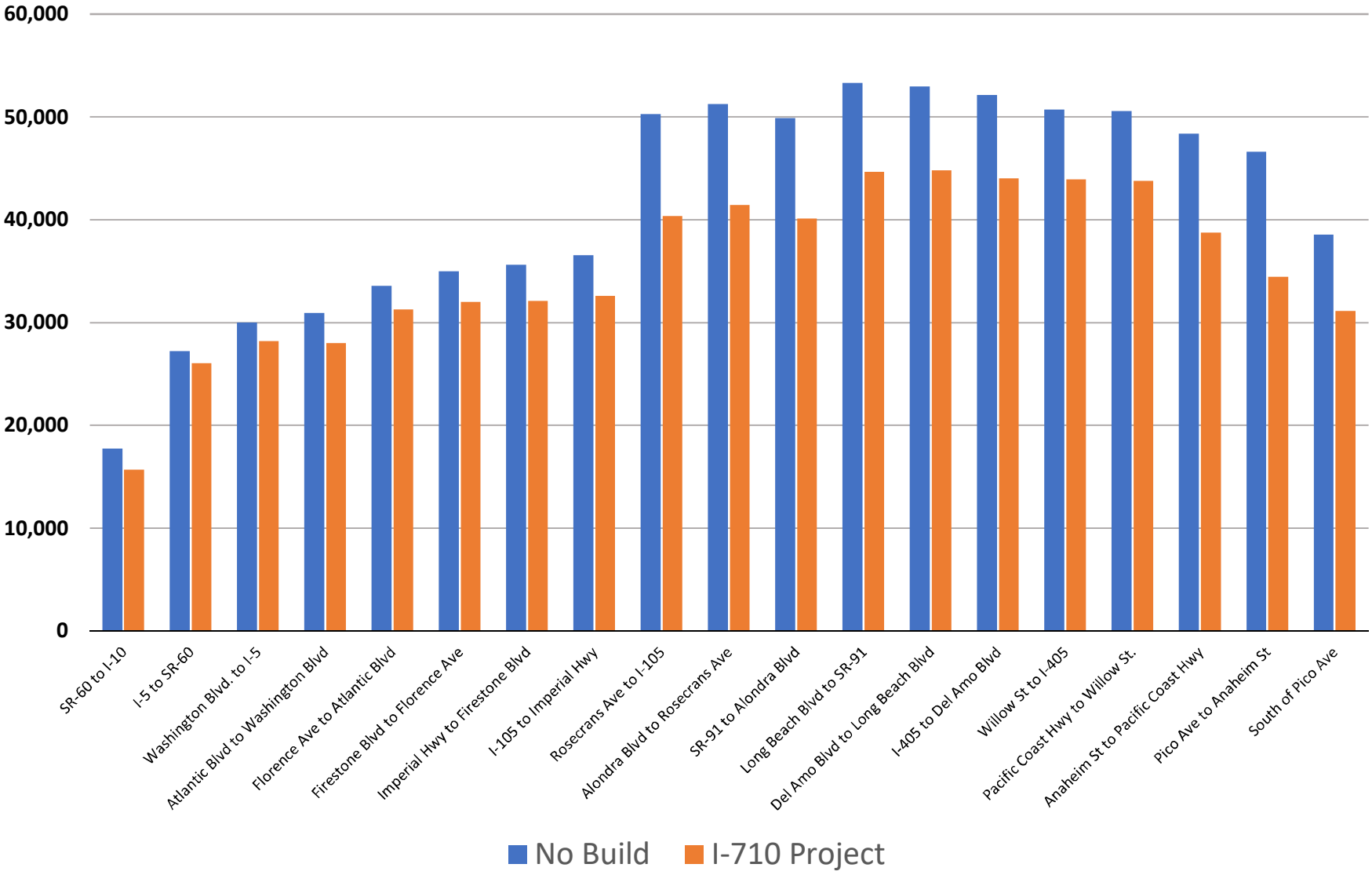


Table 2. Total Traffic[1]
I-710 Corridor Project

Segment	I-710 Corridor Traffic Volumes - All Vehicle Types[1] (Annual Average Daily Traffic)											
	2035 No Build				2035 Alternative 5C				Change in AADT Volumes (Increase / Decrease)			
		Non-Diesel[2]				Non-Diesel[2]				Non-Diesel[2]		
	Diesel[2]	Gasoline[3]	ZE/NZE[4]	Total[5]	Diesel[2]	Gasoline[3]	ZE/NZE[4]	Total[5]	Diesel[2]	Gasoline[3]	ZE/NZE[4]	Total[5]
SR-60 to I-10	19,922	155,166	13,832	188,920	17,913	157,577	17,770	193,260	*-2,009*	2,411	3,938	4,340
I-5 to SR-60	29,548	166,261	14,779	210,588	28,761	190,658	23,630	243,049	*-787*	24,397	8,851	32,461
Washington Blvd. to I-5	32,600	184,920	16,449	233,969	31,169	208,455	25,802	265,426	*-1,431*	23,535	9,353	31,457
Atlantic Blvd to Washington Blvd	33,575	185,627	16,512	235,714	30,890	204,835	25,325	261,050	*-2,685*	19,208	8,813	25,336
Florence Ave to Atlantic Blvd	36,038	174,450	15,515	226,003	34,195	206,918	26,848	267,961	*-1,843*	32,468	11,333	41,958
Firestone Blvd to Florence Ave	37,550	181,160	16,125	234,835	34,987	210,416	27,451	272,854	*-2,563*	29,256	11,326	38,019
Imperial Hwy to Firestone Blvd	38,290	186,368	16,607	241,265	35,136	211,767	27,742	274,645	*-3,154*	25,399	11,135	33,380
I-105 to Imperial Hwy	39,394	199,367	17,780	256,541	35,749	220,429	28,679	284,857	*-3,645*	21,062	10,899	28,316
Rosecrans Ave to I-105	52,822	177,960	15,837	246,619	43,020	185,688	28,155	256,863	*-9,802*	7,728	12,318	10,244
Alondra Blvd to Rosecrans Ave	54,055	196,106	17,468	267,629	44,429	210,531	30,634	285,594	*-9,626*	14,425	13,166	17,965
SR-91 to Alondra Blvd	52,365	175,969	15,665	243,999	42,725	183,084	27,888	253,697	*-9,640*	7,115	12,223	9,698
Long Beach Blvd to SR-91	55,385	147,294	13,119	215,798	47,125	173,229	28,636	248,990	*-8,260*	25,935	15,517	33,192
Del Amo Blvd to Long Beach Blvd	54,947	140,736	12,537	208,220	47,089	161,892	27,717	236,698	*-7,858*	21,156	15,180	28,478
I-405 to Del Amo Blvd	54,087	139,315	12,433	205,835	46,219	153,101	26,785	226,105	*-7,868*	13,786	14,352	20,270
Willow St to I-405	52,341	113,373	10,154	175,868	45,955	143,735	26,387	216,077	*-6,386*	30,362	16,233	40,209
Pacific Coast Hwy to Willow St.	52,012	101,494	9,084	162,590	45,575	125,571	24,767	195,913	*-6,437*	24,077	15,683	33,323
Anaheim St to Pacific Coast Hwy	49,611	88,526	7,918	146,055	40,131	98,630	20,879	159,640	*-9,480*	10,104	12,961	13,585
Pico Ave to Anaheim St	47,667	75,945	6,819	130,431	35,631	84,789	18,288	138,708	*-12,036*	8,844	11,469	8,277
South of Pico Ave	38,682	9,624	845	49,151	31,293	11,768	10,816	53,877	*-7,389*	2,144	9,971	4,726

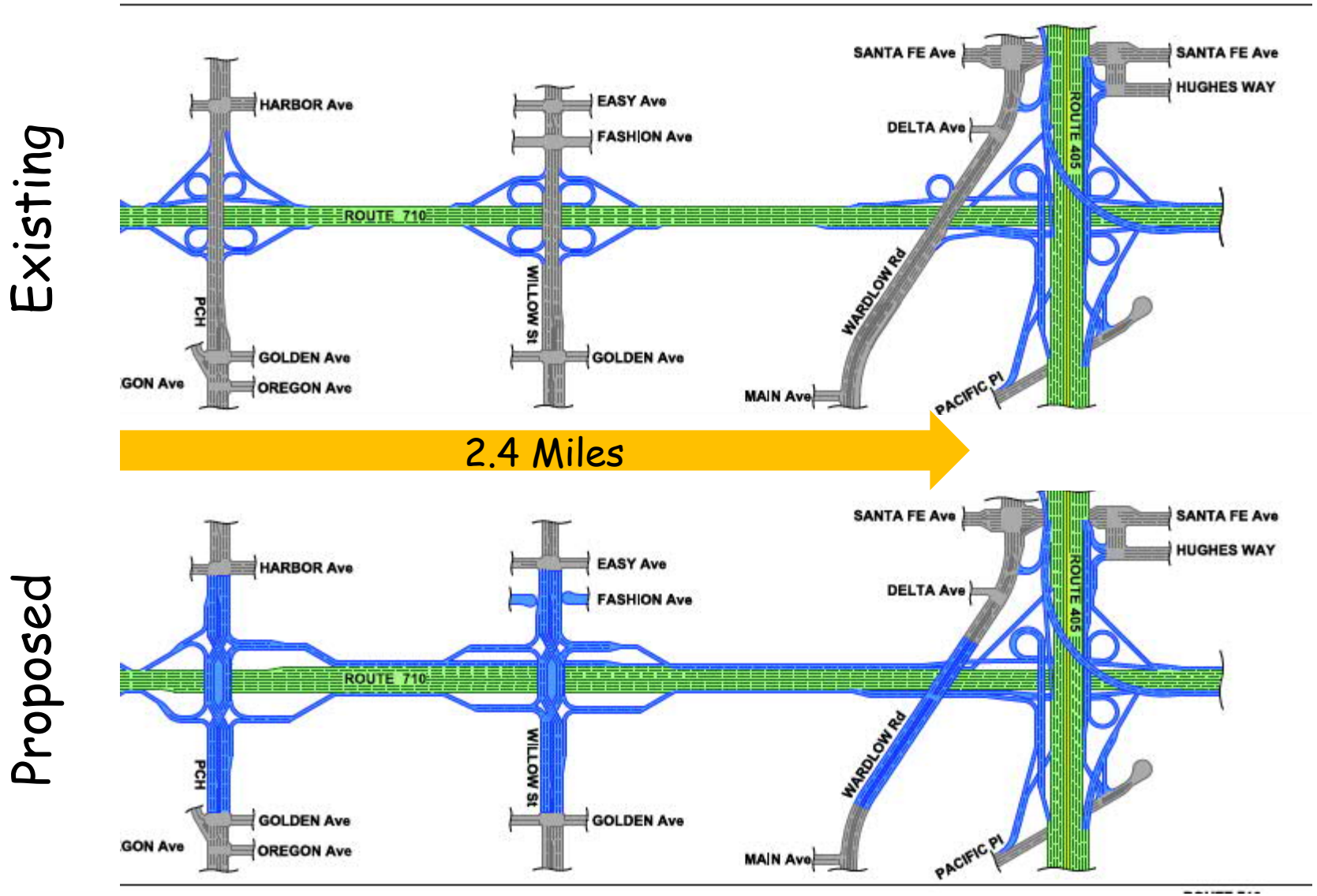
Notes:
[1] Total vehicle trips include drive alone autos/shared ride vehicles and heavy duty truck vehicle classes (including port trucks).
[2] The share of diesel/non-diesel trips by fuel type is estimated using the EMFAC2014 vehicle fleet distribution determined from the EMFAC2014 output for VMT in Los Angeles County in 2035.
[3] Gasoline vehicle trips also include natural gas vehicle trips that do not meet the standard of a ZE/NZE vehicle.
[4] ZE/NZE vehicle trips include electric automobiles. Under Alternative 5C, ZE/NZE trips also include the I-710 ZE/NZE Truck Deployment Program.
[5] Total trips are the sum of diesel, gasoline, natural gas, and ZE/NZE trips.

Abbreviations:
ZE/NZE - zero emission/near-zero emission
AADT - annual average daily traffic

APPENDIX E

Schematics for Potential Construction Segments Initial Construction Stage – Early Action Program (EAP)

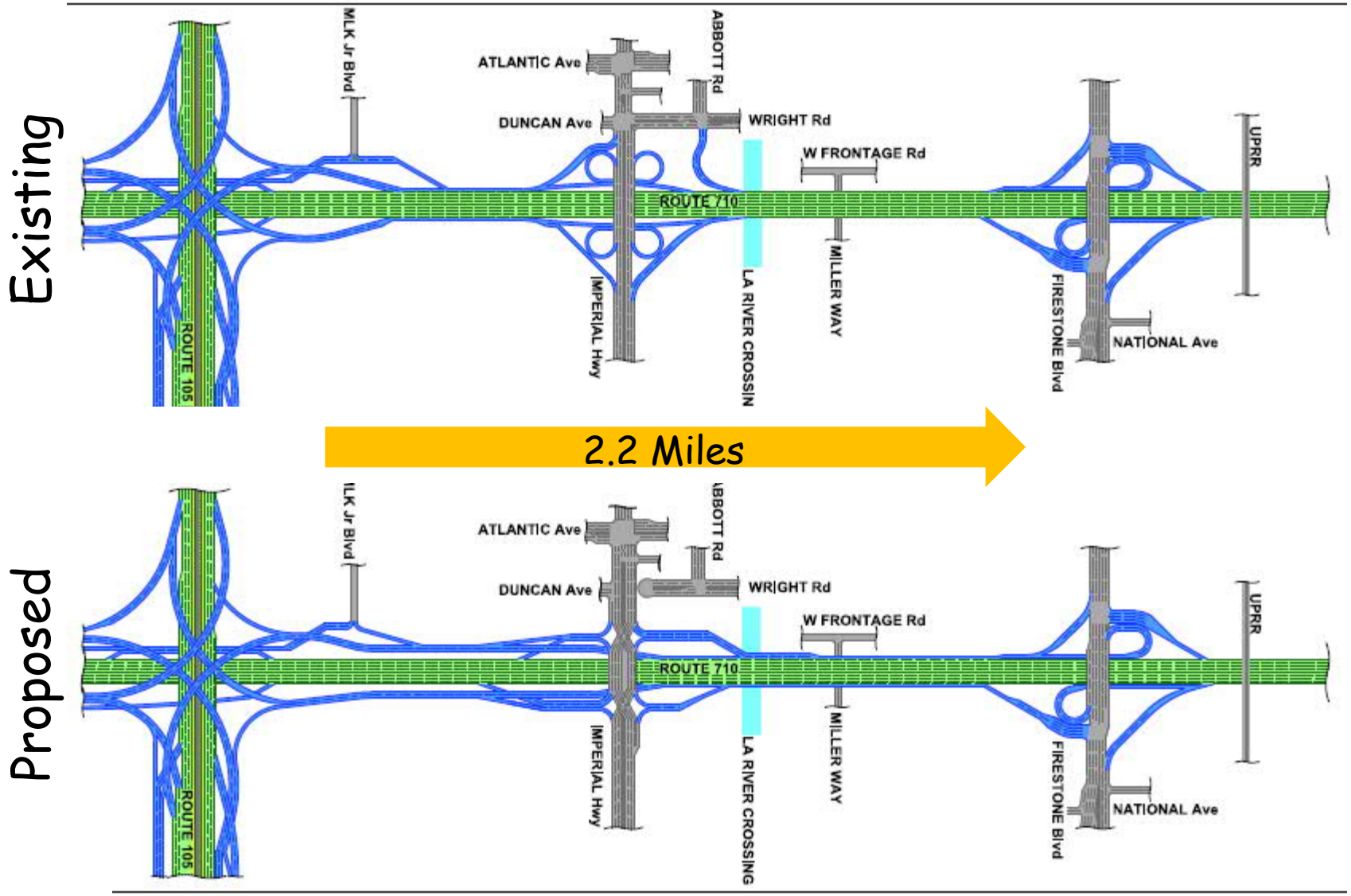
I-710: PCH to I-405



I-710: Del Amo to SR-91

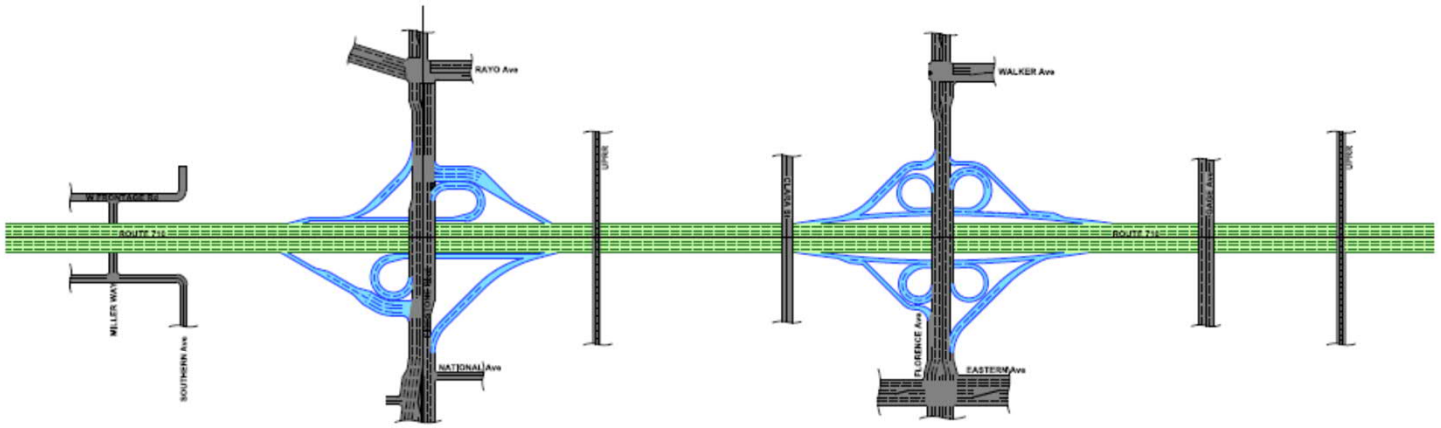


I-710: I-105 to Firestone



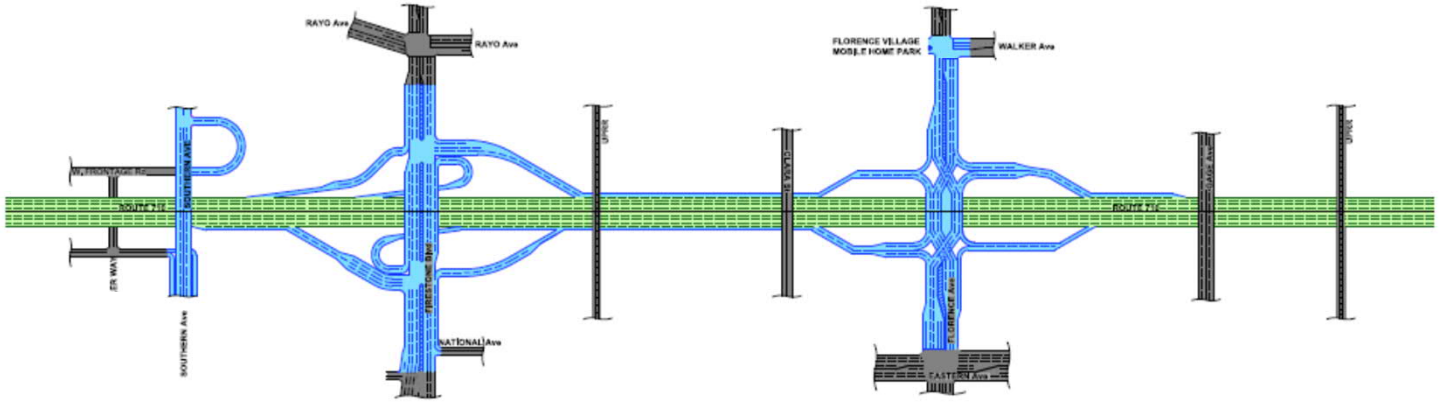
I-710: Firestone to Florence

Existing



2.2 Miles

Proposed



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