APPENDIX M
Transportation Analysis

M-1 Traffic Assessment

670 Mesquit

Transportation Assessment *Draft*

PREPARED BY
FEHR & PEERS
600 Wilshire Blvd, Suite 1050
Los Angeles, CA
213.261.3050

670 Mesquit Street
Los Angeles, CA 90021

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1. INTRODUCTION

This report documents the assumptions, methodologies, and findings of a study conducted by Fehr & Peers to evaluate the potential transportation impacts of the proposed project located at 670 Mesquit Street (Project), situated east and west of Mesquit Street, south of the Sixth Street Viaduct, north of the 7th Street Bridge, and west of the Los Angeles River in the City of Los Angeles. The Project is located on Lots 246-252 and 265-279 of the Wingerter Tract and Lots 76-92 of the Goodwin Tract in City Council District 14. This study was conducted as part of the environmental impact report (EIR) for the proposed Project.

1.1 Project Description

The proposed Project is in the Arts District of Downtown Los Angeles. The Project site flanks Mesquit Street between 6th Street and 7th Street and encompasses eight parcels, including a portion of the Mesquit Street right-of-way (ROW) proposed for vacation. The location of the Project site and the intersections studied in the site access analysis are presented in **Figure 1**.

The Project site is currently developed with existing one- to four-story cold storage facilities consisting of warehouse and wholesale commercial buildings and associated office space, loading docks, and seven surface parking spaces. The existing buildings total approximately 205,393 gross square feet (sf) of floor area.

The Project would remove the existing on-site cold storage facilities and redevelop the Project site with a mix of uses totaling approximately 1,792,103 sf of floor area on seven proposed ground lots. The development would include creative office space (approximately 944,055 sf); 308 multifamily residential housing units; a hotel (236 rooms); and a range of commercial uses including a grocery store (approximately 28,054 sf) and food hall (approximately 28,858 sf); restaurants (approximately 89,576 sf); studio/event/ gallery space and a potential museum (approximately 93,617 sf); a gym (approximately 62,148 sf); and general retail (approximately 79,240 sf). The Project would also include at- and above-grade landscaped open space and would provide vehicle and bicycle parking spaces to support the proposed on-site uses in accordance with the proposed Mesquit Specific Plan. The Project would provide a minimum of 2,000 traditional vehicle parking spaces, with parking for up to 3,500 vehicles, using a combination of automated parking systems, valet parking, or other efficiency parking methods. In addition, a minimum of 288 short-term and 519 long-term bicycle parking spaces would be provided. A rooftop heliport is also proposed for emergency and occasional residential and office uses, providing an amenity for the Project's residents, hotel guests, office workers, and visitors.

The Project also proposes significant public benefit commitments related to new transportation and pedestrian improvements and the livability of the neighborhood. It would support the development of new transit connections for the Arts District, the growth of multi-modal transportation infrastructure, and help foster engagement with the Los Angeles River through the provision of landscaped open space. The Project would create multi-modal access directly from the 7th Street Bridge via the southerly River Balcony to an

elevated pedestrian walkway, as well as via the driveway connecting the 7th Street Bridge and Building 5 near the southwestern corner of the Project site. Additionally, the Project proposes a new pedestrian crosswalk on the 7th Street Bridge to provide pedestrian access to the Project site near Building 4. The Project may also include the construction of a pedestrian amenity deck over the railway property adjacent to the Project site to the east; the deck would replace the elevated pedestrian walkway along the eastern edge of the Project site and extend the pedestrian oriented open space further east in closer proximity to the Los Angeles River corridor. The Project with the deck amenity has been studied as the Project with the Deck Concept in this report. The Project site plan is presented in **Figure 2A** and the Project with the Deck Concept site plan is presented in **Figure 2B**.

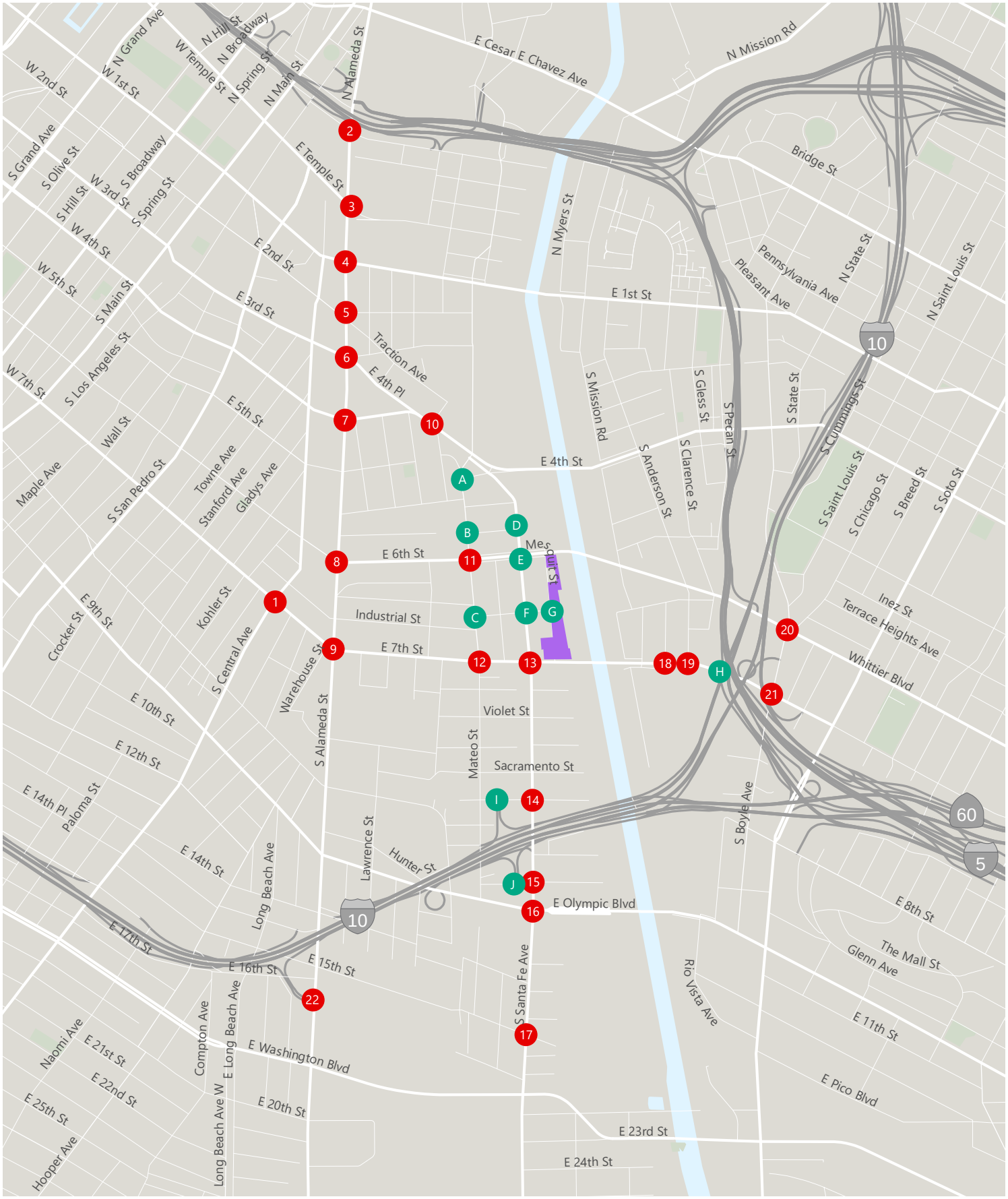
Vehicular and bicycle access to the Project site is anticipated to be obtained via four driveways described below:

- A two-way full-access driveway on Mesquit Street at the northern end of the Project at ground level (Building 1).
- A two-way full-access driveway at the intersection of Mesquit Street & Jesse Street at ground level (Building 2).
- A two-way signalized driveway connecting the 7th Street Bridge to the third level of Building 4 near the southeastern corner of the Project site that allows for full access out and right-turns only in.
- A one-way right-turn-out-only driveway connecting the 7th Street Bridge to the second level of Building 5 near the southwestern corner of the Project site.

The signalized and non-signalized driveways connecting to the 7th Street Bridge are subject to approval of the City of Los Angeles Department of Transportation (LADOT) and the City of Los Angeles Bureau of Engineering (LABOE).

The project proposes a full-width vacation/merger of Mesquit Street from the northerly right-of-way of 7th Street to the southerly right-of-way of Jesse Street. The project also proposes a half-width subsurface merger for the easterly half of Mesquit Street from the southerly right-of-way of Jesse Street to the southerly line of the LADWP property on the east side of Mesquit Street. The proposed vacation/merger is presented in **Figure 2C**.

Primary service access would be provided via loading docks located within the ground level of the Project's parking structure. Large truck deliveries would enter and exit the parking structure via the northern driveway on Mesquit Street and have turnaround capability provided within the Project site. A loading area accommodating cars or vans associated with residential and commercial uses would also be accessible via the northern driveway on Mesquit Street. A passenger loading/unloading zone pull-out would be provided along the east side of Mesquit Street north of Jesse Street. The 7th Street driveway would also provide access to an internal passenger loading/unloading area in addition to access to the on-site parking structure.



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Study Intersections

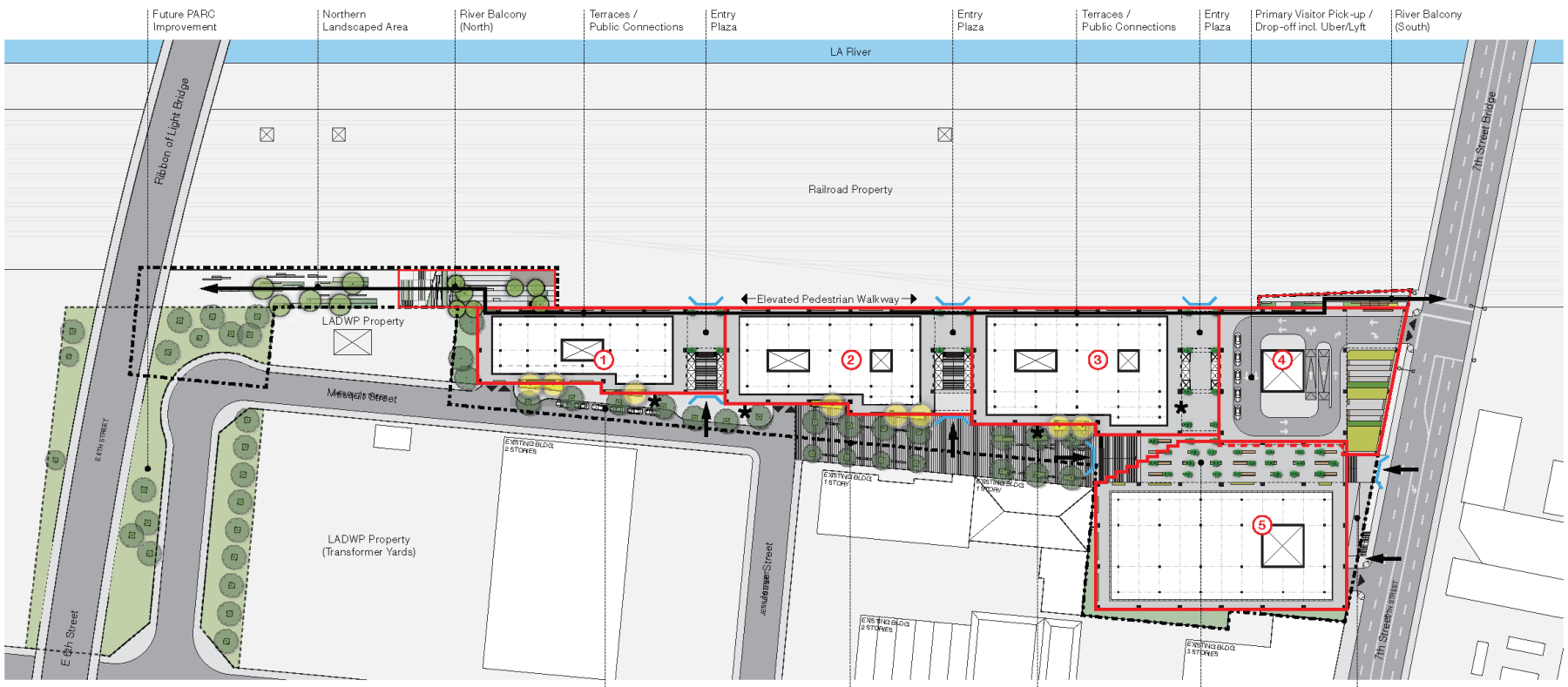
- Signalized Intersection
- Unsignalized Intersection
- Project Site

NORTH

Figure 1

Proposed Project Site and Study Intersections

7TH STREET LEVEL PLAN - NO DECK



1 BUILDING 1
Use: Hotel/Residential
Height: 378ft
Floor Area: 466,554sf

2 BUILDING 2
Use: Office/Gym/Retail
Height: 294ft
Floor Area: 331,517sf

3 BUILDING 3
Use: Office/Studio/Event/Retail
Height: 210ft
Floor Area: 239,936sf

4 BUILDING 4
Use: Retail/Restaurants
Height: 126ft
Floor Area: 70,519sf

5 BUILDING 5
Use: Office/Retail
Height: 378ft
Floor Area: 683,577sf

Pedestrian Access
Vehicular Access
View Corridor
Bicycle Parking

0' 50' 100' 200'

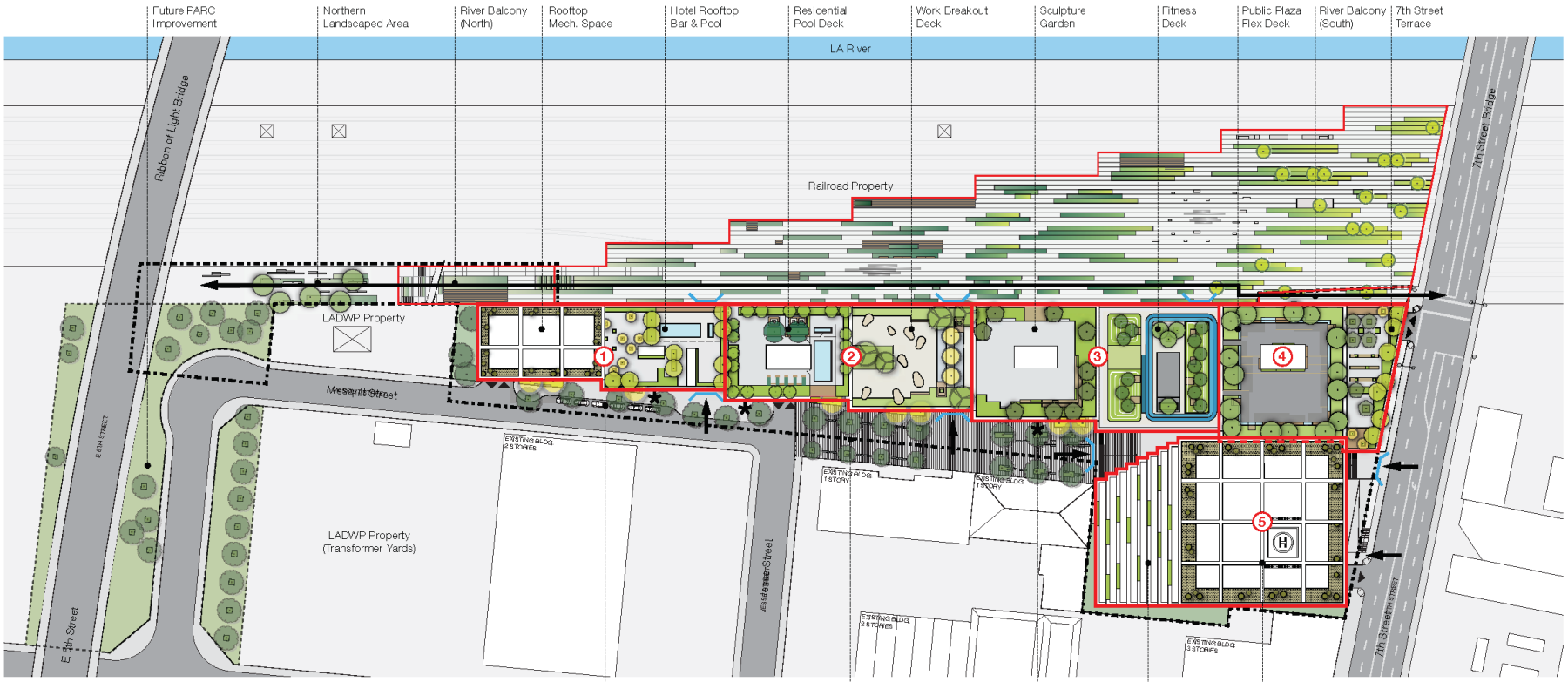
670 MESQUIT

CONCEPTUAL & ILLUSTRATIVE, SUBJECT TO CHANGE

Figure 2A

Project Site Plan

ROOF PLAN - FULL DECK



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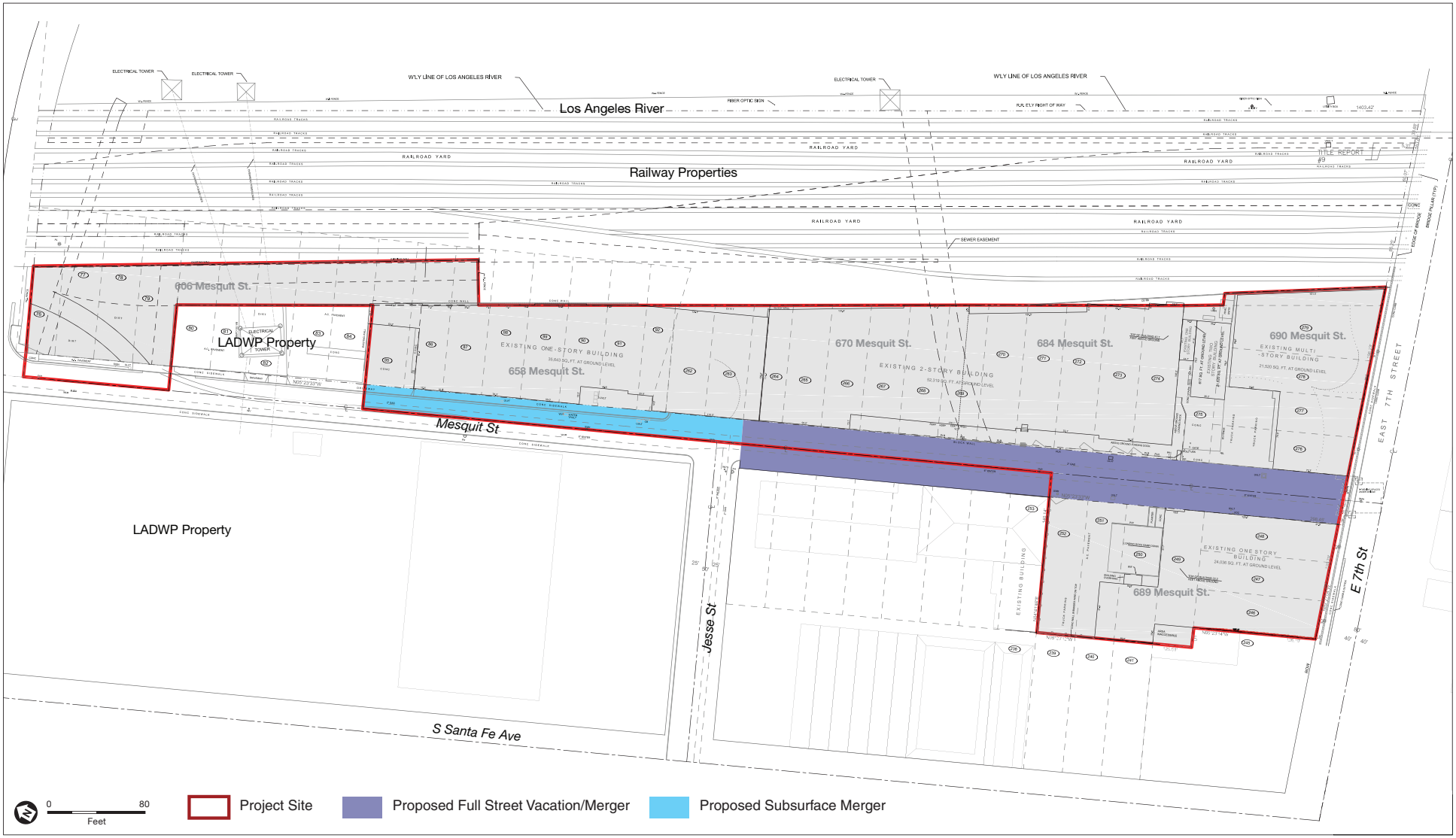
670 MESQUIT

CONCEPTUAL & ILLUSTRATIVE, SUBJECT TO CHANGE

Figure 2B

Project with the Deck Concept Site Plan



SOURCE: Bjarke Ingels Group with Gruen Associates, 2019; KPFF

Figure 2C

670 Mesquit Proposed Street Vacation

1.2 Study Scope

The scope of work for this study was determined in consultation with the Los Angeles Department of Transportation and is in accordance with the City's CEQA transportation thresholds of significance and LADOT's *Transportation Assessment Guidelines* (TAG) updated in July 2020[1]. The base assumptions and technical methodologies were discussed with LADOT as part of the study approach and agreed to in a memorandum of understanding (MOU) dated June 2020 (LADOT Project Case Number ENV-2017-249-EIR). The MOU is included as **Appendix A** to this document.

The TAG establishes an updated set of guidelines, methods, and impact criteria for CEQA considerations that focus on vehicle miles traveled (VMT), geometric design features, and policy conflicts. The TAG also establishes a framework for various non-CEQA analyses including a pedestrian, bicycle, and transit access assessment; a project access, safety, and circulation assessment; and project construction analysis. Each area of analysis is described in the TAG with a discussion of screening criteria, the methodology for analysis, impact/evaluation criteria, and potential mitigation options when appropriate. Based on the screening criteria set forth in the TAG, the following issue areas described in the TAG are evaluated in this report (the screening analysis is available in **Appendix B**):

TAG Issue Area	Analysis Required?
CEQA Analyses:	
Conflicts with Plans, Programs, Ordinances, and Policies	Yes
Causing Substantial Additional Vehicle Miles Traveled	Yes
Substantially Inducing Additional Automobile Travel	No
Geometric Design Features	Yes
Non-CEQA Analyses:	
Pedestrian, Bicycle, and Transit Access	Yes
Project Access, Safety, and Circulation	Yes
Project Construction	Yes
Residential Street Cut-Through	No

In addition, in accordance with LADOT's interim guidance on freeway safety analysis issued in May 2020[2], a freeway safety analysis was conducted to evaluate whether the addition of Project traffic could cause or lengthen an off-ramp queue onto the freeway mainline that could constitute a potential safety impact under CEQA.

[1] On July 30, 2019, the Los Angeles City Council adopted a resolution formally implementing the City's updated transportation thresholds of significance for CEQA analyses. The TAG is the document providing the guidance for conducting both CEQA and non-CEQA transportation analyses. LADOT released an updated TAG in July 2020.

[2] Los Angeles Department of Transportation, *LADOT Transportation Assessments – Interim Guidance for Freeway Safety Analysis* (May 2020).

1.3 Organization of Report

This report is divided into five chapters, including this introduction. Chapter 2 describes the environmental setting of the project, which includes the existing transportation conditions and cumulative conditions. The required CEQA analyses are summarized in Chapter 3 and include a review of the City's plans, programs, ordinances, and policies; a VMT analysis; a geometric design hazards evaluation; and a freeway off-ramp analysis. Chapter 4 includes the required non-CEQA transportation analyses and contains a pedestrian, bicycle, and transit access assessment; a Project access, safety and circulation evaluation; and Project construction analysis. Chapter 5 contains the study's summary and conclusions.

Appendices to this report include details of the technical analysis, as follows:

- Appendix A includes a copy of the MOU approved by LADOT that describes study parameters and assumptions.
- Appendix B includes responses to the TAG screening criteria.
- Appendix C provides detailed responses for the plans, programs, ordinances, and policies review and geometric design hazards review.
- Appendix D contains the detailed information pertaining to the VMT analysis, including transportation demand strategies, trip estimates, and trip length information.
- Appendix E contains the vehicle intersection turning movement and segment counts for the non-CEQA access analysis locations.
- Appendix F contains the analysis volumes and lane configurations that are inputs to the non-CEQA level of service (LOS) analysis.
- Appendix G includes LOS analysis work sheets for analysis conducted at 32 intersections in accordance with the TAG sections associated with access and circulation review.
- Appendix H contains the internal trip calculation analysis sheets used to determine the internal trip adjustment for each of the Project land uses.
- Appendix I contains detailed trip generation tables that outline all the credits taken for the different Project land uses.
- Appendix J provides the level of service analysis for driveway locations.
- Appendix K provides the ramp queuing results as part of the freeway safety analysis.
- Appendix L provides the signal warrant analysis.

2. ENVIRONMENTAL SETTING

This chapter describes the existing and cumulative environmental setting within the Project study area. The existing conditions include the existing street system, public transit service, and bicycle and pedestrian facilities. The cumulative conditions include transportation projects that are either in construction or planned and related development projects, which are developments expected to be implemented in the vicinity of the proposed Project site prior to the buildout date of the proposed Project.

2.1 Existing Conditions

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions in the study area. The assessment of conditions relevant to this study includes a description of the study area, an inventory of the local street system in the vicinity of the Project site, and a summary of the current transit service and bicycle and pedestrian facilities in the study area.

Study Area

The Project site is within the Central City North Community Plan area of the City of Los Angeles. The study area selected for analysis generally extends to Alameda Street to the west, 15th Street to the south, Boyle Avenue to the east, and Aliso Street to the north. All the streets and intersections in the study area are under the jurisdiction of the City of Los Angeles. Freeways and freeway ramps are under the jurisdiction of Caltrans.

Existing Street System

Major arterials serving the study area include 4th, 6th, and 7th Streets in the east-west direction and Alameda Street, Mateo Street, Santa Fe Avenue, and Mission Road in the north-south direction. Regional access to the Project site is provided by Interstate 10 (Santa Monica Freeway) approximately 0.5 miles to the south, US-101 and Interstate 5 approximately 0.4 miles to the east, US-101 approximately 1.1 miles to the north, and SR-60 approximately 0.5 miles to the southeast.

Street classifications/standards are designated in the City of Los Angeles *Complete Streets Design Guide*[3]. The *Complete Streets Design Guide* modified the City's street standards originally included in the City's Transportation Element to create a better balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design, and site access. Roadways are defined as follows in the *Complete Streets Design Guide*.

- Freeways: High-volume, high-speed roadways with limited access provided by interchanges that carry regional traffic through and do not provide local access to adjacent land uses.

[3] City of Los Angeles Department of City Planning, Complete Streets Design Guide, August 12, 2015.

- Arterial Streets: Major streets that serve through traffic and provide access to major commercial activity centers. Arterials are divided into two categories:
    - Boulevards represent the widest streets that typically provide regional access to major destinations and include two categories:
        - Boulevard I provides up to four travel lanes in each direction with a target operating speed of 40 mph.
        - Boulevard II provides up to three travel lanes in each direction with a target operating speed of 35 mph.
    - Avenues pass through both residential and commercial areas and include three categories:
        - Avenue I provides up to two travel lanes in each direction with a target operating speed of 35 mph.
        - Avenue II provides up to two travel lanes in each direction with a target operating speed of 30 mph.
        - Avenue III provides up to two travel lanes in each direction with a target operating speed of 25 mph.
- Collector Streets: Generally located in residential neighborhoods and provide access to and from arterial streets for local traffic and are not intended for cut-through traffic. Collector Streets provide one travel lane in each direction with a target operating speed of 25 mph.
- Local Streets: Intended to accommodate lower volumes of vehicle traffic and provide parking on both sides of the street. Local Streets provide one travel lane in each direction with a target operating speed of 15 to 20 mph. Local Streets can be:
    - Continuous local streets that connect to other streets at both ends
    - Non-Continuous local streets that lead to a dead-end

In addition, the *Mobility Plan 2035* identifies corridors proposed to prioritize bicycle, pedestrian, transit, and vehicle infrastructure improvements. Each of the networks are defined below:

- The Neighborhood-Enhanced Network (NEN) is a selection of streets that provide comfortable and safe routes for localized travel of slower-moving modes such as walking, bicycling, or other slow speed motorized means of travel.
- The Transit-Enhanced Network (TEN) is the network of arterial streets prioritized to improve existing and future bus service for transit riders.
- The Bicycle-Enhanced Network (BEN) is a network of streets that will receive treatments that prioritize bicyclists. Tier 1 Protected Bicycle Lanes are bicycle facilities that are separated from vehicular traffic. Tier 2 and Tier 3 Bicycle Lanes are facilities on roadways with striped separation. Tier 2 Bicycle Lanes are those more likely to be built by 2035.

- The Vehicle-Enhanced Network (VEN) identifies streets that prioritize vehicular movement and offer safe, consistent travel speeds and reliable travel times.
- The Pedestrian-Enhanced Districts (PEDs) identify where pedestrian improvements on arterial streets could be prioritized to provide better walking connections to and from the major destinations within communities.

Listed below are the primary freeways and streets that provide regional and local access to the study area.

Freeways

- **Interstate 10** runs in an east-west direction and extends from the Pacific Ocean eastward through Los Angeles County and beyond. In the vicinity of the Project site, I-10 lies to the south of the Project Site and provides up to five lanes in each direction. Ramps near the Project site are provided at Alameda Street, Mateo Street/Santa Fe Avenue, and Boyle Avenue. I-10 shares an alignment with I-5 and runs north/south between the East Los Angeles Interchange and the I-5/I-10 interchange near LAC+USC Medical Center.
- **US-101** runs in a southeast-northwest direction and extends from Downtown Los Angeles to Ventura County and beyond. In the vicinity of the Project site, US-101 lies north and east of the Project site and provides three to four lanes in each direction. Freeway ramps closest to the Project site are located at Alameda Street, 7th Street, 4th Street, and 1st Street.
- **Interstate 5** runs in a north-south direction and extends from San Diego, through the East Los Angeles Interchange, and north to the rest of California. In the vicinity of the Project site, the freeway lies east of the Project Site and provides up to five lanes in each direction. Freeway ramps closest to the Project Site are located at 4th Street, 7th Street, and Soto Street.
- **SR-60** runs in an east-west direction and extends from the East Los Angeles Interchange to Riverside County. In the vicinity of the Project site, the freeway provides four to five lanes in each direction. Access is provided at Soto Street, Mateo Street/Santa Fe Avenue via I-10, and other ramps via US-101 and I-5/I-10.

East-West Streets

- **4th Street** is designated as Avenue II near the Project site with the exception between Alameda Street and Hewitt Street where 4th Street is designated as Avenue III. 4th Street has three to four travel lanes all in the eastbound direction running north of the Project site up to Hewitt Street. Parking is permitted along most portions of the roadway on both sides of the street, with peak hour restrictions west of San Pedro Street. A center running reversible lane exists along 4th Street east of Hewitt Street to the I-5 interchange. The reversible lane operates westbound during the AM peak period and eastbound during the PM peak period. The lane functions as a two-way left-turn lane outside the peak periods.
- **6th Street** is designated as Avenue II near the Project site. 6th Street is part of the Pedestrian Enhanced District, Transit Enhanced Network and Bicycle Enhanced Network. West of Central Avenue, 6th Street has four travel lanes in the eastbound direction. From Mateo Street to the US-

101 freeway, 6th Street is undergoing construction as part of the Sixth Street Viaduct Replacement Project. When construction is completed in 2022, 6th Street east of Mateo Street will provide two travel lanes in each direction with left-turn pockets at major intersections. East of Central Avenue, 6th Street has two travel lanes in each direction with left-turn pockets at major intersections. Parking is generally permitted on both sides of the street east of Mateo Street, with peak hour restrictions west of Maple Avenue.

- **7th Street** is designated as an Avenue II and is part of the Bicycle Enhanced Network. East of Main Street, 7th Street has two travel lanes in each direction, which is reduced to one travel lane in each direction west of Main Street. Left-turn pockets are present at major intersections. Parking is permitted on both sides of the street. There are bike lanes in each direction west of Main Street.
- **Jesse Street** is designated as a Collector with one through lane in each direction. Jesse Street runs west of the Project site in an east-west direction, starting at Mateo Street and ending as a T-intersection at Mesquit Street. Parallel parking is permitted on both sides of the street between Mateo Street and Santa Fe Avenue, and loading is permitted on both sides of the street between Santa Fe Avenue and Mesquit Street.

North-South Streets

- **Alameda Street** is designated as an Avenue I near the Project site and is part of the Vehicle Enhanced Network. Alameda Street has two travel lanes in each direction and turn pockets at most intersections. Parking is permitted between 7th Street and Olympic Boulevard on the west side of the street and between 7th Street and Bay Street on the east side of the street. Alameda Street also is part of the Bicycle Enhanced Network and the Goods Movement network.
- **Mateo Street** is designated as an Avenue III with one travel lane in each direction and parking on both sides of the street. Mateo Street is part of the Pedestrian Enhanced District, Bicycle Enhanced Network and the Neighborhood Enhanced Network.
- **Santa Fe Avenue** is designated as a Modified Avenue III north of the 4th Street Bridge and an Avenue II south of the 4th Street Bridge. Santa Fe Avenue has one travel lane running in each direction north of 7th Street, and two travel lanes in each direction south of 7th Street. Santa Fe Avenue is part of the Pedestrian Enhanced District and Neighborhood Enhanced Network.
- **Mesquit Street** is designated as a Collector street with one through lane in each direction. The northern end of Mesquit Street ends at 6th Street and the southern end of Mesquit Street ends at 7th Street. Parking is permitted on both sides on the street, with both parallel and front in parking. A request has been made to modify the designation of Mesquit Street to a Local Street – Limited as part of a request to vacate portions of Mesquit Street, which is described in Section 3.1.

Existing Public Transit Service

Due to its proximity to the transit hubs in downtown Los Angeles, the Project site is served by several transit lines. The Project is located ¼-mile from the Metro Rapid 720 bus stop at Decatur Street & 7th Street and ½-mile from the Metro Rapid 760 bus stop at Alameda Street & 7th Street. Three Metro Local bus routes also run within a ¼-mile of the Project Site. Metro Local Route 60 runs on 7th Street and Santa Fe Avenue,

and Metro Local Routes 18 and 62 run on 7th Street and Whittier Boulevard. The LADOT Downtown Area Short Hop (DASH) A route has its nearest stop approximately 0.4 miles away from the Project at the corner of Molino Street & Palmetto Street. **Figure 3** shows the various transit routes providing service within walking distance of the Project site. **Table 1** details the existing transit service displayed in Figure 3.

In addition, the Project site is one mile from the Metro Gold Line Pico/Aliso station and approximately two miles from the 7th Street/Metro Center Station and the Union Station transportation hub.

Existing Bicycle and Pedestrian Facilities

Bicycle Facilities

Figure 4 shows existing bicycle facilities in the Project area. There are currently bike lanes on 4th Place from Alameda Street to Hewitt Street, on 3rd Street from 4th Place to Santa Fe Avenue, and on Mateo Street from 6th Street to East 4th Street in the study area.

Pedestrian Facilities

The study area generally has a patchwork of pedestrian facilities, such as sidewalks and accessible curb ramps. Major streets such as Mateo Street, Santa Fe Avenue, 7th Street, and 6th Street typically have more pedestrian facilities than other minor streets. Many areas and streets lack curbs, sidewalks, and accessible ramps due to the historically industrial nature of the area. Mesquit Street, which runs along the Project Site's frontage, has sidewalks on the eastern and western side of the street from Jesse Street to 6th Street. South of Jesse Street, Mesquit Street has sidewalks on the western side of the street approximately halfway to the dead-end at 7th Street. There are no sidewalks on either side of the street for the remaining length of the street to 7th Street. A detailed inventory of pedestrian facilities is in Section 4.1, Pedestrian, Bicycle, and Transit Access.

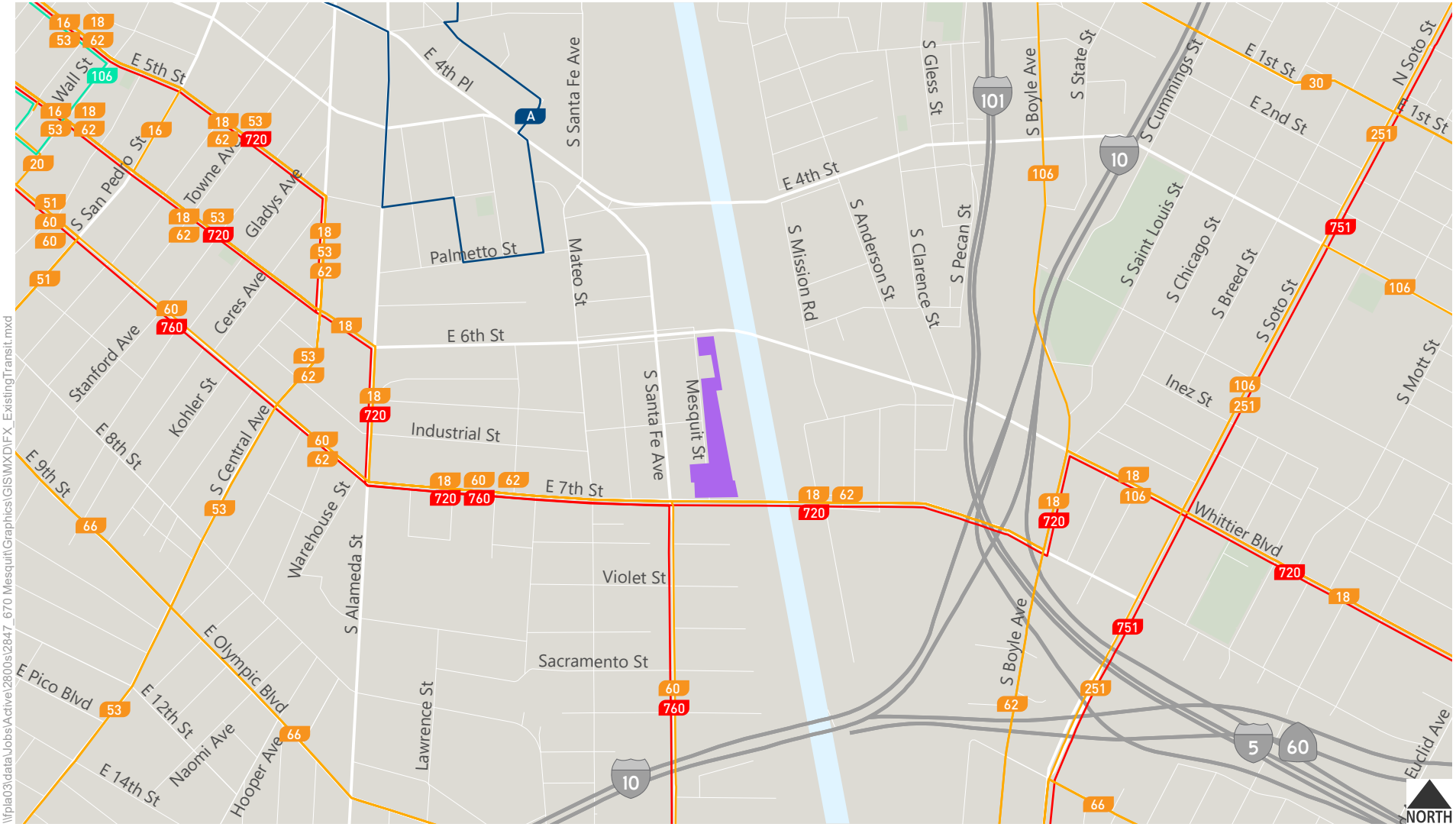
As shown in the Site Plans (**Figures 2A & 2B**), sidewalks are proposed on all sides of the Project.

High-Injury Network

The City of Los Angeles' High Injury Network (HIN) spotlights streets with a high concentration of traffic collisions that result in severe injuries and deaths, with an emphasis on those involving people walking and bicycling. The study area has several streets that have been identified by the City as part of the HIN. These include:

- Alameda Street (north of 6th Street)
- 4th Street (east of Gless Street)
- 6th Street (west of Mateo Street)
- 7th Street (west of Mateo Street)

No Project driveways are proposed on HIN roadways.



Project Site

Metro Local Bus

Metro Limited Express Bus

Metro Rapid Bus

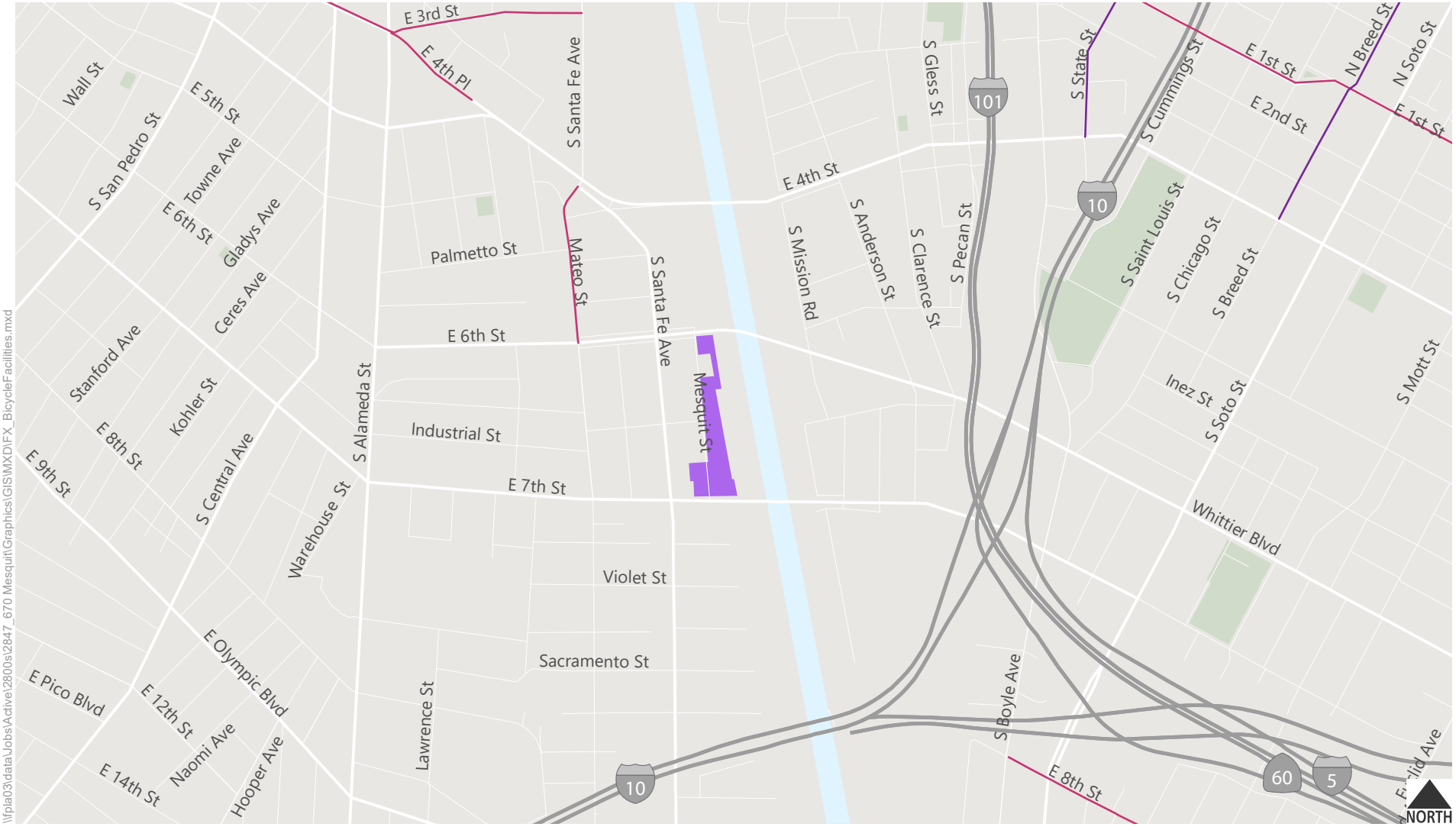
LADOT DASH Bus

Figure 3

Existing Transit

TABLE 1
670 MESQUIT
EXISTING TRANSIT SERVICE

Line Number	Operator	Service Type	Service From	Via	Weekday Headways	
					AM	PM
60	Metro	Local	Downtown Long Beach to Downtown Los Angeles	7th St	10-14 min.	9-10 min.
760	Metro	Rapid	Lynwood to Downtown Los Angeles	7th St	10-15 min.	12-15 min.
62	Metro	Local	Hawaiian Gardens to Downtown Los Angeles	Central Ave	25-57 min.	23-28 min.
20	Metro	Local	Santa Monica to Downtown Los Angeles	7th St	11-12 min.	10 min.
720	Metro	Rapid	Santa Monica to Commerce	6th St	4-9 min.	3-10 min.
53	Metro	Local	Carson to Downtown Los Angeles	Central Ave	5-16 min.	7-15 min.
16	Metro	Local	Century City to Downtown Los Angeles	5th & 6th St	7 min.	9 min.
18	Metro	Local	Koreatown to Montebello	Central Ave	8-10 min.	9-10 min.
106	Metro	Local	Boyle Heights to Montery Park	Boyle Av	50 min.	50 min.
51	Metro	Local	Compton to Koreatown	San Pedro St	15 min.	12-15 min.
251	Metro	Local	Cypress Park to Lynwood	Soto St	20 min.	20-40 min.
751	Metro	Rapid	Cypress Park to South Gate	Soto St	10 min.	16-18 min.
66	Metro	Local	Montebello to Koreatown	San Pedro St	2-15 min.	6-10 min.
Dash Downtown A	LADOT	Shuttle	Financial District to Arts District	3rd St	7 min.	7 min.



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Project Site

EXISTING

Bicycle Lanes

Bicycle Routes

Figure 4

Existing Bicycle Facilities

2.2 Cumulative Conditions

This section details the planned transportation improvements and proposed land use developments within the study area buildout scenarios.

Transportation Infrastructure Projects

Sixth Street Viaduct

Due to the rebuild of the Sixth Street Viaduct, access from Downtown Los Angeles and Boyle Heights/East Los Angeles along 6th Street/Whittier Boulevard was restricted in the existing year. However, in the Project and the Project with the Deck Concept buildout scenarios, it was assumed that the bridge would be open since the current construction schedule shows completion by mid-2022. Therefore, these analysis scenarios reflect the proposed roadway network of the new bridge. The new Sixth Street Viaduct will have the same number of lanes as the previous bridge. Enhancements to pedestrian and bicycle facilities will be included, with dedicated bicycle lanes and wider sidewalks. The new intersection configurations for the ends of the bridge were provided by LADOT.

In association with the rebuild of the Sixth Street Viaduct, public park space (called PARC) will be included along and adjacent to the future bridge. New public park space along the western approach of the future bridge will result in the closure of Mesquit Street where it previously served as a one-way westbound frontage road parallel to the bridge. The future Mesquit Street as it approaches the bridge northbound will use the alignment of the southern frontage road and terminate at Santa Fe Avenue. The existing one-way eastbound frontage road will remain as-is from Mateo Street to Santa Fe Avenue. The future year (2026 and 2040) buildout scenarios for the Project and the Project with the Deck Concept reflect the future Mesquit Street configuration.

Capital Transit Projects

LADOT's *Moving Forward Together* project, which conducted a detailed transit service analysis of LADOT Transit's network, identified a potential route expansion for DASH Downtown Route F, which currently runs between the Financial District and Exposition Park. The potential expansion would connect Exposition Park to Union Station through the Arts District via 7th Street and Santa Fe Avenue. While a final route expansion and schedule has not been published, the *Moving Forward Together* project website indicates new DASH routes and schedule changes may begin mid-2020[4].

The Regional Connector, currently under construction, will better link the Metro L (Gold) Line with the rest of the LA Metro network. As a result of the Regional Connector project, Intersection 4 (Alameda Street & 1st Street) will be reconfigured by 2022 when the Regional Connector project is forecasted to be completed[5]. Future scenarios in this report assume the proposed intersection configuration as provided by LADOT.

[4] LADOT Transit, *New Service Plan,* https://www.ladottransit.com/newserviceplan/.
[5] Metro, *Regional Connector Transit Project,* https://www.metro.net/projects/connector/.

Potential future expansions to the transit network under study by Metro include the Red/Purple Line extension into the Arts District along the LA River (EIR under development by Metro[6]) and the West Santa Ana Branch Transit Corridor along Alameda (currently in the Metro planning process). The potential Red/Purple Line extension would include a station at 6th Street, adjacent to the Project site.

Capital Bicycle & Pedestrian Projects

The *Mobility Plan 2035* identifies corridors proposed to receive improved bicycle, pedestrian and vehicle infrastructure improvements. Tier 1 Protected Bicycle Lanes are bicycle facilities that are separated from vehicular traffic. Tier 2 and Tier 3 Bicycle Lanes are facilities on roadways with striped separation; the plan states that Tier 2 Bicycle Lanes are those more likely to be built by 2035. The *Mobility Plan 2035* identifies Mateo Street and portions of Santa Fe Avenue as part of the Neighborhood Enhanced Network. The Los Angeles River Bike Path from Elysian Park to Maywood via Downtown/Arts District is also planned to provide more access to the Los Angeles River. Mateo Street, Boyle Avenue, and 7th Street are part of the Tier 2 Bike Lane Network.

The Los Angeles River Revitalization Master Plan also outlines significant bicycle and pedestrian investment along the LA River in downtown (as indicated by the LA River Bike Path). If the river revitalization plan is approved and completed, the Project will be adjacent to the PARC which provides a connection to the facilities along the river and creates a new regional link.

The Arts District won an Active Transportation Program (ATP) grant in 2018 that will allow construction of facilities that improve mobility through bicycle and pedestrian infrastructure. The plans call for new bicycle lanes on Traction Avenue, Mateo Street, and other minor collectors in the Arts District. A protected bike lane is proposed for Santa Fe Avenue north of 1st Street.

Pedestrian improvements as part of the ATP grant include new crosswalks at major intersections in the Arts District, including a raised crosswalk at Santa Fe Avenue & 6th Street. Pedestrian Activated Signals are proposed for several crossings along 4th Place, and over a dozen curb extensions/ADA ramps are proposed throughout the area. The Arts District Mobility Improvements will not result in the reconfiguration of any study intersections.

Related Projects

Related projects are developments expected to be implemented in the vicinity of the proposed Project site prior to the buildout date of the proposed Project. The list of related projects within a 2-mile radius of the Project was prepared based on data from LADOT and verified by City Planning. A total of 141 related projects were identified in the study area; these projects are listed in **Table 2** and illustrated in **Figure 5**. These related projects were assumed to be in place by both Future Year 2026 and Future Year 2040.

[6] The Notice of Preparation for the proposed Arts District/6th Street Station project was released on March 29, 2021. (https://media.metro.net/2020/NOP-FINAL.pdf).

TABLE 2
670 MESQUIT PROJECT
RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
1	540 S Santa Fe Ave	Office	65.812	ksf	726	90	12	102	17	81	98
2	601 S Main St	Apartments	452	du	2,686	36	144	180	152	87	239
		Retail	25.0	ksf							
3	225 S Los Angeles St	Condominiums	300	du	1,910	88	136	224	75	52	126
		Retail	3.4	ksf							
4	150 N Los Angeles St	Office	713	ksf	13,534	930	118	1,048	435	942	1,374
		Retail	35	ksf							
		Child Care	2.5	ksf							
5	534 S Main St	Apartments	160	du	2,213	52	75	127	87	58	145
		Retail	18	ksf							
		Restaurant	3.5	ksf							
		Fast-Food Restaurant	3.5	ksf							
6	1057 S San Pedro St	Office	294.641	ksf	16,433	837	434	1,271	632	957	1,589
		Retail	176.733	ksf							
		Cinema	744	Seats							
		Apartments	945	du							
		University	1400	Students							
		Hotel	210	Rooms							
7	1525 E Industrial St	Apartments	344	du	2,288	58	73	131	86	69	155
		Office	21.4	ksf							
		Retail	6.1	ksf							
8	950 E 3rd St	School	532	Students	6,372	162	177	339	245	213	458
		Retail	30.062	ksf							
		Apartments	635	du							
9	2051 E 7th St	Apartments	320	du	2,310	17	127	144	145	64	209
		Retail	15	ksf							
		Restaurant	5	ksf							
10	963 E 4th St	Office	79	ksf	2,512	106	22	128	113	138	251
		Retail	25	ksf							
		Restaurant	20	ksf							
11	826 S Mateo St	Condominiums	90	du	1,267	11	34	45	62	39	101
		Other	11	ksf							
		Other	5.6	ksf							
12	2030 E 7th St	Office	243.583	ksf	2,306	274	34	308	69	249	318
		Retail	40	ksf							
13	360 S Alameda St	Apartments	55	du	670	25	33	58	35	26	61
		Other	2.5	ksf							
		Other	6.3	ksf							
14	649 S Wall St	Assisted Living	55	beds	104	24	5	29	3	24	27
		Office	55	empl.							
15	410 Center St	Office	110	ksf	1,165	87	0	87	0	79	79
16	500 S Mateo St	Restaurant	12.82	ksf	1,052	48	41	89	50	31	81
17	300 S Main St	Apartments	471	du	4,691	143	243	386	257	153	410
		Retail	5.19	ksf							
		Restaurant	27.78	ksf							
18	400 S Alameda St	Hotel	66	Rooms	512	20	18	38	23	14	37
		Retail	0.84	ksf							
		Restaurant	2.13	ksf							
19	719 E 5th St	Apartments	160	du	1,033	15	58	73	59	37	96
		Retail	7.5	ksf							
20	2130 E Violet St	Office	94	ksf	1,351	137	30	167	39	122	161
		Retail	7.45	ksf							
21	929 E 2nd St	Mixed Use Private Club	48.862	ksf	2,153	68	12	80	105	96	201
22	1800 E 7th St	Apartments	122	du	816	26	45	71	45	37	82
		Office	13.6	ksf							
23	1722 E 16th St	Restaurant	8.151	ksf	592	-4	2	-2	36	11	47
24	454 E Commercial St	Bus Facility	2	acres	N/A	22	8	30	9	1	10
25	118 S Astronaut E S Onizuka St	Apartments	77	du	97	-1	20	19	19	6	25
26	555 S Mateo St	Retail	153	ksf	4,300	5	30	35	220	205	425
27	1000 S Santa Fe Ave [a]	Restaurant	8.447	ksf	966	36	37	38	39	40	69
		Club	48	Rooms							
28	2110 Bay St [a]	Apartments	110	du	2,394	180	63	243	89	192	281
		Office	113	ksf							
		Retail	43.66	ksf							
29	330 S Alameda St [a]	Apartments	186	du	1,662	36	76	112	91	65	156
		Commercial	22	ksf							
30	668 S Alameda St [a]	Apartments	475	du	4,002	107	182	289	216	145	361
		Commercial	84	ksf							
31	520 Mateo St	Apartments	200	du	4,995	157	220	377	274	223	497
		Office	30	ksf							
		Restaurant	15	ksf							
		Retail	15	ksf							
32	717 Maple Ave [a]	Apartments	452	du	3,199	67	179	246	185	105	290
		Retail	14	ksf							

TABLE 2
670 MESQUIT PROJECT
RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
33	232 W 2nd St [b]	Condominiums	107	du	4,006	467	93	560	118	423	541
		Office	534	ksf							
		Retail	7.2	ksf							
34	433 S Main St	Condominiums	161	Rooms	1,450	32	72	104	61	37	98
		Mixed Use	6.9	ksf							
35	676 Mateo St [b]	Apartments	185	du	1,990	50	95	145	106	51	157
		Commercial	27	ksf							
36	732 Wall St [b]	Apartments	323	du	2,499	108	82	191	164	141	305
		Office	53.2	ksf							
		Retail	4.4	ksf							
		Wholesale/Storage	63.585	ksf							
		Restaurant	4.42	ksf							
		Event Space	9.226	ksf							
37	333 S Alameda St [a]	Apartments	994	du	8,445	134	260	394	390	329	719
		Retail	993	ksf							
38	1129 E 5th St	Retail	26.98	ksf	4,674	130	140	270	157	69	226
		Restaurant	31.72	ksf							
		Hotel	113	Rooms							
		Apartments	129	du							
		Art School	3.43	ksf							
		Art Space	10.34	ksf							
39	2650 E Olympic Bl	Apartments	1000	du	12,247	498	477	975	599	539	1,138
		Restaurant	N/A	ksf							
		Office	230	ksf							
40	2143 E Violet St	Apartments	320	du	4,477	329	22	351	130	330	460
		Retail	224.29	ksf							
		Office	46.67	ksf							
41	633 S Spring St	Hotel	176	Rooms	2,045	83	33	116	97	99	196
		Restaurant	8.43	ksf							
		Bar	5.29	ksf							
42	732 S Spring St	Apartments	400	du	3,359	59	152	211	164	104	268
		Pharmacy/Drugstore	15	ksf							
43	237 S Los Angeles St	Sports Complex	43	ksf	1,869	79	50	129	161	98	259
44	640 S Santa Fe Avenue	Commercial	107	ksf	1,330	90	8	98	43	114	157
45	1745 E 7th Street	Apartments	57	du	635	9	25	34	34	24	58
		Commercial	6	ksf							
46	940 E 4th Street	Office	6	ksf	788	14	37	51	44	31	75
		Retail	14.3	ksf							
		Apartments	107	du							
47	609 E 5th St	Apartments	151	du	1,004	15	62	77	61	33	94
48	713 E 5th St	Apartments	51	du	208	15	10	25	9	8	17
49	1000 S Mateo St	Apartments	113	du	2,238	153	83	236	90	131	221
		Commercial	134	ksf							
50	926 E 4th St	Office	265.45	ksf	3,448	366	75	411	100	322	422
		Retail	4.97	ksf							
		Museum	7.8	ksf							
51	2159 E Bay St	Retail	18.33	ksf	2,029	194	30	224	57	192	249
		Office	204	ksf							
52	1247 S Grand Ave	Apartments	118	du	763	10	41	51	42	25	67
		Commercial	5.125	ksf							
53	1 Gateway Plaza	Residential	22	du	25,312	862	527	1,389	734	1,042	1,776
		Office	7443.2	ksf							
		Retail	645	ksf							
		Hotel	750	Room							
		Restaurant	20	ksf							
		Museum	70	ksf							
54	354 S Spring St	Apartments	212	du	1,410	22	87	108	85	46	131
55	552 S San Pedro	Affordable Housing	407	du	2,186	107	138	245	96	88	184
		Retail	12.3	ksf							
56	1005 S Mateo Street	Industrial Park	94.8	ksf	426	40	9	49	10	39	49
57	1800 E 1st St	Apartments	65	du	433	7	19	25	23	16	40
		Retail	5	ksf							
58	1001 E 1st St	Apartments	430	du	2,166	33	119	152	121	79	200
		Retail	8.742	ksf							
59	755 S Los Angeles St	Retail	16.694	ksf	2,482	110	57	167	105	100	205
		Office	60.243	ksf							
		Restaurant	26.959	ksf							
60	601 S Central Ave	Apartments	236	du	1,074	17	79	96	70	32	102
		Retail	12	ksf							

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RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
61	527 Colyton St	Condominiums	310	du	2,095	36	116	152	121	74	195
		Retail	11.375	ksf							
		Production Space	11.736	ksf							
62	1100 E 5th St	Apartments (Live/Work du)	220	du	2,583	79	119	198	133	74	207
		Commercial	49	ksf							
63	600 S San Pedro Street	Apartments	303	du	636	38	25	63	30	37	67
		Retail	20	ksf							
64	655 S San Pedro Street	Apartments	81	du	539	8	33	41	33	17	50
65	656 S Stanford Ave	Apartments	82	du	545	8	34	42	33	18	51
66	361 S Spring Street	Hotel	315	room	2,273	91	59	150	84	85	169
67	641 Imperial Street	Residential	140	du	1,093	34	60	94	61	48	109
		Office	14.749	ksf							
68	2901 E Olympic Bl	Apartments	4400	du	19,382	463	1,044	1,507	1,123	804	1,927
		Retail	185	ksf							
		Office	125	ksf							
		Medical Office	25	ksf							
		Daycare	15	ksf							
		Library	15	ksf							
69	1828 E Cesar Chavez Av	Office	32	ksf	1,168	58	16	74	30	82	112
70	2407 E 1st St	Apartments	50	du	354	12	14	26	16	9	35
		Office	8.5	ksf							
		Retail	3.4	ksf							
71	2420 E Cesar Chavez Av	Apartments	77	du	1,087	25	36	61	54	44	98
		Retail	4	ksf							
		Health Club	4	ksf							
72	119 S Soto St	Apartments	65	du	433	7	19	26	23	16	40
		Retail	5	ksf							
73	810 E 3rd St	Apartments	4	du	1,487	37	32	69	87	48	135
		Restaurant	3.5	ksf							
		Retail	6.2	ksf							
74	848 S Grand Ave	Condominiums	420	du	3,882	66	144	210	212	165	377
		Retail	38.5	ksf							
75	1050 S Grand Ave	Condominiums	151	du	1,084	15	54	68	64	35	99
		Retail	3.472	ksf							
		Restaurant	22	ksf							
76	1115 S Hill St	Mixed Use	N/A	Other	543	-45	40	-5	50	-7	43
77	201 S Broadway Ave	Retail/Restaurant	27.675	ksf	N/A	-40	-41	-81	53	17	70
78	1200 S Grand Ave	Apartments	640	du	4,886	92	148	240	181	134	315
		Retail	45	ksf							
79	928 S Broadway	Apartments	670	du	4,715	21	229	250	272	109	381
		Condominiums	17	du							
		Retail	58.8	ksf							
80	840 S Olive St	Condominiums	303	du	3,071	81	166	247	174	96	270
		Restaurant	9.68	ksf							
		Retail	1.5	ksf							
81	400 S Broadway	Apartments	450	du	3,292	50	187	237	193	112	305
		Retail	6.904	ksf							
		Bar	5	ksf							
82	1001 S Olive St	Apartments	225	du	1,581	22	79	101	94	51	145
		Restaurant	5	ksf							
83	920 S Hill St	Apartments	239	du	1,476	23	84	107	87	50	137
		Retail	5.4	ksf							
84	955 S Broadway	Apartments	201	du	1,275	21	72	93	74	43	117
		Retail	6	ksf							
85	801 S Olive St	Apartments	363	du	2,557	33	129	162	140	83	225
		Commercial	10	ksf							
86	820 S Olive St	Apartments	589	du	3,309	63	202	264	195	106	302
		Retail	4.5	ksf							
87	1148 S Broadway	Apartments	94	du	553	8	30	38	32	18	50
		Retail	2.5	ksf							
88	1111 S Broadway	Apartments	391	du	5,198	144	176	319	258	274	532
		Office	39.7	ksf							
		Retail	49	ksf							
89	1120 S Grand Ave	Apartments	666	du	2,730	42	127	170	136	93	229
		Shopping	20.69	ksf							
		Mixed use	N/A	Other							
90	1036 S Grand Ave	Restaurant	7.149	ksf	492	2	3	5	27	14	41
91	527 N Spring Street	Apartments	345	du	3,585	49	118	167	189	131	320
		Restaurant	11	ksf							
		Retail	23	ksf							
		Retail	21	ksf							
92	737 S Spring St	Apartments	320	du	3,942	72	141	213	167	116	283
		Pharmacy/Drugstore	250	ksf							

TABLE 2
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RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
93	340 S Hill St	Apartments	428	du	2,253	36	129	163	133	75	208
		Restaurant	2.894	ksf							
94	940 S Hill St	Apartments	232	du	1,881	20	80	100	115	53	168
		Restaurant	14	ksf							
95	744 S Figueroa St	Apartments	436	du	2,644	37	146	183	158	86	244
		Retail	10	ksf							
96	850 S Hill St	Apartments	300	du	1,970	28	106	134	116	65	181
		Retail	4	ksf							
		Restaurant	3.5	ksf							
97	700 W 9th St	Apartments	341	du	2,624	37	146	183	143	95	238
		Retail	11.7	ksf							
98	649 S Olive St	Hotel	241	Rooms	1,674	65	44	109	63	60	123
99	1100 S Main St	Apartments	379	du	385	9	103	112	78	14	92
		Other	25.81	ksf							
100	924 N Spring St [b]	Condominiums	770	du	6,583	169	290	459	307	201	508
		Retail	51.39	ksf							
101	845 S Olive St	Apartments	208	du	1,305	25	76	101	77	42	119
		Retail	2.4	ksf							
102	888 S Hope Street	Apartments	526	du	3,498	54	214	268	212	114	326
103	1000 S Hill Street	Apartments	700	du	3,392	49	193	242	181	104	285
		Retail	7	ksf							
		Restaurant	8	ksf							
104	333 W 5th Street	Condominiums	100	du	3,358	64	72	136	201	129	330
		Hotel	200	Room							
		Commercial	27.5	ksf							
105	100 S Broadway	Apartments	1127	du	8,535	94	341	435	294	38	332
		Commercial	410	ksf							
106	754 S Hope St	Condominiums	409	du	2,315	35	137	172	137	78	215
		Retail	7.329	ksf							
107	100 S Grand Avenue	Apartment	412	du	21,631	919	632	1,551	1,120	1,344	2,464
		Condominium	1648	du							
		Retail	225.3	ksf							
		Supermarket	53	ksf							
		Restaurant	67	ksf							
		Health Club	50	ksf							
		Event Facility	250	Seats							
		Hotel	275	Rooms							
		Office	681	ksf							
108	1230 S Olive St	Apartments	360	du	2,114	31	126	157	127	69	196
		Retail	6.4	ksf							
109	708 N Hill St	Apartments	162	du	980	16	57	73	57	33	90
		Retail	5	ksf							
110	211 W Alpine St	Apartments	122	du	566	9	42	51	37	18	55
		Retail	7.5	ksf							
111	1101 N Main	Condominiums	318	du	1,102	-9	80	71	75	12	87
112	700 W Cesar Chavez Ave	Apartments	299	du	1,511	7	89	96	99	54	153
		Retail	8	ksf							
113	949 S Hope St	Apartments	236	du	791	8	45	53	43	7	50
		Retail	5.954	ksf							
114	900 W Wilshire Bl	Hotel	560	du	3,624	725	75	800	94	764	858
		Office	1500	ksf							
		Retail/Restaurant	275	ksf							
		Apartments	100	du							
115	643 N Spring St	Hotel	142	du	2,723	61	122	183	138	91	229
		Commercial	17	ksf							
		Restaurant	2.532	ksf							
		Apartments	281	du							
116	427 W 5th St	Apartments	615	du	3,134	42	115	157	164	97	261
		Restaurant	16.309	ksf							
117	1843 E 41st St	Warehouse	643	ksf	2,581	242	53	295	67	202	269
118	250 S Hill St	Condos	330	du	1,217	21	73	94	66	42	108
		Retail	12	ksf							
119	1700 E Martin Luther King	Industrial	480.3	ksf	2,134	153	41	194	54	151	205
120	1027 S Olive St	Apartments	100	du	632	9	39	48	38	21	59
121	3401 E 1st Street	Industrial	480.3	ksf	458	6	18	24	25	17	42
		Apartments	100	du							
122	1147 E Palmetto	Apartments	49	du	2,908	73	141	215	147	83	230
		Retail	10	ksf							
		Apartments	120	du							
123	1030 N Soto Street	Hotel	81	rooms	662	25	18	43	25	23	48
124	2710 S Compton Ave	Manufacturing	36.26	ksf	346	37	10	47	15	33	48
		Warehouse	46.76	ksf							
		Warehouse	3.74	ksf							

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670 MESQUIT PROJECT
RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
125	441 Bauchet St	Jail	3885	Beds	242	0	9	9	0	29	29
126	129 W College St	Apartments	770	du	6,583	169	290	459	307	201	508
		Grocery	34.52	ksf							
		Restaurant	8	ksf							
		Retail	5.87	ksf							
127	1340 S Hill Street	Apartments	156	du	1,700	51	82	133	89	57	146
		Retail	5	ksf							
		Restaurant	10	ksf							
128	1206 E 6th Street	Apartments	1736	du	14,258	437	585	1022	710	642	1352
		Warehouse	316.632	ksf							
		Office	253.514	ksf							
		Quality Restaurant	22.639	ksf							
		High-turnover Restaurant	22.639	ksf							
		Retail	82.332	ksf							
		Museum	22.429	ksf							
		Hotel	514	rooms							
		School	300	students							
129	1045 Olive St	Commercial	15	ksf	2,227	39	157	296	138	62	200
		Condominiums	800	du							
130	930 E 6th St	Apartments	236	du	1,074	17	79	96	70	32	102
		Retail	12	ksf							
131	1030 S Hill St	Apartments	700	du	3,392	49	193	242	181	104	285
		Retail	7	ksf							
		Restaurant	7	ksf							
132	1024 S Mateo St	Apartments	104	du	2,095	144	79	223	82	123	205
		Office	101.983	ksf							
		Restaurant	16.279	ksf							
		Retail	5.83	ksf							
		Other	5.519	ksf							
133	554 S San Pedro St	Apartments	303	du	636	38	25	63	30	37	67
		Commercial	19.91	ksf							
134	443 S Soto St	School	625	students	277	131	112	243	32	25	57
135	220 N Center Street	Apartments	430	du	2,166	33	119	152	121	79	200
		Retail	8.742	ksf							
136	755 S Wall St	Office	53.2	ksf	2,499	112	79	191	164	141	305
		Apartments	322	du							
		Other	4.42	ksf							
		Other	125	Persons							
		Retail	4.4	ksf							
137	220 E Washington Bl	Apartments	32	du	2,113	38	118	156	125	53	178
		Commercial	19	ksf							
138	1133 Hope St	Apartments	208	du	1,543	20	74	94	91	50	141
		Restaurant	5.03	ksf							
139	400 W 7th St	Apartments	165	du	2,792	18	57	75	132	127	259
		Bar	11.9	ksf							
		Restaurant	14.03	ksf							
140	1229 S Grand Av	Condominiums	161	du	1,116	23	62	85	62	33	95
		Restaurant	3	ksf							
141	Sixth Street PARC	Park/Recreational	12	acres	TBD	TBD	TBD	TBD	TBD	TBD	TBD
			Total		403,394	13,923	15,238	29,161	19,149	18,109	37,258

Notes:
du = dwelling unit
ksf = one thousand square feet
Related projects list based on information provided by LADOT on February 22, 2018.
[a] Projects were not included in information provided by LADOT. Projects and land use from third party research. Trip generation estimates based on ITE rates
[b] Projects were not included in information provided by LADOT. Projects and land use from LADCP Major Projects Website
Additional research and coordination with City Planning was conducted to ensure consistency of available information as of April 4, 2018.

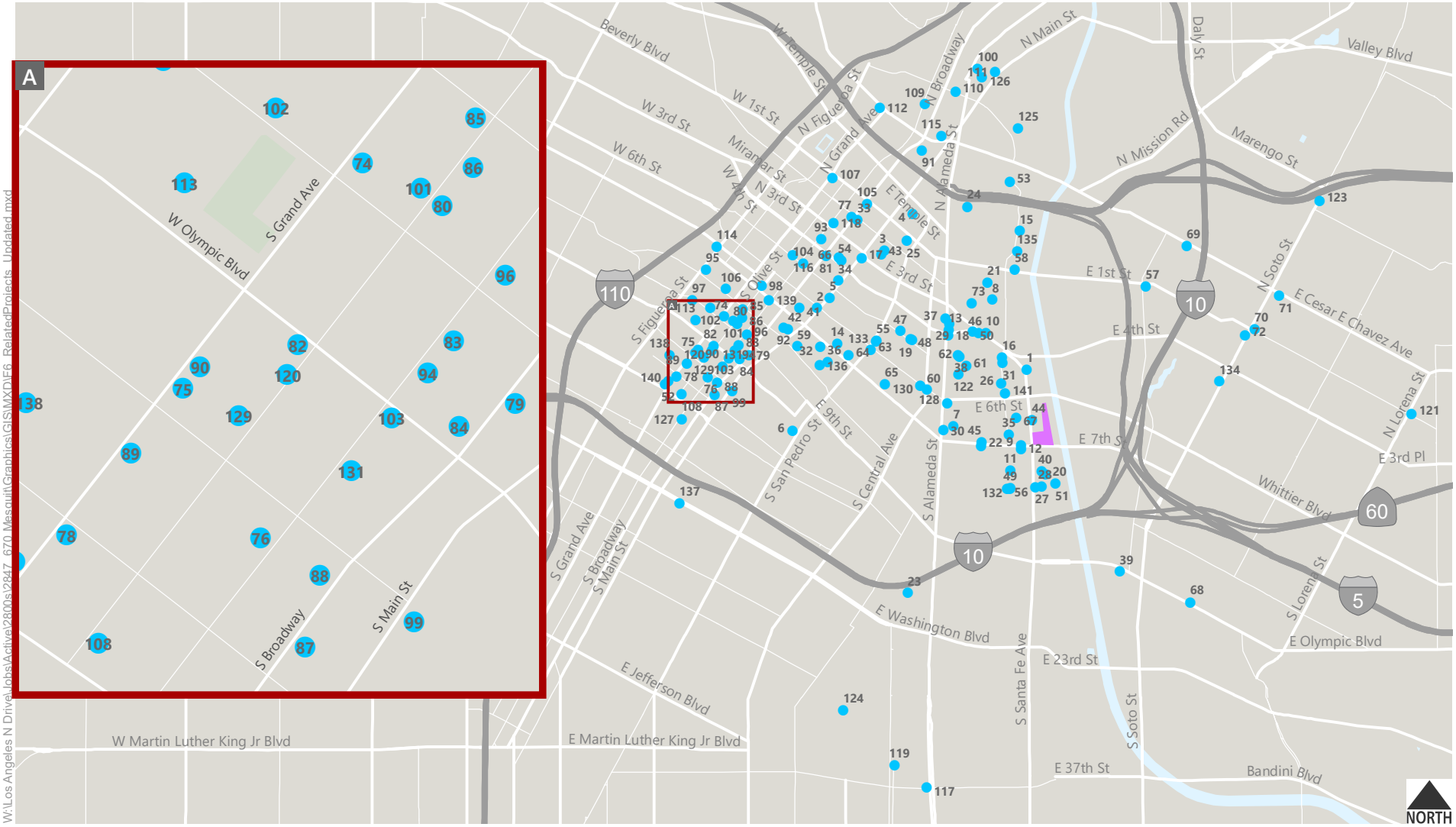


Figure 5

Related Projects

3. CEQA TRANSPORTATION ANALYSES

3.1 Plans, Programs, Ordinances, or Policies Conflict Review

The City's TAG includes a review for conflicts with transportation-related plans, programs, ordinances, or policies. Based on applying the screening criteria, the threshold test is to assess whether a project would conflict with an adopted program, policy, plan, or ordinance that is adopted to protect the environment. A project would not result in an impact merely if it would not implement a particular program, policy, plan or ordinance. Rather, it is the intention of this threshold test to ensure that a proposed development does not conflict with nor preclude the City from implementing adopted programs, plans, and policies.[7] Furthermore, under CEQA, a project is considered consistent with an applicable plan if it is consistent with the overall intent of the plan and would not preclude the attainment of its primary goals. A project does not need to be in perfect conformity with each and every policy. Finally, any inconsistency with an applicable policy, plan, or regulation is only a significant impact under CEQA if the policy, plan, or regulation was adopted for the purpose of avoiding or mitigating an environmental effect and if the inconsistency itself would result in a direct physical impact on the environment.

This evaluation was conducted by reviewing the following City documents:

- *Mobility Plan 2035* is the City's document to guide the operation and design of streets and other public right-of-way. It lays out a vision for designing safer, more vibrant streets, that are accessible to people, no matter how they travel. The street standards were reviewed and compared to existing and future conditions resulting from the Project, and it was determined that the Project is compliant with *Mobility Plan 2035*.
- Community Plans make up the land use element of the City's General Plan and guide the physical development of neighborhoods by providing neighborhood level detail for land uses, the transportation network, policies, and implementation strategies. The Project is located in the Central City North Community Plan area.
- Vision Zero is a plan that strives to eliminate traffic related deaths in Los Angeles by 2025 through strategies such as modifying streets to better serve vulnerable road users. Projects located on the HIN should make improvements or fund them. The Project is not along any Vision Zero HIN priority corridors.
- Plan for Healthy LA aims to create healthier communities for all Angelenos by focusing on public health from the perspective of the built environment and City services. The plan states a balanced, affordable, and sustainable transportation system is a cornerstone of a healthy city.
- Los Angeles Municipal Code (LAMC) Section 12.21 A.16 specifies the requirements for new developments and additions to provide bicycle parking and shower facilities. The Project would provide a minimum of 288 short-term and 519 long-term bicycle parking spaces, as required by

[7] Los Angeles Department of Transportation, *Transportation Assessment Guidelines*, page 2-2 (July 2020).

the proposed Mesquit Specific Plan (described below), which, if adopted, would supersede the City's bicycle parking requirements. The Project would also provide shower facilities and locate bicycle parking in conformance with the proposed Mesquit Specific Plan.

- LAMC Section 12.26J outlines transportation demand management and trip reduction measures required for the construction of new non-residential developments. The Project would provide the required transportation demand management and trip reduction measures, such as transportation information, bicycle parking in conformance with the proposed Mesquit Specific Plan, and designated passenger loading areas.
- Streetscape Plans provide a blueprint for streetscape improvements in the public right-of-way on key street segments to provide pedestrian-friendly environments. The Project is not along any streetscape plan areas.
- The City of Los Angeles Citywide Design Guidelines encompass common design objectives to maintain neighborhood form and character while promoting quality design and creative infill development solutions. The TAG specifically refers to Guidelines 1 – 3, which focus on a safe pedestrian experience, incorporation of vehicular access without degrading the pedestrian experience, and maintenance of human scale. The Project was determined to support these guidelines with Project features that are detailed in the discussion below.
- The City of Los Angeles Manual of Policies and Procedures (MPP) Section 321 provides the basic criteria for the review of driveway designs. The Project complies with the location and number of driveways specified in MPP Section 321.
- The City of Los Angeles Transit-Oriented Communities Affordable Housing Incentive Program Guidelines (TOC Guidelines) provide the eligibility standards, incentives, and other necessary components of the TOC program. The Project is classified as a Tier 3 and would not degrade or inhibit trips made by biking, walking, or taking transit.

This evaluation also reviewed the proposed Mesquit Specific Plan, which would establish land use regulations for the Project site to ensure consistent implementation of development standards throughout the Project site. The proposed Specific Plan recognizes the Project site's unique characteristics, including unique opportunities for public benefits and unique constraints posed by the Project site's location which are not experienced by other sites.

Project Review

The Project features and design generally support multimodal transportation options and would be consistent with policies, plans, and programs that support alternative transportation, such as the *Mobility Plan 2035*. The Project design includes features to minimize impacts to the public right-of-way and enhance the user experience by integrating multimodal transportation options. The Project proposes to add new sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street, street trees along the Project site perimeter, improve street and pedestrian lighting, and add four pedestrian passageways connecting Mesquit Street to the eastern edge of the Project site to enhance connectivity to the existing pedestrian network. On the western side of the Project, the Project proposes a full-width

vacation/merger of Mesquit Street from the northerly right-of-way of 7th Street to the southerly right-of-way of Jesse Street in order to convert Mesquit Street from Jesse Street to 7th Street to a pedestrian paseo with limited vehicle access that connects to 7th Street. The project also proposes a half-width subsurface merger for the easterly half of Mesquit Street from the southerly right-of-way of Jesse Street to the southerly line of the LADWP property on the east side of Mesquit Street. The Project will maintain public access to the vacated portions of Mesquit Street. On the southern side of the Project, the Project proposes to add a pedestrian crosswalk on the 7th Street Bridge to access the eastern portion of the Project site (near Building 4) and an elevated pedestrian walkway along the entire eastern edge of the Project site, which would be replaced with the deck for the Project with the Deck Concept, to connect the North River Balcony and a landscaped balcony at the southerly end of Building 4 (South River Balcony). The North River Balcony would also connect to the Project's Northern Landscaped Area, the proposed open space improvements associated with the Sixth Street Viaduct Replacement project (i.e. the Park, Arts, River, and Connectivity (PARC) Improvements) and the proposed future 6th Street/Arts District Metro light rail station. The Project with the Deck Concept proposes a pedestrian deck over the existing railway properties facing the Los Angeles River that would host permanent and temporary programming. These Project features not only enhance connectivity to the existing pedestrian network and within the Project site but also encourage pedestrian activity. The Project does not propose to narrow sidewalks or remove streetscape amenities or features. The locations of driveways are intended to minimize disruptions to the pedestrian right-of-way. The Project will provide short-term and long-term bicycle parking in accordance with the requirements of the proposed Mesquit Specific Plan and a pull-out passenger loading zone along the east side of Mesquit Street, in front of Building 1.

The Project proposes two driveways along 7th Street with restricted turning movements to minimize disruptions to pedestrians and through traffic. One driveway would be a two-way signalized driveway connecting the 7th Street Bridge to the third level of Building 4 near the southeastern corner of the Project site that allows for full access out and right-turns only in. Another driveway is proposed as a one-way, right-turn-out-only driveway connecting the 7th Street Bridge to the second level of Building 5 near the southwestern corner of the Project site. 7th Street is designated as an Avenue II, and while the existing right-of-way width (72') is less than the Avenue II specification (86'), a dedication is not required because 7th Street is a bridge along the Project frontage. The Project also proposes two full-access driveways along Mesquit Street, which is classified as a collector street along the Project frontage. One driveway would be located at the northern end of the Project site at the ground level of Building 1, and another driveway would be located at the intersection of Mesquit Street & Jesse Street at the ground level of Building 2. The existing right-of-way and roadway widths of Mesquit Street are narrower than the collector specifications, but the Project does not propose to dedicate Mesquit Street because the Project is proposing a vacation of Mesquit Street from 6th Street to 7th Street. The proposal is for a full-width vacation/merger of Mesquit Street from the northerly right-of-way of 7th Street to the southerly right-of-way of Jesse Street and a half-width subsurface merger for the easterly half of Mesquit Street from the southerly right-of-way of Jesse Street to the southerly line of the LADWP property on the east side of Mesquit Street. The intent of the vacation of Mesquit Street is to create a pedestrian paseo with limited vehicle access from Jesse Street to 7th Street and

to shape the streetscape along Mesquit Street while still maintaining access. The Project would not substantially increase hazards, conflicts, or preclude City actions to fulfill or implement projects associated with these networks and will contribute to overall walkability through enhancements to the Project site.

Appendix C provides additional detail regarding the plans, programs, ordinances, and policies conflict review analysis conducted per the City's TAG.

Cumulative Review

The TAG states that the review of plans, ordinances, and policies to assess potential conflicts with proposed projects should be an assessment of potential cumulative impacts that may result from a proposed project in combination with other development projects in the study area. For example, a cumulative impact could occur if the project as well as other future development projects located on the same block were to preclude the City's ability to serve transportation user needs as defined by the City's transportation policy framework.

The nearest related project to the Project site is a mixed-use office, retail, and restaurant project at 640 South Santa Fe Avenue, called "Produce LA," located across Mesquit Street from the proposed Project. This project, currently under construction, will maintain the existing sidewalks along its frontages on Santa Fe Avenue and Mesquit Street and has replaced the existing sidewalk along its frontage on Jesse Street. South Santa Fe Avenue is designated as an Avenue II, but the existing right-of-way and roadway widths along the 640 South Santa Fe Avenue project frontage are narrower than the Avenue II specifications. Jesse Street and Mesquit Street are designated as Collector streets and the existing right-of-way widths are narrower than the Collector street specifications. The Produce LA project dedicated 18 feet along South Santa Fe Avenue and seven feet along Mesquit Street and widened Jesse Street by seven feet, which included replacing the existing sidewalk, along the project frontages[8]. This related project proposes an all-access driveway, with the exception of outbound left turns, on South Santa Fe Avenue and an inbound-only driveway on Mesquit Street. No cumulative impacts are anticipated on Mesquit Street, where the proposed Project includes two driveways because the majority of the related project driveway activity will likely occur on South Santa Fe Avenue based on the proposed driveways. Therefore, traffic volumes for the Project and related project would be distributed on multiple streets rather than concentrating all travel on Mesquit Street. Other related projects located farther from the Project site would not share adjacent street frontages with the Project site. No significant cumulative impacts are anticipated to which both the Project and other nearby related projects would contribute in regard to City transportation policies or standards adopted to protect the environment and support multimodal transportation options.

[8] Office of the Assessor County of Los Angeles, Assessor Map Book 5164, Page 15.

3.2 Vehicle Miles Traveled Analysis

As part of the City's CEQA guidelines, analysis of proposed land use projects is required to assess whether they could result in a substantial impact on vehicle miles traveled. The follow section summarizes an assessment of VMT generated by the Project.

LADOT developed a VMT Calculator tool to assess the VMT impacts of proposed development projects within the City. The VMT Calculator also assesses the effectiveness of selected TDM measures proposed for a project based on available research. Analysis was conducted for the Project using the City's VMT analysis procedures and Version 1.3 of the VMT Calculator (released May 2020). This analysis considered the Project's proposed land uses without and with the Project's proposed transportation demand management (TDM) program.

VMT Impact Criteria

The City's VMT impact criteria for development projects is specified in the TAG. Per the criteria, a development project would have a potential significant impact if the project meets one or more of the following:

- For residential projects, a development project may have a potential significant impact if it generates daily household VMT per capita exceeding 15% below the existing average daily household VMT per capita for the Area Planning Commission (APC) area in which the project is located (see table below). This criterion was used for the multifamily residential component of the Project.
- For office projects, a development project may have a potential significant impact if it generates daily work VMT per employee exceeding 15% below the existing average daily work VMT per employee for the APC in which the project is located (see the table below). This criterion was used for the non-retail employment components of the Project.
- Local-serving retail development tends to shorten trips and reduce VMT whereas regional-serving retail development can lead to substitution of longer trips for shorter ones and could increase VMT. In the latter case, any net increase in VMT is considered to be significant. Local-serving is defined as retail uses less than 50,000 square feet. The proposed retail components of the Project total more than 50,000 square feet and are therefore considered regional-serving. Per the City's proposed procedures, the City of Los Angeles' citywide travel demand forecasting model was run to evaluate the potential for the proposed retail uses and resulted in a net increase in VMT. The methodology for the regional-serving retail uses is further detailed in the next section.
- For mixed-use projects, reductions in daily trips and VMT due to internal capture between the project's land uses should be considered, after which the impact criteria above are applied to each individual land use.

VMT Impact Criteria (15% Below APC Average)

Area Planning Commission	Daily Household VMT per Capita	Daily Work VMT per Employee
Central	6.0	7.6
East LA	7.2	12.7
Harbor	9.2	12.3
North Valley	9.2	15.0
South LA	6.0	11.6
South Valley	9.4	11.6
West LA	7.4	11.1

The Project is located in the Central APC.

Per the TAG, a project could have a significant cumulative impact on VMT if the project has both a significant project-level impact as determined above and is not consistent with the Southern California Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy (SCAG RTP/SCS) in terms of development location, density, and intensity.

Impact Analysis

Per the City's procedures, daily household VMT per capita and daily work VMT per employee were estimated using the City's VMT Calculator tool for each Project scenario. The VMT Calculator starts with Institute of Transportation Engineers (ITE, 9th Edition) trip generation rates[9], implements the MXD (mixed-use) methodology from the U.S. EPA, and utilizes socioeconomic, transit, and trip length data from the Los Angeles citywide travel demand model (calibrated to Los Angeles conditions) to adjust the trips for internalization, transit, and walkability. The VMT Calculator was calibrated based on local count data collected in the City of Los Angeles. The VMT Calculator allows for the selection of a wide variety of potential land uses including the multi-family housing, hotel, office, retail and restaurant, which was analyzed as half quality restaurant and half high-turnover restaurant, uses proposed as part of both Project options. Certain components of the proposed Project land uses, however, are not explicitly included in the VMT Calculator.

[9] The LA VMT Calculator was under development prior to release of the 10th Edition of ITE's trip generation manual in late 2017. The VMT Calculator was validated to LA conditions based on the empirical counts conducted at market rate residential, affordable housing, office, and mixed-use sites in the City, regardless of the source of the rates used as a starting point.

For the purposes of the VMT analysis, the farmer's market was included with the grocery, the food hall was included with the quality restaurant, and the studio/event/gallery, group exercise classes, and busking were included with the gym.

In addition to the VMT Calculator, the City of Los Angeles' citywide travel demand forecasting model was run to evaluate the potential for the proposed retail uses to result in a net increase in VMT. Since the overall number of trips in the citywide model is based on trips originating in residences (home-based trips), the total number of trips across the entire model network will not be influenced materially by the introduction of the additional retail space. Rather the model will redistribute home-shopping trips from other retail destinations to the proposed retail destination. The retail trips distributed to the Project are considered to be Project-related trips because they are drawn to the Project but are not new from a regional standpoint. Per the City's procedures, retail VMT was estimated through the following steps:

- The model traffic analysis zone (TAZ) in which the Project is located was determined.
- The Project land uses were converted into the appropriate socioeconomic categories utilized in the model. The socioeconomic parameters in the TAZ were adjusted appropriately to reflect removal of the existing land uses and addition of the Project land uses.
- The model process was run for the model existing base year for the four time periods in the model (AM peak period, midday period, PM peak period, nighttime period) for the following scenarios:
    - Base ("without project") scenario
    - "Project without retail" scenario, consisting of all of the Project's proposed land uses except the retail uses
    - "Project with retail" scenario including all project land uses
- The total VMT on the model network within a 12-mile radius of the Project TAZ was calculated for each time period and summed to determine the estimated daily citywide VMT for each scenario. The daily VMT for the "Project without retail" scenario was subtracted from the daily VMT for the "Project with retail" scenario to determine the net change in daily VMT caused by the Project retail uses.

Residential VMT

Figure 6A and **Figure 6B** present the City's VMT Calculator dashboard as analyzed for the Project and the Project with the Deck Concept, respectively. The Project is estimated by the Calculator to produce a total of 27,040 daily vehicle trips and a total daily VMT of 195,304. The Project with the Deck Concept is estimated by the Calculator to produce a total of 27,493 daily vehicle trips and a total daily VMT of 198,540. As indicated in **Figure 6A and 6B**, the daily residential VMT per capita is estimated at 4.0 for both Project options, below the threshold of 6.0 daily residential VMT per capita for the Central APC. Thus, neither Project option would have a significant impact on residential VMT per capita as estimated by the VMT Calculator. Additional details regarding the VMT analysis are available in **Appendix D**.

Work VMT

The daily work VMT per employee was estimated for both Project options and is estimated at 6.6, which is below the threshold of significance for the Central APC of 7.6 daily work VMT per employee. Thus, the Project and the Project with the Deck Concept would not have a significant impact on daily work VMT per employee as estimated by the VMT Calculator. Additional details regarding the analysis are available in **Appendix D**.

Regional Serving Retail VMT

Since the retail components of the Project are greater than 50,000 square feet, they were evaluated using the City's travel demand forecasting model. The Project with the Deck Concept includes more land uses and programming and results in a higher VMT than the Project. Therefore, the Project with the Deck Concept's results are presented to be conservative. The City's model estimated a total daily VMT of 96,866,000 miles within a 12-mile radius of the Project TAZ when run without the retail components of the Project with the Deck Concept. With all the Project with the Deck Concept retail uses included, the model estimated a total daily VMT of 96,898,000 miles within a 12-mile radius of the Project TAZ. This is a net increase of 32,000 daily miles, or a 0.03% increase from the network before the retail was added. This increase in VMT is considered to be a significant impact, due to the significance criteria identifying an impact when any increase in VMT due to regional retail occurs. Proposed mitigation measures are described below.

Cumulative VMT

As noted above, the Project is projected to have a significant impact on retail VMT. Given its location in a dense area of the City of Los Angeles served by public transit, the mixed-use nature of the Project, its provision of features to encourage walking and bicycling, and its proposed implementation of a TDM plan (as described below), however, the Project would be consistent with the applicable goals and objectives of the SCAG 2020-2045 RTP/SCS (SCAG, September 2020) to locate diverse jobs and housing in infill locations served by multiple transportation options and promote sustainable transportation options. Therefore, since the Project is consistent with the applicable goals and objectives of the SCAG 2020-2045 RTP/SCS, the Project's cumulative impact on VMT would not be significant.

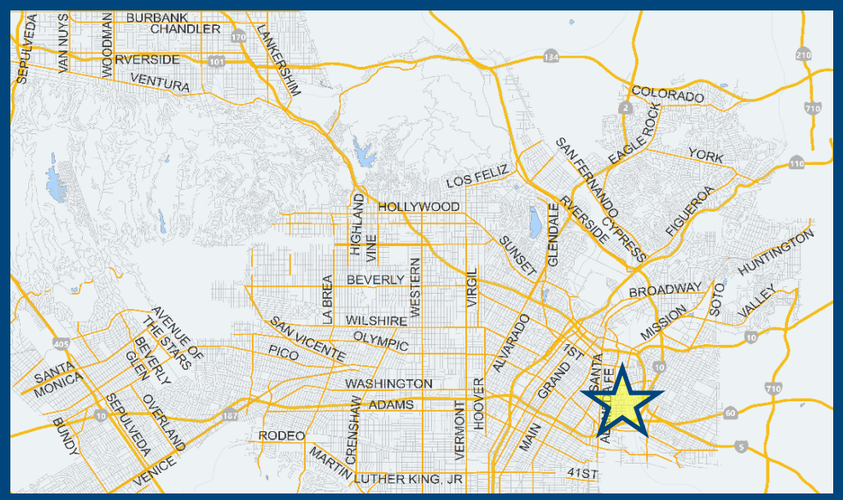
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 670 Mesquit

Scenario: Project

Address: 670 S MESQUIT ST, 90021



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	155.765	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**Yes**
Max Work Based TDM Achieved?	**No**	**Yes**

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure
- **G** Neighborhood Enhancement

Traffic Calming Improvements
☐ Proposed Prj ☐ Mitigation
25 percent of streets within project with traffic calming improvements
25 percent of intersections within project with traffic calming improvements

Pedestrian Network Improvements
☑ Proposed Prj ☐ Mitigation
within project and connecting off-site

Analysis Results

Proposed Project	With Mitigation
27,040 Daily Vehicle Trips	**24,484** Daily Vehicle Trips
195,304 Daily VMT	**176,517** Daily VMT
4.0 Household VMT per Capita	**3.3** Household VMT per Capita
6.6 Work VMT per Employee	**5.4** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

Figure 6A

VMT Calculator Results for the Project

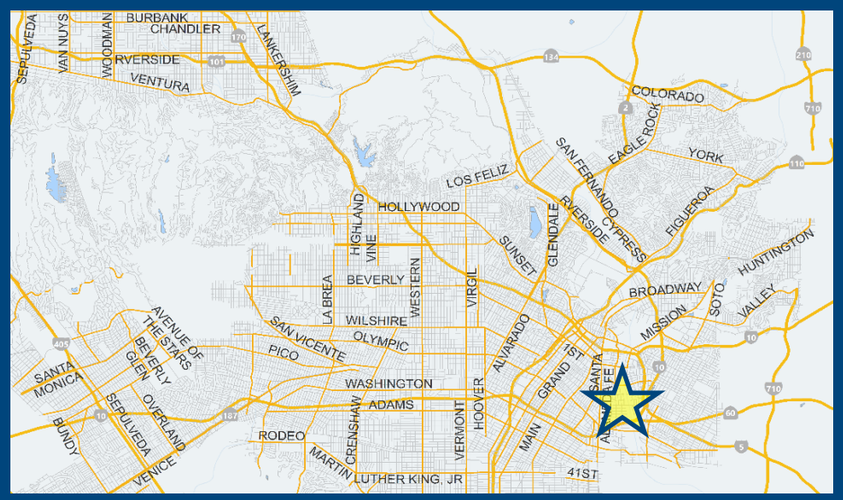
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 670 Mesquit

Scenario: Project with the Deck Concept

Address: 670 S MESQUIT ST, 90021



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	173.378	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**Yes**
Max Work Based TDM Achieved?	**No**	**Yes**

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure
- **G** Neighborhood Enhancement

Traffic Calming Improvements
☐ Proposed Prj ☐ Mitigation
25 percent of streets within project with traffic calming improvements
25 percent of intersections within project with traffic calming improvements

Pedestrian Network Improvements
☑ Proposed Prj ☐ Mitigation
within project and connecting off-site

Analysis Results

Proposed Project	With Mitigation
27,493 Daily Vehicle Trips	**24,901** Daily Vehicle Trips
198,540 Daily VMT	**179,481** Daily VMT
4.0 Household VMT per Capita	**3.3** Household VMT per Capita
6.6 Work VMT per Employee	**5.4** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

Figure 6B

VMT Calculator Results for the Project with the Deck Concept

Transportation Demand Management Plan

The Project proposes to implement a transportation demand management program as mitigation to reduce the VMT impacts and trip generation of the Project. A TDM program consists of strategies that are aimed at discouraging single-occupancy vehicle trips and encouraging alternative modes of transportation, such as carpooling, taking transit, walking, and biking. The Project as proposed includes compliance with regulatory requirements and site design elements that would be expected to enhance the usage of walking, biking, and transit modes as alternatives to the automobile including:

- Bicycle Amenities – The Project will provide long-term and short-term bicycle parking, bicycle showers, and secure bicycle parking in accordance with the requirements of the proposed Mesquit Specific Plan.
- Site Design – The site will be designed to encourage walking, biking, and taking transit. Amenities would include:
    - New sidewalks along the frontage of Mesquit Street from the northern end of Building 1 to Jesse Street
    - Street trees along the Project perimeter
    - Improved street and pedestrian lighting
    - Pedestrian network within the site and connecting to the surrounding pedestrian system
    - Readily-accessible drop-off/pick-up zones for shared mobility providers
    - EV charging stations

Potential TDM Program Elements

A TDM plan that will detail additional program elements beyond the regulatory and site design features described above will be prepared as mitigation to reduce the trip generation and VMT impacts of the Project. Additional TDM program elements could include measures, such as unbundled parking and discounted transit passes, although the exact measures will be determined when the plan is prepared. The City of Los Angeles requires that the TDM plan be prepared prior to issuance of building permits, with the final TDM plan approved by LADOT prior to the City's issuance of the certificate of occupancy for the Project. Implementation of the TDM plan occurs after building occupancy.

The following potential TDM strategies would be applicable for employees working at the proposed Project office and commercial uses and residents living in the dwelling units:

- Commute trip reduction program for office and commercial workers and residents. Also includes TDM marketing and promotion (website and possible mobile app for transportation information specific to the Project).
- Parking cost unbundled from leases for office and commercial tenants, coupled with employee parking cash-out and pricing workplace parking.
- Parking costs unbundled from rent for residential tenants.

- Tenants in the office and commercial uses and residents would be provided with the opportunity to obtain subsidized/discounted daily or monthly public transit passes to use locally/regionally. These passes can be partially or wholly subsidized by the employer and residential management company, respectively.
- A ride-sharing program would be provided by designating a certain percentage of parking spaces for ride sharing vehicles, designing adequate passenger loading/unloading and waiting areas for ride-sharing vehicles, and providing a website or message board for coordinating rides.
- Enhancements/amenities, such as curb cuts and continental crosswalks, at bus stops nearest to Project site:
  - Decatur Street & 7th Street: Metro Rapid 720
  - Alameda Street & 7th Street: Metro Rapid 760
  - Imperial Street & 7th Street: Metro 18, 60, 62
  - Molino Street & Palmetto Street: LADOT DASH A
- Improved first-mile/last-mile connections to nearby bus stops
- Mobility hub (carshare, bikeshare, bike repair facilities, and real-time transit information)

The VMT Calculator was used to quantify the potential VMT reduction for the Project due to implementation of these TDM measures. The VMT Calculator incorporates research conducted by Fehr & Peers under contract to the California Air Pollution Control Officers Association (CAPCOA, 2010) and elsewhere. It considers a variety of TDM strategies and the setting in which they may apply, estimates effectiveness for each, and applies caps when appropriate (for example, simply aggregating the effectiveness of individual TDM measures can sometimes yield a result that is overestimated since more than one measure may be targeting the same trip). As shown in **Figures 6A** and **6B**, with the TDM program, the estimated total daily vehicle trips are projected to be reduced from 27,040 to 24,484 for the Project and from 27,493 to 24,901 for the Project with the Deck Concept. The estimated total daily VMT is projected to be reduced from 195,304 to 176,517 for the Project and from 198,540 to 179,481 for the Project with the Deck Concept. The daily residential VMT per capita is projected to be reduced by 18% from 4.0 to 3.3 for both Project options, which would continue to not be a significant impact under the City's criteria. The daily work VMT per employee is projected to be reduced by 18% from 6.6 to 5.4 for both Project options, which would continue to not be a significant impact under the City's criteria.

The TDM program measures related to pedestrian, bicycle, and transit amenities would also help to reduce retail trip making and would partially offset the increase in VMT projected for the Project's retail uses. This transportation assessment is conservative in that it does not quantify the partial reduction in retail VMT that is expected from the TDM program measures. This is because there is insufficient research to do so. There are no additional feasible mitigation measures that would further reduce the retail VMT impact for the Project, and the retail VMT impact would remain significant and unavoidable. Also, as mentioned in Section 2.2, the potential construction and operation of a 6th Street Metro station would further reduce vehicle trips generated by the Project. Additional details regarding the VMT analysis are available in **Appendix D**.

3.3 Geometric Design Hazards

This section discusses impacts regarding the potential increase of hazards due to a geometric design feature that generally relates to the geometric design of access points to and from the Project site and may include safety, operational, or capacity impacts.

Pedestrian access to the Project site would be provided via existing and new sidewalks around the perimeter of the Project site and through pedestrian paseos accessible to the neighborhood. Residents, visitors, patrons, and employees arriving to the Project site by bicycle would have the same access opportunities as pedestrians but would need to dismount and walk bicycles through the Project site. Cyclists would be able to access on-site bicycle parking facilities through a ground floor entrance on the southern end of the pedestrian paseo between Buildings 3 and 5 and elevators between Buildings 2 and 3. The Project's access locations would be designed to the City standards and would provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls that meet the City's requirements to protect pedestrian safety. All roadways and driveways will intersect at right angles. Street trees and other potential impediments to adequate driver and pedestrian visibility would be minimal. Pedestrian entrances separated from vehicular driveways would provide access from the adjacent streets, parking facilities, and transit stops.

The Project was analyzed with the following driveways:

- A two-way full-access driveway on Mesquit Street at the northern end of the Project at ground level (Building 1).
- A two-way full-access driveway at the intersection of Mesquit Street & Jesse Street at ground level (Building 2).
- A two-way signalized driveway connecting the 7th Street Bridge to the third level of Building 4 near the southeastern corner of the Project site that allows for full access out and right-turns only in.
- A one-way right-turn-out-only driveway connecting the 7th Street Bridge to the second level of Building 5 near the southwestern corner of the Project site.

The Project would reduce the total number of vehicle access points to four driveways as there are currently three driveways and five loading docks on the existing frontage along Mesquit Street south of Jesse Street for loading and unloading at the existing cold storage facility. The Project proposes to locate loading docks for trucks and residential and hotel uses with sufficient turnaround capacity on the eastern side of the ground level of the Project site accessible from Mesquit Street. All trucks and other loading vehicles would enter and exit the parking structure through the northern driveway on Mesquit Street.

The driveways would be designed to comply with LADOT standards. The Project proposes to install a signal for the eastern driveway on 7th Street, which is designated as an Avenue II. This signalized driveway would restrict vehicles from turning left into the driveway and would have a crosswalk to facilitate pedestrians crossing 7th Street. The western driveway proposed on 7th Street would limit vehicles to egress-only with right-turns out of the driveway onto 7th Street. The driveways would not require the removal or relocation

of existing passenger transit stops and would be designed and configured to avoid or minimize potential conflicts with transit services and pedestrian traffic. None of the Project frontages are along streets that are part of the High Injury Network. As a result, the Project would not substantially increase hazards or conflicts and would contribute to overall walkability through enhancements to the Project site. **Appendix C** contains more detailed responses to the TAG evaluation questions that support this conclusion.

3.4 Freeway Safety Analysis

In May 2020, LADOT provided interim guidance on freeway safety analysis for land use proposals that are required to prepare a Transportation Assessment[10]. The freeway safety analysis evaluates a proposed project's effects to cause or lengthen a forecasted off-ramp queue onto the freeway mainline with speed differentials between vehicles exiting the freeway off-ramps and vehicles operating on the freeway mainline.

The interim guidance on freeway safety analysis requires freeway off-ramps where a proposed project adds 25 or more trips in either the morning or afternoon peak hour to be studied for potential queuing impacts. If the proposed project is not projected to add 25 or more peak hour trips at any freeway off-ramps, then a freeway ramp analysis is not required. The Project is projected to add 25 or more trips to the following freeway off-ramps:

- Study Intersection 22: I-10 Eastbound Off-ramp to Alameda Street (AM peak hour)
- Study Intersection H: US-101 Southbound Off-ramp to 7th Street (AM peak hour)
- Study Intersection J: I-10 Eastbound Off-ramp to Porter Street (AM peak hour)

For the identified freeway off-ramps, a queuing study was conducted for the "Future with Project" conditions for the Project with the Deck Concept, which generates the greater number of peak hour trips. Project traffic volumes and future background traffic volumes at the three analyzed off-ramps were estimated using the methodologies described in Section 4.2 of this report. Per the guidance, the adequacy of the existing and future storage lengths was evaluated with the 95th percentile queue where 100% of the storage length on each lane of the ramp from the stop line to the gore point was used. When an auxiliary lane was present, 50% of the length of the auxiliary lane was added to the ramp storage area.

If the proposed project traffic is expected to cause or add to a queue extending onto the freeway mainline by less than two car lengths, the proposed project would cause a less-than-significant safety impact. If the queue is already extending or projected to extend onto the freeway mainline, and the addition of traffic generated by the proposed project would increases the overflow onto the mainline lanes by less than two car lengths, the project would cause a less-than-significant safety impact. As shown in **Table 3** and **Table 4**, the addition of traffic generated by the Project is projected to increase the overflow onto the mainline lanes by six cars in the AM peak hour and two cars in the PM peak hour (assuming an average queue storage

[10] Los Angeles Department of Transportation, LADOT Transportation Assessments – Interim Guidance for Freeway Safety Analysis (May 2020).

length of 25 feet per car) for the US-101 Southbound Off-ramp to 7th Street (Study Intersection H) in both Future Base (2026 and 2040) plus Project scenarios. The queue lengths are not projected to exceed the ramp storage capacity at the I-10 Eastbound Off-ramp to Alameda Street or the I-10 Eastbound Off-ramp to Porter Street in either Future Base (2026 or 2040) or Future plus Project scenario.

If a proposed project adds two or more car lengths to the ramp backup that extends to the freeway mainline, then the location must be tested for safety issues which include a test for speed differential between the off-ramp queue and the mainline of the freeway during the particular peak hour. If the speed differential between the mainline lane speeds and the ramp traffic is below 30 mph, the project would be considered to cause a less-than-significant safety impact. If the speed differential is 30 mph or more, then there is a potential safety issue. Per the guidance, Caltrans Performance Measurement System (PeMS) data were used to identify freeway operating speed(s) during the peak hour being analyzed. The PeMS data showed that the average mainline speed on US-101 Southbound freeway near the 7th Street Off-ramp is 57 miles per hour. Assuming that the traffic queued on the ramp is traveling at zero miles per hour since the vehicles extend past the ramp length, this constitutes a potential safety issue at the US-101 Southbound Off-ramp to 7th Street.

The guidance suggests that, to offset a potential safety issue, a proposed project should consider the following preferred corrective measures:

- Transportation demand management program(s) to reduce the project's trip generation,
- Investments to active transportation infrastructure, or transit system amenities (or expansion) to reduce the project's trip generation, and/or
- Potential operational change(s) to the ramp terminal operations including, but not limited to, lane reassignment, traffic signalization, signal phasing or timing modifications, etc. This option requires coordination with Caltrans and LADOT to assess feasibility and for approval of the proposed measure(s).
- A physical change to the ramp itself (addition of auxiliary lane, ramp widening, etc.) may be considered. However, this change would have to demonstrate substantial safety benefits, not be a VMT-inducing improvement, and not result in other environmental issues.

If the cost of the physical change to the ramp is substantial, then a fair-share contribution to the improvement may be required if necessary requirements are met, including, but not limited to, Caltrans defining the improvement cost, and opening a Project File/Project Account to accept a financial contribution for the improvement.

The following mitigation measure was identified to address the impact identified above:

- The Project applicant shall work with the City of Los Angeles and Caltrans to signalize the intersection of the US-101 Southbound Off-ramp & 7th Street. This would require complying with the Caltrans project development process as a local agency-sponsored project.

As presented in **Tables 20A** and **20B**, the peak hour signal warrant would be met in the AM and PM peak hours. As shown in **Table 5** and **Table 6**, signalization is estimated to reduce the off-ramp queue such that it would no longer extend onto the freeway mainline and would mitigate the Project impact in both Future Base (2026 and 2040) plus Project scenarios. However, since the improvement involves another jurisdiction (Caltrans) beyond the City of Los Angeles, its implementation cannot be guaranteed and the impact is therefore conservatively considered to be significant and unavoidable. Detailed queue calculations are provided in **Appendix K**. **Tables 21A, 21B, 22A**, and **22B** present the resulting Level of Service with a traffic signal in place.

TABLE 3
PEAK HOUR OFF-RAMP QUEUE ANALYSIS
FUTURE BASE (2026) AND FUTURE BASE (2026) PLUS PROJECT WITH THE DECK CONCEPT
670 MESQUIT STREET PROJECT

ID	Ramp	Cross Street	Total Capacity (ft) [a]	Turning Movements by Lanes at Intersection	Control	Future Base (2026) Conditions						Future Base (2026) + Project Option 2							
						AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Exceeds Storage?		AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Length Increase (car lengths) [b]		Potential Safety Issue? [c]	
						Queue (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	Lane (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	AM	PM
22	I-10 EB Off-Ramp	Alameda Street	1,140	Left Right	Signal	227 186	413	149 116	265	No	No	248 178	426	162 116	278	1	1	No	No
H	US-101 SB Off-Ramp	7th Street	310	Left Right	Two-Way Stop Controlled	48 478	526	128 50	178	**Yes**	No	55 613	668	155 65	220	6	2	**Yes**	No
J	I-10 EB Off-Ramp	Porter Street	1,120	Left Right	Two-Way Stop Controlled	577 266	843	397 161	558	No	No	679 309	988	528 227	755	6	8	No	No

[a]: Ramp lengths determined based on scaled distances from on-line aerial photographs. Per LADOT guidance, max length is measured from the intersection to the gore point.
When an auxiliary lane is present, the maximum length includes one half of the length of the auxiliary lane to the gore point of the preceding on-ramp.
[b]: Assumes an average storage length per car of 25 feet.
[c]: If a proposed project adds two or more car lengths to a ramp queue that extends to the freeway mainline, then the location must be tested for safety issues.

TABLE 4
PEAK HOUR OFF-RAMP QUEUE ANALYSIS
FUTURE BASE (2040) AND FUTURE BASE (2040) PLUS PROJECT WITH THE DECK CONCEPT
670 MESQUIT STREET PROJECT

ID	Ramp	Cross Street	Total Capacity (ft) [a]	Turning Movements by Lanes at Intersection	Control	Future Base (2040) Conditions						Future Base (2040) + Project with the Deck Concept							
						AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Exceeds Storage?		AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Length Increase (car lengths) [b]		Potential Safety Issue? [c]	
						Queue (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	Lane (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	AM	PM
22	I-10 EB Off-Ramp	Alameda Street	1,140	Left Right	Signal	229 186	415	150 121	271	No	No	254 186	440	163 121	284	1	1	No	No
H	US-101 SB Off-Ramp	7th Street	310	Left Right	Two-Way Stop Controlled	53 508	561	140 53	193	**Yes**	No	60 643	703	168 70	238	6	2	**Yes**	No
J	I-10 EB Off-Ramp	Porter Street	1,120	Left Right	Two-Way Stop Controlled	631 294	925	432 178	610	No	No	737 343	1,080	568 254	822	7	9	No	No

[a]: Ramp lengths determined based on scaled distances from on-line aerial photographs. Per LADOT guidance, max length is measured from the intersection to the gore point.
When an auxiliary lane is present, the maximum length includes one half of the length of the auxiliary lane to the gore point of the preceding on-ramp.
[b]: Assumes an average storage length per car of 25 feet.
[c]: If a proposed project adds two or more car lengths to a ramp queue that extends to the freeway mainline, then the location must be tested for safety issues.

TABLE 5
PEAK HOUR OFF-RAMP QUEUE ANALYSIS - WITH MITIGATION
FUTURE BASE (2026) AND FUTURE BASE (2026) PLUS PROJECT WITH THE DECK CONCEPT
670 MESQUIT STREET PROJECT

ID	Ramp	Cross Street	Total Capacity (ft) [a]	Turning Movements by Lanes at Intersection	Control	Future Base (2026) Conditions						Future Base (2026)+ Project Option 2 with Signal							
						AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Exceeds Storage?		AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Length Change (car lengths) [b]		Project Impact Mitigated?	
						Queue (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	Lane (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	AM	PM
H	US-101 SB Off-Ramp	7th Street	310	Left Right	Two-Way Stop Controlled	53 508	561	140 53	193	**Yes**	No	18 266	284	55 97	152	-12	-2	**Yes**	N/A

[a]: Ramp lengths determined based on scaled distances from on-line aerial photographs. Per LADOT guidance, max length is measured from the intersection to the gore point.
When an auxiliary lane is present, the maximum length includes one half of the length of the auxiliary lane to the gore point of the preceding on-ramp.
[b]: Assumes an average storage length per car of 25 feet.

TABLE 6
PEAK HOUR OFF-RAMP QUEUE ANALYSIS - WITH MITIGATION
FUTURE BASE (2040) AND FUTURE BASE (2040) PLUS PROJECT WITH THE DECK CONCEPT
670 MESQUIT STREET PROJECT

ID	Ramp	Cross Street	Total Capacity (ft) [a]	Turning Movements by Lanes at Intersection	Control	Future Base (2040) Conditions						Future Base (2040)+ Project Option 2 with Signal							
						AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Exceeds Storage?		AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Length Change (car lengths) [b]		Project Impact Mitigated?	
						Queue (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	Lane (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	AM	PM
H	US-101 SB Off-Ramp	7th Street	310	Left Right	Two-Way Stop Controlled	53 508	561	140 53	193	**Yes**	No	18 270	288	56 100	156	-11	-2	**Yes**	N/A

[a]: Ramp lengths determined based on scaled distances from on-line aerial photographs. Per LADOT guidance, max length is measured from the intersection to the gore point.
When an auxiliary lane is present, the maximum length includes one half of the length of the auxiliary lane to the gore point of the preceding on-ramp.
[b]: Assumes an average storage length per car of 25 feet.

4. NON-CEQA TRANSPORTATION ANALYSES

The purpose of the non-CEQA transportation analyses required in LADOT's TAG are to promote orderly development, evaluate and address transportation-system deficiencies, and promote public safety and the general welfare by ensuring that development projects are properly related to their sites, surrounding properties, and traffic circulation.

4.1 Pedestrian, Bicycle, and Transit Access

The pedestrian, bicycle, and transit facilities assessment is intended to determine a project's potential effects on pedestrian, bicycle, and transit facilities in the vicinity of the proposed Project based on an evaluation of physical or demand-based considerations that would affect the experience of people utilizing the multimodal transportation network.

The pedestrian, bicycle, and transit facilities surrounding the Project site were assessed to determine potential Project effects on pedestrian, bicycle, and transit facilities in the vicinity of the Project. **Figure 7A** provides a map of pedestrian facilities and **Figure 7B** provides a map of pedestrian destinations within 1,320 feet of the edge of the Project site. For the purposes of this analysis, all adjacent streets providing access to non-residential uses were included in the figure along with an inventory of the pedestrian facilities (i.e., crosswalks and curb ramps). **Table 7** also provides a table identifying sidewalk width ranges, pedestrian push buttons, and other pedestrian amenities such as street trees, bus benches, or lighting. As shown, curb ramps, tactile warnings, and marked crosswalks are not provided at many of the intersections. Several intersections appropriately do not provide push buttons as the intersections are pretimed to provide walk phases for every signal cycle.

The following checklist from the TAG was reviewed to evaluate whether direct or indirect Project effects would lead to removal, modification, or degradation of pedestrian, bicycle, or transit facilities, such as:

- Removal or degradation of existing sidewalks, crosswalks, pedestrian refuge islands, and/or curb extensions/bulbouts
    - No, the Project would not remove or degrade existing pedestrian facilities in the pedestrian environment. The Project proposes to improve pedestrian infrastructure by adding new sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street, street trees along the Project perimeter, a new crosswalk across 7th Street near Building 4, a pedestrian paseo on Mesquit Street from Jesse Street to 7th Street, improved street and pedestrian lighting, and an elevated pedestrian walkway along the eastern edge of the Project site. The Project with the Deck Concept also proposes a pedestrian deck along the east side of the Project, which would replace the elevated pedestrian walkway and connect 7th Street to the 6th Street PARC and the potential future Red/Purple Line 6th Street Station.

- Removal or degradation of existing bikeways and/or supporting facilities (e.g., bikeshare stations, on-street bike racks/parking, bike corrals, etc.)
    - No, the Project would not remove or degrade the existing bikeways and/or supporting facilities. The Project will include bicycle amenities, such as a self-service bike repair area and short and long-term bicycle parking in accordance with the proposed Mesquit Specific Plan.
- Removal or degradation of existing transit and/or local circulator facilities including stop, bench, shelter, concrete pad, bus lane, or other amenities
    - No, the Project would not remove or degrade existing transit and/or local circulator facilities.
- Removal of other existing transportation system elements supporting sustainable mobility
    - No, the Project does not propose to remove sustainable transportation elements.
- Increase street crossing distance for pedestrians; increase in number of travel/turning lanes; increase in turning radius or turning speeds
    - The Project does not propose to widen streets. As described in Section 4.2, the Project proposes to add a left-turn lane as a corrective action by restriping the eastbound and westbound approaches at Santa Fe Avenue & Jesse Street and the southbound approach at Santa Fe Avenue & 7th Street without widening the street crossing distance. The Project also proposes to upgrade curb ramps to include tactile warning strips and upgrade crosswalks to continental crosswalks at Santa Fe Avenue & 7th Street.
- Removal, degradation, or narrowing of an existing sidewalk, path, crossing, or pedestrian access way
    - No, the Project does not propose to remove, degrade, or narrow sidewalks or limit pedestrian access paths. The Project would improve pedestrian access around the site by installing new sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street and a new pedestrian paseo within the Project site.
- Removal or narrowing of existing sidewalks or street-buffering elements (e.g., curb extension, parkway, planting strip, street trees, etc.)
    - No, the Project does not propose to remove existing street-buffering elements.
- Increase in pedestrian or vehicle volume, and thereby increase the need or attraction to cross a street at unmarked pedestrian crossings or unsignalized or uncontrolled intersections where a crossing is not available without significant rerouting.
    - The Project will result in an increase in pedestrian and vehicle volumes around the Project site. The current pedestrian crossings at Jesse Street & Santa Fe Avenue are unmarked and stop controlled. The signal warrant analysis presented in Section 4.2 determined that installation of

a traffic signal may be warranted at this location. As shown in **Figure 7A,** the distance between pedestrian crossing locations adjacent to the Project site on 7th Street is approximately 1,760 feet (Santa Fe Avenue & 7th Street to Rio Street & 7th Street). The Project proposes to provide a signalized pedestrian crossing at the signalized driveway on the 7th Street bridge, which would shorten the distances between pedestrian crossing locations adjacent to the Project site on 7th Street to approximately 515 feet (Santa Fe Avenue & 7th Street to 7th Street signalized driveway) and 1,245 feet (7th Street signalized driveway to Rio Street & 7th Street).

- Result in new pedestrian demand between Project site entries/exits and major destinations or transit stops expected to serve the development where there are missing pedestrian facilities (e.g., gaps in the sidewalk network) or substandard pedestrian facilities (e.g., narrow or uneven sidewalks, no crosswalks at intersections or mid-block, no marked crossing, or push button crossing rather than actuated, etc.).
    - The Project will result in new pedestrian demand. The Project includes the installation of new sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street and a pedestrian paseo with limited vehicle access on Mesquit Street that creates a new connection between Mesquit Street and 7th Street thereby enhancing walkability around the Project site. As shown in **Figure 7A**, the intersection of Santa Fe Avenue & 7th Street has several curb ramps without tactile warning strips and lateral crosswalks. The Project would improve substandard pedestrian facilities.
- Increase transit demand at bus stops that lack marked crossings, with insufficient sidewalks, or are in isolated, unshaded, or unlit areas.
    - The Metro bus stop for Routes 18, 60, and 62 on the north and south sides of 7th Street between Imperial Street and Santa Fe Avenue have sidewalks and are lit by streetlights but lack shelters and benches. The current pedestrian crossings at 7th Street & Santa Fe Avenue are marked and signalized. There are no pedestrian crossings across 7th Street at Imperial Street as this intersection is relatively close to and between two signalized intersections (7th Street & Mateo Street and 7th Street & Santa Fe Avenue, both of which have crosswalks).

The responses provided above reflect conditions upon Project completion. During construction there may be temporary closures that result in temporary impacts.

The Project frontage is not on a street segment that is part of the HIN. Pedestrian and bicyclist entrances to the Project site will be provided along Mesquit Street (including the pedestrian paseo), 7th Street, and under the Project with the Deck Concept, a pedestrian deck along the east side of the Project site. These entrances will be designed with a focus on multimodal integration.

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Project Site

XX' Distance (feet) between controlled crosswalks

Curb Ramp with Tactile Warning

Curb Ramp without Tactile Warning

Missing Curb Ramp

Continental Crosswalk

Lateral Crosswalk

Figure 7A

Pedestrian Facilities Inventory

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Project Site

Pedestrian Destinations

- Retail/Restaurants/Bar
- Transit Stop
- Bikeshare Station

Figure 7B

Pedestrian Destinations

Table 7 - Pedestrian Facilities Summary

670 Mesquit Project

Street	Widest Sidewalk (Fieldwork Observation)	Narrowest Sidewalk (Fieldwork Observation)	Intersection	Missing Ped Button	Missing Ped Signals	Identified Facilities: Bus benches/shelters and street trees
Mesquit St	9' 8" (6th St)	5' 1" (6th St)	6th St	N/A (not signalized)		None
			Jesse St			
Santa Fe Ave	12' 11" (Jesse St)	4' 8" (Jesse St)	Palmetto St	N/A (not signalized)		None
			Willow St			
			Jesse St			Street trees
			7th St	NE to NW[a]	None	None
			7th Pl	N/A (not signalized)		
			Violet St			Street trees and transit stop
			Bay St			Street trees
Imperial St	15' 5" (7th St)	4' 10" (Jesse St)	6th St	N/A (not signalized)		none
			Jesse St			Street trees
			7th St			Transit stop
Mateo St	25'11" (Conway Pl)	2'8" (Industrial St)	Palmetto St	N/A (not signalized)		Street trees, bus benches, and transit stops
			Willow St			
			6th St	SE to NE[b]	SE to NE[b]	
			Conway Pl	N/A (not signalized)		
			Jesse St			
			Industrial St			
			7th St	None	None	Transit stops
			Atlantic Ct	N/A (not signalized)		Street trees
			7th Pl			
			Violet St			

a. Push buttons are not provided as crossing movements are pretimed to provide walk phases for every signal cycle.
b. This crossing movement is currently unavailable due to construction of the Sixth Street Viaduct.

4.2 Project Access, Safety, and Circulation Element

This section documents the peak hour intersection analysis conducted based on the screening criteria and trip threshold for intersection analysis provided in the TAG.

Study Analysis Locations

The scope and selection of 32 study intersections were developed in conjunction with LADOT staff. The study locations were selected based on guidance from LADOT's TAG, which indicates that intersections immediately adjacent to the site and those in proximity to the site through which 100 or more net new peak hour project-generated trips would travel should be analyzed. Freeway off-ramps to which the Project is expected to add 25 or more trips in either peak hour are also analyzed. The study intersections are illustrated in **Figure 1** and listed in **Table 8**.

TABLE 8
670 Mesquit
Study Intersections

No.	North-South Street	East-West Street	Control
1	S Central Avenue	7th Street	Signalized
2	N Alameda Street	E. Aliso Street/E. Commercial Street	Signalized
3	Alameda Street	Temple Street	Signalized
4	N Alameda Street	E 1st Street	Signalized
5	N Alameda Street	E 2nd Street	Signalized
6	S Alameda Street	3rd Street	Signalized
7	S Alameda Street	4th Street	Signalized
8	S Alameda Street	6th Street	Signalized
9	S Alameda Street	7th Street	Signalized
10	Molino Street/Merrick Street	4th Street	Signalized
11	Mateo Street	6th Street	Signalized
12	Mateo Street	7th Street	Signalized
13	S Santa Fe Avenue	7th Street	Signalized
14	S Santa Fe Avenue	8th Street	Signalized
15	S Santa Fe Avenue	Porter Street	Signalized
16	S Santa Fe Avenue	Olympic Boulevard	Signalized
17	S Santa Fe Avenue	E 15th Street	Signalized
18	S Rio Street	E 7th Street	Signalized
19	S Anderson Street	E 7th Street	Signalized
20	Boyle Avenue	Whittier Boulevard	Signalized
21	Boyle Avenue	7th Street	Signalized
22	S Alameda Street	I-10 Eastbound Ramps	Signalized
A	Mateo Street	4th Place	Unsignalized
B	Mateo Street	Willow Street	Unsignalized
C	Mateo Street	Jesse Street	Unsignalized
D	S Santa Fe Avenue	Willow Street	Unsignalized
E	S Santa Fe Avenue	Mesquit Street	Unsignalized
F	S Santa Fe Avenue	Jesse Street	Unsignalized
G	Mesquit Street	Jesse Street	Unsignalized
H	US-101 Southbound Off-Ramp	7th Street	Unsignalized
I	I-10 Westbound Ramps	E 8th Street	Unsignalized
J	I-10 Eastbound Ramps	Porter Street	Unsignalized

Level of Service Methodology

Signalized Intersection Level of Service – Critical Movement Analysis

A variety of standard methodologies are available to analyze intersection level of service (LOS). Because much of this analysis was conducted prior to the City's adoption of the City's TAG, and per the direction of LADOT, this analysis uses the Critical Movement Analysis (CMA) method of intersection capacity calculation (Transportation Research Board, 1980) at signalized study intersections. Under this method, the volume/capacity (V/C) ratio is used to find the corresponding LOS based on the definitions in **Table 9A**. Under the CMA methodology, a V/C ratio is generated for each study intersection based on factors such as the volume of traffic and the number of lanes providing for such vehicle movement and a LOS grade.

The City of Los Angeles' Automated Traffic Surveillance and Control (ATSAC) system is a computer-based traffic signal control system that monitors traffic conditions and system performance to allow ATSAC-operations to manage signal timing to improve traffic flow conditions. The Adaptive Traffic Control System (ATCS) is an enhancement to ATSAC and provides fully traffic-adaptive signal control based on real-time traffic conditions. All the study intersections located in the City of Los Angeles are currently operating under the City's ATSAC system and ATCS control. ATSAC and ATCS provide improved operating conditions. Therefore, in accordance with City of Los Angeles procedures, a credit of 0.07 V/C reduction was applied at each intersection where ATSAC is implemented and an additional 0.03 V/C reduction was applied at each intersection where ATCS is implemented.

Table 9A - Level of Service Definitions for Signalized Intersections

CMA Methodology

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	>0.600 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat what restricted within groups of vehicles.
C	>0.700 - 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	>0.800 - 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	>0.900 - 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths

Source: *Transportation Research Circular No. 212, Interim Materials on Highway Capacity,*

Transportation Research Board, 1980.

Unsignalized Intersection Level of Service – Highway Capacity Manual

The unsignalized intersection delay methodology from the *2016 Highway Capacity Manual* (HCM) (Transportation Research Board, 2016) was used to determine the intersection delay in seconds and corresponding LOS at the unsignalized intersections. The calculation of delay represents the average amount of delay experienced by vehicles passing through the intersection which are controlled by the stop signs. The unsignalized intersections were analyzed using the All-Way Stop-Control (AWSC) and Two-Way Stop-Control (TWSC) methods from the HCM 2016. Delay was calculated based on the intersection delay for AWSC intersections and worst-case approach for the TWSC intersections, and used to assign the corresponding LOS, as presented in **Table 9B.**

Table 9B - Level of Service Definitions for Stop-Controlled Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	≤ 10.0
B	> 10.0 and ≤ 15.0
C	> 15.0 and ≤ 25.0
D	> 25.0 and ≤ 35.0
E	> 35.0 and ≤ 50.0
F	> 50.0

Source: *Highway Capacity Manual,* Transportation Research Board, 2016.

Existing Traffic Volumes

New weekday AM and PM peak hour turning movement counts were collected at the 32 study intersections on April 11, 2018 and September 25, 2018. The existing weekday morning and afternoon peak hour volumes and lane configurations at the study intersections are provided in **Appendix F**. Count sheets for these intersections are contained in **Appendix E**.

Existing Level of Service

Existing traffic volumes were analyzed to determine the projected V/C ratios, delay, and LOS for each intersection. **Table 10A** summarizes the existing weekday peak hour LOS for signalized study intersections. None of the signalized study intersections operate at LOS E or worse under existing conditions. **Table 10B** summarizes the existing weekday peak hour LOS for the unsignalized study intersections. The following study intersections operate at LOS E or worse under existing conditions:

- Intersection H: US-101 Southbound ramps & 7th Street (AM peak period)
- Intersection I: I-10 Westbound ramps & East 8th Street (AM and PM peak period)

Detailed intersection LOS analysis sheets for signalized and unsignalized intersections are presented in **Appendix G**.

TABLE 10A
670 MESQUIT
EXISTING YEAR (2018)
ANALYSIS FOR SIGNALIZED STUDY INTERSECTIONS

NO.	INTERSECTION	PEAK HOUR	EXISTING (2018)	
			V/C	LOS
1	S Central Avenue &	AM	0.583	A
	7th Street	PM	0.591	A
2	N Alameda Street &	AM	0.414	A
	E Aliso Street/E Commercial Street	PM	0.622	B
3	Alameda Street &	AM	0.528	A
	Temple Street	PM	0.457	A
4	N Alameda Street &	AM	0.569	A
	E 1st Street	PM	0.445	A
5	N Alameda Street &	AM	0.475	A
	E 2nd Street	PM	0.410	A
6	S Alameda Street &	AM	0.661	B
	3rd Street/4th Place	PM	0.586	A
7	S Alameda Street &	AM	0.313	A
	4th Street	PM	0.686	B
8	S Alameda Street &	AM	0.443	A
	6th Street	PM	0.435	A
9	S Alameda Street &	AM	0.714	C
	7th Street	PM	0.705	C
10	Molino Street/Merrick Street &	AM	0.590	A
	4th Street	PM	0.423	A
11	Mateo Street &	AM	0.185	A
	6th Street	PM	0.231	A
12	Mateo Street &	AM	0.583	A
	7th Street	PM	0.527	A
13	S Santa Fe Avenue &	AM	0.797	C
	7th Street	PM	0.767	C
14	S Santa Fe Avenue &	AM	0.501	A
	8th Street	PM	0.445	A
15	S Santa Fe Avenue &	AM	0.476	A
	Porter Street	PM	0.655	B
16	S Santa Fe Avenue &	AM	0.835	D
	Olympic Boulevard	PM	0.756	C
17	S Santa Fe Avenue &	AM	0.846	D
	E 15th Street	PM	0.621	B
18	S Rio Street &	AM	0.613	B
	E 7th Street	PM	0.313	A
19	S Anderson Street &	AM	0.752	C
	E 7th Street	PM	0.315	A
20	Boyle Avenue &	AM	0.596	A
	Whittier Boulevard	PM	0.480	A
21	Boyle Avenue &	AM	0.836	D
	7th Street	PM	0.599	A
22	S Alameda Street &	AM	0.586	A
	I-10 Eastbound Ramps	PM	0.621	B

TABLE 10B
670 MESQUIT
EXISTING YEAR (2018)
ANALYSIS FOR UNSIGNALIZED STUDY INTERSECTIONS

NO.	INTERSECTION	PEAK HOUR	EXISTING (2018)	
			Delay	LOS
A	Mateo Street &	AM	13.5	B
	4th Place	PM	13.0	B
B	Mateo Street &	AM	12.0	B
	Willow Street	PM	12.4	B
C	Mateo Street &	AM	12.0	B
	Jesse Street	PM	11.1	B
D	S Santa Fe Avenue &	AM	9.3	A
	Willow Street	PM	13.0	B
E	S Santa Fe Avenue &	AM	15.4	C
	Mesquit Street	PM	11.5	B
F	S Santa Fe Avenue &	AM	24.0	C
	Jesse Street	PM	19.0	C
G	Mesquit Street &	AM	8.6	A
	Jesse Street	PM	8.6	A
H	US-101 Southbound ramps &	AM	125.8	F
	7th Street	PM	27.9	D
I	I-10 Westbound ramps &	AM	*	F
	E 8th Street	PM	165.3	F
J	I-10 Eastbound ramps &	AM	17.6	C
	Porter Street	PM	18.3	C

Note: * The HCM methodology produces a delay estimate that exceeds 5 minutes or is undefined based on the volume, lane configuration, and traffic control. Actual drivers are likely to change their route or accept smaller than usual gaps when faced with such long delays.

Project Traffic

The development of peak hour vehicular traffic forecasts for the proposed Project involves the use of a three-step process: trip generation, trip distribution, and traffic assignment.

Trip Generation

As summarized in Chapter 1, the proposed Project consists of 944,055 square feet of creative office; 44,788 square feet of quality restaurant; 44,788 square feet of high-turnover restaurant; 236 hotel rooms; 308 residential dwelling units; 93,617 square feet of studio/event/gallery; a 62,148 square foot gym; a 28,054 square foot grocery; 79,240 square feet of general retail; and a 28,858 square foot food hall. The Project with the Deck Concept has an additional amenity deck with permanent programmatic features that were accounted for in trip generation.

Trip generation rates from *Trip Generation, 10th Edition* (Institute of Transportation Engineers [ITE], 2017) and rates developed in discussion with LADOT were used to estimate the number of peak hour vehicle trips associated with the Project. The ITE *Trip Generation, 10th Edition* introduces and defines the geographic setting for four different settings/locations: Rural, General Urban/Suburban, Dense Multi-Use Urban, and City Core. In many instances, trip generation rates are provided for each land use by geographic setting. The Project is located in an area that meets the Dense Multi-Use Urban[11] ITE definitions; therefore, the trip generation rates for Dense Multi-Use Urban were used when available. For the Project's office uses, the trip generation rates for dense multi-use urban areas were used for the peak hours. ITE also provides trip generation rates for mid-rise and high-rise multifamily housing in dense multi-use urban areas. In addition, for mid-rise and high-rise multifamily housing sites in dense multi-use urban areas, empirical peak hour trip generation data from surveys conducted at properties located within the City of Los Angeles area are available as a secondary data source and are provided in the TAG. The local data reveals higher high-rise residential trip generation rates than the ITE 10th edition rates; therefore, the local data was used for peak hour rates for the residential component of this Project.

The total number of trips generated by the new development was adjusted to account for internalization, transit/bicycle/walk, pass-by, transportation network companies (TNCs), and trips generated by the existing land uses.

Internal Capture

Internal trip adjustments are adjustments applied to the trip generation estimates for the individual land uses to account for trips remaining internal to the site. These are trips would be made via walking within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments* was used to determine the internal trip adjustments for each of the Project land uses. For programmatic features of the Project, a 50% internal

[11] A dense multi-use urban area is defined as, "a fully developed area (or nearly so), with diverse and interacting complementary land uses, good pedestrian connectivity, and convenient and frequent transit." Institute of Transportation Engineers, 2017

capture was determined based on these project features being targeted to tenants already on-site. Based on the NCHRP analysis, the internal trip adjustments shown in the internal trip calculation analysis sheets in **Appendix H** were used.

Transit/Bicycle/Walking Adjustment

A 25% adjustment was applied to account for trips made to and from the Project site using modes other than automobiles. These include trips on buses, trains, bicycle, walking, etc. LADOT's TAG allow a 15% vehicle trip reduction to be applied to developments located within a quarter-mile walking distance of a rail transit station or Rapid Bus stop, assuming that percentage of visitors may take transit and walk to the Project[12]. The Project is approximately ¼ mile from the closest 720 Metro Rapid line stop. In addition to the 15% transit adjustment, a 10% walking/biking adjustment was applied to all Project land uses (except 5% for office) due to the diversity of the existing and proposed future land uses within walking and bicycling distance in the Arts District area. An explicit transit adjustment was not applied to the residential and office AM and PM peak hour trips since the local data and ITE Dense Multi-Use Urban trip generation rates used for the AM and PM peak hours for these uses are presumed to already incorporate transit. American Community Survey data from 2016 indicates that the transit/bicycle/walk split for the 90021 zip code, where the Project site is located, is over 50%. The neighboring zip code, 90013, shares more similar neighborhood characteristics with the Project than 90021, which currently is primarily industrial land uses. The 90013 zip code has a transit/bicycle/walk split of around 40%. This empirical data indicates that the Project's transit/bicycle/walk adjustment is conservative.

Pass-by Trips

Per LADOT's TAG Attachment H, *Policy on Pass-By Trips*, a 40% pass-by adjustment was applied to grocery and retail, a 20% pass-by adjustment was applied to high-turnover restaurant uses and gym, a 15% pass-by adjustment was applied to the food hall, and a 10% pass-by adjustment was applied to quality restaurant uses. Pass-by adjustments account for the patrons making an intermediate stop on the way from an origin to a primary trip destination without a route diversion. These trips would be attracted from traffic passing the site on Santa Fe Avenue, 7th Street, 6th Street, and other nearby streets.

Transportation Network Companies

The proliferation of shared mobility transportation network companies (TNCs), such as Lyft and Uber, in recent years is important to consider in a project of this size. The various mix of uses at the Project site will likely attract TNC usage to and from the Project site. Given the relatively recent introduction of these services in the urban transportation network, minimal industry research has been conducted to measure the mode split of TNC vehicles, but anecdotal evidence suggests that usage has been steadily growing in recent years. To account for TNCs, recent research informed an assumption that TNCs would make up 5% of the vehicle

[12] Extension of the Metro Red/Purple lines to the Arts District is currently under study by Metro. If this extension occurs and a 6th Street station is provided adjacent to the Project Site, additional Project transit usage would be anticipated, resulting in fewer vehicles expected to be generated by the Project.

trips generated by each land use.[13] Available empirical knowledge indicates that TNC trips replace both transit/bike/walk trips and private vehicle trips.[14] Therefore, 2.5% of the TNC trips were considered to replace transit trips, which results in an additional vehicle trip in and out of the Project site that would not have been considered in the basic trip generation estimates. The 2.5% of TNC trips attributed to the replacement of private vehicles result in an additional vehicle trip added only to the opposite movement of the vehicle trip already considered in the basic trip generation estimates.

Outdoor Programming

Outdoor programming has been identified for the Project and the Project with the Deck Concept. As previously mentioned, the Project with the Deck Concept proposes the construction of up to a 3-acre deck that would be publicly accessible. In order to activate this space, the Project with the Deck Concept has developed outdoor programmatic elements that could be used for the deck. These programs include a weekly farmers market (also part of the Project), group exercise classes, and busking (i.e. informal performances in designated locations). Programming is anticipated regardless of the implementation of the deck, but the Project with the Deck Concept creates more space to allow for bigger and more frequent programs. The trip generation for these activities has been developed based on the amount of people estimated to attend the various events and incorporated into the traffic analysis.

The outdoor programming falls into two categories: permanent events that occur weekly or more frequently and temporary/special events that occur less frequently on weekends and/or seasonally. The proposed permanent programming is described below:

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[13] Mode share in the urban zones of San Francisco showed that TNC/Taxi/Carshare trip types made up 5% of total trips in the five year average between 2013-2017. Source: Corey, Canapary & Galanis Research, 2017; Fehr & Peers, 2017. Although there is limited data, the use of TNCs is an increasing trend. To provide a conservative analysis, this analysis has incorporated an adjustment to the trip generation estimates to account for TNC activity. This study represents the most recent information available and is utilized for this analysis.

- Schaller, Bruce. "The New Automobility: Lyft, Uber and the Future of American Cities." *Schaller Consulting*. (2018).

[14] A review of surveys conducted within the following studies indicate that the secondary mode choice of TNC users (what they would have taken if TNCs were not an option) is a fairly even 50/50 split between private vehicles and transit/bike/walk trips. This supports the assumption that TNCs replace 2.5% of transit/bike/walk trips and 2.5% of vehicle trips at the Project Site:

- Clewlow, Regina R., and Gouri Shankar Mishra. "Disruptive transportation: The adoption, utilization, and impacts of ride-hailing in the United States." *University of California, Davis, Institute of Transportation Studies, Davis, CA, Research Report UCD-ITS-RR-17-07* (2017).
- Alemi, Farzad, Giovanni Circella, Susan Handy, and Patricia Mokhtarian. *What Influences Travelers to Use Uber? Exploring the Factors Affecting the Adoption of On-Demand Ride Services*. No. 17-05630. 2017.
- Henao, Alejandro. "Impacts of Ridesourcing-Lyft and Uber-on Transportation Including VMT, Mode Replacement, Parking, and Travel Behavior." PhD diss., University of Colorado at Denver, 2017.
- Rayle, Lisa, Danielle Dai, Nelson Chan, Robert Cervero, and Susan Shaheen. "Just a better taxi? A survey-based comparison of taxis, transit, and ridesourcing services in San Francisco." *Transport Policy* 45: 168-178. 2016.
- Circella, Giovanni, Farzad Alemi, Kate Tiedeman, Susan Handy, and Patricia Mokhtarian. *The Adoption of Shared Mobility in California and Its Relationship with Other Components of Travel Behavior*. No. NCST-RR-201802. 2018.
- Schaller, Bruce. "Unsustainable? The Growth of App-Based Ride Services and Traffic, Travel and the Future of New York City." (2017).

- Weekly Farmers' Market (both Project options) – Occurs on a weekday every week, from 11:00 AM to 2:00 PM. Anticipated to draw up to 500 people from the Project site and adjacent neighborhood.
- Group Exercise Classes (both Project options) – Occurs multiple times a week from approximately 7:00 AM to 9:00 AM and 4:00 PM to 7:00 PM. Under the Project with the Deck Concept, up to 280 people from the Project site and adjacent neighborhood are anticipated to participate. Smaller group exercise classes are planned for the Project, but participants (up to 90 people) will be entirely internal to the site, generating no additional person or vehicle trips.
- Busking (both Project options) – Occurs multiple times a week from approximately 12:00 PM to 2:00 PM and 7:00 PM to 9:00 PM. Under the Project with the Deck Concept, up to 20 people from the Project site and adjacent neighborhood are anticipated to observe. Busking is planned for the Project, but some observers (up to 10) will be entirely internal to the site, generating no additional person or vehicle trips.
- Weekend Farmers Market (Project with the Deck Concept) – Occurs monthly on the weekend from 8:00 AM to 1:00 PM, with up to 1,500 people anticipated.

The proposed temporary special events are described below:

- Art Fair/Walk (both Project options) – Occurs on a weekend evening. Anticipated to draw up to 1,000 people from the Project site and adjacent neighborhood.
- Weekend Farmers Market (Project) – Occurs monthly on the weekend from 8:00 AM to 1:00 PM, with up to 700 people anticipated.
- Movie Night (Project with the Deck Concept only) – Occurs seasonally on Saturday evenings with up to 2,000 people from the Project site and adjacent neighborhood anticipated to attend.

The temporary special events and the permanent Weekend Farmers Market under the Project with the Deck Concept were not included as part of the peak hour weekday traffic analysis since they would occur on weekends. Weekend trip generation rates for the Project with the Deck Concept that include permanent programming were developed to confirm that weekend land use activity generates less trips than weekday. **Table 12** shows the amount of daily vehicle trips estimated for a weekend day with permanent programming is 20,570. As seen in **Figure 6B**, the estimated daily vehicles generated by the Project the Deck Concept on an average weekday is 24,901. A detailed weekend trip generation table can be found in **Appendix I**.

Due to the off-peak nature of the temporary special event programming (occurring on the weekends), they are not anticipated to add traffic to weekday peak traffic conditions. In addition, due to the off-peak nature of these events, they can utilize the parking that is freed up by the office building tenants that would not be present on weekends. For the Temporary Special Event programming, a daily trip generation table was developed to provide an estimate of the potential number of vehicle trips generated by these events. **Table 13** shows the estimated trip generation of the Temporary Special Events. As described above, these events are anticipated to occur only on the weekends. Adjustments were made to account for internal capture and

transit/bike/walk trips. The same TNC assumptions made for the Project's trip generation were made for these events as well. A detailed trip generation table can be found in **Appendix I**.

Table 13 shows that as long as the temporary special events do not occur simultaneously, the number of daily trips the events add to a regular weekend day would not be higher than any normal operating weekday. Under the Project, 19,390 weekend daily vehicle trips are estimated to occur without any programming. During the weekday, as seen in **Figure 6A**, 24,484 daily vehicle trips are estimated. Adding trips from the weekend temporary special events (art fair/walk or weekend farmer's market) does not increase daily weekend trips to above normal weekday vehicle trips. Similarly, **as seen in Figure 6B**, the Project with the Deck Concept is estimated to have 24,901 daily trips on weekdays. With special events added (art fair/walk or movie night), weekend daily trips are not anticipated to go over 21,618 vehicles.

While these Temporary Special Events are not anticipated to create additional impacts on the peak hour traffic conditions analyzed in the previous chapters, a Special Event Management Plan will be developed as a Condition of Approval. The Special Event Management Plan will describe traffic and parking management for the anticipated special event programming for both Project options.

Existing Land Use

An existing land use credit was applied to the trip generation due to the removal of the existing 205,400 sf of warehouse space. These uses will be demolished to make way for the new development. Based on application of ITE trip rates for warehousing uses, approximately 35 trips (27 inbound/8 outbound) during the AM peak hour and 39 trips (11 inbound/28 outbound) during the PM peak hour were estimated to no longer enter or leave the site by vehicle. As such, these trips were subtracted from the Project's overall trip generation as an existing use credit.

As shown in **Table 11A**, the Project is projected to generate an estimated net increase of 1,344 vehicle trips (942 inbound/402 outbound) during the AM peak hour and 1,688 vehicle trips (709 inbound/979 outbound) during the PM peak hour. Included in those trips are TNCs, which have been estimated to 144 AM peak hour and 180 PM peak hour vehicle trips.

As shown in **Table 11B**, the Project with the Deck Concept is projected to generate an estimated net increase of 1,464 vehicle trips (1,002 inbound/462 outbound) during the AM peak hour and 1,805 vehicle trips (768 inbound/1,037 outbound) during the PM peak hour. Included in those trips are TNCs, which have been estimated to represent 154 AM peak hour and 190 PM peak hour vehicle trips. Detailed trip generation tables, which outline all credits taken, can be found in **Appendix I**.

Trip Distribution

The geographic distribution of trips generated by the proposed Project is dependent on characteristics of the street system serving the Project site; the level of accessibility of routes to and from the proposed Project site; locations of employment and commercial centers to which residents of the Project would be drawn; and residential areas from which the commercial visitors would be drawn. A select zone analysis was

conducted for the proposed uses using the City of Los Angeles Travel Demand Model to inform the general distribution pattern for this study. Three separate trip distributions were developed, considering differences in the trip distribution for residential trips, regional commercial based trips, and local-serving commercial based trips. Regional commercial land uses include office, quality restaurant, studio/gallery/event space, general retail, food hall, hotel, and deck. Local-serving commercial land uses include high-turnover restaurant, gym, grocery, farmer's market, group exercise classes, and busking.

The distribution of project trips is illustrated in **Figure 8A** for residential trips, **Figure 8B** for regional commercial trips, and **Figure 8C** for local commercial trips.

Traffic Assignment

The traffic to be generated by the proposed Project was assigned to the street network using the distribution patterns described in **Figures 8A-8C**. **Appendix F** provides the assignment of the proposed project-generated peak hour traffic volumes at the analyzed intersections during the AM and PM peak hours. The assignment of traffic volumes took into consideration the locations of the proposed Project driveways on Mesquit Street and 7th Street as well as the turning movements permitted at the four driveways. TNC vehicles were assigned to begin and end along the pull-out passenger loading zone along Mesquit Street and at the signalized driveway on 7th Street, which leads to an internal passenger loading zone and loop for TNC vehicles to enter and exit the Project site.

TABLE 11A
PROJECT TRIP GENERATION
670 MESQUIT PROJECT

Land Use	ITE Land Use Code [a]	Size	Estimated Trip Generation					
			AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
PROPOSED PROJECT								
Creative Office	710	944.055 ksf	486	33	519	132	592	724
Quality Restaurant	931	44.788 ksf	10	10	20	117	44	161
High-Turnover Restaurant	932	44.788 ksf	132	106	238	122	56	178
Hotel	310	236 rooms	48	19	67	23	19	42
Residential*	222	258 DU	9	41	50	19	8	27
Affordable Housing	*[b]*	50 DU	11	12	23	3	2	5
Studio, Event, Gallery [c]	495	93.617 ksf	86	47	133	82	91	173
Gym (Health / Fitness Club) [d]	492	62.148 ksf	23	21	44	45	38	83
Grocery	850	28.054 ksf	27	19	46	45	47	92
General Retail	820	79.240 ksf	48	31	79	65	75	140
Food Hall [e]	Blended	28.858 ksf	89	71	160	67	35	102
Farmers' Market	[f]	500 persons	0	0	0	0	0	0
NET EXTERNAL VEHICLE TRIPS			969	410	1,379	720	1,007	1,727
EXISTING USE CREDIT								
Warehousing	150	205.4 ksf	27	8	35	11	28	39
Total Existing Use Credit			27	8	35	11	28	39
NET INCREMENTAL EXTERNAL TRIPS			942	402	1,344	709	979	1,688

Notes:

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] Trip rates for affordable housing taken from LADOT's *Transportation* Assessment *Guidelines,* July 2020.

[c] Trip generation rates for recreation center used for Studio, Event, Gallery.

[d] ITE 10th Edition does not have a daily Health/Fitness club rate, so 9th Edition daily rate was used.

[e] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place, and retail.

[f] Weekly farmers market from 11am-2pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle. A larger monthly farmers' market is planned, but will not be part of the traffic analysis because it is planned for weekends only.

TABLE 11B
PROJECT WITH THE DECK CONCEPT TRIP GENERATION
670 MESQUIT PROJECT

Land Use	ITE Land Use Code [a]	Size	Estimated Trip Generation					
			AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
PROPOSED PROJECT								
Creative Office	710	944.055 ksf	486	33	519	132	592	724
Quality Restaurant	931	44.788 ksf	10	10	20	117	44	161
High-Turnover Restaurant	932	44.788 ksf	132	106	238	122	56	178
Hotel	310	236 rooms	48	19	67	23	19	42
Residential*	222	258 DU	9	41	50	19	8	27
Affordable Housing	*[b]*	50 DU	11	12	23	3	2	5
Studio, Event, Gallery [c]	495	93.617 ksf	86	47	133	82	91	173
Gym (Health / Fitness Club) [d]	492	62.148 ksf	23	21	44	45	38	83
Grocery	850	28.054 ksf	27	19	46	45	47	92
General Retail	820	79.240 ksf	48	31	79	65	75	140
Food Hall [e]	Blended	28.858 ksf	89	71	160	67	35	102
Deck	[f]	3.030 acres	4	4	8	3	2	5
Farmers' Market	[g]	500 persons	0	0	0	0	0	0
Group Exercise Classes	[h]	280 persons	56	56	112	56	56	112
Busking	[i]	20 persons	0	0	0	0	0	0
NET EXTERNAL VEHICLE TRIPS			1,029	470	1,499	779	1,065	1,844
EXISTING USE CREDIT								
Warehousing	150	205.4 ksf	27	8	35	11	28	39
Total Existing Use Credit			27	8	35	11	28	39
NET INCREMENTAL EXTERNAL TRIPS			1,002	462	1,464	768	1,037	1,805

Notes:

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] Trip rates for affordable housing taken from LADOT's *Transportation Assessment Guidelines,* July 2020.

[c] Trip generation rates for recreation center used for Studio, Event, Gallery.

[d] ITE 10th Edition does not have a daily Health/Fitness club rate, so 9th Edition daily rate was used.

[e] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place and retail

[f] Regional Park (Developed) rate from San Diego Association of Governments, *(Not So) Brief Guide of Vehicular Traffic Generation Rates* for the San Diego Region, April 2002.

[g] Weekly farmers market from 11am-2pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle. A larger monthly farmers' market is planned, but will not be part of the traffic analysis because it is planned for weekends only.

[h] Group exercise classes 3-4 times a week, from 7am-9am & 4pm-7pm. Assumes an average vehicle occupancy of 1 person per vehicle and that within the AM and PM peak hour, a class will begin and end (generating both inbound and outbound trips).

[i] Busking occurs six times a month from 12pm-2pm & 7pm-9pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle.

TABLE 12
PROJECT WITH THE DECK CONCEPT TRIP GENERATION - WEEKEND
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Weekend Daily
PROPOSED PROJECT			
Creative Office	710	944.055 ksf	1,145
Quality Restaurant	931	44.788 ksf	2,723
High-Turnover Restaurant	932	44.788 ksf	3,372
Hotel	310	236 rooms	1,486
Residential*	222	258 DU	684
Affordable Housing	*[b]*	50 DU	160
Studio, Event, Gallery [c]	495	93.617 ksf	744
Gym (Health / Fitness Club) [d]	492	62.148 ksf	1,273
Grocery	850	28.054 ksf	2,441
General Retail	820	79.240 ksf	3,779
Food Hall [e]	Blended	28.858 ksf	1,614
Deck	[f]	3.030 acres	66
Farmers' Market	[g]	1,500 persons	1,114
NET EXTERNAL VEHICLE TRIPS			20,601
EXISTING USE CREDIT			
Warehousing	150	205.4 ksf	-31
NET INCREMENTAL EXTERNAL TRIPS			20,570

Notes:

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] Trip rates for affordable housing taken from LADOT's Transportation *Assessment* Guidelines, *July 2020*

[c] Trip generation rates for recreation center used for Studio, Event, Gallery.

[d] ITE 10th Edition does not have a daily Health/Fitness club rate, so 9th Edition daily rate was used.

[e] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place, and retail.

[f] Regional Park (Developed) rate from San Diego Association of Governments, (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002.

[g] Weekend farmers market from 8am-1pm. Assumes an average vehicle occupancy of 2 persons per vehicle.

TABLE 13
ESTIMATED TRIP GENERATION OF TEMPORARY SPECIAL EVENTS
670 MESQUIT PROJECT

Land Use [a]	Size	Estimated Daily Weekend Vehicles from Temporary Special Events	Estimated Daily Weekend Vehicles with Events - Project	Estimated Daily Weekend Vehicles with Events - Project with the Deck Concept
Art Fair/Walk [b]	1,000 persons	654	20,044	21,224
Weekend Farmers Market [c]	700 persons	519	19,909	N/A
Movie Night [d]	2,000 persons	1,048	N/A	21,618

Notes:
[a] None of the temporary special events anticipated to occur on the same weekend day.
[b] Occurs under both Project Options. Planned for a weekend evening. Assumed a AVO of 2 people per vehicle.
[c] Occurs under the Project. Planned for 8:00 AM to 1:00 PM on the weekend. Assumed a AVO of 2 people per vehicle.
[d] Occurs under the Project with the Deck Concept. Planned seasonally on weekend evenings. Assumed a AVO of 2.5 people per vehicle.

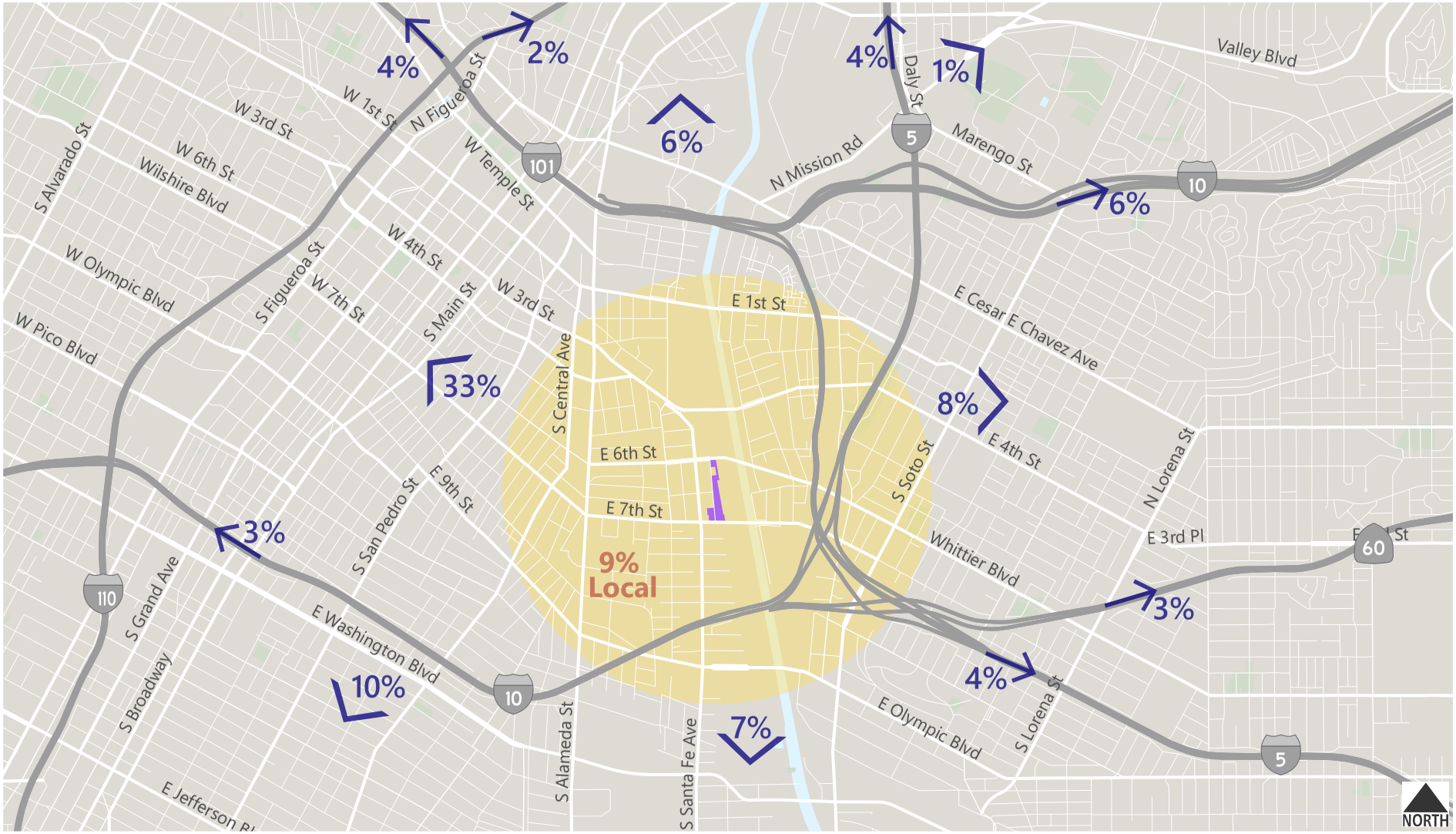
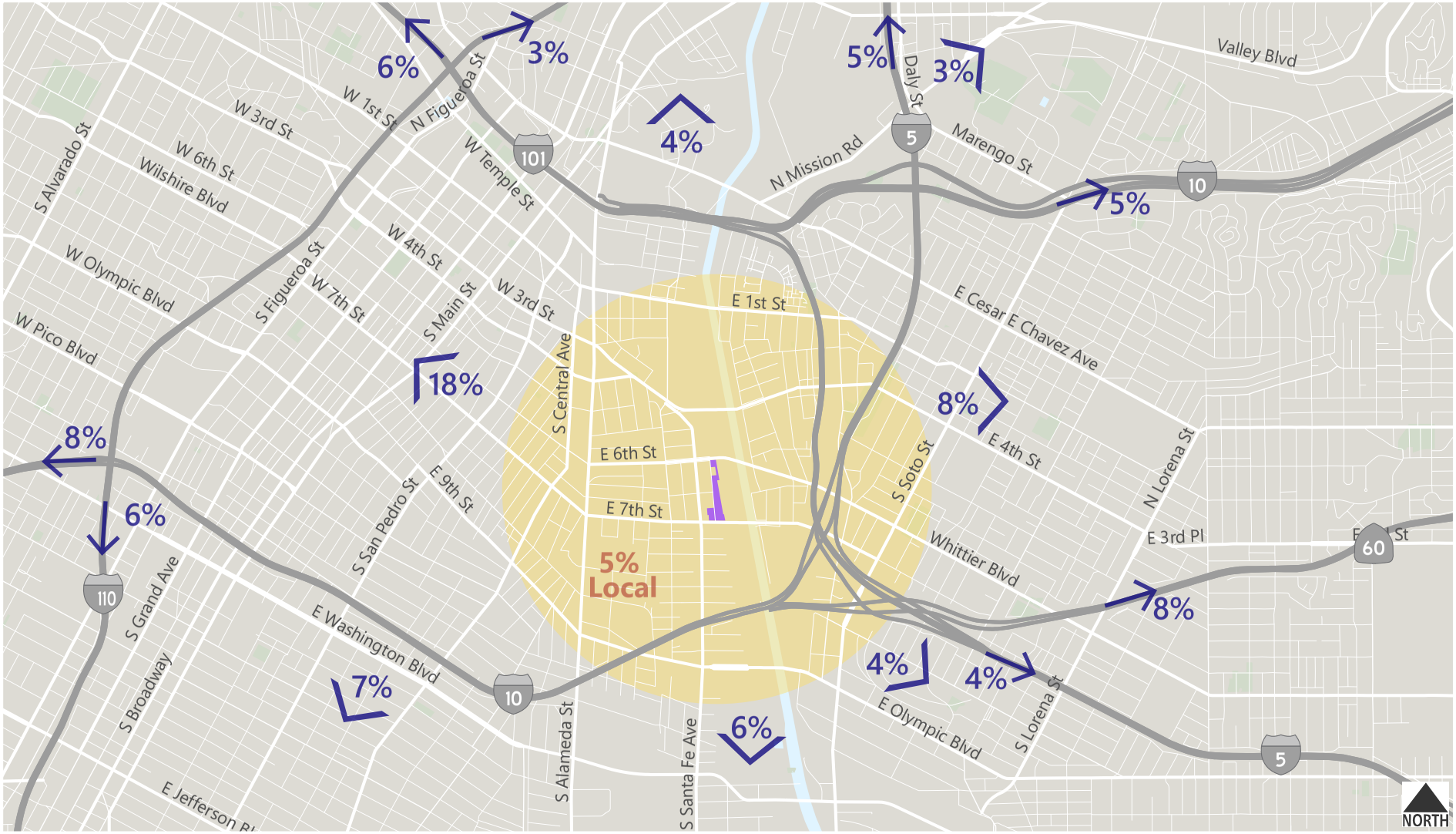


Figure 8A

Residential Trip Distribution



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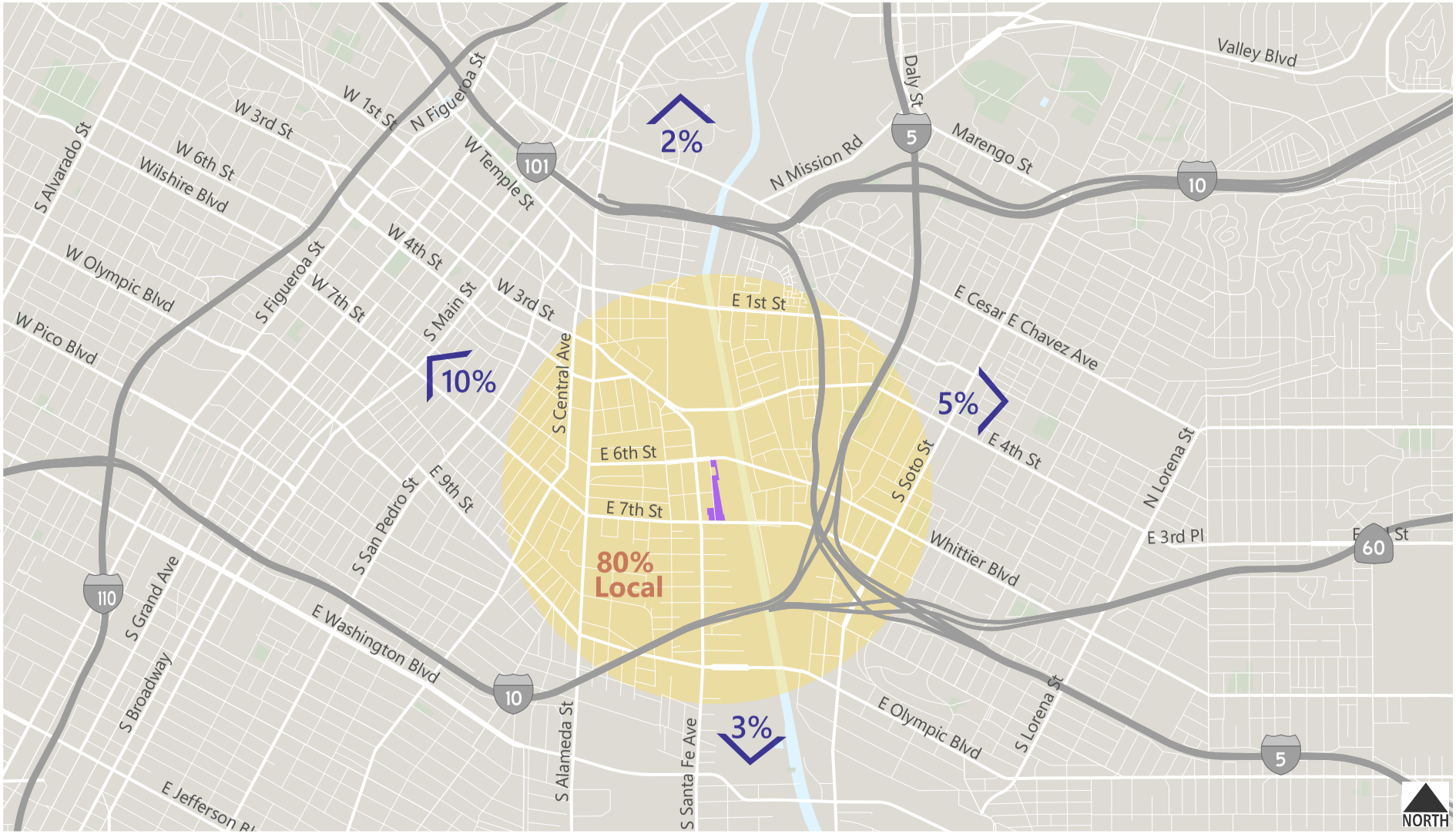
Project Site

Figure 8B

Regional Commercial Trip Distribution



Project Site

Figure 8C

Local Commercial Trip Distribution

Future Base (2026 & 2040) Traffic Volumes

To evaluate the potential effects of traffic related to the proposed Project on future (year 2026 & 2040) conditions, it was necessary to develop estimates of future traffic conditions in the area without and with Project traffic. Estimates of traffic growth were developed for the study area to forecast future conditions without the Project, identified herein as the Future Base conditions. The assumptions and analysis methodology used to develop the Future Base conditions are described in more detail in the following sections.

The Sixth Street Viaduct, located north of the Project site, is currently under construction, and the new Sixth Street Viaduct is scheduled to open in 2022. Since the Project is anticipated to complete construction by 2026, including the reopened bridge as part of the traffic analysis was necessary to present an accurate picture of the Project's potential impacts.

Empirical data exists to complete this analysis. New traffic counts were collected for use in this study in 2018, over two years after the demolition of the old Sixth Street Viaduct. These counts reflect traffic patterns that have resulted from travel adjustments in and through the Arts District as a result of the bridge's closure. In order to analyze the network with the bridge in place, these counts had to be "shifted" to reflect traffic patterns with bridge conditions. Fehr & Peers also reviewed intersection count data collected for the proposed 6AM project (6AM) in the immediate study area that were collected in 2015 prior to the Sixth Street Viaduct closure. These counts can be found in **Appendix E**. Using this data, Fehr & Peers was able to calculate the number of vehicles that had previously traveled along the Sixth Street Viaduct during both AM and PM peak hours. Fehr & Peers then compared the 2018 Mesquit counts (post-bridge closure) to the 2015 counts (bridge in operation) to assess the volume shift within the study area. The data indicated that a majority of the Sixth Street Viaduct traffic shifted to the 7th Street bridge, with some shifting to the 4th and 1st Street bridges. In addition, the data indicated that some Sixth Street Viaduct traffic had shifted to the US-101 freeway to the north and the I-10 freeway to the south, with more vehicles getting on and off at the I-10 ramps at Mateo and Santa Fe and the US-101 ramps at Alameda in 2018 than in 2015 when the Sixth Street Viaduct was in operation.

For intersections within the Project study area that overlapped with 6AM count locations, the Project used 6AM data plus a three percent growth rate (one percent per year) to account for ambient and related project growth between 2015 and 2018 to reflect traffic patterns for 2018 conditions as if the Sixth Street Viaduct were in place when existing counts were collected for the Project. For intersections within the Project study area that did not overlap with the 6AM count locations, Fehr & Peers adjusted the 2018 counts to shift the vehicles temporarily traveling on the identified parallel routes due to the construction closure of the Sixth Street Viaduct.

Fehr & Peers validated the shift by comparing the shifted Project volumes to the 6AM counts with a three percent growth rate and confirmed the shifted volumes aligned with the counts that were collected when the bridge was in operation. This data supported that the Project's adjusted existing volumes, which include

a mix of 6AM counts with a three percent growth rate and the Project counts with a shift, were a valid existing baseline for determining the Project's potential traffic impacts.

Background or Ambient Growth

Based on historic trends and at the direction of LADOT, it was established that an ambient growth factor, which does not include related project traffic described below, of 0.2% per year should be applied to grow the adjusted existing traffic volumes to reflect the effects of regional growth and development by years 2026 and 2040. This growth factor was applied to the adjusted existing (2018) traffic volume data to reflect the effect of ambient growth by the years 2026 and 2040.

Related Project Traffic Generation and Assignment

Future Base traffic forecasts include the effects of related projects, introduced in Chapter 2. As shown in **Table 2** and **Figure 5**, a total of 141 related projects were identified in the study area and assumed to be in place by both Future Year 2026 and Future Year 2040.

Trip Generation

For related projects provided by LADOT, trip generation estimates as provided by LADOT were used. For related projects provided by City Planning or other sources, trip generation was used from a combination of previous study findings and publicly available environmental documentation. **Table 2** presents the resulting trip generation estimates for these related projects. These projections are conservative in that they do not in every case account for either the existing uses to be removed or the possible use of non-motorized travel modes (transit, walking, etc.). Corrective action measures associated with the related projects are also not in every case accounted for in the analysis.

Trip Distribution

The geographic distribution of the traffic generated by the related projects is dependent on several factors. These factors include the type and density of the proposed land uses, the geographic distribution of population from which employees and potential patrons of proposed commercial developments may be drawn, the locations of employment and commercial centers to which residents of residential projects may be drawn, and the location of the projects in relation to the surrounding street system. Additionally, if the traffic study or environmental document for a related project was available, the trip distribution from that study was used.

Traffic Assignment

Using the estimated trip generation and trip distribution patterns described above, traffic generated by the related projects was assigned to the street network. Future Year 2026 and 2040 weekday AM and PM peak hour traffic volumes and lane geometries for the analyzed intersections are provided in **Appendix F**.

Future Base (2026) Traffic Conditions

The Future Base (2026) peak hour traffic volumes were analyzed to determine the projected V/C ratio, delay, and LOS for each of the study intersections. **Tables 14A** and **15A** summarize the Future Base (2026) LOS for signalized intersection locations. The following 13 signalized intersections are projected to operate at LOS E or worse during one or both peak hours under Future Base (2026) conditions:

- Intersection 1: South Central Avenue & 7th Street (PM peak hour)
- Intersection 2: North Alameda Street & East Aliso Street/East Commercial Street (PM peak hour)
- Intersection 4: North Alameda Street & East 1st Street (AM and PM peak hour)
- Intersection 5: North Alameda Street & East 2nd Street (AM and PM peak hour)
- Intersection 6: North Alameda Street & 3rd Street/4th Place (AM peak hour)
- Intersection 7: South Alameda Street & 4th Street (PM peak hour)
- Intersection 8: South Alameda Street & 6th Street (AM and PM peak hour)
- Intersection 9: South Alameda Street & 7th Street (AM and PM peak hour)
- Intersection 11: Mateo Street & 6th Street (AM peak hour)
- Intersection 12: Mateo Street & 7th Street (PM peak hour)
- Intersection 13: South Santa Fe Avenue & 7th Street (AM and PM peak hour)
- Intersection 16: South Santa Fe Avenue & Olympic Boulevard (AM and PM peak hour)
- Intersection 20: Boyle Avenue & Whittier Boulevard (AM and PM peak hour)

The remaining signalized study intersections are projected to operate at LOS D or better during the peak periods.

Tables 14B and **15B** summarize the Future Base (2026) LOS for unsignalized intersection locations. The following 8 unsignalized intersections are projected to operate at LOS E or worse during one or both peak hours under Future Base (2026) conditions:

- Intersection A: Mateo Street & 4th Place (PM peak hour)
- Intersection B: Mateo Street & Willow Street (PM peak hour)
- Intersection C: Mateo Street & Jesse Street (AM peak hour)
- Intersection E: South Santa Fe Avenue & Mesquit Street (AM peak hour)
- Intersection F: South Santa Fe Avenue & Jesse Street (AM and PM peak hours)
- Intersection H: US-101 Southbound ramps & 7th Street (AM and PM peak hour)
- Intersection I: I-10 Westbound ramps & East 8th Street (AM and PM peak hour)
- Intersection J: I-10 Eastbound ramps & Porter Street (AM and PM peak hour)

The remaining unsignalized study intersection are projected to operate at LOS D or better during the peak periods.

Future Base (2040) Traffic Conditions

The Future Base (2040) peak hour traffic volumes were analyzed to determine the projected V/C ratio, delay, and LOS for each of the study intersections. **Tables 16A** and **17A** summarize the Future Base (2040) LOS for signalized intersection locations. The following 15 signalized intersections are projected to operate at LOS E or worse during one or both peak hours under Future Base (2040) conditions:

- Intersection 1: South Central Avenue & 7th Street (PM peak hour)
- Intersection 2: North Alameda Street & East Aliso Street/East Commercial Street (PM peak hour)
- Intersection 4: North Alameda Street & East 1st Street (AM and PM peak hour)
- Intersection 5: North Alameda Street & East 2nd Street (AM and PM peak hour)
- Intersection 6: North Alameda Street & 3rd Street/4th Place (AM peak hour)
- Intersection 7: South Alameda Street & 4th Street (PM peak hour)
- Intersection 8: South Alameda Street & 6th Street (AM and PM peak hour)
- Intersection 9: South Alameda Street & 7th Street (AM and PM peak hour)
- Intersection 11: Mateo Street & 6th Street (AM peak hour)
- Intersection 12: Mateo Street & 7th Street (PM peak hour)
- Intersection 13: South Santa Fe Avenue & 7th Street (AM and PM peak hour)
- Intersection 16: South Santa Fe Avenue & Olympic Boulevard (AM and PM peak hour)
- Intersection 17: South Santa Fe Avenue & East 15th Street (AM peak hour)
- Intersection 20: Boyle Avenue & Whittier Boulevard (AM and PM peak hour)
- Intersection 21: Boyle Avenue & 7th Street (AM peak hour)

The remaining signalized study intersections are projected to operate at LOS D or better during the peak periods.

Tables 16B and **17B** summarize the Future Base (2040) LOS for unsignalized intersection locations. The following 9 unsignalized intersections are projected to operate at LOS E or worse during one or both peak hours under Future Base (2040) conditions:

- Intersection A: Mateo Street & 4th Place (PM peak hour)
- Intersection B: Mateo Street & Willow Street (AM and PM peak hour)
- Intersection C: Mateo Street & Jesse Street (AM peak hour)
- Intersection E: South Santa Fe Avenue & Mesquit Street (AM and PM peak hour)
- Intersection F: South Santa Fe Avenue & Jesse Street (AM and PM peak hours)
- Intersection H: US-101 Southbound ramps & 7th Street (AM and PM peak hour)
- Intersection I: I-10 Westbound ramps & East 8th Street (AM and PM peak hour)
- Intersection J: I-10 Eastbound ramps & Porter Street (AM and PM peak hour)

The remaining unsignalized study intersection are projected to operate at LOS D or better during the peak periods.

Future Base (2026 & 2040) Plus Project Traffic Projections

The proposed Project traffic volumes were added to the Future Base 2026 and Future Base 2040 traffic projections to form Future Base (2026) plus Project and Future Base (2040) plus Project AM and PM peak hour traffic volumes. As provided in **Appendix F**, the Future Base (2026 & 2040) plus Project scenarios present future traffic conditions with the completion of the proposed Project.

Future Base (2026) plus Project Traffic Conditions

The Future Base (2026) plus Project peak hour traffic volumes, provided in **Appendix F**, were analyzed to determine the projected future operating conditions with the addition of the proposed Project traffic. The results of the Future Base (2026) plus Project signalized intersection analysis are presented in **Table 14A** and the results of the Future Base (2026) plus Project with the Deck Concept signalized intersection analysis are presented in **Table 15A**, with analysis sheets provided in **Appendix G**. The following 14 signalized intersections are projected to operate LOS E or worse during one or both peak hours under Future plus Project and Project with the Deck Concept conditions:

- Intersection 1: South Central Avenue & 7th Street (PM peak hour)
- Intersection 2: North Alameda Street & East Aliso Street/East Commercial Street (PM peak hour)
- Intersection 4: North Alameda Street & East 1st Street (AM and PM peak hour)
- Intersection 5: North Alameda Street & East 2nd Street (AM and PM peak hour)
- Intersection 6: North Alameda Street & 3rd Street/4th Place (AM and PM peak hour)
- Intersection 7: South Alameda Street & 4th Street (PM peak hour)
- Intersection 8: South Alameda Street & 6th Street (AM and PM peak hour)
- Intersection 9: South Alameda Street & 7th Street (AM and PM peak hour)
- Intersection 11: Mateo Street & 6th Street (AM and PM peak hour)
- Intersection 12: Mateo Street & 7th Street (AM and PM peak hour)
- Intersection 13: South Santa Fe Avenue & 7th Street (AM and PM peak hour)
- Intersection 16: South Santa Fe Avenue & Olympic Boulevard (AM and PM peak hour)
- Intersection 20: Boyle Avenue & Whittier Boulevard (AM and PM peak hour)
- Intersection 21: Boyle Avenue & 7th Street (AM peak hour)

The remaining signalized study intersections are projected to operate at LOS D or better during the peak periods.

The results of the Future Base (2026) plus Project unsignalized intersection analysis are presented in **Table 14B** and the results of the Future Base (2026) plus Project with the Deck Concept unsignalized intersection

analysis are presented in **Table 15B**, with analysis sheets provided in **Appendix G**. The following 10 unsignalized intersections are projected to operate LOS E or worse during one or both peak hours under Future Base (2026) plus Project and Project with the Deck Concept conditions:

- Intersection A: Mateo Street & 4th Place (PM peak hour)
- Intersection B: Mateo Street & Willow Street (AM and PM peak hour)
- Intersection C: Mateo Street & Jesse Street (AM and PM peak hour)
- Intersection D: South Santa Fe Avenue & Willow Street (AM and PM peak hour)
- Intersection E: South Santa Fe Avenue & Mesquit Street (AM and PM peak hour)
- Intersection F: South Santa Fe Avenue & Jesse Street (AM and PM peak hours)
- Intersection G: Mesquit Street & Jesse Street (AM peak hour)
- Intersection H: US-101 Southbound ramps & 7th Street (AM and PM peak hour)
- Intersection I: I-10 Westbound ramps & East 8th Street (AM and PM peak hour)
- Intersection J: I-10 Eastbound ramps & Porter Street (AM and PM peak hour)

TABLE 14A
670 MESQUIT
FUTURE BASE (2026) PLUS PROJECT
SIGNALIZED INTERSECTIONS LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2026)		FUTURE BASE (2026) + PROJECT	
			V/C	LOS	V/C	LOS
1	S Central Avenue &	AM	0.821	D	0.843	D
	7th Street	PM	1.039	F	1.087	F
2	N Alameda Street &	AM	0.737	C	0.755	C
	E Aliso Street/E Commercial Street	PM	1.019	F	1.040	F
3	Alameda Street &	AM	0.763	C	0.800	C
	Temple Street	PM	0.789	C	0.812	D
4	N Alameda Street &	AM	1.166	F	1.198	F
	E 1st Street	PM	1.201	F	1.221	F
5	N Alameda Street &	AM	1.053	F	1.059	F
	E 2nd Street	PM	0.960	E	0.983	E
6	S Alameda Street &	AM	0.948	E	0.986	E
	3rd Street/4th Place	PM	0.871	D	0.913	E
7	S Alameda Street &	AM	0.591	A	0.611	B
	4th Street	PM	0.966	E	1.003	F
8	S Alameda Street &	AM	1.045	F	1.068	F
	6th Street	PM	1.055	F	1.081	F
9	S Alameda Street &	AM	1.145	F	1.162	F
	7th Street	PM	1.162	F	1.249	F
10	Molino Street/Merrick Street &	AM	0.815	D	0.835	D
	4th Street	PM	0.800	C	0.849	D
11	Mateo Street &	AM	0.948	E	1.006	F
	6th Street	PM	0.875	D	0.999	E
12	Mateo Street &	AM	0.881	D	0.941	E
	7th Street	PM	0.941	E	1.093	F
13	S Santa Fe Avenue &	AM	1.229	F	1.275	F
	7th Street	PM	1.292	F	1.449	F
14	S Santa Fe Avenue &	AM	0.711	C	0.750	C
	8th Street	PM	0.554	A	0.603	B
15	S Santa Fe Avenue &	AM	0.599	A	0.638	B
	Porter Street	PM	0.809	D	0.868	D
16	S Santa Fe Avenue &	AM	0.998	E	1.032	F
	Olympic Boulevard	PM	0.983	E	1.016	F
17	S Santa Fe Avenue &	AM	0.889	D	0.897	D
	E 15th Street	PM	0.678	B	0.702	C
18	S Rio Street &	AM	0.595	A	0.649	B
	E 7th Street	PM	0.418	A	0.461	A
19	S Anderson Street &	AM	0.737	C	0.791	C
	E 7th Street	PM	0.433	A	0.471	A
20	Boyle Avenue &	AM	1.072	F	1.109	F
	Whittier Boulevard	PM	1.049	F	1.078	F
21	Boyle Avenue &	AM	0.885	D	0.939	E
	7th Street	PM	0.806	D	0.843	D
22	S Alameda Street &	AM	0.739	C	0.759	C
	I-10 Eastbound Ramps	PM	0.853	D	0.865	D

TABLE 14B
670 MESQUIT
FUTURE BASE (2026) PLUS PROJECT
UNSIGNALIZED INTERSECTIONS LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2026)		FUTURE BASE (2026) + PROJECT	
			Delay	LOS	Delay	LOS
A	Mateo Street &	AM	12.7	B	13.2	B
	4th Place	PM	40.9	E	52.4	F
B	Mateo Street &	AM	33.9	D	53.7	F
	Willow Street	PM	92.2	F	286.1	F
C	Mateo Street &	AM	87.8	F	*	F
	Jesse Street	PM	20.3	C	*	F
D	S Santa Fe Avenue &	AM	22.8	C	39.6	E
	Willow Street	PM	24.0	C	56.0	F
E	S Santa Fe Avenue &	AM	41.5	E	137.4	F
	Mesquit Street	PM	34.5	D	149.4	F
F	S Santa Fe Avenue &	AM	62.3	F	*	F
	Jesse Street	PM	35.6	E	*	F
G	Mesquit Street &	AM	8.6	A	49.1	E
	Jesse Street	PM	8.6	A	24.2	C
H	US-101 Southbound ramps &	AM	299.7	F	*	F
	7th Street	PM	63.3	F	92.6	F
I	I-10 Westbound ramps &	AM	*	F	*	F
	E 8th Street	PM	*	F	*	F
J	I-10 Eastbound ramps &	AM	98.4	F	123.5	F
	Porter Street	PM	101.2	F	169.8	F

Note: * The HCM methodology produces a delay estimate that exceeds 5 minutes or is undefined based on the volume, lane configuration, and traffic control. Actual drivers are likely to change their route or accept smaller than usual gaps when faced with such long delays.

TABLE 15A
670 MESQUIT
FUTURE BASE (2026) PLUS PROJECT WITH THE DECK CONCEPT
SIGNALIZED INTERSECTIONS LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2026)		FUTURE BASE (2026) + PROJECT WITH THE DECK CONCEPT	
			V/C	LOS	V/C	LOS
1	S Central Avenue &	AM	0.821	D	0.844	D
	7th Street	PM	1.039	F	1.088	F
2	N Alameda Street &	AM	0.737	C	0.755	C
	E Aliso Street/E Commercial Street	PM	1.019	F	1.040	F
3	Alameda Street &	AM	0.763	C	0.800	C
	Temple Street	PM	0.789	C	0.812	D
4	N Alameda Street &	AM	1.166	F	1.199	F
	E 1st Street	PM	1.201	F	1.221	F
5	N Alameda Street &	AM	1.053	F	1.060	F
	E 2nd Street	PM	0.960	E	0.983	E
6	S Alameda Street &	AM	0.948	E	0.987	E
	3rd Street/4th Place	PM	0.871	D	0.915	E
7	S Alameda Street &	AM	0.591	A	0.611	B
	4th Street	PM	0.966	E	1.005	F
8	S Alameda Street &	AM	1.045	F	1.069	F
	6th Street	PM	1.055	F	1.083	F
9	S Alameda Street &	AM	1.145	F	1.165	F
	7th Street	PM	1.162	F	1.252	F
10	Molino Street/Merrick Street &	AM	0.815	D	0.840	D
	4th Street	PM	0.800	C	0.855	D
11	Mateo Street &	AM	0.948	E	1.013	F
	6th Street	PM	0.875	D	1.007	F
12	Mateo Street &	AM	0.881	D	0.946	E
	7th Street	PM	0.941	E	1.102	F
13	S Santa Fe Avenue &	AM	1.229	F	1.277	F
	7th Street	PM	1.292	F	1.451	F
14	S Santa Fe Avenue &	AM	0.711	C	0.751	C
	8th Street	PM	0.554	A	0.605	B
15	S Santa Fe Avenue &	AM	0.599	A	0.639	B
	Porter Street	PM	0.809	D	0.868	D
16	S Santa Fe Avenue &	AM	0.998	E	1.034	F
	Olympic Boulevard	PM	0.983	E	1.016	F
17	S Santa Fe Avenue &	AM	0.889	D	0.899	D
	E 15th Street	PM	0.678	B	0.702	C
18	S Rio Street &	AM	0.595	A	0.650	B
	E 7th Street	PM	0.418	A	0.462	A
19	S Anderson Street &	AM	0.737	C	0.792	C
	E 4th Street	PM	0.433	A	0.469	A
20	Boyle Avenue &	AM	1.072	F	1.112	F
	Whittier Boulevard	PM	1.049	F	1.081	F
21	Boyle Avenue &	AM	0.885	D	0.941	E
	7th Street	PM	0.806	D	0.845	D
22	S Alameda Street &	AM	0.739	C	0.759	C
	I-10 Eastbound ramps	PM	0.853	D	0.865	D

TABLE 15B
670 MESQUIT
FUTURE BASE (2026) PLUS PROJECT WITH THE DECK CONCEPT
UNSIGNALIZED INTERSECTIONS LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2026)		FUTURE BASE (2026) + PROJECT WITH THE DECK CONCEPT	
			Delay	LOS	Delay	LOS
A	Mateo Street &	AM	12.7	B	13.3	B
	4th Place	PM	40.9	E	53.6	F
B	Mateo Street &	AM	33.9	D	57.4	F
	Willow Street	PM	92.2	F	*	F
C	Mateo Street &	AM	87.8	F	*	F
	Jesse Street	PM	20.3	C	*	F
D	S Santa Fe Avenue &	AM	22.8	C	45.0	E
	Willow Street	PM	24.0	C	62.8	F
E	S Santa Fe Avenue &	AM	41.5	E	152.6	F
	Mesquit Street	PM	34.5	D	164.8	F
F	S Santa Fe Avenue &	AM	62.3	F	*	F
	Jesse Street	PM	35.6	E	*	F
G	Mesquit Street &	AM	8.6	A	64.2	F
	Jesse Street	PM	8.6	A	31.1	D
H	US-101 Southbound ramps &	AM	299.7	F	*	F
	7th Street	PM	63.3	F	92.4	F
I	I-10 Westbound ramps &	AM	*	F	*	F
	E 8th Street	PM	*	F	*	F
J	I-10 Eastbound ramps &	AM	98.4	F	124.4	F
	Porter Street	PM	101.2	F	169.8	F

Note: * The HCM methodology produces a delay estimate that exceeds 5 minutes or is undefined based on the volume, lane configuration, and traffic control. Actual drivers are likely to change their route or accept smaller than usual gaps when faced with such long delays.

Future Base (2040) plus Project Traffic Conditions

The Future Base (2040) plus Project peak hour traffic volumes, provided in **Appendix F**, were analyzed to determine the projected future operating conditions with the addition of the proposed Project traffic. The results of the Future Base (2040) plus Project signalized intersection analysis are presented in **Table 16A** and the results of the Future Base (2040) plus Project with the Deck Concept signalized intersection analysis are presented in **Table 17A**, with analysis sheets provided in **Appendix G**. The following 15 signalized intersections are projected to operate LOS E or worse during one or both peak hours under Future plus Project and Project with the Deck Concept conditions:

- Intersection 1: South Central Avenue & 7th Street (PM peak hour)
- Intersection 2: North Alameda Street & East Aliso Street/East Commercial Street (PM peak hour)
- Intersection 4: North Alameda Street & East 1st Street (AM and PM peak hour)
- Intersection 5: North Alameda Street & East 2nd Street (AM and PM peak hour)
- Intersection 6: North Alameda Street & 3rd Street/4th Place (AM and PM peak hour)
- Intersection 7: South Alameda Street & 4th Street (PM peak hour)
- Intersection 8: South Alameda Street & 6th Street (AM and PM peak hour)
- Intersection 9: South Alameda Street & 7th Street (AM and PM peak hour)
- Intersection 11: Mateo Street & 6th Street (AM and PM peak hour)
- Intersection 12: Mateo Street & 7th Street (AM and PM peak hour)
- Intersection 13: South Santa Fe Avenue & 7th Street (AM and PM peak hour)
- Intersection 16: South Santa Fe Avenue & Olympic Boulevard (AM and PM peak hour)
- Intersection 17: South Santa Fe Avenue & East 15th Street (AM peak hour)
- Intersection 20: Boyle Avenue & Whittier Boulevard (AM and PM peak hour)
- Intersection 21: Boyle Avenue & 7th Street (AM peak hour)

The remaining signalized study intersections are projected to operate at LOS D or better during the peak periods. The results of the Future Base (2040) plus Project unsignalized intersection analysis are presented in **Table 16B** and the results of the Future Base (2040) plus Project with the Deck Concept unsignalized intersection analysis are presented in **Table 17B**, with analysis sheets provided in **Appendix G**. The following 10 unsignalized intersections are projected to operate LOS E or worse during one or both peak hours under Future plus Project and Project with the Deck conditions:

- Intersection A: Mateo Street & 4th Place (PM peak hour)
- Intersection B: Mateo Street & Willow Street (AM and PM peak hour)
- Intersection C: Mateo Street & Jesse Street (AM and PM peak hour)
- Intersection D: South Santa Fe Avenue & Willow Street (AM and PM peak hour)
- Intersection E: South Santa Fe Avenue & Mesquit Street (AM and PM peak hour)
- Intersection F: South Santa Fe Avenue & Jesse Street (AM and PM peak hour)
- Intersection G: Mesquit Street & Jesse Street (AM peak hour)
- Intersection H: US-101 Southbound ramps & 7th Street (AM and PM peak hour)
- Intersection I: I-10 Westbound ramps & East 8th Street (AM and PM peak hour)
- Intersection J: I-10 Eastbound ramps & Porter Street (AM and PM peak hour)

TABLE 16A
670 MESQUIT
FUTURE BASE (2040) PLUS PROJECT
SIGNALIZED INTERSECTIONS LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2040)		FUTURE BASE (2040) + PROJECT	
			V/C	LOS	V/C	LOS
1	S Central Avenue &	AM	0.838	D	0.859	D
	7th Street	PM	1.059	F	1.107	F
2	N Alameda Street &	AM	0.752	C	0.769	C
	E Aliso Street/E Commercial Street	PM	1.040	F	1.061	F
3	Alameda Street &	AM	0.778	C	0.813	D
	Temple Street	PM	0.804	D	0.825	D
4	N Alameda Street &	AM	1.189	F	1.221	F
	E 1st Street	PM	1.223	F	1.242	F
5	N Alameda Street &	AM	1.069	F	1.076	F
	E 2nd Street	PM	0.974	E	0.996	E
6	S Alameda Street &	AM	0.969	E	1.008	F
	3rd Street/4th Place	PM	0.889	D	0.930	E
7	S Alameda Street &	AM	0.603	B	0.621	B
	4th Street	PM	0.987	E	1.025	F
8	S Alameda Street &	AM	1.069	F	1.093	F
	6th Street	PM	1.077	F	1.103	F
9	S Alameda Street &	AM	1.169	F	1.186	F
	7th Street	PM	1.182	F	1.269	F
10	Molino Street/Merrick Street &	AM	0.834	D	0.854	D
	4th Street	PM	0.814	D	0.864	D
11	Mateo Street &	AM	0.966	E	1.024	F
	6th Street	PM	0.884	D	1.009	F
12	Mateo Street &	AM	0.898	D	0.957	E
	7th Street	PM	0.957	E	1.107	F
13	S Santa Fe Avenue &	AM	1.251	F	1.296	F
	7th Street	PM	1.315	F	1.472	F
14	S Santa Fe Avenue &	AM	0.729	C	0.768	C
	8th Street	PM	0.569	A	0.620	B
15	S Santa Fe Avenue &	AM	0.615	B	0.654	B
	Porter Street	PM	0.831	D	0.889	D
16	S Santa Fe Avenue &	AM	1.024	F	1.055	F
	Olympic Boulevard	PM	1.003	F	1.037	F
17	S Santa Fe Avenue &	AM	0.915	E	0.923	E
	E 15th Street	PM	0.697	B	0.722	C
18	S Rio Street &	AM	0.610	B	0.664	B
	E 7th Street	PM	0.427	A	0.471	A
19	S Anderson Street &	AM	0.755	C	0.809	D
	E 4th Street	PM	0.442	A	0.477	A
20	Boyle Avenue &	AM	1.098	F	1.136	F
	Whittier Boulevard	PM	1.074	F	1.104	F
21	Boyle Avenue &	AM	0.907	E	0.961	E
	7th Street	PM	0.827	D	0.864	D
22	S Alameda Street &	AM	0.759	C	0.779	C
	I-10 Eastbound ramps	PM	0.874	D	0.886	D

TABLE 16B
670 MESQUIT
FUTURE BASE (2040) PLUS PROJECT
UNSIGNALIZED INTERSECTIONS LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2040)		FUTURE BASE (2040) + PROJECT	
			Delay	LOS	Delay	LOS
A	Mateo Street &	AM	12.8	B	13.3	B
	4th Place	PM	42.8	E	55.6	F
B	Mateo Street &	AM	35.4	E	58.7	F
	Willow Street	PM	101.0	F	*	F
C	Mateo Street &	AM	123.4	F	*	F
	Jesse Street	PM	21.2	C	*	F
D	S Santa Fe Avenue &	AM	23.3	C	41.5	E
	Willow Street	PM	24.7	C	58.7	F
E	S Santa Fe Avenue &	AM	46.0	E	146.2	F
	Mesquit Street	PM	37.3	E	156.6	F
F	S Santa Fe Avenue &	AM	68.2	F	*	F
	Jesse Street	PM	36.6	E	*	F
G	Mesquit Street &	AM	8.6	A	49.1	E
	Jesse Street	PM	8.6	A	24.3	C
H	US-101 Southbound ramps &	AM	*	F	*	F
	7th Street	PM	72.3	F	104.9	F
I	I-10 Westbound ramps &	AM	*	F	*	F
	E 8th Street	PM	*	F	*	F
J	I-10 Eastbound ramps &	AM	112.7	F	141.5	F
	Porter Street	PM	117.3	F	195.9	F

Note: * The HCM methodology produces a delay estimate that exceeds 5 minutes or is undefined based on the volume, lane configuration, and traffic control. Actual drivers are likely to change their route or accept smaller than usual gaps when faced with such long delays.

TABLE 17A
670 MESQUIT
FUTURE BASE (2040) PLUS PROJECT WITH THE DECK CONCEPT
UNSIGNALIZED INTERSECTIONS LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2040)		FUTURE BASE (2040) + PROJECT WITH THE DECK CONCEPT	
			V/C	LOS	V/C	LOS
1	S Central Avenue &	AM	0.838	D	0.860	D
	7th Street	PM	1.059	F	1.109	F
2	N Alameda Street &	AM	0.752	C	0.770	C
	E Aliso Street/E Commercial Street	PM	1.040	F	1.061	F
3	Alameda Street &	AM	0.778	C	0.814	D
	Temple Street	PM	0.804	D	0.825	D
4	N Alameda Street &	AM	1.189	F	1.222	F
	E 1st Street	PM	1.223	F	1.243	F
5	N Alameda Street &	AM	1.069	F	1.077	F
	E 2nd Street	PM	0.974	E	0.997	E
6	S Alameda Street &	AM	0.969	E	1.009	F
	3rd Street/4th Place	PM	0.889	D	0.931	E
7	S Alameda Street &	AM	0.603	B	0.623	B
	4th Street	PM	0.987	E	1.026	F
8	S Alameda Street &	AM	1.069	F	1.094	F
	6th Street	PM	1.077	F	1.105	F
9	S Alameda Street &	AM	1.169	F	1.188	F
	7th Street	PM	1.182	F	1.272	F
10	Molino Street/Merrick Street &	AM	0.834	D	0.859	D
	4th Street	PM	0.814	D	0.869	D
11	Mateo Street &	AM	0.966	E	1.031	F
	6th Street	PM	0.884	D	1.017	F
12	Mateo Street &	AM	0.898	D	0.963	E
	7th Street	PM	0.957	E	1.117	F
13	S Santa Fe Avenue &	AM	1.251	F	1.299	F
	7th Street	PM	1.315	F	1.299	F
14	S Santa Fe Avenue &	AM	0.729	C	0.769	C
	8th Street	PM	0.569	A	0.621	B
15	S Santa Fe Avenue &	AM	0.615	B	0.655	B
	Porter Street	PM	0.831	D	0.889	D
16	S Santa Fe Avenue &	AM	1.024	F	1.056	F
	Olympic Boulevard	PM	1.003	F	1.037	F
17	S Santa Fe Avenue &	AM	0.915	E	0.925	E
	E 15th Street	PM	0.697	B	0.722	C
18	S Rio Street &	AM	0.610	B	0.665	B
	E 7th Street	PM	0.427	A	0.471	A
19	S Anderson Street &	AM	0.755	C	0.810	D
	E 4th Street	PM	0.442	A	0.478	A
20	Boyle Avenue &	AM	1.098	F	1.139	F
	Whittier Boulevard	PM	1.074	F	1.107	F
21	Boyle Avenue &	AM	0.907	E	0.963	E
	7th Street	PM	0.827	D	0.866	D
22	S Alameda Street &	AM	0.759	C	0.779	C
	I-10 Eastbound ramps	PM	0.874	D	0.886	D

TABLE 17B
670 MESQUIT
FUTURE BASE (2040) PLUS PROJECT WITH THE DECK CONCEPT
UNSIGNALIZED INTERSECTIONS LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2040)		FUTURE BASE (2040) + PROJECT WITH THE DECK CONCEPT	
			Delay	LOS	Delay	LOS
A	Mateo Street &	AM	12.8	B	13.4	B
	4th Place	PM	42.8	E	57.0	F
B	Mateo Street &	AM	35.4	E	63.7	F
	Willow Street	PM	101.0	F	*	F
C	Mateo Street &	AM	123.4	F	*	F
	Jesse Street	PM	21.2	C	*	F
D	S Santa Fe Avenue &	AM	23.3	C	46.8	E
	Willow Street	PM	24.7	C	67.8	F
E	S Santa Fe Avenue &	AM	46.0	E	161.7	F
	Mesquit Street	PM	37.3	E	172.5	F
F	S Santa Fe Avenue &	AM	68.2	F	*	F
	Jesse Street	PM	36.6	E	*	F
G	Mesquit Street &	AM	8.6	A	64.2	F
	Jesse Street	PM	8.6	A	31.2	D
H	US-101 Southbound ramps &	AM	*	F	*	F
	7th Street	PM	72.3	F	104.7	F
I	I-10 Westbound ramps &	AM	*	F	*	F
	E 8th Street	PM	*	F	*	F
J	I-10 Eastbound ramps &	AM	112.7	F	142.0	F
	Porter Street	PM	117.3	F	195.9	F

Note: * The HCM methodology produces a delay estimate that exceeds 5 minutes or is undefined based on the volume, lane configuration, and traffic control. Actual drivers are likely to change their route or accept smaller than usual gaps when faced with such long delays.

Site Access

The Project proposes four driveways:

- A two-way full-access driveway on Mesquit Street at the northern end of the Project at ground level (Building 1).
- A two-way full-access driveway at the intersection of Mesquit Street & Jesse Street at ground level (Building 2).
- A two-way signalized driveway connecting the 7th Street Bridge to the third level of Building 4 near the southeastern corner of the Project site that allows for full access out and right-turns only in.
- A one-way right-turn-out-only driveway connecting the 7th Street Bridge to the second level of Building 5 near the southwestern corner of the Project site.

Loading docks would be located within the ground level of the Project's parking structure and would be accessed via the northern driveway on Mesquit Street.

Level of Service Analysis for Project Driveways

A level of service analysis was conducted to evaluate the ability of the Project's access plan to accommodate the anticipated traffic levels at the four driveways. The two-way full-access driveway on Mesquit Street at the northern end of the Project and the one-way right-turn-out-only driveway on 7th Street were analyzed using the Two-Way Stop Controlled (TWSC) methodology from the HCM. The two-way full-access driveway at the intersection of Mesquit Street & Jesse Street (Study Intersection G) was analyzed using the All-Way Stop Controlled (AWSC) methodology from the HCM. The TWSC HCM methodology determines the average vehicle delay for the stop-controlled approach to find the corresponding LOS based on the definitions presented in **Table 9B**. The AWSC HCM methodology determines the average vehicle delay for the intersection to find the corresponding LOS based on the definitions also presented in **Table 9B**. The two-way signalized driveway on the 7th Street bridge was analyzed using the CMA methodology. The V/C ratio is used to find the corresponding LOS based on the definitions in **Table** 9**A**.

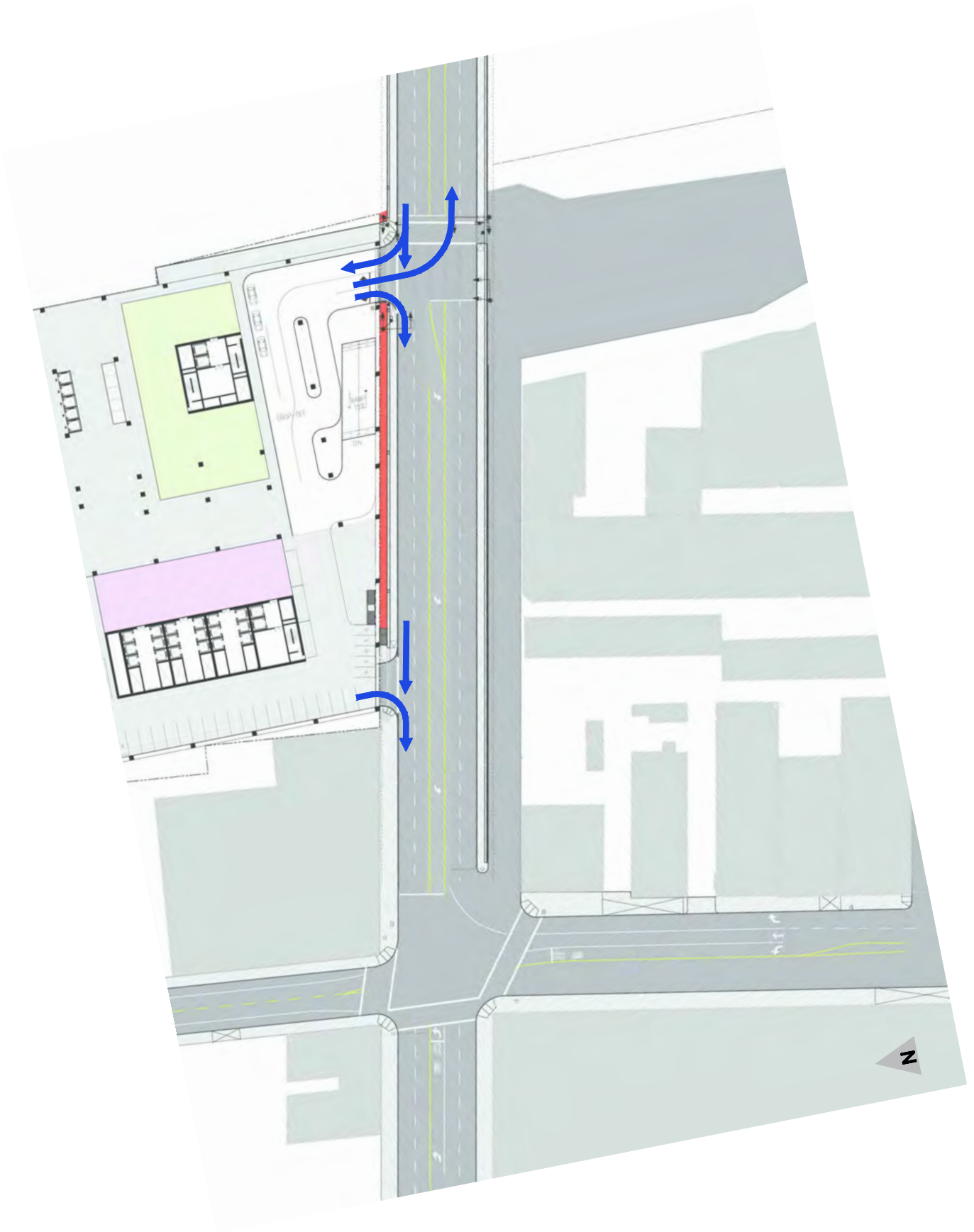
Table 18A and **Table 18B** show the results of the LOS analysis at the Project driveways for the Project and the Project with the Deck Concept, respectively. The northern Mesquit driveway is projected to operate at LOS A in the AM and PM peak period under future conditions for both Project options. The Mesquit & Jesse driveway is projected to operate at LOS E in the AM peak period and LOS C in the PM peak period under future conditions for the Project and LOS F in the AM peak period and LOS D in the PM peak period under future conditions for the Project with the Deck Concept. The right-out-only driveway approach onto 7th Street is projected to operate at LOS E in the AM peak period and LOS D in the PM peak period under future conditions for both Project options (motorists traveling along 7th Street would be unimpeded). The signalized 7th Street driveway is projected to operate at LOS D in the AM peak period and LOS B in the PM peak period under future conditions for both Project options. **Figure 9** is a conceptual drawing of the 7th Street driveways and driveway analysis LOS worksheets are included in **Appendix J**.

Table 18A - Driveway Level of Service: Project

Driveway Location	Peak Hour	Methodology	Future Base (2026) plus Project		Future Base (2040) Project	
			Delay (sec.)	LOS	Delay (sec.)	LOS
N Mesquit Driveway	AM	HCM Unsignalized	9.1	A	9.1	A
	PM		9.6	A	9.6	A
Mesquit & Jesse Driveway	AM	HCM Unsignalized	49.1	E	49.1	E
	PM		24.2	C	24.3	C
7th Street Right Out Only Driveway	AM	HCM Unsignalized	41.1	E	42.9	E
	PM		25.3	D	25.9	D
7th Street Bridge Driveway			V/C	LOS	V/C	LOS
	AM	CMA Signalized	0.809	D	0.825	D
	PM		0.627	B	0.636	B

Table 18B - Driveway Level of Service: Project with the Deck Concept

Driveway Location	Peak Hour	Methodology	Future Base (2026) plus Project with the Deck Concept		Future Base (2040) Project with the Deck Concept	
			Delay (sec.)	LOS	Delay (sec.)	LOS
N Mesquit Driveway	AM	HCM Unsignalized	9.2	A	9.2	A
	PM		9.7	A	9.7	A
Mesquit & Jesse Driveway	AM	HCM Unsignalized	64.2	F	64.2	F
	PM		31.1	D	31.2	D
7th Street Right Out Only Driveway	AM	HCM Unsignalized	43.4	E	45.5	E
	PM		26.1	D	26.7	D
7th Street Bridge Driveway			V/C	LOS	V/C	LOS
	AM	CMA Signalized	0.819	D	0.835	D
	PM		0.634	B	0.643	B



LEGEND

Driveway Turning Movements

Figure 9

Conceptual 7th Street Driveways

Corrective Actions

As described in Section 3.2, the proposed TDM program would reduce the daily household VMT per capita by an estimated 18% and the daily work VMT per employee by an estimated 18% for the Project and the Project with the Deck Concept. These reductions were applied to the residential and office uses for both Project options. The TDM program is projected to reduce the overall peak hour trip generation by approximately 8% in the AM and PM peak periods for the Project, as shown in **Table 19A**, and by 7% in the AM and PM peak periods for the Project with the Deck Concept, as shown in **Table 19B**. The resulting turning movement volumes generated with the TDM program were used for the Corrective Actions analysis.

In addition to the proposed TDM program, the Project proposes several Corrective Actions, which include contributing to a Transportation Management Organization (TMO), intersection signal system modifications, physical intersection improvements, and signalization of several intersections.

Transportation Management Organization

A TMO is an organization that oversees the development, implementation, and operation of trip reduction strategies within a study area. Developers, building owners, and businesses are members of the TMO and fund upfront donations and/or annual dues to support the activities of the TMO. The Applicant proposes to contribute to FASTLink, the Downtown TMO, or to the formation of a new Arts District TMO focused on the area around the Project. The TMO services would be available to anyone within the general Arts District community, not just residents and tenants of the proposed Project, and in this way help to alleviate current and future traffic congestion throughout the area. The Applicant will agree to contribute to the Arts District TMO/Arts District portion of a Downtown TMO following approval of the Project by becoming a member, participating in, and make a one-time contribution of $100,000 to TMO operations and marketing efforts. In addition, the applicant will encourage its office and hotel lessees to become members of the TMO and maintain that membership on an ongoing basis.

Intersection Signal System Modifications

The Project proposes to install or pay a fee to LADOT for a new conduit with fiber on 7th Street from Santa Fe Avenue to Alameda Street. As part of the 7th Street improvements, the Project proposes to install or pay a fair share contribution for a new CCTV camera at the Santa Fe & 7th Street intersection. These improvements will enhance LADOT's ability to monitor traffic flows by providing the fiber optic infrastructure to connect signals on Alameda Street for efficient traffic flows and systemwide benefits.

Physical Intersection Improvements

The Project proposes physical intersection improvements at two intersections:

- Santa Fe Avenue & Jesse Street: The Project proposes to modify the eastbound and westbound approaches along Jesse Street to provide a left-only turn lane. This Corrective Action would require restriping the eastbound and westbound approaches from one shared left-through-right to one left-only turn lane and one through-right lane. This Corrective Action would require the removal of up to three on-street parking spaces at the eastbound leg and removal of yellow curb space at the westbound leg. **Figure 10** shows the conceptual design and striping plan for this Corrective Action.
- Santa Fe Avenue & 7th Street: The Project proposes to modify the southbound approach along Santa Fe Avenue to provide a left-only lane. This Corrective Action would require restriping the southbound approach from a shared left-through-right lane to a shared through-right lane and one left-only turn lane. Improvements would also include upgrading curb ramps to include tactile warning strips and crosswalks to continental crosswalks. **Figure 11** shows the conceptual design and striping plan for this improvement.

TABLE 19A
PROJECT TRIP GENERATION - WITH CORRECTIVE ACTIONS
670 MESQUIT PROJECT

Land Use	ITE Land Use Code [a]	Size	Estimated Trip Generation					
			AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
PROPOSED PROJECT								
Creative Office (with TDM)	710	944.055 ksf	399	28	427	109	486	595
Quality Restaurant	931	44.788 ksf	10	10	20	117	44	161
High-Turnover Restaurant	932	44.788 ksf	132	106	238	122	56	178
Hotel	310	236 rooms	48	19	67	23	19	42
Residential*	222	258 DU	8	34	42	16	7	23
Affordable Housing	*[b]*	50 DU	8	9	17	2	2	4
Studio, Event, Gallery [c]	495	93.617 ksf	86	47	133	82	91	173
Gym (Health / Fitness Club) [d]	492	62.148 ksf	23	21	44	45	38	83
Grocery	850	28.054 ksf	27	19	46	45	47	92
General Retail	820	79.240 ksf	48	31	79	65	75	140
Food Hall [e]	Blended	28.858 ksf	89	71	160	67	35	102
Farmers' Market	[f]	500 persons	0	0	0	0	0	0
NET EXTERNAL VEHICLE TRIPS			878	395	1,273	693	900	1,593
EXISTING USE CREDIT								
Warehousing	150	205.4 ksf	27	8	35	11	28	39
Total Existing Use Credit			27	8	35	11	28	39
NET INCREMENTAL EXTERNAL TRIPS			851	387	1,238	682	872	1,554

Notes:

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] Trip rates for affordable housing taken from LADOT's *Transportation Impact Study Guidelines,* December 2016.

[c] Trip generation rates for recreation center used for Studio, Event, Gallery.

[d] ITE 10th Edition does not have a daily Health/Fitness club rate, so 9th Edition daily rate was used.

[e] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place, and retail.

[f] Weekly farmers market from 11am-2pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle. A larger monthly farmers' market is planned, but will not be part of the traffic analysis because it is planned for weekends only.

TABLE 19B
PROJECT WITH THE DECK CONCEPT TRIP GENERATION - WITH CORRECTIVE ACTIONS
670 MESQUIT PROJECT

Land Use	ITE Land Use Code [a]	Size	Estimated Trip Generation					
			AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
PROPOSED PROJECT								
Creative Office (with TDM)	710	944.055 ksf	399	28	427	109	486	595
Quality Restaurant	931	44.788 ksf	10	10	20	117	44	161
High-Turnover Restaurant	932	44.788 ksf	132	106	238	122	56	178
Hotel	310	236 rooms	48	19	67	23	19	42
Residential*	222	258 DU	8	34	42	16	7	23
Affordable Housing	*[b]*	50 DU	8	9	17	2	2	4
Studio, Event, Gallery [c]	495	93.617 ksf	86	47	133	82	91	173
Gym (Health / Fitness Club) [d]	492	62.148 ksf	23	21	44	45	38	83
Grocery	850	28.054 ksf	27	19	46	45	47	92
General Retail	820	79.240 ksf	48	31	79	65	75	140
Food Hall [e]	Blended	28.858 ksf	89	71	160	67	35	102
Deck	[f]	3.030 acres	4	4	8	3	2	5
Farmers' Market	[g]	500 persons	0	0	0	0	0	0
Group Exercise Classes	[h]	280 persons	56	56	112	56	56	112
Busking	[i]	20 persons	0	0	0	0	0	0
NET EXTERNAL VEHICLE TRIPS			938	455	1,393	752	958	1,710
EXISTING USE CREDIT								
Warehousing	150	205.4 ksf	27	8	35	11	28	39
Total Existing Use Credit			27	8	35	11	28	39
NET INCREMENTAL EXTERNAL TRIPS			911	447	1,358	741	930	1,671

Notes:

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] Trip rates for affordable housing taken from LADOT's *Transportation Impact Study Guidelines,* December 2016.

[c] Trip generation rates for recreation center used for Studio, Event, Gallery.

[d] ITE 10th Edition does not have a daily Health/Fitness club rate, so 9th Edition daily rate was used.

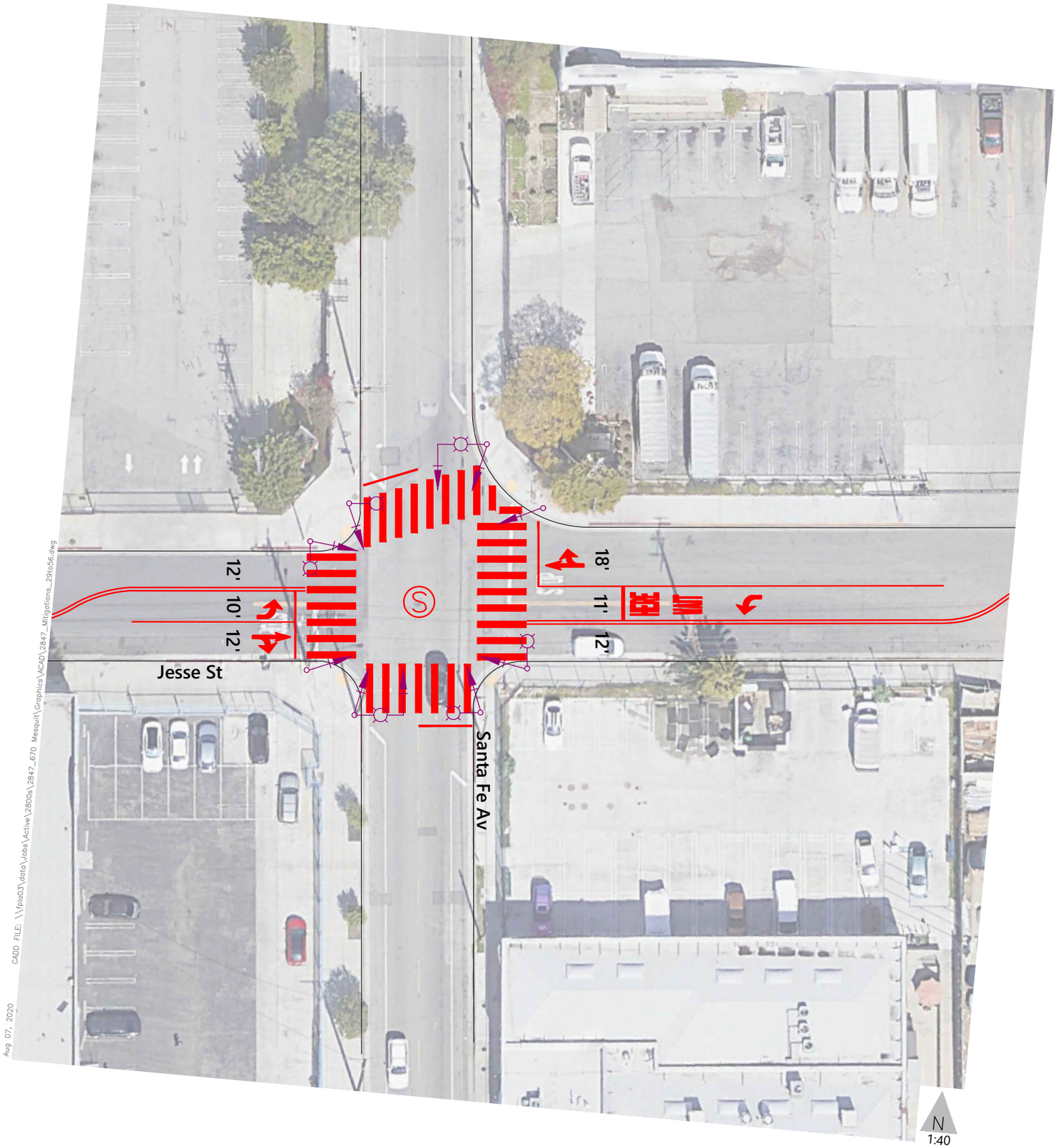
[e] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place, and retail.

[f] Regional Park (Developed) rate from San Diego Association of Governments, *(Not So) Brief Guide of Vehicular Traffic Generation Rates* for the San Diego Region, April 2002.

[g] Weekly farmers market from 11am-2pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle. A larger monthly farmers' market is planned, but will not be part of the traffic analysis because it is planned for weekends only.

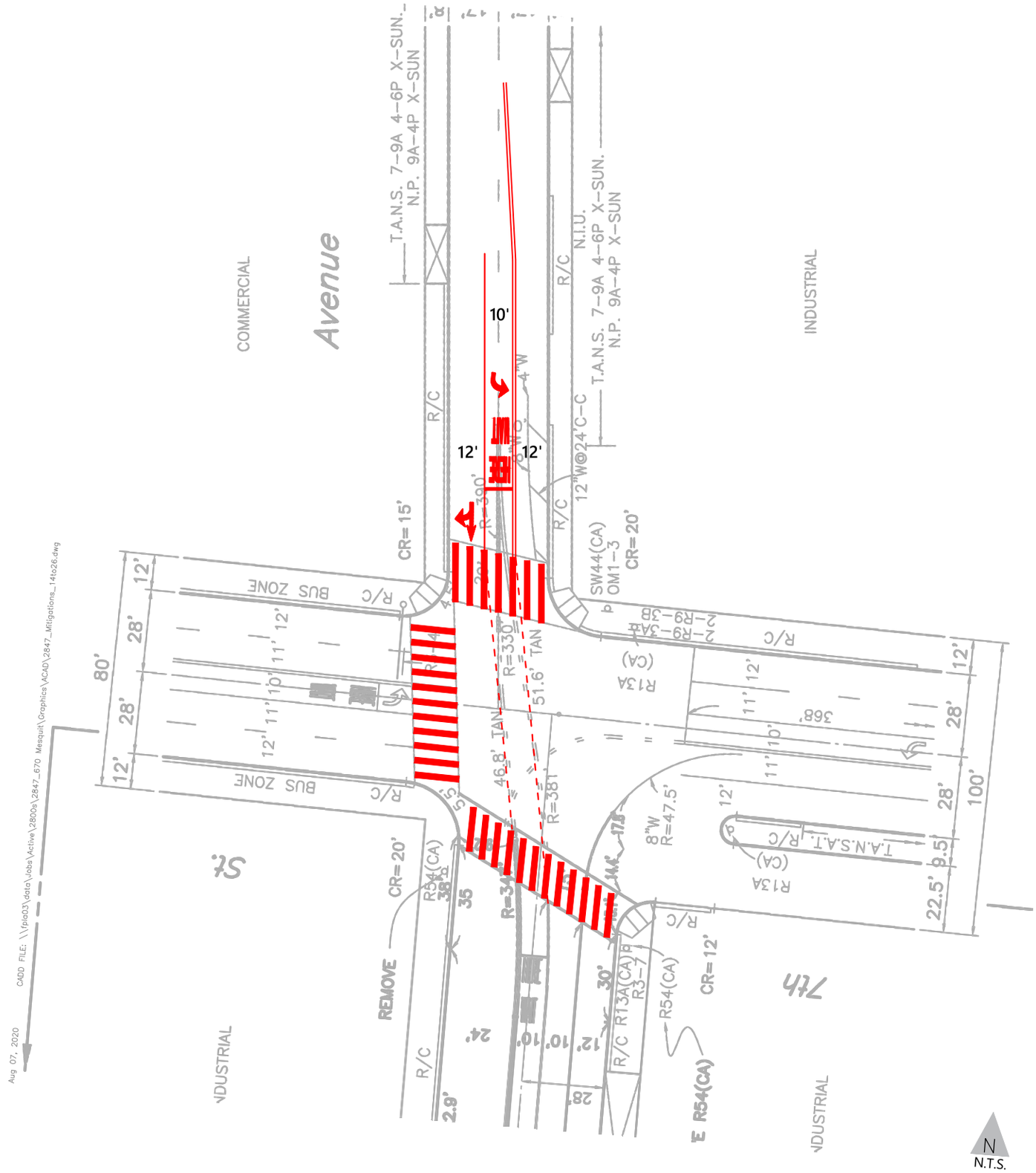
[h] Group exercise classes 3-4 times a week, from 7am-9am & 4pm-7pm. Assumes an average vehicle occupancy of 1 person per vehicle and that within the AM and PM peak hour, a class will begin and end (generating both inbound and outbound trips).

[i] Busking occurs six times a month from 12pm-2pm & 7pm-9pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle.



CONCEPTUAL - NOT FOR CONSTRUCTION
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED

Figure 10
Conceptual Corrective Action
Santa Fe Avenue & Jesse Street
670 Mesquit Project



CONCEPTUAL - NOT FOR CONSTRUCTION
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED

Figure 11
Conceptual Correction Action
Santa Fe Avenue & 7th Street
670 Mesquit Project

Unsignalized Intersection Signal Warrant Analysis

Given the projected level of service results for the ten unsignalized intersections for the Project and the Project with the Deck Concept, a signal warrant analysis was conducted to determine the need for the installation of a traffic signal or other traffic control device. Traffic volumes and lane configurations, as presented in **Appendix F**, were used to prepare signal warrant analyses at the unsignalized intersections under Existing, Future Base (2026 and 2040), and Future plus Project (2026 and 2040) conditions for both Project options. Signal warrant results for ten unsignalized intersections for the Project and the Project with the Deck Concept are presented in **Table 20A** and **Table 20B**, respectively.

The following intersections do not meet peak hour signal warrants in any scenario:

- Intersection A: Mateo Street & 4th Place
- Intersection D: S Santa Fe Avenue & Willow Street

The following intersections meet peak hour signal warrants under Existing conditions:

- Intersection H: 7th Street & US-101 Southbound Ramp
- Intersection I: E 8th Street & I-10 Westbound Ramp

The following intersections are forecast to meet peak hour signal warrants under Future Base (2026 and 2040) conditions:

- Intersection C: Mateo Street & Jesse Street
- Intersection J: I-10 Eastbound Ramps & Porter Street

The four intersections listed below meet peak hour signal warrants under Future (2026) plus Project for both Project options. These signal warrants would be triggered due to the addition of trips generated by the Project.

- Intersection B: Mateo Street & Willow Street
- Intersection E: S Santa Fe Avenue & Mesquit Street
- Intersection F: S Santa Fe Avenue & Jesse Street
- Intersection G: Mesquit Street & Jesse Street

The other four intersections either currently meet or are projected to meet signal warrants in the future due to other planned developments and traffic growth without the addition of Project traffic. Signal warrant analysis sheets are provided in **Appendix L**.

TABLE 20A
670 MESQUIT PROJECT
PEAK HOUR SIGNAL WARRANT ANALYSIS

Project

No.	INTERSECTIONS	PEAK HOUR	EXISTING SIGNAL WARRANT MET	FUTURE (2026) BASE SIGNAL WARRANT MET	FUTURE (2026) PLUS PROJECT SIGNAL WARRANT MET	FUTURE (2040) BASE SIGNAL WARRANT MET	FUTURE (2040) PLUS PROJECT OPTION 1 SIGNAL WARRANT MET
A	Mateo St &	AM	NO	NO	NO	NO	NO
	4th Pl	PM	NO	NO	NO	NO	NO
B	Mateo St &	AM	NO	NO	YES	NO	YES
	Willow St	PM	NO	NO	YES	NO	YES
C	Mateo St &	AM	NO	YES	YES	YES	YES
	Jesse St	PM	NO	NO	YES	NO	YES
D	S Santa Fe Ave &	AM	NO	NO	NO	NO	NO
	Willow St	PM	NO	NO	NO	NO	NO
E	S Santa Fe Ave &	AM	NO	NO	YES	NO	YES
	Mesquit St	PM	NO	NO	YES	NO	YES
F	S Santa Fe Ave &	AM	NO	NO	YES	NO	YES
	Jesse St	PM	NO	NO	YES	NO	YES
G	Mesquit St &	AM	NO	NO	NO	NO	NO
	Jesse St	PM	NO	NO	YES	NO	YES
H	7th St &	AM	YES	YES	YES	YES	YES
	US-101 Southbound ramp	PM	YES	YES	YES	YES	YES
J	E 8th St &	AM	YES	YES	YES	YES	YES
	I-10 Westbound ramp	PM	YES	YES	YES	YES	YES
K	Porter St &	AM	NO	YES	YES	YES	YES
	I-10 Easbound ramp	PM	NO	YES	YES	YES	YES

TABLE 20B
670 MESQUIT PROJECT
PEAK HOUR SIGNAL WARRANT ANALYSIS

Project with the Deck Concept

No.	INTERSECTIONS	PEAK HOUR	EXISTING SIGNAL WARRANT MET	FUTURE (2026) BASE SIGNAL WARRANT MET	FUTURE (2026) PLUS PROJECT WITH THE DECK CONCEPT SIGNAL WARRANT MET	FUTURE (2040) BASE SIGNAL WARRANT MET	FUTURE (2040) PLUS PROJECT WITH THE DECK CONCEPT SIGNAL WARRANT MET
A	Mateo St &	AM	NO	NO	NO	NO	NO
	4th Pl	PM	NO	NO	NO	NO	NO
B	Mateo St &	AM	NO	NO	YES	NO	YES
	Willow St	PM	NO	NO	YES	NO	YES
C	Mateo St &	AM	NO	YES	YES	YES	YES
	Jesse St	PM	NO	NO	YES	NO	YES
D	S Santa Fe Ave &	AM	NO	NO	NO	NO	NO
	Willow St	PM	NO	NO	NO	NO	NO
E	S Santa Fe Ave &	AM	NO	NO	YES	NO	YES
	Mesquit St	PM	NO	NO	YES	NO	YES
F	S Santa Fe Ave &	AM	NO	NO	YES	NO	YES
	Jesse St	PM	NO	NO	YES	NO	YES
G	Mesquit St &	AM	NO	NO	NO	NO	NO
	Jesse St	PM	NO	NO	YES	NO	YES
H	7th St &	AM	YES	YES	YES	YES	YES
	US-101 Southbound ramp	PM	YES	YES	YES	YES	YES
J	E 8th St &	AM	YES	YES	YES	YES	YES
	I-10 Westbound ramp	PM	YES	YES	YES	YES	YES
K	Porter St &	AM	NO	YES	YES	YES	YES
	I-10 Easbound ramp	PM	NO	YES	YES	YES	YES

Future Base (2026 and 2040) plus Project with Corrective Actions

The Project proposes to signalize the following intersection locations to facilitate access to/from the Project or to address the identified freeway safety impact discussed in Section 3.4:

- Intersection E: Santa Fe Avenue & Mesquit Street
- Intersection F: S Santa Fe Avenue & Jesse Street
- Intersection G: Mesquit Street & Jesse Street
- Intersection H: US-101 Southbound off-ramp & 7th Street

In addition, the Project proposes to implement physical intersection improvements at Mesquit Street & Jesse Street and Santa Fe Avenue & 7th Street. These intersections were analyzed with the installation of a traffic signal and with the proposed physical intersection improvements. As shown in **Tables 21A, 21B**, **22A, 22B**, of the four stop-controlled intersections projected to operate at LOS E or F without the corrective actions, only one intersection will continue to operate at LOS E or F after the implementation of these improvements. The physical improvements at Santa Fe Avenue & 7th Street would add capacity to the southbound approach and improve intersection operations.

Traffic Signal Fair-Share Calculation

Although Intersection B: Mateo Street & Willow Street triggers a signal warrant due to Project-related trips, it does not facilitate access to the site and will not be a project feature; however this intersection will be considered for fair-share contribution. The following intersections meet signal warrants regardless of the Project volumes and are considered to be cumulatively impacted by Project trips:

- Intersection C: Mateo Street & Jesse Street
- Intersection I: E 8th Street & I-10 Westbound Ramp
- Intersection J: I-10 Eastbound Ramps & Porter Street

Fair-share calculations were made to determine how much traffic the Project would add to intersections that are estimated to already meet signal warrants in pre-project conditions. **Tables 23** and **24** show the fair-share contribution that the Project could provide for the installation of signals based on the total new traffic that the Project is adding to these intersections in future years 2026 and 2040. The unsignalized intersections that did not meet signal warrants (A & D) were not analyzed for fair-share contributions. Only fair share calculations for the Project with the Deck Concept was analyzed to be conservative.

TABLE 21A
670 MESQUIT
FUTURE BASE (2026) PLUS PROJECT INTERSECTION LEVELS OF SERVICE
INTERSECTIONS WITH CORRECTIVE ACTIONS

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2026)		FUTURE BASE (2026) + PROJECT		FUTURE BASE (2026) + PROJECT WITH CORRECTIVE ACTIONS	
			Delay	LOS	Delay	LOS	V/C	LOS
E	S Santa Fe Avenue &	AM	41.5	E	137.4	F	0.544	A
	Mesquit Street	PM	34.5	D	149.4	F	0.548	A
F	S Santa Fe Avenue &	AM	62.3	F	*	F	0.944	E
	Jesse Street	PM	35.6	E	*	F	0.845	D
G	Mesquit Street &	AM	8.6	A	49.1	E	0.350	A
	Jesse Street	PM	8.6	A	24.2	C	0.262	A
H	US-101 Southbound ramps &	AM	299.7	F	*	F	0.829	D
	7th Street	PM	63.3	F	92.6	F	0.552	A
NO.	**INTERSECTION**	**PEAK HOUR**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**
13	S Santa Fe Avenue &	AM	1.229	F	1.275	F	1.198	F
	7th Street	PM	1.292	F	1.449	F	1.307	F

TABLE 21B
670 MESQUIT
FUTURE BASE (2026) PLUS PROJECT WITH THE DECK CONCEPT INTERSECTION LEVELS OF SERVICE
INTERSECTIONS WITH CORRECTIVE ACTIONS

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2026)		FUTURE BASE (2026) + PROJECT WITH THE DECK CONCEPT		FUTURE BASE (2026) + PROJECT WITH THE DECK CONCEPT WITH CORRECTIVE ACTIONS	
			Delay	LOS	Delay	LOS	V/C	LOS
E	S Santa Fe Avenue &	AM	41.5	E	152.6	F	0.579	A
	Mesquit Street	PM	34.5	D	164.8	F	0.598	A
F	S Santa Fe Avenue &	AM	62.3	F	*	F	1.049	F
	Jesse Street	PM	35.6	E	*	F	0.969	E
G	Mesquit Street &	AM	8.6	A	64.2	F	0.445	A
	Jesse Street	PM	8.6	A	31.1	D	0.363	A
H	US-101 Southbound ramps &	AM	299.7	F	*	F	0.830	D
	7th Street	PM	63.3	F	92.4	F	0.553	A
NO.	**INTERSECTION**	**PEAK HOUR**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**
13	S Santa Fe Avenue &	AM	1.229	F	1.277	F	1.200	F
	7th Street	PM	1.292	F	1.451	F	1.309	F

TABLE 22A
670 MESQUIT
FUTURE BASE (2040) PLUS PROJECT INTERSECTION LEVELS OF SERVICE
INTERSECTIONS WITH CORRECTIVE ACTIONS

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2040)		FUTURE BASE (2040) + PROJECT		FUTURE BASE (2040) + PROJECT WITH CORRECTIVE ACTIONS	
			Delay	LOS	Delay	LOS	V/C	LOS
E	S Santa Fe Avenue &	AM	46.0	E	146.2	F	0.571	A
	Mesquit Street	PM	37.3	E	156.6	F	0.583	A
F	S Santa Fe Avenue &	AM	68.2	F	*	F	1.034	F
	Jesse Street	PM	36.6	E	*	F	0.948	E
G	Mesquit Street &	AM	8.6	A	49.1	E	0.415	A
	Jesse Street	PM	8.6	A	24.3	C	0.335	A
H	US-101 Southbound ramps &	AM	*	F	*	F	0.847	D
	7th Street	PM	72.3	F	104.9	F	0.562	A
NO.	**INTERSECTION**	**PEAK HOUR**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**
13	S Santa Fe Avenue &	AM	1.251	F	1.296	F	1.221	F
	7th Street	PM	1.315	F	1.472	F	1.342	F

TABLE 22B
670 MESQUIT
FUTURE BASE (2040) PLUS PROJECT WITH THE DECK CONCEPT INTERSECTION LEVELS OF SERVICE
INTERSECTIONS WITH CORRECTIVE ACTIONS

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2040)		FUTURE BASE (2040) + PROJECT WITH THE DECK CONCEPT		FUTURE BASE (2040) + PROJECT WITH THE DECK CONCEPT WITH CORRECTIVE ACTIONS	
			Delay	LOS	Delay	LOS	V/C	LOS
E	S Santa Fe Avenue &	AM	46.0	E	161.7	F	0.590	A
	Mesquit Street	PM	37.3	E	172.5	F	0.606	B
F	S Santa Fe Avenue &	AM	68.2	F	*	F	1.063	F
	Jesse Street	PM	36.6	E	*	F	0.978	E
G	Mesquit Street &	AM	8.6	A	64.2	F	0.445	A
	Jesse Street	PM	8.6	A	31.2	D	0.364	A
H	US-101 Southbound ramps &	AM	*	F	*	F	0.848	D
	7th Street	PM	72.3	F	104.7	F	0.563	A
NO.	**INTERSECTION**	**PEAK HOUR**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**
13	S Santa Fe Avenue &	AM	1.251	F	1.299	F	1.221	F
	7th Street	PM	1.315	F	1.299	F	1.331	F

TABLE 23
670 MESQUIT
FUTURE YEAR (2026) PROJECT FAIR SHARE CONTRIBUTION - PROJECT WITH THE DECK CONCEPT

NO.	INTERSECTION	PEAK HOUR	EXISTING BASELINE TRAFFIC	2026 PROJECTED TRAFFIC	PROJECT ONLY TRAFFIC	TOTAL NEW TRAFFIC	PROJECT % OF NEW TRAFFIC	MAXIMUM CONTRIBUTION
B	Mateo Street &	AM	690	1,585	122	895	14%	14%
	Willow Street	PM	705	1,926	163	1,221	13%	
C	Mateo Street &	AM	1,173	2,171	426	998	43%	43%
	Jesse Street	PM	686	1,912	511	1,226	42%	
E	S Santa Fe Avenue &	AM	827	1,638	408	811	50%	100%[a]
	Mesquit Street	PM	738	1,697	484	959	50%	
F	S Santa Fe Avenue &	AM	976	2,410	1,018	1,434	71%	100%[a]
	Jesse Street	PM	835	2,459	1,138	1,624	70%	
G	Mesquit Street &	AM	70	1,087	1,017	1,017	100%	100%[a]
	Jesse Street	PM	49	1,168	1,119	1,119	100%	
H	US-101 Southbound ramps &	AM	2,114	3,278	184	1,164	16%	100%[b]
	7th Street	PM	1,616	2,965	218	1,349	16%	
I	I-10 Westbound ramps &	AM	1,474	1,903	23	429	5%	10%
	E 8th Street	PM	1,327	1,789	46	462	10%	
J	I-10 Eastbound ramps &	AM	1,304	1,782	48	478	10%	11%
	Porter Street	PM	1,106	1,759	75	653	11%	

Notes

[a] Recommended that the Project signalize these intersection locations as a project feature to facilitate access to/from the Project

[b] Recommended that the Project signalize this intersection as a project mitigation for the identified safety issue at this off-ramp.

TABLE 24
670 MESQUIT
FUTURE (YEAR 2040) PROJECT FAIR SHARE CONTRIBUTION - PROJECT WITH THE DECK CONCEPT

NO.	INTERSECTION	PEAK HOUR	EXISTING BASELINE TRAFFIC	2040 PROJECTED TRAFFIC	PROJECT ONLY TRAFFIC	TOTAL NEW TRAFFIC	PROJECT % OF NEW TRAFFIC	MAXIMUM CONTRIBUTION
B	Mateo Street &	AM	690	1,604	122	914	13%	13%
	Willow Street	PM	705	1,948	163	1,243	13%	
C	Mateo Street &	AM	1,173	2,204	426	1,031	41%	41%
	Jesse Street	PM	686	1,932	511	1,246	41%	
E	S Santa Fe Avenue &	AM	827	1,661	408	834	49%	100%[a]
	Mesquit Street	PM	738	1,717	484	979	49%	
F	S Santa Fe Avenue &	AM	976	2,438	1,018	1,462	70%	100%[a]
	Jesse Street	PM	835	2,481	1,138	1,646	69%	
G	Mesquit Street &	AM	70	1,089	1,017	1,019	100%	100%[a]
	Jesse Street	PM	49	1,170	1,119	1,121	100%	
H	US-101 Southbound ramps &	AM	2,114	3,338	184	1,224	15%	100%[b]
	7th Street	PM	1,616	3,010	218	1,394	16%	
I	I-10 Westbound ramps &	AM	1,474	1,945	23	471	5%	9%
	E 8th Street	PM	1,327	1,826	46	499	9%	
J	I-10 Eastbound ramps &	AM	1,304	1,820	48	516	9%	11%
	Porter Street	PM	1,106	1,790	75	684	11%	

Notes

[a] Recommended that the Project signalize these intersections location as a project feature to facilitate access to/from the Project

[b] Recommended that the Project signalize this intersection as a project mitigation for the identified safety issue at this off-ramp.

4.3 Project Construction

This section provides a construction period transportation analysis conducted in accordance with the LADOT TAG.

Anticipated Construction Activity

Construction of the Project is anticipated to be completed as early as 2026. The construction is anticipated to involve seven stages as described below.

- Stage 1: Demolition/Site Preparation – 1.5 months
- Stage 2: Grading/Excavation – 1 year
- Stage 3: Drainage/Utilities/Trenching – 2 months
- Stage 4: Foundations/Concrete Pour – 2 months
- Stage 5: Building Construction – 4 years
- Stage 6: Paving – 2.5 months
- Stage 7: Architectural Coatings – 3 years

Stages 1-3 are anticipated to have some overlap. Stage 4 will overlap with Stage 2. Stages 5-7 overlap with each other.

Construction Trucks

Haul Trucks

Hauling activity is expected to occur during Stages 1, 2, and 6 of construction. Up to 60 haul truck round trips per day are anticipated on peak haul days during Stage 1. Up to 250 haul truck round trips per day are anticipated on peak haul days during Stage 2. Up to 50 haul truck round trips per day are anticipated on peak haul days during Stage 6.

Hauling hours are anticipated from 7:00 AM to 3:00 PM Monday through Friday and starting at 8:00 AM on Saturdays. Trucks are expected to be staged on-site or in the Mesquit Street roadway, where the parking lane would be closed. Several haul routes are available from the Project site, depending on which landfill is being used to deposit materials. If the landfill is accessed via I-10, I-5, or SR-60, one available outbound haul route is from the Project site southbound via Santa Fe Avenue, taking the freeway ramp at Porter Street. The inbound haul route would use the 8th Street off-ramp and then northbound Santa Fe Avenue to get to the Project site. An alternative route to I-5 is via the 7th Street Bridge, where there are north and southbound freeway exits.

Equipment and Delivery Trucks

In addition to haul trucks, the site is also expected to generate equipment and delivery trucks during all stages. One example would be concrete delivery. Other materials could include building materials, plumbing

supplies, electrical fixtures, and items used in furnishing the building. These materials would be delivered to the site and stored on-site. These deliveries are expected to occur in variously sized vehicles including small delivery trucks to cement mixer trucks and 18-wheel trucks. Additionally, construction equipment would have to be delivered to the site. This equipment could include cranes, bulldozers, excavators, and other large items of machinery. Most of the heavy equipment is expected to be transported to the site on large trucks such as 18-wheelers or other similar vehicles. The following stages of construction are expected to involve the following number of equipment/delivery truckloads per day on peak activity days. For the longer construction stages with high peak activity, anticipated daily average number of truck round trips were included to show what the typical daily activity would be like during that stage:

- Stage 1: Demolition/Site Preparation – 31 truck round trips
- Stage 2: Grading/Excavation – 34 truck round trips
- Stage 3: Drainage/Utilities/Trenching – 27 truck round trips
- Stage 4: Foundations/Concrete Pour – 896 truck round trips during peak pour days, most of these would be concrete delivery with a few vendor trucks
- Stage 5: Building Construction – 200 truck round trips during peak construction days, daily average of 46 truck round trips
- Stage 6: Paving – 27 truck round trips
- Stage 7: Architectural Coatings – 11 truck round trips during peak delivery days, daily average of 4 truck round trips

Construction Employees

The number of construction workers would vary throughout the construction period with Stage 5 generating the highest number of workers. The following stages of construction are expected to involve up to the following number of workers on site per day on peak activity days:

- Stage 1: Demolition/Site Preparation – 37 worker round trips
- Stage 2: Grading/Excavation – 60 worker round trips
- Stage 3: Drainage/Utilities/Trenching) – 29 worker round trips
- Stage 4: Foundations/Concrete Pour – 132 worker round trips
- Stage 5: Building Construction – 847 worker round trips
- Stage 6: Paving – 29 worker round trips
- Stage 7: Architectural Coatings – 18 worker round trips

Construction Worker Parking

During the site preparation stage and the first portion of the building construction, while the parking levels are under construction, it is anticipated that construction employees would be parked off-site. Potential off-site parking locations would be identified in the Construction Management Plan. If the off-site parking

location is beyond walking distance (approximately ½ mile), the construction employees would be shuttled to the site. Once the subterranean parking structure component of the Project is complete, construction workers would park on-site in the garage.

Construction Period Trip Generation

Based on the aforementioned information, a construction period trip generation analysis was conducted for each stage of construction to estimate daily, morning peak hour, and evening peak hour passenger car equivalent (PCE) trips. Construction workers often travel to and from a worksite outside of the typical peak commute hours. For the purpose of the analysis, it was assumed that up to 40% of the construction workers would arrive during the peak morning commute hour and 40% would depart during the peak evening commute hour. Haul and delivery/equipment trucks were assumed to occur evening throughout the hauling and delivery periods. For the purposes of the trip generation analysis, the hauling hours were assumed to occur from 7:00 AM to 3:00 PM (except for Saturdays, which begin at 8:00 AM). Haul trucks were assumed to make trips evenly throughout the 8-hour period, and to be conservative these trips were included in the AM and PM peak hours. The delivery/equipment trucks are anticipated to arrive and depart between 7:00 AM and 6:00 PM, a 11-hour period. However, during Stage 4, the longest concrete pour would occur over a 16-hour period. A PCE factor of 2.0 was used for vendor, haul, and delivery trucks.

Table 25 shows a summary of construction period trip generation under each stage of construction. As shown, the peak construction activity would occur on the most intensive day of Stage 4 (Foundations/Concrete Pour). On a peak construction activity day during Stage 4, a total of up to 3,848 daily PCE trips are estimated to occur, primarily concrete trucks, of which 267 PCE trips would occur during each of the morning and evening peak hours. Stage 5 (Building Construction) is anticipated to produce higher peak hour trips than Stage 4, but lower overall daily trips. On a peak construction activity day during Stage 5, a total of up to 2,494 daily PCE trips are estimated to occur, of which 411 PCE trips would occur during each of the morning and evening peak hours. As mentioned above, some of the stages will overlap with each other. Even with overlapping construction activity, the construction of the Project would generate fewer daily and peak hour trips than are projected for the Project once it is completed and occupied.

The influx of this material and equipment could affect the adjacent roadway network in the following ways:

- There may be intermittent periods when large numbers of material deliveries are required, such as when concrete trucks will be needed for the parking garage and the buildings.
- Some of the materials and equipment could require the use of large trucks (18-wheelers), which could create additional congestion on the adjacent roadways.
- Delivery vehicles may need to park temporarily on adjacent roadways as they deliver their items. Based on experience, it is not uncommon for these types of deliveries to result in temporary lane closures.

TABLE 25
670 MESQUIT
CONSTRUCTION PERIOD TRIP GENERATION - PASSENGER CAR EQUIVALENTS

Peak Day Activity Under Each Stage							
	Stage 1	**Stage 2**	**Stage 3**	**Stage 4**	**Stage 5**	**Stage 6**	**Stage 7**
	Demolition/ Site Preparation	**Grading/ Excavation**	**Drainage/Utilities/Trenching**	**Foundations/Concrete Pour**	**Building Construction**	**Paving**	**Architectural Coatings**
Stage Duration	**1.5 months**	**1 year**	**2 months**	**2 months**	**4 years**	**2.5 months**	**3 years**
Construction Workers	*37*	*60*	*29*	*132*	*847*	*29*	*18*
Passenger Car Equivalent (PCE) factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Haul Truckloads	*60*	*250*	*0*	*0*	*0*	*50*	*0*
Passenger Car Equivalent (PCE) factor	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Delivery/Equipment Truckloads	*31*	*34*	*27*	*896*	*200*	*27*	*11*
Passenger Car Equivalent (PCE) factor	2.0	2.0	2.0	2.0	2.0	2.0	2.0

CONSTRUCTION PERIOD TRIP GENERATION

Stage	**Daily PCE Trips [1]**	**AM Peak Hour PCE Trips**			**PM Peak Hour PCE Trips**		
		In	**Out**	**Total**	**In**	**Out**	**Total**
Site Preparation/Demolition							
Construction Worker Trips[2]	74	15	0	15	0	15	15
Haul Truck Trips [3]	240	15	15	30	15	15	30
Delivery/Equipment Truck Trips [4]	124	6	6	12	6	6	12
Stage 1 Total	***438***	***36***	***21***	***57***	***21***	***36***	***57***
Grading/Excavation							
Construction Worker Trips[2]	120	24	0	24	0	24	24
Haul Truck Trips [3]	1,000	63	63	126	63	63	126
Delivery/Equipment Truck Trips [4]	136	6	6	12	6	6	12
Stage 2 Total	***1,256***	***93***	***69***	***162***	***69***	***93***	***162***
Drainage/Utilities/Trenching							
Construction Worker Trips[2]	58	12	0	12	0	12	12
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [4]	108	5	5	10	5	5	10
Stage 3 Total	***166***	***0***	***5***	***22***	***5***	***17***	***22***
Foundations/Concrete Pour							
Construction Worker Trips[2]	264	53	0	53	0	53	53
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [4]	3,584	112	112	224	112	112	224
Stage 4 Total	***3,848***	***165***	***112***	***277***	***112***	***165***	***277***
Building Construction							
Construction Worker Trips[2]	1,694	339	0	339	0	339	339
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [4]	800	36	36	72	36	36	72
Stage 5 Total	***2,494***	***375***	***36***	***411***	***36***	***375***	***411***
Paving							
Construction Worker Trips[2]	58	12	0	12	0	12	12
Haul Truck Trips [3]	200	13	13	26	13	13	26
Delivery/Equipment Truck Trips [4]	108	5	5	10	5	5	10
Stage 6 Total	***366***	***30***	***18***	***48***	***18***	***30***	***48***
Architectural Coatings							
Construction Worker Trips[2]	36	7	0	7	0	7	7
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [4]	44	2	2	4	2	2	4
Stage 7 Total	***80***	***9***	***2***	***11***	***2***	***9***	***11***

PCE - Passenger car equivalent

Notes:

[1] - Daily trips were calculated by counting two trips, one inbound and one outbound trip for each vehicle

[2] - Up to 40% of the construction workers were assumed to arrive during the morning peak hour of adjacent street traffic. A total of up to 40% workers were assumed to depart during the evening peak hour.

[3] - Haul trucks were assumed to make trips evenly throughout a 8 hour period, including both AM and PM periods to be conservative.

[4] - Daily delivery/equipment truck trips were assumed to occur evenly throughout a 11-hour construction day. Therefore, the daily delivery/equipment truck trips were divided by 11 hours to calculate peak hour truck trips. With the exception for Stage 4: Foundations/Concrete pour which will have equipment/delivery trucks operating continuously from 7 AM to 11 PM. For this stage, the daily delivery/equipment truck trips were divided by 16 hours to calculate peak hour truck trips.

Construction Period Evaluation Criteria

The LADOT TAG provides three categories to be considered in regard to in-street construction effects: temporary traffic constraints, temporary loss of access, and temporary loss of bus stops or rerouting of bus lines. The evaluation criteria to be considered in each of these categories are as follows:

- Temporary Traffic Constraints:
    - The length of time of temporary street closures or closures of two more traffic lanes;
    - The classification of the street (major arterial, state highway, substandard hillside local or collector, etc.) affected;
    - The existing congestion levels on the affected street segments and intersections;
    - The operational constraints of substandard hillside streets needing to access construction sites;
    - Whether the affected street directly leads to a freeway on- or off-ramp or other state highway;
    - Potential safety issues involved with street or lane closures;
    - The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.
- Temporary Loss of Access:
    - The length of time of any loss of pedestrian or bicycle circulation past a construction area;
    - The length of time of any loss of vehicular or pedestrian access to a parcel fronting the construction area;
    - The length of time of any loss or impedance of access by emergency vehicles or area residents to hillside properties;
    - The length of time of any loss of ADA pedestrian access to a transit station, stop, or facility;
    - The availability of alternative vehicular or pedestrian access within ¼ mile of the lost access;
    - The type of land uses affected, and related safety, convenience, and/or economic issues.
- Temporary Loss of Bus Stops or Rerouting of Bus Lines:
    - The length of time that an existing bus stop would be unavailable or that existing service would be interrupted;
    - The availability of a nearby location (within ¼ mile) where the bus stop or route can be temporarily relocated;
    - The existence of other bus stops or routes with similar routes/destinations within a ¼ mile radius of the affected stops or routes;
    - Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).

LAMC Section 41.40 provides that construction activities are limited to the hours from 7:00 AM to 9:00 PM on weekdays and from 8:00 AM to 6:00 PM on Saturdays and holidays. No construction is permitted on Sundays.

Construction Analysis

The assessment of the Project against the evaluation factors described above is presented in **Table 26** and discussed below.

Temporary Traffic Constraints

Temporary travel lane closures on Mesquit Street and on 7th Street are anticipated. Mesquit Street is classified as a Collector street (but a General Plan Amendment to make it a local street has been submitted) with low volumes and a dead end at the Project site. The southern end of Mesquit Street may be closed for truck staging and construction worker parking. Up to one individual vehicle lane may also be temporarily closed on the 7th Street Bridge, which is classified as an Avenue II, during construction of the driveway connections to the Project site, but an open travel lane will always be provided for vehicles (without need for detours). Worksite traffic control plans would be prepared for any temporary vehicle lane, parking lane, or sidewalk closures in accordance with applicable City and Manual on Uniform Traffic Control Devices (MUTCD) guidelines.

Temporary Loss of Access

The existing land uses near the vicinity of the construction site will remain open throughout construction. Sidewalks along eastern Mesquit Street and northern 7th Street may have temporary closures or coverings, but the sidewalk on the opposite side of the street will remain open. The existing land uses near the vicinity of the construction site will have vehicular and pedestrian access maintained throughout construction. No other properties need to use Mesquit Street for access. No loss of ADA pedestrian access to a transit stop, station, or facilities is anticipated.

Temporary Loss of Bus Stops or Rerouting of Bus Lines

Bus stops are not located along the Project frontage of Mesquit Street or 7th Street. Construction is not anticipated to affect bus stops or require rerouting of bus lines in the area.

Construction Management Plan

A Construction Management Plan will be developed by the contractor and approved by the City of Los Angeles to alleviate construction period impacts, which may include but is not limited to the following measures:

- As traffic lane, parking lane and/or sidewalk closures are anticipated, worksite traffic control plan(s), approved by the City of Los Angeles, should be developed and implemented to route vehicular traffic, bicyclists, and pedestrians around any such closures.
- Ensure that access will remain unobstructed for land uses in proximity to the Project site during Project construction.
- Coordinate with the City and emergency service providers to ensure adequate access is maintained to the Project site and neighboring businesses and residences.
- Provide off-site truck staging in a legal area furnished by the construction truck contractor. Anticipated truck access to the Project site will be off Jesse Street.
- Schedule deliveries and pick-ups of construction materials during non-peak travel periods to the extent possible and coordinate to reduce the potential of trucks waiting to load or unload for protracted periods.
- Describe the haul truck routes and avoid haul truck routes that travel past Los Angeles Unified School District facilities.

A Construction Worker Parking Plan will also be developed by the contractor and approved by the City of Los Angeles to ensure that the parking location requirements for construction workers will be strictly enforced. These could include but are not limited to the following measures:

- During construction activities when construction worker parking cannot be accommodated on the Project site, the plan shall identify alternate parking location(s) for construction workers and the method of transportation to and from the Project site (if beyond walking distance) for approval by the City 30 days prior to commencement of construction.
- Construction workers will not be permitted to park on the street with the exception of along Mesquit Street and Jesse Street east of Santa Fe Avenue.
- Provide all construction contractors with written information on where their workers and their subcontractors are permitted to park and provide clear consequences to violators for failure to follow these regulations.

TABLE 26
670 MESQUIT PROJECT
CONSTRUCTION EVALUATION

EVALUATION CRITERIA	Assessment
Temporary Traffic Impacts:	
• The length of time of temporary street closures or closures of two or more traffic lanes; • The classification of the street (major arterial, state highway, substandard hillside local, or collector, etc.) affected; • The existing congestion levels on the affected street segments and intersections; • The operational constraints of substandard hillside streets needing to access construction sites; • Whether the affected street directly leads to a freeway on- or off-ramp or other state highway; • Potential safety issues involved with street or lane closures; • The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.	• Temporary full street closures or closures of up to one traffic lane are anticipated on Mesquit Street and 7th Street. • Mesquit is identified as a Collector street and 7th Street is an Avenue II. • The Mesquit St & Jesse St intersection currently operates at LOS A in the AM and PM. The Mesquit St & Santa Fe Ave intersection currently operates at LOS C in the AM and LOS B in the PM. • There are no hillside streets in the vicinity of the Project site. • 7th Street leads directly lead to a freeway on- or off-ramp, but the closest ramp is 0.4 miles away from the Project Site. • Worksite traffic control plans would be prepared for any temporary lane or sidewalk closures in accordance with applicable City and MUTCD guidelines. • There are no emergency services located within the immediate vicinity of the affected streets.
Temporary Loss of Access:	
• The length of time of any loss of pedestrian or bicycle circulation past a construction area; • The length of time of any loss of vehicular, bicycle, or pedestrian access to a parcel fronting the construction area; • The length of time of any loss or impedance of access by emergency vehicles or area residents to hillside properties; • The length of time of any loss of ADA pedestrian access to a transit station, stop, or facility; • The availability of alternative vehicular or pedestrian access within ¼ mile of the lost access; • The type of land uses affected, and related safety, convenience, and/or economic issues.	• The existing land uses near the vicinity of the construction site will remain open with vehicular and pedestrian access maintained throughout construction. Sidewalks along eastern Mesquit Street and northern 7th Street may have temporary closures or coverings, but the sidewalk on the opposite side of the street will remain open. No other properties need to use Mesquit Street for access. No loss of ADA pedestrian access to a transit stop, station, or facilities is anticipated.
Temporary Loss of Bus Stops or Rerouting of Bus Lines:	
• The length of time that an existing bus stop would be unavailable or that existing service would be interrupted; • The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated; • The existence of other bus stops or routes with similar routes/ destinations within a ¼ mile radius of the affected stops or routes; • Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).	• There are no bus stops or transit lines along the project frontage.

5. SUMMARY AND CONCLUSIONS

This study was undertaken to analyze the potential traffic impacts of the proposed development at 670 Mesquit Street (Project), situated east and west of Mesquit Street between 6th Street and 7th Street. The following summarizes the results of this analysis:

- The proposed Project involves the construction of 944,055 square feet of creative office, 44,788 square feet of quality restaurant, 44,788 square feet of high-turnover restaurant, 236 hotel rooms, 258 residential dwelling units, 50 affordable housing dwelling units, 93,617 square feet of studio/event/gallery, 62,148 square feet of gym, 28,054 square feet of grocery, 79,240 square feet of general retail, and 28,858 square feet of food hall. The Project with the Deck Concept has an additional amenity deck that is approximately 3 acres and includes programmatic features.
- The Project site is located on Mesquit Street between 6th and 7th Streets. It includes a proposed full-width vacation/merger of Mesquit Street between 7th Street and the southern edge of Jesse Street and a half-width subsurface merger of the easterly half of Mesquit Street from that point to the southern edge of the LADWP property on the east side of Mesquit Street. The Project would provide four project driveways: a two-way full-access driveway on Mesquit at the northern end of the Project site; a two-way full access driveway at the intersection of Mesquit Street & Jesse Street; a two-way signalized driveway connecting the 7th Street Bridge to the third level of Building 4; and a one-way right-out-only driveway connecting the 7th Street Bridge to the second level of Building 5.
- The Project features, location, and design would be consistent with City plans, programs, ordinances, and policies that support alternative transportation and have been adopted to protect the environment. Therefore, the Project would have a less than significant impact on the City's transportation-related plans, programs, ordinances, and policies.
- Based on the Project's mix of land uses, location and other characteristics, it is projected to have less than significant VMT impacts for the residential and office land uses. The Project is projected to have significant and unavoidable impacts for the retail land uses. The Project will implement transportation demand measures through compliance with regulatory requirements, site design elements and a transportation demand management plan to reduce and mitigate Project VMT; however, the retail VMT impact will remain significant and unavoidable as there are no additional feasible mitigation measures that would further reduce the retail VMT impact to a less-than-significant level.
- The Project would not substantially increase hazards, conflicts, or preclude City action to fulfill or implement projects associated with surrounding transportation networks and will contribute to overall walkability through enhancements to the Project site and streetscape.
- Three freeway off-ramps were analyzed for freeway safety analysis: Study Intersection 22: I-10 Eastbound Off-ramp to Alameda Street, Study Intersection H: US-101 Southbound Off-ramp to 7th Street, and Study Intersection J: I-10 Eastbound Off-ramp to Porter Street. The Project is not projected to have a significant safety impact on the I-10 Eastbound Off-ramp to Alameda Street or the I-10 Eastbound Off-ramp to Porter street because the ramp queue is not projected to exceed

the ramp capacity in either Future Base (2026 or 2040) plus Project scenario. The Project is projected to have a significant safety impact on the US-101 Southbound Off-ramp to 7th Street as it is projected to add more than two car lengths (50 feet) to a queue that is extending past the ramp capacity with speed differential greater than 30 mph from the mainline freeway. Signalization of the intersection would mitigate the identified safety issue by reducing the off-ramp queues onto the freeway. However, since the improvement involves another jurisdiction (Caltrans) beyond the City of Los Angeles, its implementation cannot be guaranteed, and the impact is therefore considered to be significant and unavoidable.

- The Project would not have a direct or indirect effect that would lead to removal, modification, or degradation of pedestrian, bicycle, or transit facilities.
- The site circulation and access assessment includes analysis of 32 intersections, of which 22 intersections operate under signal control and the remaining 10 intersections are stop-controlled. With mitigation, the Project would generate an estimated net increase of 24,484 daily vehicle trips, including 1,238 trips during the AM peak hour and 1,554 trips during the PM peak hour. The Project with the Deck Concept would generate an estimated net increase of 24,901 daily vehicle trips, including 1,358 trips during the AM peak hour and 1,671 trips during the PM peak hour.
- The northern Mesquit driveway is projected to operate at LOS A under both Project options. The Mesquit & Jesse driveway is projected to operate at LOS E under the Project and at LOS F for the Project with the Deck Concept. The right-out-only driveway on 7th Street is projected to operate at LOS E for both Project options. The signalized 7th Street driveway is projected to operate at LOS D or better for both project options
- The LOS analysis for the Future (2026) plus Project scenario determined that 14 signalized intersections and 10 unsignalized intersections are projected to perform at LOS E or worse during at least one of the peak periods for both Project options. The remaining signalized and unsignalized intersections are projected to operate at LOS D or better during both peak periods.
- The LOS analysis for the Future (2040) plus Project scenario determined that 15 signalized intersections and 10 unsignalized intersections are projected to perform at LOS E or worse during at least one of the peak periods for both Project options. The remaining signalized and unsignalized intersections are projected to operate at LOS D or better during both peak periods.
- The signal warrant analysis determined that the projected volumes would meet standard signal warrants for installation of a signal at 8 unsignalized intersections. Out of the 8 intersections that met the peak hour signal warrant analysis, four signal warrants would be triggered due to the trips generated by the Project (i.e., signals are only warranted when Project trips were added). Those four intersections are:
    - Intersection B: Mateo Street & Willow Street
    - Intersection E: South Santa Fe Avenue & Mesquit Street
    - Intersection F: South Santa Fe Avenue & Jesse Street
    - Intersection G: Mesquit Street & Jesse Street

The other four intersections either currently meet or are proposed to meet signal warrants in the future due to other planned developments and traffic growth.

- The following corrective actions are proposed to address identified non-CEQA traffic deficiencies.
    - One-time contribution of $100,000 for TMO operations and marketing efforts to FASTLinkDTLA, the Downtown TMO, or to the formation of a new Arts District TMO focused on the area around the Project.
    - Intersection signal system modifications
    - Physical reconfiguration of the Santa Fe Avenue & 7th Street and Santa Fe Avenue & Jesse Street intersections
    - Signalize the intersections of Santa Fe Avenue & Jesse Street, Santa Fe Avenue & Mesquit Street and Mesquit Street & Jesse Street.
    - Potential fair-share contributions to signalization of three intersections.
- An assessment of construction considerations did not identify substantial interference of Project construction activity on the surrounding circulation system. A construction traffic management plan and a construction worker parking plan will be implemented as project design features.

REFERENCES

Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, Southern California Association of Governments, September 2020.

American Fact Finder, United States Census Bureau, 2018.

City of Los Angeles Municipal Code.

Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis, Transportation Research Board, 2016.

NCHRP Report 684 "Enhancing Internal Trip Capture Estimation for Mixed-Use Developments," 2011.

Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association with Northeast States for Coordinated Air Use Management, National Association of Clean Air Agencies (Environ, Fehr & Peers), August 2010.

Trip Generation, 9th Edition, Institute of Transportation Engineers, 2012.

Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.

Technical Advisory on Evaluating Transportation Impacts in CEQA, State of California, Governor's Office of Planning and Research, April 2018.

Transportation Assessment Guidelines, Los Angeles Department of Transportation, 2020.

Transportation Assessments – Interim Guidance for Freeway Safety Analysis, Los Angeles Department of Transportation, LADOT, May 2020

Appendix A:
LADOT MOU

LADOT

Transportation Assessment Memorandum of Understanding (MOU)

This MOU acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

I. PROJECT INFORMATION

Project Name: 670 Mesquit

Project Address: 670 Mesquit, Los Angeles, CA 90021

Project Description: See Attachment A and Figures 1A & 1B

LADOT Project Case Number: ENV-2017-249-EIR Project Site Plan attached? *(Required)* ■ Yes ☐ No
See Figures 1A & 1B

II. TRIP GENERATION

Geographic Distribution: N _____ % S _____ % E _____ % W _____ %

Illustration of Project trip distribution percentages at Study intersections attached? *(Required)* ■ Yes ☐ No
See Figures 2A, 2B, and 2C for distribution percentages developed with use of Los Angeles City Travel Demand Model

Trip Generation Rate(s): ITE 10th Edition / Other _____

Trip Generation Adjustment *(Exact amount of credit subject to approval by LADOT)*	**Yes**	**No**
Transit Usage	■	☐
Transportation Demand Management	☐	■
Existing Active Land Use	■	☐
Previous Land Use	☐	■
Internal Trip	■	☐
Pass-By Trip	■	☐

Trip generation table including a description of the proposed land uses, ITE rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. attached? *(Required)* ☐ Yes ☐ No

	IN	OUT	TOTAL
AM Trips			
PM Trips			

See Tables 1A & 1B

Daily Trips: 27,040 (Opt 1); 27,493 (Opt 2)
(From VMT Calculator)

See Figures 5A & 5B

III. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2026/2040 Ambient Growth Rate: 0.2 % Per Yr.

Related Projects List, researched by the consultant and approved by LADOT, attached?
(Required) ■ Yes ☐ No **See Table 2 and Figure 3**

Map of Study Intersections/Segments attached? ■ Yes ☐ No

STUDY INTERSECTIONS *(May be subject to LADOT revision after access, safety and circulation analysis)*

See Table 3 and Figure 4
Signalized intersections will be analyzed using CMA methodology

1 _____ 3 _____

2 _____ 4 _____

Is this Project located on a street within the High Injury Network? ☐ Yes ■ No

See **Attachment B** for explanation of baseline volume shift process

IV. ACCESS ASSESSMENT

Is the project on a lot that is 0.5-acre or more in total gross area? ■Yes ☐ No

Is the project's frontage 250 linear feet or more along an Avenue or Boulevard as classified by the City's General Plan? ■Yes ☐ No

Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ■ No

V. CONTACT INFORMATION

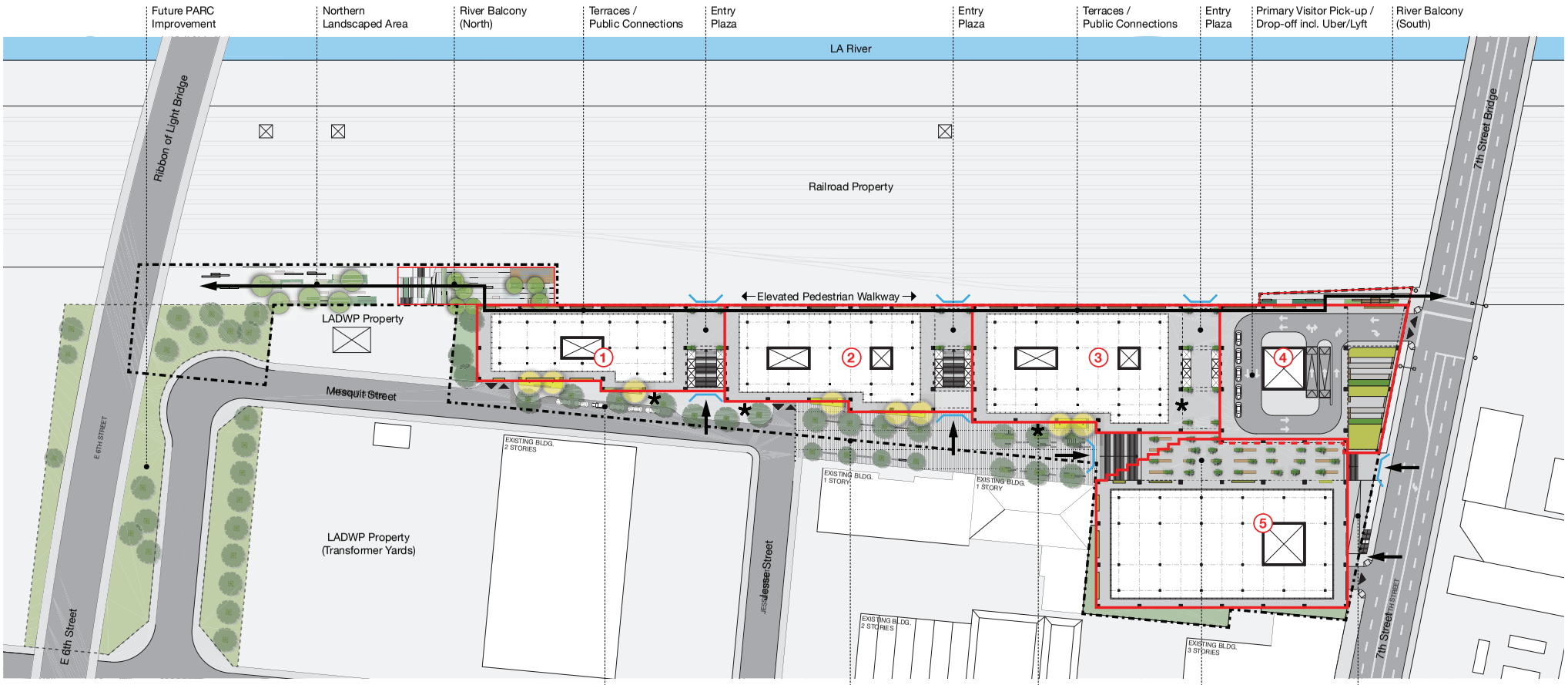
	CONSULTANT	DEVELOPER
Name:	Thomas Gaul, Fehr & Peers	RCS VE LLC
Address:	600 Wilshire Blvd, Suite 1050, Los Angeles, CA 90017	319 Lafayette St, New York, NY 10012
Phone Number:	(213) 261-3050	213-500-5067
E-Mail:	t.gaul@fehrandpeers.com	michael@vellagroup.com

Approved by: x _____ 6/9/2020 x _____ _____

Consultant's Representative | Date | LADOT Representative | *Date

*MOUs are generally valid for two years after signing. If after two years a transportation assessment has not been submitted to LADOT, the developer's representative shall check with the appropriate LADOT office to determine if the terms of this MOU are still valid or if a new MOU is needed.

7TH STREET LEVEL PLAN - NO DECK



1 BUILDING 1
Use: Hotel/Residential
Height: 378ft
Floor Area: 466,554sf

2 BUILDING 2
Use: Office/Gym/Retail
Height: 294ft
Floor Area: 331,517sf

3 BUILDING 3
Use: Office/Studio/Event/Retail
Height: 210ft
Floor Area: 239,936sf

4 BUILDING 4
Use: Retail/Restaurants
Height: 126ft
Floor Area: 70,519sf

5 BUILDING 5
Use: Office/Retail
Height: 378ft
Floor Area: 683,577sf

Pedestrian Access
Vehicular Access
View Corridor
Bicycle Parking

Residential / Hotel Pick-up / Drop-off

Mesquit Paseo (Limited Vehicular Access)

Short-term Bicycle Parking

Entry Plaza

Expanded Pedestrian Zone

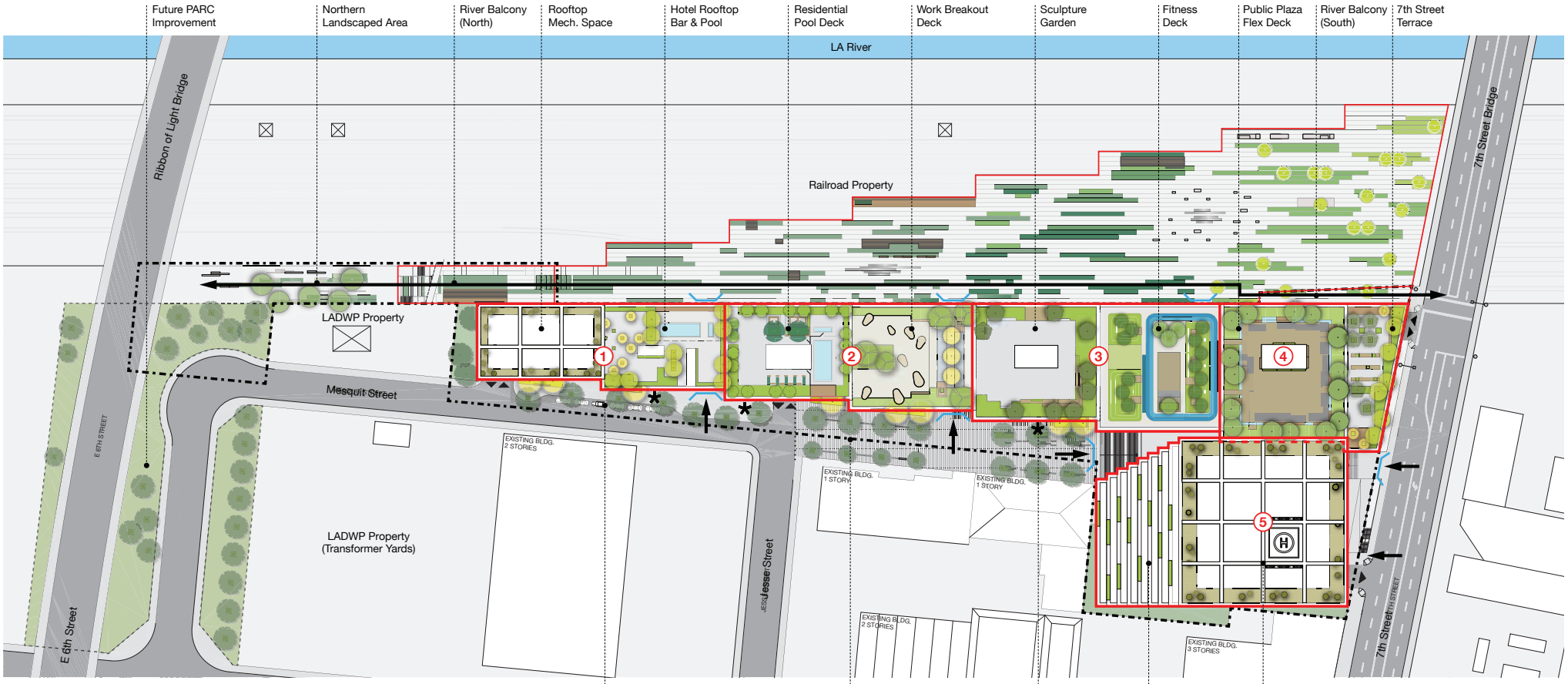
0' 50' 100' 200'

670 MESQUIT

CONCEPTUAL & ILLUSTRATIVE, SUBJECT TO CHANGE

Figure 1A

ROOF PLAN - FULL DECK



Residential / Hotel Pick-up / Drop-off

Mesquit Paseo (Limited Vehicular Access)

Short-term Bicycle Parking

Office Terraces

Rooftop Mech. Space / Helipad

1 BUILDING 1
Use: Hotel/Residential
Height: 378ft
Floor Area: 466,554sf

2 BUILDING 2
Use: Office/Gym/Retail
Height: 294ft
Floor Area: 331,517sf

3 BUILDING 3
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4 BUILDING 4
Use: Retail/Restaurants
Height: 126ft
Floor Area: 70,519sf

5 BUILDING 5
Use: Office/Retail
Height: 378ft
Floor Area: 683,577sf

Pedestrian Access
Vehicular Access
View Corridor
Bicycle Parking

0' 50' 100' 200'

CONCEPTUAL & ILLUSTRATIVE, SUBJECT TO CHANGE

Figure 1B

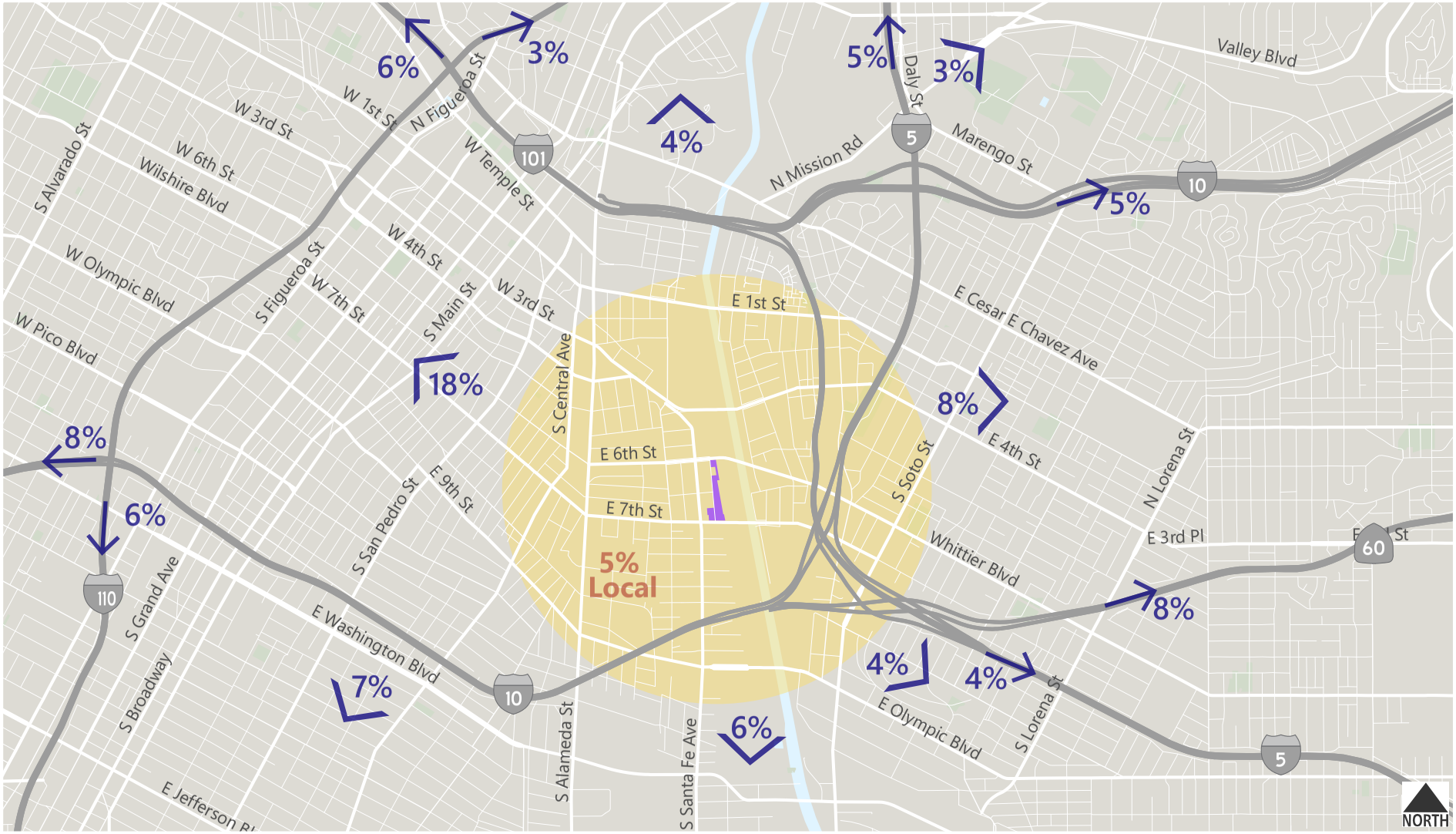
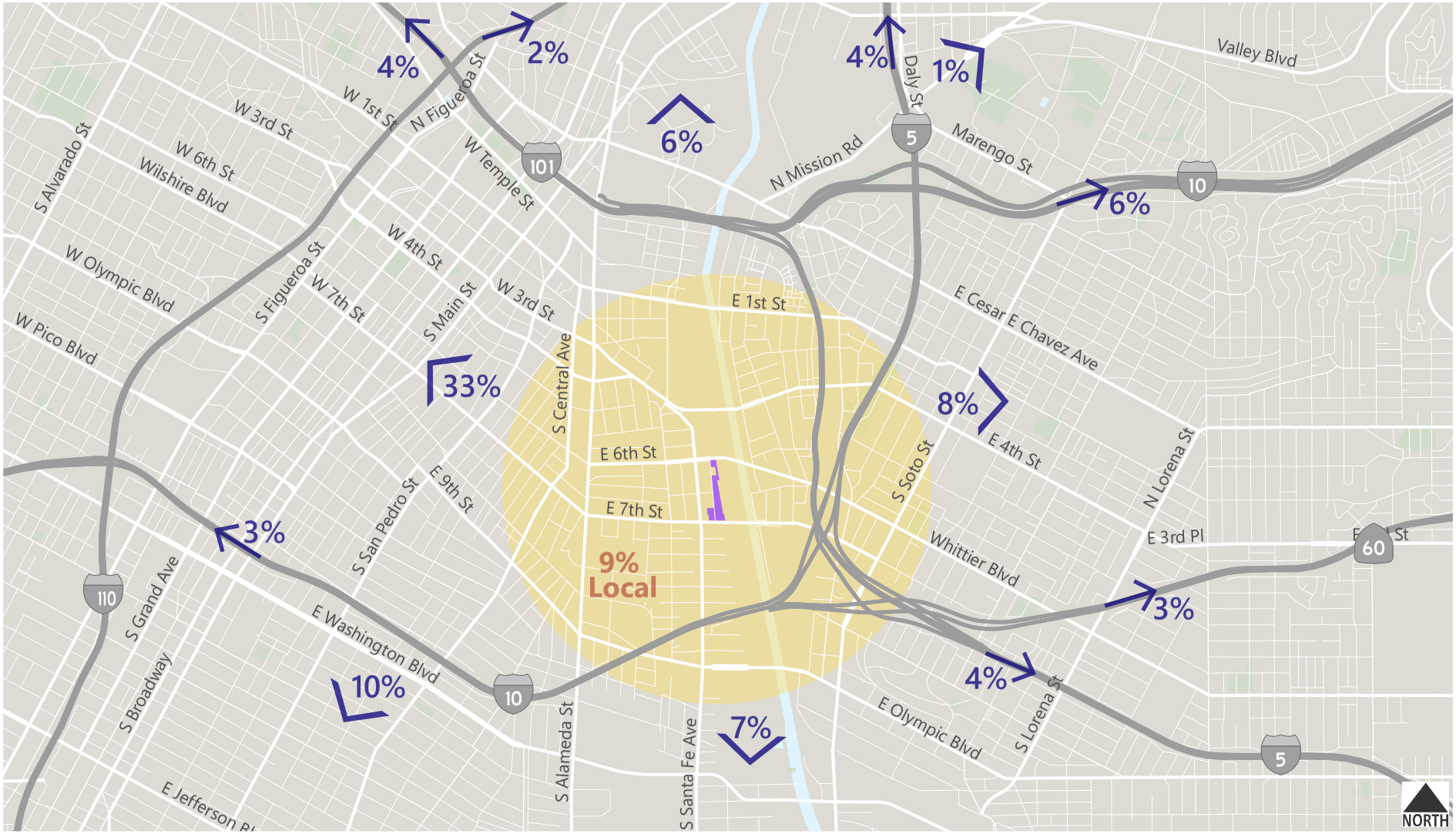


Figure 2A

Regional Commercial Trip Distribution



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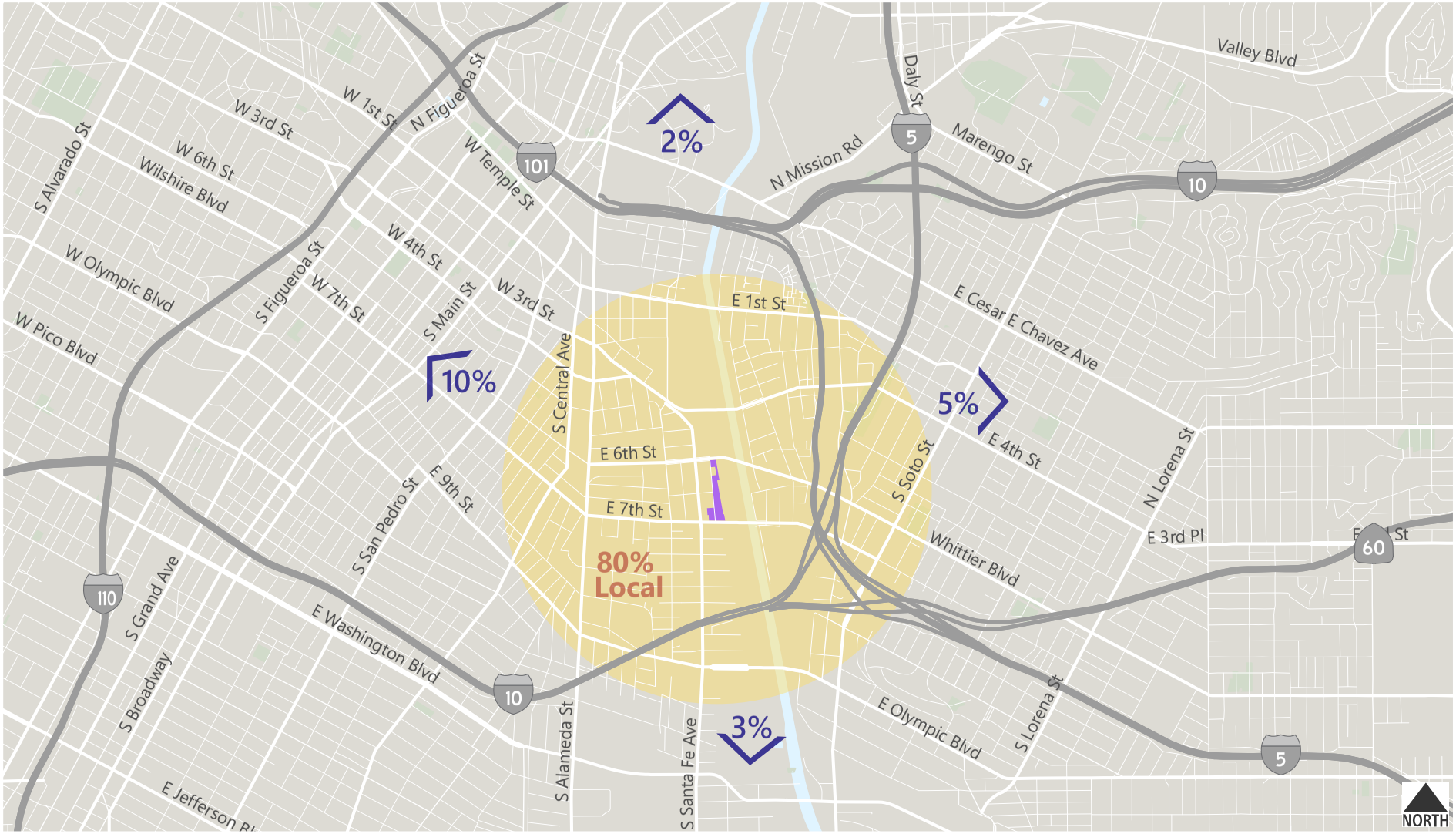
Project Site

Figure 2B

Residential Trip Distribution



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Project Site

Figure 2C

Local Commercial Trip Distribution

TABLE 1A
PROPOSED PROJECT OPTION 1 TRIP GENERATION
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a] AM Peak Hour Rate	AM In%	AM Out%	PM Peak Hour Rate	PM In%	PM Out%	Estimated Trip Generation AM Peak Hour Trips In	AM Out	AM Total	PM Peak Hour Trips In	PM Out	PM Total
PROPOSED PROJECT														
Creative Office	710	944.055 ksf	[b]	86%	14%	[b]	17%	83%	603	98	701	135	657	792
Internal Capture [c]				*21%*	*91%*		*25%*	*13%*	(129)	(89)	(218)	(34)	(85)	(119)
Transit, Bike, Ped Adjustment [d]														
Net External Office (before TNC adjustment)									474	9	483	101	572	673
Added TNC - from transit			*2.5%*			*2.5%*			12	12	24	17	17	34
Added TNC - from vehicles			*2.5%*			*2.5%*			0	12	12	14	3	17
TNCs already in vehicle trip generation									12	0	12	3	14	17
Total TNC									24	24	48	34	34	68
Non-TNC									462	9	471	98	558	656
Total Vehicle									486	33	519	132	592	724
Quality Restaurant	931	44.788 ksf	0.73	50%	50%	7.8	67%	33%	17	16	33	234	115	349
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(3)	(3)	(6)	(69)	(61)	(130)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(4)	(3)	(7)	(41)	(14)	(55)
Net Driveway Trips (before TNC adjustment)									10	10	20	124	40	164
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	1	3	4
TNCs already in vehicle trip generation									0	0	0	3	1	4
Total TNC									1	1	2	8	8	16
Non-TNC (before pass-by adjustment)									10	10	20	121	39	160
Total Vehicle									11	11	22	129	47	176
Pass-by adjustment [e]			*10%*			*10%*			(1)	(1)	(2)	(12)	(3)	(15)
Non-TNC									9	9	18	109	36	145
High-Turnover Restaurant	932	44.788 ksf	9.94	55%	45%	9.77	62%	38%	245	200	445	272	166	438
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(44)	(44)	(88)	(80)	(88)	(168)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(50)	(39)	(89)	(48)	(20)	(68)
Net Driveway Trips (before TNC adjustment)									151	117	268	144	58	202
Added TNC - from transit			*2.5%*			*2.5%*			7	7	14	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			3	4	7	1	4	5
TNCs already in vehicle trip generation									4	3	7	4	1	5
Total TNC									14	14	28	10	10	20
Non-TNC (before pass-by adjustment)									147	114	261	140	57	197
Total Vehicle									161	128	289	150	67	217
Pass-by adjustment [e]			*20%*			*20%*			(29)	(22)	(51)	(28)	(11)	(39)
Non-TNC									118	92	210	112	46	158
Hotel	310	236 rooms	0.47	59%	41%	0.6	51%	49%	65	46	111	72	70	142
Internal Capture [c]				*4%*	*51%*		*59%*	*67%*	(3)	(24)	(27)	(43)	(47)	(90)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(16)	(6)	(22)	(7)	(6)	(13)
Net External Hotel (before TNC adjustment)									46	16	62	22	17	39
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			0	1	1	0	1	1
TNCs already in vehicle trip generation									1	0	1	1	0	1
Total TNC									3	3	6	2	2	4
Non-TNC									45	16	61	21	17	38
Total Vehicle									48	19	67	23	19	42
Residential*	222	258 DU	0.23	12%	88%	0.30	70%	30%	7	52	59	54	23	77
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(12)	(12)	(36)	(16)	(52)
Transit, Bike, Ped Adjustment [d]														
Net External Residential (before TNC adjustment)									7	40	47	18	7	25
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			1	0	1	0	0	0
TNCs already in vehicle trip generation									0	1	1	0	0	0
Total TNC									2	2	4	1	1	2
Non-TNC									7	39	46	18	7	25
Total Vehicle									9	41	50	19	8	27
Affordable Housing	*[f]*	50 DU	0.5	*40%*	*60%*	0.34	55%	45%	10	15	25	9	8	17
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(4)	(4)	(6)	(6)	(12)
Net External Affordable Housing									10	11	21	3	2	5
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									1	1	2	0	0	0
Non-TNC									10	11	21	3	2	5
Total Vehicle									11	12	23	3	2	5
Studio, Event, Gallery [g]	495	93.617 ksf	1.76	66%	34%	2.31	47%	53%	109	56	165	102	114	216
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(27)	(14)	(41)	(26)	(29)	(55)
Net External Gallery (before TNC adjustment)									82	42	124	76	85	161
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	2	2	4
TNCs already in vehicle trip generation									2	1	3	2	2	4
Total TNC									6	6	12	8	8	16
Non-TNC									80	41	121	74	83	157
Total Vehicle									86	47	133	82	91	173
Gym (Health / Fitness Club)	492	62.148 ksf	1.31	51%	49%	3.45	57%	43%	41	40	81	122	92	214
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(8)	(9)	(17)	(53)	(35)	(88)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(8)	(8)	(16)	(17)	(14)	(31)
Net Driveway Trips (before TNC adjustment)									25	23	48	52	43	95
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	2	2	4
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	1	1	2
TNCs already in vehicle trip generation									1	1	2	1	1	2
Total TNC									3	3	6	4	4	8
Non-TNC (before pass-by adjustment)									24	22	46	51	42	93
Total Vehicle									27	25	52	55	46	101
Pass-by adjustment [e]			*20%*			*20%*			(4)	(4)	(8)	(10)	(8)	(18)
Non-TNC									20	18	38	41	34	75

TABLE 1A
PROPOSED PROJECT OPTION 1 TRIP GENERATION
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a] AM Peak Hour Rate	AM In%	AM Out%	PM Peak Hour Rate	PM In%	PM Out%	Estimated Trip Generation AM Peak Hour Trips In	AM Out	AM Total	PM Peak Hour Trips In	PM Out	PM Total
Grocery	850	28.054 ksf	3.82	60%	40%	[h]	51%	49%	64	43	107	154	148	302
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(12)	(10)	(22)	(67)	(57)	(124)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(13)	(8)	(21)	(22)	(23)	(45)
Net Driveway Trips (before TNC adjustment)									39	25	64	65	68	133
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	2	2	4
TNCs already in vehicle trip generation									1	1	2	2	2	4
Total TNC									4	4	8	7	7	14
Non-TNC (before pass-by adjustment)									38	24	62	63	66	129
Total Vehicle									42	28	70	70	73	143
Pass-by adjustment [e]			*40%*			*40%*			(15)	(9)	(24)	(25)	(26)	(51)
Non-TNC									23	15	38	38	40	78
General Retail	820	79.240 ksf	[i]	62%	38%	[i]	48%	52%	118	73	191	219	238	457
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(22)	(17)	(39)	(95)	(91)	(186)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(24)	(14)	(38)	(31)	(37)	(68)
Net Driveway Trips (before TNC adjustment)									72	42	114	93	110	203
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	3	2	5
TNCs already in vehicle trip generation									2	1	3	2	3	5
Total TNC									6	6	12	10	10	20
Non-TNC (before pass-by adjustment)									70	41	111	91	107	198
Total Vehicle									76	47	123	101	117	218
Pass-by adjustment [e]			*40%*			*40%*			(28)	(16)	(44)	(36)	(42)	(78)
Non-TNC									42	25	67	55	65	120
Food Hall	[j]	28.858 ksf	9.94	55%	45%	8.19	59%	41%	158	129	287	139	97	236
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(28)	(28)	(56)	(41)	(52)	(93)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(33)	(25)	(58)	(25)	(11)	(36)
Net Driveway Trips (before TNC adjustment)									97	76	173	73	34	107
Added TNC - from transit			*2.5%*			*2.5%*			4	4	8	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			2	2	4	1	2	3
TNCs already in vehicle trip generation									2	2	4	2	1	3
Total TNC									8	8	16	6	6	12
Non-TNC (before pass-by adjustment)									95	74	169	71	33	104
Total Vehicle									103	82	185	77	39	116
Pass-by adjustment [e]			*15%*			*15%*			(14)	(11)	(25)	(10)	(4)	(14)
Non-TNC									81	63	144	61	29	90
Farmers' Market	[k]	500 persons	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0
Internal Capture [c]									0	0	0	0	0	0
Transit, Bike, Ped Adjustment [d]									0	0	0	0	0	0
Net External Farmers' Market (before TNC adjustment)									0	0	0	0	0	0
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									0	0	0	0	0	0
Total Vehicle									0	0	0	0	0	0
TOTAL PROJECT DRIVEWAY TRIPS									988	401	1,389	751	1,011	1,762
NET EXTERNAL VEHICLE TRIPS									969	410	1,379	720	1,007	1,727
EXISTING USE CREDIT														
Warehousing	150	205.4 ksf	0.17	77%	23%	0.19	27%	73%	27	8	35	11	28	39
Total Existing Use Credit									27	8	35	11	28	39
NET INCREMENTAL EXTERNAL TRIPS									942	402	1,344	709	979	1,688

Notes:

The proliferation of shared mobility transportation network companies (TNCs), such as Lyft and Uber, in recent years is important to consider in a project of this size. In order to account for TNCs, it was assumed that TNCs would account for 5% of the vehicle trips generated by each land use. Available empirical evidence indicates that TNC trips replace both transit/bike/walk trips and private vehicle trips. Therefore, 2.5% of the TNC trips were considered to replace transit trips, which results in an additional vehicle trip in and out of the site that would not have been considered in the basic trip generation rates. The 2.5% of TNC trips attributed to the replacement of private vehicles result in an additional vehicle trip added only to the opposite movement of the vehicle trip already considered in the basic trip generation rates. TNC vehicles will have a loading/unloading zone at the front of the project site and were not included in the total project driveway trips, but were included in the net external vehicle trips (which do not include pass-by vehicles).

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] ITE office trip generation equations used rather than linear trip generation rate:
AM Peak Hour: Ln(T) = 0.72 * A + 21.64, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)
PM Peak Hour: Ln(T) = 0.83 * A + 7.99, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)

[c] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by Multi-Use Trip Generation Methodology described in ITE Trip Generation Handbook, 9th Edition. Internalization percentages are derived from NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, Transportation Research Board, 2011.

[d] The transit credit is based on LADOT's *Transportation Impact Study Guidelines,* December 2016. The guidelines state that up to 15% transit credit may be taken for projects within 1/4 mile of a Rapid bus line. In addition to the 15% transit credit, a 10% walking/biking credit was applied to land uses due to the walkable nature of the area (only 5% walking/biking credit was taken for office land use). For Dense Multi-Use Urban location rates, a transit credit was not explicitly added since the effects of transit are assumed to be implicit in the rates.

[e] The pass-by credit is based on Attachment F of LADOT's *Transportation Impact Study Guidelines,* December 2016.

[f] Trip rates for affordable housing taken from LADOT's *Transportation Impact Study Guidelines,* December 2016.

[g] Trip generation rates for recreation center used for Studio, Event, Gallery.

[h] ITE grocery trip generation equation used rather than linear trip generation rate for PM peak period only:
PM Peak Hour: Ln(T) = 0.75 * A + 3.21, where T = trips, A = area in ksf

[i] ITE retail trip generation equations used rather than linear trip generation rate:
AM Peak Hour: Ln(T) = 0.50 * A + 151.78, where T = trips, A = area in ksf
PM Peak Hour: T=0.74 * Ln(A) + 2.89, where T = trips, A = area in ksf

[j] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place, and retail.

[k] Weekly farmers market from 11am-2pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle. A larger monthly farmers' market is planned, but is not be part of the weekday traffic analysis because it is proposed for weekends only.

TABLE 1B
PROPOSED PROJECT OPTION 2 TRIP GENERATION
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]						Estimated Trip Generation					
			AM Peak Hour			PM Peak Hour			AM Peak Hour Trips			PM Peak Hour Trips		
			Rate	In%	Out%	Rate	In%	Out%	In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Creative Office	710	944.055 ksf	[b]	86%	14%	[b]	17%	83%	603	98	701	135	657	792
Internal Capture [c]				*21%*	*91%*		*25%*	*13%*	(129)	(89)	(218)	(34)	(85)	(119)
Transit, Bike, Ped Adjustment [d]														
Net External Office (before TNC adjustment)									474	9	483	101	572	673
Added TNC - from transit			*2.5%*			*2.5%*			12	12	24	17	17	34
Added TNC - from vehicles			*2.5%*			*2.5%*			0	12	12	14	3	17
TNCs already in vehicle trip generation									12	0	12	3	14	17
Total TNC									24	24	48	34	34	68
Non-TNC									462	9	471	98	558	656
Total Vehicle									486	33	519	132	592	724
Quality Restaurant	931	44.788 ksf	0.73	50%	50%	7.8	67%	33%	17	16	33	234	115	349
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(3)	(3)	(6)	(69)	(61)	(130)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(4)	(3)	(7)	(41)	(14)	(55)
Net Driveway Trips (before TNC adjustment)									10	10	20	124	40	164
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	1	3	4
TNCs already in vehicle trip generation									0	0	0	3	1	4
Total TNC									1	1	2	8	8	16
Non-TNC (before pass-by adjustment)									10	10	20	121	39	160
Total Vehicle									11	11	22	129	47	176
Pass-by adjustment [e]			*10%*			*10%*			(1)	(1)	(2)	(12)	(3)	(15)
Non-TNC									9	9	18	109	36	145
High-Turnover Restaurant	932	44.788 ksf	9.94	55%	45%	9.77	62%	38%	245	200	445	272	166	438
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(44)	(44)	(88)	(80)	(88)	(168)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(50)	(39)	(89)	(48)	(20)	(68)
Net Driveway Trips (before TNC adjustment)									151	117	268	144	58	202
Added TNC - from transit			*2.5%*			*2.5%*			7	7	14	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			3	4	7	1	4	5
TNCs already in vehicle trip generation									4	3	7	4	1	5
Total TNC									14	14	28	10	10	20
Non-TNC (before pass-by adjustment)									147	114	261	140	57	197
Total Vehicle									161	128	289	150	67	217
Pass-by adjustment [e]			*20%*			*20%*			(29)	(22)	(51)	(28)	(11)	(39)
Non-TNC									118	92	210	112	46	158
Hotel	310	236 rooms	0.47	59%	41%	0.6	51%	49%	65	46	111	72	70	142
Internal Capture [c]				*4%*	*51%*		*59%*	*67%*	(3)	(24)	(27)	(43)	(47)	(90)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(16)	(6)	(22)	(7)	(6)	(13)
Net External Hotel (before TNC adjustment)									46	16	62	22	17	39
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			0	1	1	0	1	1
TNCs already in vehicle trip generation									1	0	1	1	0	1
Total TNC									3	3	6	2	2	4
Non-TNC									45	16	61	21	17	38
Total Vehicle									48	19	67	23	19	42
Residential*	222	258 DU	0.23	12%	88%	0.30	70%	30%	7	52	59	54	23	77
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(12)	(12)	(36)	(16)	(52)
Transit, Bike, Ped Adjustment [d]														
Net External Residential (before TNC adjustment)									7	40	47	18	7	25
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			1	0	1	0	0	0
TNCs already in vehicle trip generation									0	1	1	0	0	0
Total TNC									2	2	4	1	1	2
Non-TNC									7	39	46	18	7	25
Total Vehicle									9	41	50	19	8	27
Affordable Housing	*[f]*	50 DU	0.5	*40%*	*60%*	0.34	55%	45%	10	15	25	9	8	17
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(4)	(4)	(6)	(6)	(12)
Net External Affordable Housing									10	11	21	3	2	5
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									1	1	2	0	0	0
Non-TNC									10	11	21	3	2	5
Total Vehicle									11	12	23	3	2	5
Studio, Event, Gallery [g]	495	93.617 ksf	1.76	66%	34%	2.31	47%	53%	109	56	165	102	114	216
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(27)	(14)	(41)	(26)	(29)	(55)
Net External Gallery (before TNC adjustment)									82	42	124	76	85	161
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	2	2	4
TNCs already in vehicle trip generation									2	1	3	2	2	4
Total TNC									6	6	12	8	8	16
Non-TNC									80	41	121	74	83	157
Total Vehicle									86	47	133	82	91	173
Gym (Health / Fitness Club)	492	62.148 ksf	1.31	51%	49%	3.45	57%	43%	41	40	81	122	92	214
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(8)	(9)	(17)	(53)	(35)	(88)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(8)	(8)	(16)	(17)	(14)	(31)
Net Driveway Trips (before TNC adjustment)									25	23	48	52	43	95
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	2	2	4
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	1	1	2
TNCs already in vehicle trip generation									1	1	2	1	1	2
Total TNC									3	3	6	4	4	8
Non-TNC (before pass-by adjustment)									24	22	46	51	42	93
Total Vehicle									27	25	52	55	46	101
Pass-by adjustment [e]			*20%*			*20%*			(4)	(4)	(8)	(10)	(8)	(18)
Non-TNC									20	18	38	41	34	75
Grocery	850	28.054 ksf	3.82	60%	40%	[h]	51%	49%	64	43	107	154	148	302
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(12)	(10)	(22)	(67)	(57)	(124)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(13)	(8)	(21)	(22)	(23)	(45)
Net Driveway Trips (before TNC adjustment)									39	25	64	65	68	133
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	2	2	4
TNCs already in vehicle trip generation									1	1	2	2	2	4
Total TNC									4	4	8	7	7	14
Non-TNC (before pass-by adjustment)									38	24	62	63	66	129
Total Vehicle									42	28	70	70	73	143
Pass-by adjustment [e]			*40%*			*40%*			(15)	(9)	(24)	(25)	(26)	(51)
Non-TNC									23	15	38	38	40	78
General Retail	820	79.240 ksf	[i]	62%	38%	[i]	48%	52%	118	73	191	219	238	457
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(22)	(17)	(39)	(95)	(91)	(186)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(24)	(14)	(38)	(31)	(37)	(68)
Net Driveway Trips (before TNC adjustment)									72	42	114	93	110	203
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	3	2	5
TNCs already in vehicle trip generation									2	1	3	2	3	5
Total TNC									6	6	12	10	10	20
Non-TNC (before pass-by adjustment)									70	41	111	91	107	198
Total Vehicle									76	47	123	101	117	218
Pass-by adjustment [e]			*40%*			*40%*			(28)	(16)	(44)	(36)	(42)	(78)
Non-TNC									42	25	67	55	65	120

TABLE 1B
PROPOSED PROJECT OPTION 2 TRIP GENERATION
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]						Estimated Trip Generation					
			AM Peak Hour			PM Peak Hour			AM Peak Hour Trips			PM Peak Hour Trips		
			Rate	In%	Out%	Rate	In%	Out%	In	Out	Total	In	Out	Total
Food Hall	[j]	28.858 ksf	9.94	55%	45%	8.19	59%	41%	158	129	287	139	97	236
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(28)	(28)	(56)	(41)	(52)	(93)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(33)	(25)	(58)	(25)	(11)	(36)
Net Driveway Trips (before TNC adjustment)									97	76	173	73	34	107
Added TNC - from transit			*2.5%*			*2.5%*			4	4	8	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			2	2	4	1	2	3
TNCs already in vehicle trip generation									2	2	4	2	1	3
Total TNC									8	8	16	6	6	12
Non-TNC (before pass-by adjustment)									95	74	169	71	33	104
Total Vehicle									103	82	185	77	39	116
Pass-by adjustment [e]			*15%*			*15%*			(14)	(11)	(25)	(10)	(4)	(14)
Non-TNC									81	63	144	61	29	90
Deck	[k]	3.030 acres	2.6	50%	50%	1.8	50%	50%	4	4	8	3	2	5
Net External Deck (before TNC adjustment)									4	4	8	3	2	5
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									4	4	8	3	2	5
Total Vehicle									4	4	8	3	2	5
Farmers' Market	[l]	500 persons	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0
Internal Capture [c]									0	0	0	0	0	0
Transit, Bike, Ped Adjustment [d]									0	0	0	0	0	0
Net External Farmers' Market (before TNC adjustment)									0	0	0	0	0	0
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									0	0	0	0	0	0
Total Vehicle									0	0	0	0	0	0
Group Exercise Classes	[m]	280 persons	1.0	50%	50%	1.0	50%	50%	140	140	280	140	140	280
Internal Capture [c]				50%	50%		50%	50%	(70)	(70)	(140)	(70)	(70)	(140)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(18)	(18)	(36)	(18)	(18)	(36)
Net External Exercise Classes (before TNC adjustment)									52	52	104	52	52	104
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	1	1	2
TNCs already in vehicle trip generation									1	1	2	1	1	2
Total TNC									5	5	10	5	5	10
Non-TNC									51	51	102	51	51	102
Total Vehicle									56	56	112	56	56	112
Busking	[n]	20 persons	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0
Internal Capture [c]									0	0	0	0	0	0
Transit, Bike, Ped Adjustment [d]									0	0	0	0	0	0
Net External Busking (before TNC adjustment)									0	0	0	0	0	0
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									0	0	0	0	0	0
Total Vehicle									0	0	0	0	0	0
TOTAL PROJECT DRIVEWAY TRIPS									1,043	456	1,499	805	1,064	1,869
NET EXTERNAL VEHICLE TRIPS									1,029	470	1,499	779	1,065	1,844
EXISTING USE CREDIT														
Warehousing	150	205.4 ksf	0.17	77%	23%	0.19	27%	73%	27	8	35	11	28	39
Total Existing Use Credit									27	8	35	11	28	39
NET INCREMENTAL EXTERNAL TRIPS									1,002	462	1,464	768	1,037	1,805

Notes:

The proliferation of shared mobility transportation network companies (TNCs), such as Lyft and Uber, in recent years is important to consider in a project of this size. In order to account for TNCs, it was assumed that TNCs would account for 5% of the vehicle trips generated by each land use. Available empirical evidence indicates that TNC trips replace both transit/bike/walk trips and private vehicle trips. Therefore, 2.5% of the TNC trips were considered to replace transit trips, which results in an additional vehicle trip in and out of the site that would not have been considered in the basic trip generation rates. The 2.5% of TNC trips attributed to the replacement of private vehicles result in an additional vehicle trip added only to the opposite movement of the vehicle trip already considered in the basic trip generation rates. TNC vehicles will have a loading/unloading zone at the front of the project site and were not included in the total project driveway trips, but were included in the net external vehicle trips (which do not include pass-by vehicles).

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] ITE office trip generation equations used rather than linear trip generation rate:
AM Peak Hour: Ln(T) = 0.72 * A + 21.64, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)
PM Peak Hour: Ln(T) = 0.83 * A + 7.99, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)

[c] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by Multi-Use Trip Generation Methodology described in ITE Trip Generation Handbook, 9th Edition. Internalization percentages are derived from NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, Transportation Research Board, 2011.

[d] The transit credit is based on LADOT's *Transportation Impact Study Guidelines,* December 2016. The guidelines state that up to 15% transit credit may be taken for projects within 1/4 mile of a Rapid bus line. In addition to the 15% transit credit, a 10% walking/biking credit was applied to land uses due to the walkable nature of the area (only 5% walking/biking credit was taken for office land use). For Dense Multi-Use Urban location rates, a transit credit was not explicitly added since the effects of transit are assumed to be implicit in the rates.

[e] The pass-by credit is based on Attachment F of LADOT's *Transportation Impact Study Guidelines,* December 2016.

[f] Trip rates for affordable housing taken from LADOT's *Transportation Impact Study Guidelines,* December 2016.

[g] Trip generation rates for recreation center used for Studio, Event, Gallery.

[h] ITE grocery trip generation equation used rather than linear trip generation rate for PM peak period only:
PM Peak Hour: Ln(T) = 0.75 * A + 3.21, where T = trips, A = area in ksf

[i] ITE retail trip generation equations used rather than linear trip generation rate:
AM Peak Hour: Ln(T) = 0.50 * A + 151.78, where T = trips, A = area in ksf
PM Peak Hour: T=0.74 * Ln(A) + 2.89, where T = trips, A = area in ksf

[j] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place, and retail.

[k] Regional Park (Developed) rate from San Diego Association of Governments, *(Not So) Brief Guide of Vehicular Traffic Generation Rates* for the San Diego Region, April 2002.

[l] Weekly farmers market from 11am-2pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle. A larger monthly farmers' market is planned, but is not be part of the weekday traffic analysis because it is proposed for weekends only.

[m] Group exercise classes are proposed 3-4 times a week, from 7am-9am & 4pm-7pm. Assumes an average vehicle occupancy of 1 person per vehicle and that a class will begin and end (generating both inbound and outbound trips) during the AM and PM peak hours.

[n] Busking is proposed to occur six times a month from 12pm-2pm & 7pm-9pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle.

TABLE 2
670 MESQUIT
RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
1	540 S Santa Fe Ave	Office	65.812	ksf	726	90	12	102	17	81	98
2	601 S Main St	Apartments	452	du	2,686	36	144	180	152	87	239
		Retail	25.0	ksf							
3	225 S Los Angeles St	Condominiums	300	du	1,910	88	136	224	75	52	126
		Retail	3.4	ksf							
4	150 N Los Angeles St	Office	713	ksf	13,534	930	118	1,048	435	942	1,374
		Retail	35	ksf							
		Child Care	2.5	ksf							
5	534 S Main St	Apartments	160	du	2,213	52	75	127	87	58	145
		Retail	18	ksf							
		Restaurant	3.5	ksf							
		Fast-Food Restaurant	3.5	ksf							
6	1057 S San Pedro St	Office	294.641	ksf	16,433	837	434	1,271	632	957	1,589
		Retail	176.733	ksf							
		Cinema	744	Seats							
		Apartments	945	du							
		University	1400	Students							
		Hotel	210	Rooms							
7	1525 E Industrial St	Apartments	344	du	2,288	58	73	131	86	69	155
		Office	21.4	ksf							
		Retail	6.1	ksf							
8	950 E 3rd St	School	532	Students	6,372	162	177	339	245	213	458
		Retail	30.062	ksf							
		Apartments	635	du							
9	2051 E 7th St	Apartments	320	du	2,310	17	127	144	145	64	209
		Retail	15	ksf							
		Restaurant	5	ksf							
10	963 E 4th St	Office	79	ksf	2,512	106	22	128	113	138	251
		Retail	25	ksf							
		Restaurant	20	ksf							
11	826 S Mateo St	Condominiums	90	du	1,267	11	34	45	62	39	101
		Other	11	ksf							
		Other	5.6	ksf							
12	2030 E 7th St	Office	243.583	ksf	2,306	274	34	308	69	249	318
		Retail	40	ksf							
13	360 S Alameda St	Apartments	55	du	670	25	33	58	35	26	61
		Other	2.5	ksf							
		Other	6.3	ksf							
14	649 S Wall St	Assisted Living	55	beds	104	24	5	29	3	24	27
		Office	55	empl.							
15	410 Center St	Office	110	ksf	1,165	87	0	87	0	79	79
16	500 S Mateo St	Restaurant	12.82	ksf	1,052	48	41	89	50	31	81
17	300 S Main St	Apartments	471	du	4,691	143	243	386	257	153	410
		Retail	5.19	ksf							
		Restaurant	27.78	ksf							
18	400 S Alameda St	Hotel	66	Rooms	512	20	18	38	23	14	37
		Retail	0.84	ksf							
		Restaurant	2.13	ksf							
19	719 E 5th St	Apartments	160	du	1,033	15	58	73	59	37	96
		Retail	7.5	ksf							
20	2130 E Violet St	Office	94	ksf	1,351	137	30	167	39	122	161
		Retail	7.45	ksf							
21	929 E 2nd St	Mixed Use Private Club	48.862	ksf	2,153	68	12	80	105	96	201
22	1800 E 7th St	Apartments	122	du	816	26	45	71	45	37	82
		Office	13.6	ksf							
23	1722 E 16th St	Restaurant	8.151	ksf	592	-4	2	-2	36	11	47
24	454 E Commercial St	Bus Facility	2	acres	N/A	22	8	30	9	1	10
25	118 S Astronaut E S Onizuka St	Apartments	77	du	97	-1	20	19	19	6	25
26	555 S Mateo St	Retail	153	ksf	4,300	5	30	35	220	205	425
27	1000 S Santa Fe Ave [a]	Restaurant	8.447	ksf	966	36	37	38	39	40	69
		Club	48	Rooms							
28	2110 Bay St [a]	Apartments	110	du	2,394	180	63	243	89	192	281
		Office	113	ksf							
		Retail	43.66	ksf							
29	330 S Alameda St [a]	Apartments	186	du	1,662	36	76	112	91	65	156
		Commercial	22	ksf							
30	668 S Alameda St [a]	Apartments	475	du	4,002	107	182	289	216	145	361
		Commercial	84	ksf							
31	520 Mateo St	Apartments	200	du	4,995	157	220	377	274	223	497
		Office	30	ksf							
		Restaurant	15	ksf							
		Retail	15	ksf							
32	717 Maple Ave [a]	Apartments	452	du	3,199	67	179	246	185	105	290
		Retail	14	ksf							

TABLE 2
670 MESQUIT
RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
33	232 W 2nd St [b]	Condominiums	107	du	4,006	467	93	560	118	423	541
		Office	534	ksf							
		Retail	7.2	ksf							
34	433 S Main St	Condominiums	161	Rooms	1,450	32	72	104	61	37	98
		Mixed Use	6.9	ksf							
35	676 Mateo St [b]	Apartments	185	du	1,990	50	95	145	106	51	157
		Commercial	27	ksf							
36	732 Wall St [b]	Apartments	323	du	2,499	108	82	191	164	141	305
		Office	53.2	ksf							
		Retail	4.4	ksf							
		Wholesale/Storage	63.585	ksf							
		Restaurant	4.42	ksf							
		Event Space	9.226	ksf							
37	333 S Alameda St [a]	Apartments	994	du	8,445	134	260	394	390	329	719
		Retail	993	ksf							
38	1129 E 5th St	Retail	26.98	ksf	4,674	130	140	270	157	69	226
		Restaurant	31.72	ksf							
		Hotel	113	Rooms							
		Apartments	129	du							
		Art School	3.43	ksf							
		Art Space	10.34	ksf							
39	2650 E Olympic Bl	Apartments	1000	du	12,247	498	477	975	599	539	1,138
		Restaurant	N/A	ksf							
		Office	230	ksf							
40	2143 E Violet St	Apartments	320	du	4,477	329	22	351	130	330	460
		Retail	224.29	ksf							
		Office	46.67	ksf							
41	633 S Spring St	Hotel	176	Rooms	2,045	83	33	116	97	99	196
		Restaurant	8.43	ksf							
		Bar	5.29	ksf							
42	732 S Spring St	Apartments	400	du	3,359	59	152	211	164	104	268
		Pharmacy/Drugstore	15	ksf							
43	237 S Los Angeles St	Sports Complex	43	ksf	1,869	79	50	129	161	98	259
44	640 S Santa Fe Avenue	Commercial	107	ksf	1,330	90	8	98	43	114	157
45	1745 E 7th Street	Apartments	57	du	635	9	25	34	34	24	58
		Commercial	6	ksf							
46	940 E 4th Street	Office	6	ksf	788	14	37	51	44	31	75
		Retail	14.3	ksf							
		Apartments	107	du							
47	609 E 5th St	Apartments	151	du	1,004	15	62	77	61	33	94
48	713 E 5th St	Apartments	51	du	208	15	10	25	9	8	17
49	1000 S Mateo St	Apartments	113	du	2,238	153	83	236	90	131	221
		Commercial	134	ksf							
50	926 E 4th St	Office	265.45	ksf	3,448	366	75	411	100	322	422
		Retail	4.97	ksf							
		Museum	7.8	ksf							
51	2159 E Bay St	Retail	18.33	ksf	2,029	194	30	224	57	192	249
		Office	204	ksf							
52	1247 S Grand Ave	Apartments	118	du	763	10	41	51	42	25	67
		Commercial	5.125	ksf							
53	1 Gateway Plaza	Residential	22	du	25,312	862	527	1,389	734	1,042	1,776
		Office	7443.2	ksf							
		Retail	645	ksf							
		Hotel	750	Room							
		Restaurant	20	ksf							
		Museum	70	ksf							
54	354 S Spring St	Apartments	212	du	1,410	22	87	108	85	46	131
55	552 S San Pedro	Affordable Housing	407	du	2,186	107	138	245	96	88	184
		Retail	12.3	ksf							
56	1005 S Mateo Street	Industrial Park	94.8	ksf	426	40	9	49	10	39	49
57	1800 E 1st St	Apartments	65	du	433	7	19	25	23	16	40
		Retail	5	ksf							
58	1001 E 1st St	Apartments	430	du	2,166	33	119	152	121	79	200
		Retail	8.742	ksf							
59	755 S Los Angeles St	Retail	16.694	ksf	2,482	110	57	167	105	100	205
		Office	60.243	ksf							
		Restaurant	26.959	ksf							
60	601 S Central Ave	Apartments	236	du	1,074	17	79	96	70	32	102
		Retail	12	ksf							

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670 MESQUIT
RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
61	527 Colyton St	Condominiums	310	du	2,095	36	116	152	121	74	195
		Retail	11.375	ksf							
		Production Space	11.736	ksf							
62	1100 E 5th St	Apartments (Live/Work du)	220	du	2,583	79	119	198	133	74	207
		Commercial	49	ksf							
63	600 S San Pedro Street	Apartments	303	du	636	38	25	63	30	37	67
		Retail	20	ksf							
64	655 S San Pedro Street	Apartments	81	du	539	8	33	41	33	17	50
65	656 S Stanford Ave	Apartments	82	du	545	8	34	42	33	18	51
66	361 S Spring Street	Hotel	315	room	2,273	91	59	150	84	85	169
67	641 Imperial Street	Residential	140	du	1,093	34	60	94	61	48	109
		Office	14.749	ksf							
68	2901 E Olympic Bl	Apartments	4400	du	19,382	463	1,044	1,507	1,123	804	1,927
		Retail	185	ksf							
		Office	125	ksf							
		Medical Office	25	ksf							
		Daycare	15	ksf							
		Library	15	ksf							
69	1828 E Cesar Chavez Av	Office	32	ksf	1,168	58	16	74	30	82	112
70	2407 E 1st St	Apartments	50	du	354	12	14	26	16	9	35
		Office	8.5	ksf							
		Retail	3.4	ksf							
71	2420 E Cesar Chavez Av	Apartments	77	du	1,087	25	36	61	54	44	98
		Retail	4	ksf							
		Health Club	4	ksf							
72	119 S Soto St	Apartments	65	du	433	7	19	26	23	16	40
		Retail	5	ksf							
73	810 E 3rd St	Apartments	4	du	1,487	37	32	69	87	48	135
		Restaurant	3.5	ksf							
		Retail	6.2	ksf							
74	848 S Grand Ave	Condominiums	420	du	3,882	66	144	210	212	165	377
		Retail	38.5	ksf							
75	1050 S Grand Ave	Condominiums	151	du	1,084	15	54	68	64	35	99
		Retail	3.472	ksf							
		Restaurant	22	ksf							
76	1115 S Hill St	Mixed Use	N/A	Other	543	-45	40	-5	50	-7	43
77	201 S Broadway Ave	Retail/Restaurant	27.675	ksf	N/A	-40	-41	-81	53	17	70
78	1200 S Grand Ave	Apartments	640	du	4,886	92	148	240	181	134	315
		Retail	45	ksf							
79	928 S Broadway	Apartments	670	du	4,715	21	229	250	272	109	381
		Condominiums	17	du							
		Retail	58.8	ksf							
80	840 S Olive St	Condominiums	303	du	3,071	81	166	247	174	96	270
		Restaurant	9.68	ksf							
		Retail	1.5	ksf							
81	400 S Broadway	Apartments	450	du	3,292	50	187	237	193	112	305
		Retail	6.904	ksf							
		Bar	5	ksf							
82	1001 S Olive St	Apartments	225	du	1,581	22	79	101	94	51	145
		Restaurant	5	ksf							
83	920 S Hill St	Apartments	239	du	1,476	23	84	107	87	50	137
		Retail	5.4	ksf							
84	955 S Broadway	Apartments	201	du	1,275	21	72	93	74	43	117
		Retail	6	ksf							
85	801 S Olive St	Apartments	363	du	2,557	33	129	162	140	83	225
		Commercial	10	ksf							
86	820 S Olive St	Apartments	589	du	3,309	63	202	264	195	106	302
		Retail	4.5	ksf							
87	1148 S Broadway	Apartments	94	du	553	8	30	38	32	18	50
		Retail	2.5	ksf							
88	1111 S Broadway	Apartments	391	du	5,198	144	176	319	258	274	532
		Office	39.7	ksf							
		Retail	49	ksf							
89	1120 S Grand Ave	Apartments	666	du	2,730	42	127	170	136	93	229
		Shopping	20.69	ksf							
		Mixed use	N/A	Other							
90	1036 S Grand Ave	Restaurant	7.149	ksf	492	2	3	5	27	14	41
91	527 N Spring Street	Apartments	345	du	3,585	49	118	167	189	131	320
		Restaurant	11	ksf							
		Retail	23	ksf							
		Retail	21	ksf							
92	737 S Spring St	Apartments	320	du	3,942	72	141	213	167	116	283
		Pharmacy/Drugstore	250	ksf							

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RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
93	340 S Hill St	Apartments	428	du	2,253	36	129	163	133	75	208
		Restaurant	2.894	ksf							
94	940 S Hill St	Apartments	232	du	1,881	20	80	100	115	53	168
		Restaurant	14	ksf							
95	744 S Figueroa St	Apartments	436	du	2,644	37	146	183	158	86	244
		Retail	10	ksf							
96	850 S Hill St	Apartments	300	du	1,970	28	106	134	116	65	181
		Retail	4	ksf							
		Restaurant	3.5	ksf							
97	700 W 9th St	Apartments	341	du	2,624	37	146	183	143	95	238
		Retail	11.7	ksf							
98	649 S Olive St	Hotel	241	Rooms	1,674	65	44	109	63	60	123
99	1100 S Main St	Apartments	379	du	385	9	103	112	78	14	92
		Other	25.81	ksf							
100	924 N Spring St [b]	Condominiums	770	du	6,583	169	290	459	307	201	508
		Retail	51.39	ksf							
101	845 S Olive St	Apartments	208	du	1,305	25	76	101	77	42	119
		Retail	2.4	ksf							
102	888 S Hope Street	Apartments	526	du	3,498	54	214	268	212	114	326
103	1000 S Hill Street	Apartments	700	du	3,392	49	193	242	181	104	285
		Retail	7	ksf							
		Restaurant	8	ksf							
104	333 W 5th Street	Condominiums	100	du	3,358	64	72	136	201	129	330
		Hotel	200	Room							
		Commercial	27.5	ksf							
105	100 S Broadway	Apartments	1127	du	8,535	94	341	435	294	38	332
		Commercial	410	ksf							
106	754 S Hope St	Condominiums	409	du	2,315	35	137	172	137	78	215
		Retail	7.329	ksf							
107	100 S Grand Avenue	Apartment	412	du	21,631	919	632	1,551	1,120	1,344	2,464
		Condominium	1648	du							
		Retail	225.3	ksf							
		Supermarket	53	ksf							
		Restaurant	67	ksf							
		Health Club	50	ksf							
		Event Facility	250	Seats							
		Hotel	275	Rooms							
		Office	681	ksf							
108	1230 S Olive St	Apartments	360	du	2,114	31	126	157	127	69	196
		Retail	6.4	ksf							
109	708 N Hill St	Apartments	162	du	980	16	57	73	57	33	90
		Retail	5	ksf							
110	211 W Alpine St	Apartments	122	du	566	9	42	51	37	18	55
		Retail	7.5	ksf							
111	1101 N Main	Condominiums	318	du	1,102	-9	80	71	75	12	87
112	700 W Cesar Chavez Ave	Apartments	299	du	1,511	7	89	96	99	54	153
		Retail	8	ksf							
113	949 S Hope St	Apartments	236	du	791	8	45	53	43	7	50
		Retail	5.954	ksf							
114	900 W Wilshire Bl	Hotel	560	du	3,624	725	75	800	94	764	858
		Office	1500	ksf							
		Retail/Restaurant	275	ksf							
		Apartments	100	du							
115	643 N Spring St	Hotel	142	du	2,723	61	122	183	138	91	229
		Commercial	17	ksf							
		Restaurant	2.532	ksf							
		Apartments	281	du							
116	427 W 5th St	Apartments	615	du	3,134	42	115	157	164	97	261
		Restaurant	16.309	ksf							
117	1843 E 41st St	Warehouse	643	ksf	2,581	242	53	295	67	202	269
118	250 S Hill St	Condos	330	du	1,217	21	73	94	66	42	108
		Retail	12	ksf							
119	1700 E Martin Luther King	Industrial	480.3	ksf	2,134	153	41	194	54	151	205
120	1027 S Olive St	Apartments	100	du	632	9	39	48	38	21	59
121	3401 E 1st Street	Industrial	480.3	ksf	458	6	18	24	25	17	42
		Apartments	100	du							
122	1147 E Palmetto	Apartments	49	du	2,908	73	141	215	147	83	230
		Retail	10	ksf							
		Apartments	120	du							
123	1030 N Soto Street	Hotel	81	rooms	662	25	18	43	25	23	48
124	2710 S Compton Ave	Manufacturing	36.26	ksf	346	37	10	47	15	33	48
		Warehouse	46.76	ksf							
		Warehouse	3.74	ksf							

TABLE 2
670 MESQUIT
RELATED PROJECTS

No.	Project Location	Land Use	Size		Trip Generation						
						AM			PM		
					Daily	IN	OUT	TOTAL	IN	OUT	TOTAL
125	441 Bauchet St	Jail	3885	Beds	242	0	9	9	0	29	29
126	129 W College St	Apartments	770	du	6,583	169	290	459	307	201	508
		Grocery	34.52	ksf							
		Restaurant	8	ksf							
		Retail	5.87	ksf							
127	1340 S Hill Street	Apartments	156	du	1,700	51	82	133	89	57	146
		Retail	5	ksf							
		Restaurant	10	ksf							
128	1206 E 6th Street	Apartments	1736	du	14,258	437	585	1022	710	642	1352
		Warehouse	316.632	ksf							
		Office	253.514	ksf							
		Quality Restaurant	22.639	ksf							
		High-turnover Restaurant	22.639	ksf							
		Retail	82.332	ksf							
		Museum	22.429	ksf							
		Hotel	514	rooms							
		School	300	students							
129	1045 Olive St	Commercial	15	ksf	2,227	39	157	296	138	62	200
		Condominiums	800	du							
130	930 E 6th St	Apartments	236	du	1,074	17	79	96	70	32	102
		Retail	12	ksf							
131	1030 S Hill St	Apartments	700	du	3,392	49	193	242	181	104	285
		Retail	7	ksf							
		Restaurant	7	ksf							
132	1024 S Mateo St	Apartments	104	du	2,095	144	79	223	82	123	205
		Office	101.983	ksf							
		Restaurant	16.279	ksf							
		Retail	5.83	ksf							
		Other	5.519	ksf							
133	554 S San Pedro St	Apartments	303	du	636	38	25	63	30	37	67
		Commercial	19.91	ksf							
134	443 S Soto St	School	625	students	277	131	112	243	32	25	57
135	220 N Center Street	Apartments	430	du	2,166	33	119	152	121	79	200
		Retail	8.742	ksf							
136	755 S Wall St	Office	53.2	ksf	2,499	112	79	191	164	141	305
		Apartments	322	du							
		Other	4.42	ksf							
		Other	125	Persons							
		Retail	4.4	ksf							
137	220 E Washington Bl	Apartments	32	du	2,113	38	118	156	125	53	178
		Commercial	19	ksf							
138	1133 Hope St	Apartments	208	du	1,543	20	74	94	91	50	141
		Restaurant	5.03	ksf							
139	400 W 7th St	Apartments	165	du	2,792	18	57	75	132	127	259
		Bar	11.9	ksf							
		Restaurant	14.03	ksf							
140	1229 S Grand Av	Condominiums	161	du	1,116	23	62	85	62	33	95
		Restaurant	3	ksf							
141	Sixth Street PARC	Park/Recreational	12	acres	TBD	TBD	TBD	TBD	TBD	TBD	TBD
			Total		403,394	13,923	15,238	29,161	19,149	18,109	37,258

Notes:
du = dwelling unit
ksf = one thousand square feet
Related projects list based on information provided by LADOT on February 22, 2018.
[a] Projects were not included in information provided by LADOT. Projects and land use from third party research. Trip generation estimates based on ITE rates
[b] Projects were not included in information provided by LADOT. Projects and land use from LADCP Major Projects Website
Additional research and coordination with City Planning was conducted to ensure consistency of available information as of April 4, 2018.

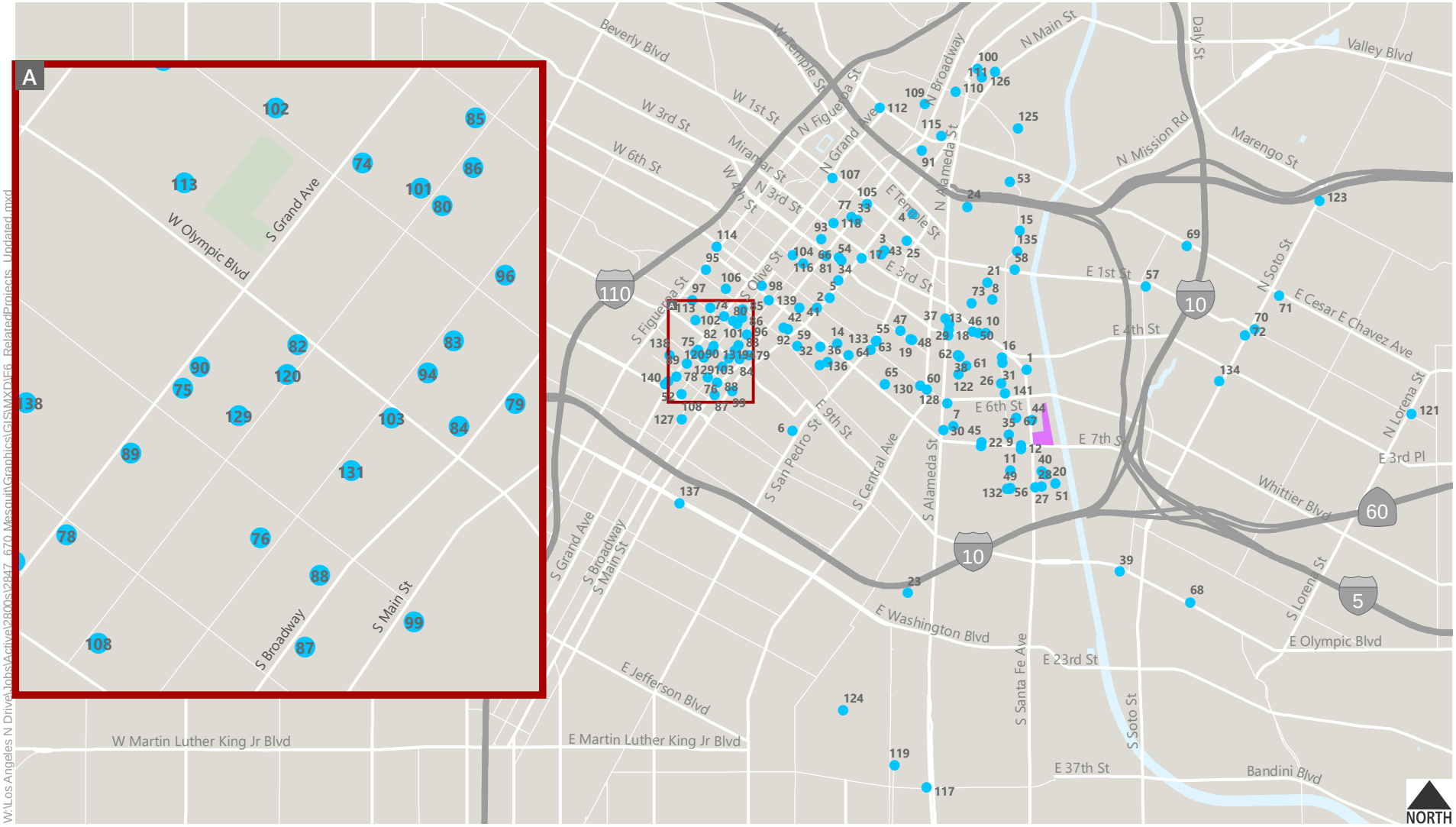
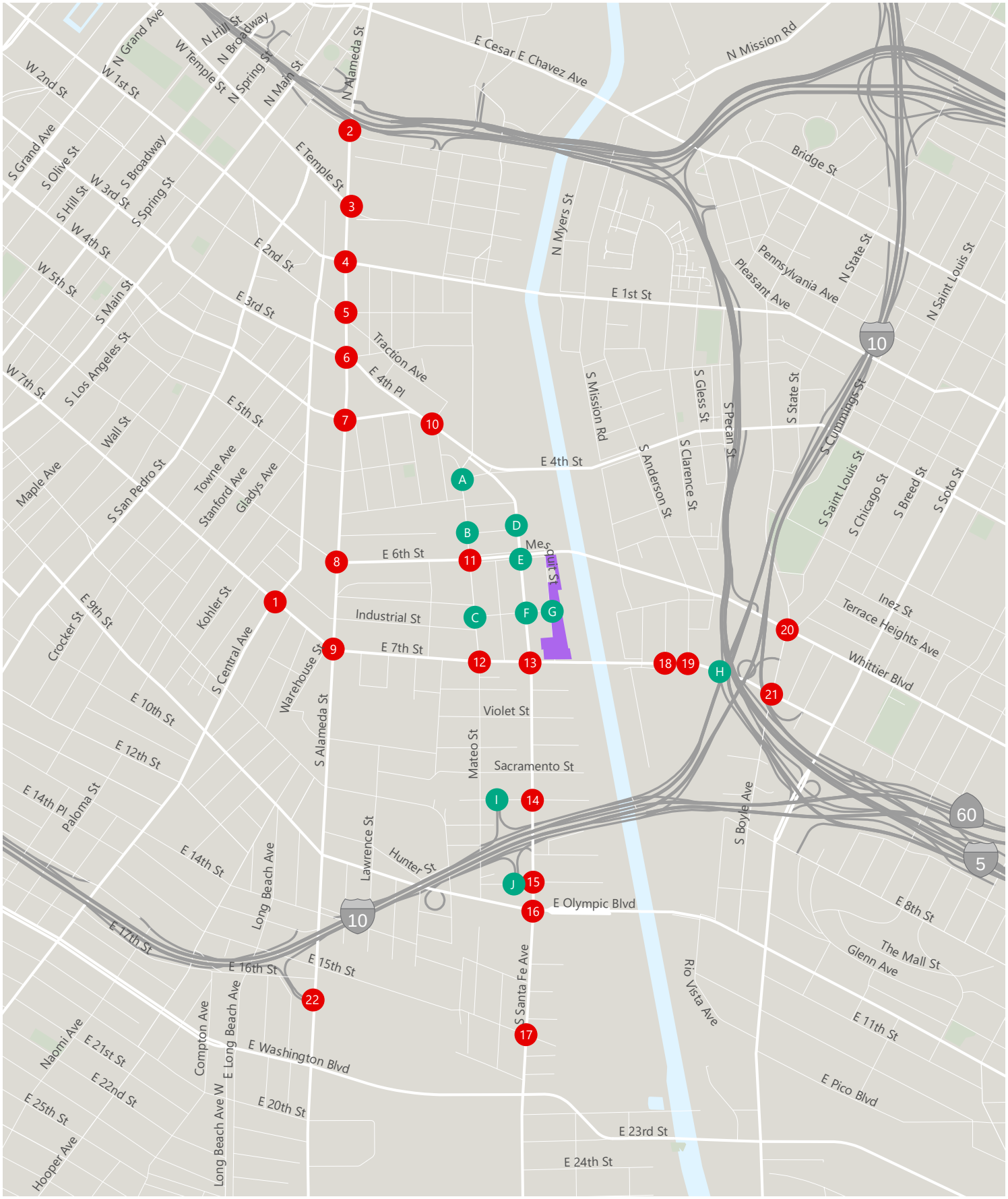


Figure 3

Related Projects

TABLE 3
670 Mesquit
Study Intersection Locations

No.	North-South Street	East-West Street	Control
1	S Central Avenue	7th Street	Signalized
2	N Alameda Street	E. Aliso Street/E. Commercial Street	Signalized
3	Alameda Street	Temple Street	Signalized
4	N Alameda Street	E 1st Street	Signalized
5	N Alameda Street	E 2nd Street	Signalized
6	S Alameda Street	3rd Street	Signalized
7	S Alameda Street	4th Street	Signalized
8	S Alameda Street	6th Street	Signalized
9	S Alameda Street	7th Street	Signalized
10	Molino Street/Merrick Street	4th Street	Signalized
11	Mateo Street	6th Street	Signalized
12	Mateo Street	7th Street	Signalized
13	S Santa Fe Avenue	7th Street	Signalized
14	S Santa Fe Avenue	8th Street	Signalized
15	S Santa Fe Avenue	Porter Street	Signalized
16	S Santa Fe Avenue	Olympic Boulevard	Signalized
17	S Santa Fe Avenue	E 15th Street	Signalized
18	S Rio Street	E 7th Street	Signalized
19	S Anderson Street	E 7th Street	Signalized
20	Boyle Avenue	Whittier Boulevard	Signalized
21	Boyle Avenue	7th Street	Signalized
22	S Alameda Street	I-10 Eastbound Ramps	Signalized
A	Mateo Street	4th Place	Unsignalized
B	Mateo Street	Willow Street	Unsignalized
C	Mateo Street	Jesse Street	Unsignalized
D	S Santa Fe Avenue	Willow Street	Unsignalized
E	S Santa Fe Avenue	Mesquit Street	Unsignalized
F	S Santa Fe Avenue	Jesse Street	Unsignalized
G	Mesquit Street	Jesse Street	Unsignalized
H	US-101 Southbound Off-Ramp	7th Street	Unsignalized
I	I-10 Westbound Ramps	E 8th Street	Unsignalized
J	I-10 Eastbound Ramps	Porter Street	Unsignalized



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NORTH

Study Intersections

- Signalized Intersection
- Unsignalized Intersection
- Project Site

Figure 4

670 Mesquit Study Intersections

ATTACHMENT A
Project Description

RCS VE LLC (the Applicant) proposes to construct a new mixed-use development (Project) totaling approximately 1,792,103 square feet (sf) of floor area on an approximately 5.45-acre property at 670 Mesquit Street in the Arts District of Downtown Los Angeles.[1]

The Project Site flanks Mesquit Street between the former 6th Street Viaduct right-of-way on the north and the 7th Street Bridge on the south. The majority of the Project Site is on the east side of Mesquit Street; the southern portion of the Project Site also includes parcels on the west side of Mesquit Street at 7th Street. The Project Site is bordered on the east by the railway property (Railway Property), which encompasses freight and passenger rail lines and rail yards owned by Amtrak, Burlington Northern/Santa Fe Railway (BNSF), and the Los Angeles County Metropolitan Transportation Authority (Metro). The Los Angeles River is located just east of the Railway Property with the Boyle Heights community beyond. The Project Site is currently developed with existing cold storage facilities consisting of freezer, cold storage, surface parking, dry storage warehouses, and associated office space totaling approximately 205,393 square feet of gross floor area.

Project implementation would require the removal of all existing on-site uses. New development would include creative office space (approximately 944,055 square feet); a 236-room hotel; 308 multi-family residential housing units; an Arts District Central Market, a grocery store, and general retail uses totaling approximately 136,152 square feet; restaurants totaling approximately 89,576 square feet; studio/event/gallery space and a potential museum totaling approximately 93,617 square feet; and a gym of approximately 62,148 square feet. As part of the Project, Mesquit Street is proposed for vacation between 6th and 7th Streets.

The Project would provide open space for use by Project residents, hotel guests, employees, and visitors. Proposed open space features include at-grade landscaped areas, pedestrian passageways and walkways, viewing platforms, and above-grade landscaped terraces and pool decks.

The Applicant also seeks to construct a pedestrian deck over the Railway Property (Deck) if agreements can be obtained with Railway Property owners. The Deck would serve as a multi-modal connection between the 7th Street Bridge and the Project Site's Northern Landscaped Area, which would provide access to the City's proposed Sixth Street Park, Arts, River, and Connectivity (PARC) Improvements. The Deck could include such amenities as a sculpture park, benches and seating areas, landscaping, and other visitor-serving features. The Deck, together with the vacation

[1] Project floor area is calculated in accordance with Los Angeles Municipal Code (LAMC) Section 12.03, unless otherwise noted.

of Mesquit Street, would also offer additional space for programmed special events open to the public. The Deck could also provide access directly to the Los Angeles River. Two versions of the Project are being evaluated in the study: one without and one with the Deck over the Railway Property.

Vehicular and bicycle access to the Project Site is proposed via four driveways: (1) a two-way full-access driveway on Mesquit Street at the northern end of the Project Site at ground level, (2) a two-way full-access driveway at the intersection of Mesquit Street and Jesse Street at the ground level, (3) a two-way signalized driveway connecting the 7th Street Bridge and Building 4 near the southeastern corner of the Project Site that allows for full access out and right-turns only in, and (4) a one-way driveway restricted to only right-turns-out that connects the 7th Street Bridge and Building 5 near the southwestern corner of the Project Site. In addition, a passenger loading zone pull-out would be provided along the east side of Mesquit Street north of Jesse Street near Building 2.

The Project proposes structured parking at, above, and below grade. Up to six levels of below-grade parking are proposed, spanning the buildings' footprints. There would also be at-grade and above-grade parking within Building 5. The Project would provide on-site vehicle parking through a combination of traditional parking stalls, valet, and semi-automated systems. Off-site parking may also be considered. Bicycle parking would be stationed in various locations throughout the Project Site and provide both short-term spaces and long-term storage.

Construction would include approximately 531,319 cubic yards of grading (cut), all of which would be exported from the Project Site. The excavation depth would range from approximatively 61 to 68 feet below ground surface (bgs) for the lowest subterranean parking level. To accommodate elevator pits, maximum excavations would range in depth from approximately 71 to 75 feet bgs in isolated areas.

Project construction is anticipated to commence as early as 2021 and be completed as early as 2026, in a single phase, or as late as 2040 if built in separate phases over time. In the event construction is phased, construction of below-grade parking may also be phased.

Attachment B

Mesquit Volume Shift Methodology

To analyze the Project's potential traffic impacts on the surrounding street network, it is necessary to test all scenarios with an operational 6th Street Viaduct included as part of the network. A replacement 6th Street Viaduct is currently under construction. The new 6th Street Viaduct is anticipated to open in 2020. The Project is anticipated to complete construction in 2027. Therefore, to present an accurate picture of the Project's potential impacts and because current existing conditions are not representative of generally existing conditions, it is appropriate to include the reopened bridge as part of the traffic analysis. This modified baseline will be used to assess potential traffic impacts under both existing conditions and as part of future cumulative scenarios.

Empirical data exists to complete this analysis. The Project collected traffic counts in 2018, over two years after the demolition of the old 6th Street Viaduct. These counts reflect traffic patterns that have resulted from travel adjustments in and through the Arts District as a result of the bridge's closure. In order to analyze the network with the bridge in place, these counts had to be "shifted" to reflect traffic patterns with bridge conditions.

Fehr & Peers reviewed intersection count data collected for the proposed 6AM project (6AM) in the immediate study area in 2015 prior to the 6th Street Viaduct closure. Using this data, Fehr & Peers was able to calculate the number of vehicles that had previously traveled along the 6th Street Viaduct during both AM and PM peak hours. Fehr & Peers then compared the 2018 Mesquit counts (post-bridge closure) to the 2015 counts (bridge in operation) to assess the volume shift within the study area. The data indicates that a majority of the 6th Street Viaduct traffic shifted to the 7th Street bridge, with some shifting to the 4th and 1st Street bridges. In addition, the data indicates that some 6th Street Viaduct traffic has shifted to the US-101 freeway to the north and the I-10 freeway to the south, with more vehicles getting on and off at the I-10 ramps at Mateo and Santa Fe and the US-101 ramps at Alameda in 2018 than in 2015 when the 6th Street Viaduct was in operation.

For intersections within the Project study area that overlap with 6AM count locations, the Project will use the 6AM data with a 3 percent growth rate to account for a 1 percent growth rate per year between 2015 and 2018 as the baseline, which reflects traffic patterns for 2018 conditions as if the 6th Street Viaduct were in place. For intersections within the Project study area that do not overlap with the 6AM count locations, Fehr & Peers adjusted the 2018 counts to shift the vehicles temporarily traveling on the identified parallel routes due to the construction closure of the 6th Street Viaduct.

Fehr & Peers validated the shift by comparing the shifted Project volumes to the 6AM counts with a 3 percent growth rate and confirmed the shifted volumes aligned with the counts that were collected when the bridge was in operation. This data supports that the Project's baseline volumes, which include a mix of 6AM counts with a 3 percent growth rate and the Project counts with a shift, are a valid baseline for determining the Project's potential traffic impacts.

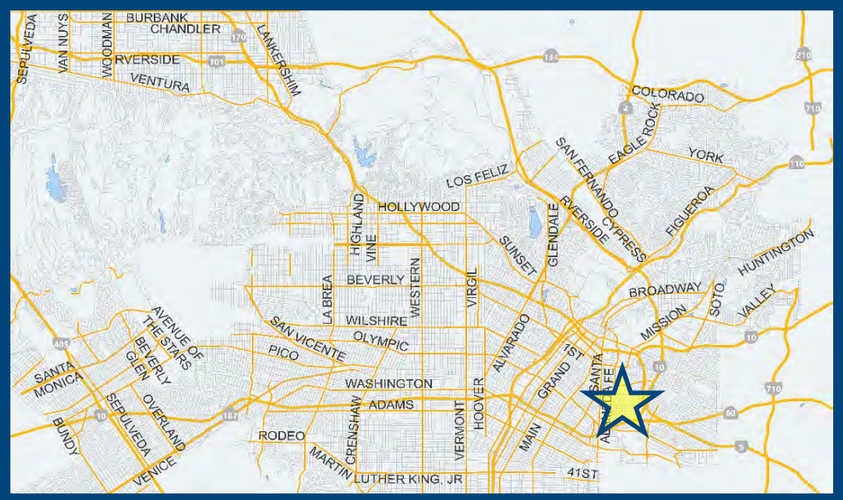
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 670 Mesquit

Scenario: Project Option 1

Address: 670 S MESQUIT ST, 90021



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	155.765	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**Yes**
Max Work Based TDM Achieved?	**No**	**Yes**

- A Parking
- B Transit
- C Education & Encouragement
- D Commute Trip Reductions
- E Shared Mobility
- F Bicycle Infrastructure
- G Neighborhood Enhancement

Traffic Calming Improvements
☐ Proposed Prj ☐ Mitigation
25 percent of streets within project with traffic calming improvements
25 percent of intersections within project with traffic calming improvements

Pedestrian Network Improvements
☑ Proposed Prj ☐ Mitigation
within project and connecting off-site

Analysis Results

Proposed Project	With Mitigation
27,040 Daily Vehicle Trips	**24,484** Daily Vehicle Trips
195,304 Daily VMT	**176,517** Daily VMT
4.0 Household VMT per Capita	**3.3** Household VMT per Capita
6.6 Work VMT per Employee	**5.4** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

Figure 5A

VMT Calculator: Project Option 1

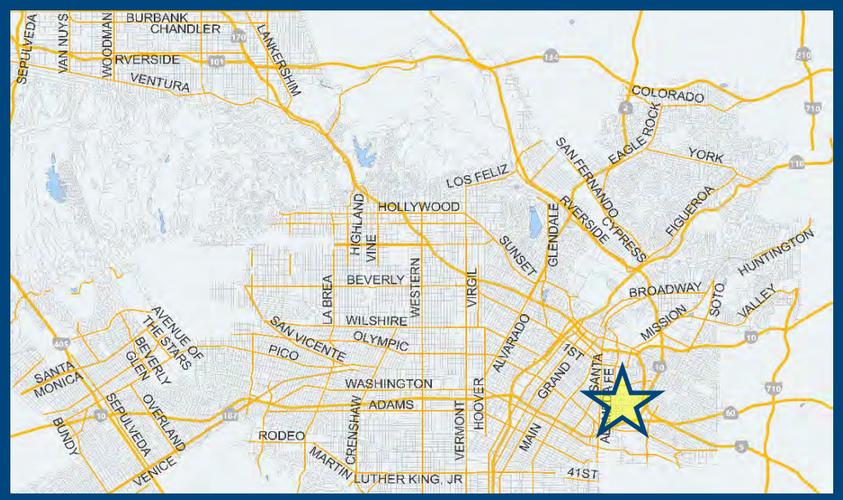
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 670 Mesquit

Scenario: Project Option 2

Address: 670 S MESQUIT ST, 90021



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	173.378	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**Yes**
Max Work Based TDM Achieved?	**No**	**Yes**

- A Parking
- B Transit
- C Education & Encouragement
- D Commute Trip Reductions
- E Shared Mobility
- F Bicycle Infrastructure
- G Neighborhood Enhancement

Traffic Calming Improvements

☐ Proposed Prj ☐ Mitigation — 25 percent of streets within project with traffic calming improvements

☐ Proposed Prj ☐ Mitigation — 25 percent of intersections within project with traffic calming improvements

Pedestrian Network Improvements

☑ Proposed Prj ☐ Mitigation — within project and connecting off-site

Analysis Results

Proposed Project	With Mitigation
27,493 Daily Vehicle Trips	**24,901** Daily Vehicle Trips
198,540 Daily VMT	**179,481** Daily VMT
4.0 Household VMT per Capita	**3.3** Household VMT per Capita
6.6 Work VMT per Employee	**5.4** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

Figure 5B

VMT Calculator: Project Option 2

Appendix B:
TAG Screening Responses and Supporting Analysis

Appendix B: Transportation Analysis Guidelines Screening Responses and Supporting Analysis

(Based on LADOT TAG, July 2020)

Screening Criteria	Screening Evaluation	Analysis Required?
2.1 CONFLICTING WITH PLANS, PROGRAMS, ORDINANCES, OR POLICIES		
If the project requires a discretionary action, and the answer is yes to any of the following questions, further analysis will be required to assess whether the proposed project would negatively affect existing pedestrian, bicycle, or transit facilities: 1. Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent and provisions of the General Plan? 2. Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety? 3. Is the project proposing to, or required to make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)?	1. Yes 2. No 3. Yes	Yes, see Chapter 3.1
2.2 CAUSING SUBSTANTIAL VEHICLE MILES TRAVELED		
If the project requires a discretionary action, and the answer is no to either T-2.1-1 or T-2.1-2, further analysis will not be required for Threshold T-2.1, and a "no impact" determination can be made for that threshold: 1. T-2.1-1: Would the land use project generate a net increase of 250 or more daily vehicle trips? 2. T-2.1-2: Would the project generate a net increase in daily VMT? In addition to the above screening criteria, the portion of, or the entirety of a project that contains small-scale or local serving retail uses13 are assumed to have less than significant VMT impacts. If the answer to the following question is no, then that portion of the project meets the screening criteria and a no impact determination can be made for the portion of the project that contains retail uses. However, if the retail project is part of a larger mixed-use project, then the remaining portion of the project may be subject to further analysis in	1. Yes 2. Yes 3. Yes 4. No	Yes, see Chapter 3.2

accordance with the above screening criteria. Projects that include retail uses in excess of the screening criteria would need to evaluate the entirety of the project's vehicle miles traveled, as specified in Section 2.2.4. 3. If the project includes retail uses, does the portion of the project that contain retail uses exceed a net 50,000 square feet? Independent of the above screening criteria, and the project requires a discretionary action, further analysis will be required if the following statement is true: 4. Would the Project or Plan located within a one-half mile of a fixed-rail or fixed-guideway transit station replace an existing number of residential units with a smaller number of residential units?		
2.3 SUBSTANTIALLY INDUCING ADDITIONAL AUTOMOBILE TRAVEL		
If the answer is no to the following question, further analysis will not be required for Threshold T-2.2, and a no impact determination can be made for that threshold: 1. T-2.2: Would the project include the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle (HOV) lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges (except managed lanes, transit lanes, and auxiliary lanes of less than one mile in length designed to improve roadway safety)?	1. No	No
2.4 SUBSTANTIALLY INCREASING HAZARDS DUE TO A GEOMETRIC DESIGN FEATURE OR INCOMPATIBLE USE		
If the project requires a discretionary action, and the answer is "yes" to either of the following questions, further analysis will be required to assess whether the project would result in impacts due to geometric design hazards or incompatible uses: 1. Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way? 2. Is the project proposing to, or required to make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)?	1. Yes 2. Yes	Yes, see Chapter 3.3
3.2 PEDESTRIAN, BICYCLE, AND TRANSIT ACCESS ASSESSMENT		
If the answer is yes to all of the following questions, further analysis will be required to assess whether the project would negatively affect existing pedestrian, bicycle, or transit facilities: 1. Does the land use project involve a discretionary action that would be under review by the Department of City Planning? 2. Does the land use project include the construction, or addition of:	1. Yes 2. Yes 3. Yes	Yes, see Chapter 4.1

a. 50 dwelling units or guest rooms or combination thereof, or b. 50,000 square feet of non-residential space? 3. Would the project generate a net increase of 1,000 or more daily vehicle trips, or is the project's frontage along an Avenue or Boulevard (as designated in the City's General Plan), 250 linear feet or more, or is the project's building frontage encompassing an entire block along an Avenue or Boulevard (as designated in the City's General Plan)?		
3.3 PROJECT ACCESS, SAFETY, AND CIRCULATION EVALUATION		
Land Use Development Projects: For land use projects, if the answer is yes to all of the following questions, further analysis will be required to assess whether the project would negatively affect project access and circulation: 1. Does the land use project involve a discretionary action that would be under review by the Department of City Planning? 2. Would the land use project generate a net increase of 250 or more daily vehicle trips?	1. Yes 2. Yes	Yes, see Chapter 4.2
3.4 PROJECT CONSTRUCTION		
If the answer is yes to any of the following questions, further analysis will be required to assess if the project could negatively affect existing pedestrian, bicycle, transit, or vehicle circulation: 1. Would a project that requires construction activities to take place within the right-of-way of a Boulevard or Avenue (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than one day (including day and evening hours, and overnight closures if on a residential street?) 2. Would a project require construction activities to take place within the right-of-way of a Collector or Local Street (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than seven days (including day and evening hours, and including overnight closures if on a residential street)? 3. Would in-street construction activities result in the loss of regular vehicle, bicycle, or pedestrian access, including loss of existing bicycle parking to an existing land use for more than one day, including day and evening hours and overnight closures if access is lost to residential units? 4. Would in-street construction activities result in the loss of regular ADA pedestrian access to an existing transit station, stop, or facility (e.g., layover zone) during revenue hours?	1. No 2. No 3. No 4. No 5. No 6. No 7. No	Yes, see Chapter 4.3

5. Would in-street construction activities result in the temporary loss for more than one day of an existing bus stop or rerouting of a bus route that serves the project site? 6. Would construction activities result in the temporary removal and/or loss of on-street metered parking for more than 30 days? 7. Would the project involve a discretionary action to construct new buildings or additions of more than 1,000 square feet that require access for hauling construction materials and equipment from streets of less than 24-feet wide in a hillside area?		
3.5 RESIDENTIAL STREET CUT-THROUGH ANALYSIS		
Land Use Development Projects: If the answer is yes to all of the following questions, further analysis may be required to assess whether the project would negatively affect residential streets: 1. Would the project generate a net increase of 250 or more daily vehicle trips? 2. Does the land use project include a discretionary action that would be under review by the Department of City Planning? In addition, for development projects, when selecting residential street segments for analyses during the transportation assessment scoping process, all of the following conditions must be present: 3. The project is located along a currently congested Boulevard or Avenue and adds trips that may lead to trip diversion to parallel routes along residential Local Streets. The congestion level of the Boulevard or Avenue can be determined based on the estimated peak hour LOS under project conditions of the study intersection(s) (as determined in Section 3.3). LOS E and F are considered to represent congested conditions; 4. The project is projected to add a substantial amount of automobile traffic to the congested Boulevard(s), Avenue(s), or Collector(s) that could potentially cause a shift to alternative route(s); and 5. Nearby local residential street(s) (defined as Local streets as designated in the City's General Plan passing through a residential neighborhood) provide motorists with a viable alternative route. A viable alternative route is defined as one which is parallel and reasonably adjacent to the primary route as to make it attractive as an alternative to the primary route. LADOT has discretion to define which routes are viable alternative routes, based on, but not limited to, features such as geography and presence of existing traffic control devices, etc.	1. Yes 2. Yes 3. No 4. No 5. No	No

Appendix C:
Plans, Programs, Ordinance or Policies Assessment and Geometric Design Hazards Review

Appendix C: 670 Mesquit Project

Detailed Responses in Support of Determining Plans, Programs, Ordinances, or Policies Applicability

Adapted from Attachment D: Plan Consistency Workshop In Transportation Analysis Guidelines, LADOT, July 2020

I. Screening Criteria for Policy Analysis

If the answer is "yes" to any of the following questions, further analysis is required to demonstrate that the project does not conflict with a plan, policy, or program.

Screening Criteria	**Answer**
Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent and provisions of the General Plan?	Yes
Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety?	No
Is the project required to or proposing to make any voluntary modifications to the public right-of-way (i.e., dedications and/or improvements in the right-of-way, reconfigurations of curb line, etc.)?	Yes

II. Plan Consistency Analysis

Question	Guiding Questions	Relevant Plans, Policies, and Programs	Evaluation
A. MOBILITY Plan 2035 PROW Classification Standards for Dedications and Improvements			
A.1	Does the project include additions or new construction along a street designated as a Boulevard I, and II, and/or Avenue I, II, or III on property zoned for R3 or less restrictive zone?	MP 2.1, 2.3, 3.2, and Mobility Plan 2035 Street Designations and Standard Roadway Dimensions	7th Street is designated as an Avenue II along the Project frontage. Per the City of Los Angeles *Complete Streets Design Guide,* the designated right-of-way and roadway widths of an Avenue II are 86' and 56', respectively. 7th Street along the Project frontage has a 72' right-of-way and 56' roadway. The land use designation is M3-1-RIO (River Improvement Overlay District).
A.2	If A.1 is yes, is the project required to make additional dedications or improvements to the Public Right of Way as demonstrated by the street designation?		Based on the designated street widths, the 7th Street right-of-way along the Project frontage would require a dedication.
A.3	If A.2 is yes, is the project making the dedications and improvements as necessary to meet the designated dimensions of the fronting street (Boulevard I, and II, or Avenue I, II, or III)?		The Project does not propose any dedications along 7th Street.
A.4	If the answer to A.3. is NO, is the project applicant asking to waive from the dedication standards?		Given that 7th Street is a bridge along the Project frontage, dedication may not be required.
B. Mobility Plan 2035 PROW Policy Alignment with Project-Initiated Changes			
B.1	Does the project physically modify the curb placement or turning radius and/or physically alter the sidewalk and parkways space that	MP 2.1, 2.3, 3.2, 2.10, and Street Designations and	The Project will install new sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street and include a pedestrian paseo such that the Project would be supportive of and not preclude or conflict with *Mobility Plan 2035* policies such as:

	changes how people access a property?	Standard Roadway Dimensions	2.1 Adaptive Reuse of Streets: Urban streets serve multiple purposes that not only include travel but also play a role in providing other roles such as landscaping and drainage. The Project proposes to vacate the eastern half of Mesquit Street from the southern edge of the LADWP property on the east side of Mesquit Street Jesse Street and all of Mesquit Street from Jesse Street to 7th Street. The Project proposes to convert Mesquit Street from Jesse Street to 7th Street to a pedestrian paseo with limited vehicular access (e.g. for emergency vehicles) that connects Mesquit Street and 7th Street through stairs, elevators, and escalators between Buildings 4 and 5. The Mesquit Paseo would serve multiple purposes by improving bicyclist and pedestrian connectivity with the connection between Mesquit Street and 7th Street and by activating the area with the weekend farmers market. The Project does not propose physical changes to the Mesquit Street roadway from Jesse Street to the southern edge of the LADWP property on the east side of Mesquit Street and will maintain public access. The Project proposes to add street trees around the Project site and new sidewalks along the Project frontage on Mesquit Street from northern end of Building 1 to Jesse Street. 2.3 Pedestrian Infrastructure: This policy recognizes walking as a component of every trip and ensures high quality pedestrian access is considered in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment. The Project proposes several right-of-way improvements to enhance pedestrian access to, from, and around the Project site: • New pedestrian crosswalk on the 7th Street bridge to access the eastern portion of the Project site (near building 4). • New elevated pedestrian walkway from the 7th Street bridge to access the eastern portion of the Project site, which would be replaced by the deck under the Project with the Deck Concept. • New sidewalks along the Project frontage on Mesquit Street from the northern end of Building 1 to Jesse Street • Improvements to pedestrian lighting around the Project site 3.2 People with Disabilities: When designing developments, it is important to accommodate the needs of all people with varying levels of mobility. The Project proposes to add new ADA-compliant sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street. 2.10 Loading Areas: When designing developments, it is important to consider a loading area that minimally impacts other travelers such as people driving or walking. The Project proposes a curbside passenger loading zone along Mesquit Street, in front of Building 1. Passenger loading activity would likely have a minimal impact on the surrounding street network given that the passenger loading zone is designed as a pull-out along the curb with sufficient space for

			passenger pick-up and drop-off. Primary service access would be provided via loading docks located within the ground level of the Project's parking structure. Large truck deliveries would enter and exit the parking structure via the northern driveway on Mesquit Street and have turnaround capability provided within the Project site. A loading area accommodating cars or vans associated with residential and commercial uses would also be accessible via the northern driveway on Mesquit Street.
B.2	Does the project add new driveways along a street designated as an Avenue or a Boulevard that conflict with LADOT's Driveway Design Guidelines?	MP 2.10, PL.1, CDG 2, MPP 321	The Project was analyzed to determine if it conflicts with LADOT's Driveway Design Guidelines in the following ways: • Locating new driveways for residential properties on an Avenue or Boulevard, and access is otherwise possible using an alley or a collector/local street or locating new driveways for industrial or commercial properties on an Avenue or Boulevard and access is possible along a collector/local street ◦ Mobility Plan 2035 program PL.1 encourages vehicular access from non-arterial streets (or alleys). The objective of this program is to minimize interference with pedestrian access and vehicular movement. The two driveways along Mesquit Street conform with PL.1 because Mesquit Street is classified as a Collector street and is proposed to be redesignated as a Local Street - Limited. While the Project proposes two driveways on 7th Street, which is classified as an Avenue II, the Project minimizes interference with pedestrian access and vehicle movement by restricting vehicles from turning left into the eastern driveway on 7th Street and limiting vehicles to egress-only with right-turns out of the western driveway on 7th Street. The eastern driveway on 7th Street would also be signalized to facilitate safe pedestrian access across the 7th Street bridge. Under CEQA, a project is considered consistent with an applicable plan or program if it is consistent with the overall intent of the plan or program and would not preclude the attainment of its primary goals. A project does not need to be in perfect conformity with each and every plan, program, or policy. Therefore, even though the Project proposes driveways on an arterial street, the Project is consistent with the overall intent of program PL.1 to minimize interference with pedestrian access or vehicular movement. Furthermore, given the size of the Project, providing driveways on Mesquit Street and 7th Street facilitates safe and efficient pedestrian access and vehicular movement by distributing site access and taking measures to

			minimize vehicle-pedestrian conflicts rather than concentrating vehicular access on Mesquit Street. Moreover, any inconsistency with an applicable plan, program, or policy is only a significant impact under CEQA if the plan, program, or policy was adopted for the purpose of avoiding or mitigating an environmental effect and the inconsistency itself would result in direct physical impact on the environment. The above policy is intended to implement broader regional goals, not to mitigate an environmental effect. Therefore, although the Project is inconsistent with program PL.1, this inconsistency would not be considered to be a significant impact under CEQA. • The total number of new driveways exceeds 1 driveway per every 200 feet along on the Avenue 2 or Boulevard frontage; locating new driveways on an Avenue or Boulevard within 150 feet from the intersecting street; locating new driveways on a collector or local street within 75 feet from the intersecting street; or locating new driveways near mid-block crosswalks, requiring relocation of the mid-block crosswalk ◦ MPP 321 allows up to two driveways for up to 400 feet of frontage and an additional driveway for every additional 400 feet of frontage. The Project proposes two driveways along Project frontage greater than 400 feet on 7th Street. MPP 321 on the design of driveways also states that on a collector or local street, such as Mesquit Street, driveways should not be placed within 75 feet of the adjacent street. The proposed driveway on the southern end of Mesquit Street is located within 75 feet of the Mesquit Street & Jesse Street intersection as it is directly opposite of the existing end of Jesse Street and would create a fourth leg to the existing 3-legged intersection. MPP 321 further details that driveways at the top of a "T" intersection are to be centered within one foot of the prolongation of the terminating street center line. Therefore, the proposed driveway at Mesquit Street & Jesse Street complies with MPP 321. The driveway on the northern end of Mesquit Street is more than 75 feet away from 6th Street.
B.2.1	Would the physical changes in the public right of way or new driveways that conflict with LADOT's Driveway Design	Mobility Plan 2035: Transit Enhanced Network, Bicycle Enhanced Network,	<u>Pedestrian Enhanced District:</u> Mobility Plan 2035 identifies Pedestrian Enhanced Districts (PED) where initial analysis suggests arterials can be improved and further analysis and prioritization will occur as funding and projects become available. The Project frontage along Mesquit Street from

	Guidelines degrade the experience of vulnerable roadway users such as modify, remove, or otherwise negatively impact existing bicycle, transit, and/or pedestrian infrastructure?	Bicycle Lane Network, Pedestrian Enhanced District, Neighborhood Enhanced Network, High Injury Network, TOC Guidelines	Jesse Street to 6th Street is part of the PED. The Project will not narrow or remove pedestrian facilities and proposes several pedestrian access improvements: • New pedestrian crosswalk on the 7th Street bridge to access the eastern portion of the Project site (near building 4). • New elevated pedestrian walkway from the 7th Street bridge to access the eastern portion of the Project site, which would be replaced by the deck under the Project with the Deck Concept. • New sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street • Improvements to pedestrian lighting around the Project site Neighborhood Enhanced Network: The Neighborhood Enhanced Network (NEN) is a selection of local streets to provide comfortable and safe routes for localized travel of slower-moving modes, such as walking or biking. The Project frontages are not along streets part of the NEN. Transit Network: This policy identifies specific streets as part of the Transit Enhanced Network (TEN) to receive improvements that enhance the performance and reliability of existing and future bus service. The Project frontages are not along streets part of TEN. Bicycle Networks: This policy establishes a Bicycle Enhanced Network (BEN), which is comprised of protected bicycle lanes and bicycle paths, to provide bikeways for a variety of users. The Project frontages are not along any streets part of the BEN. Vision Zero: The Project frontages are not along anyway roadways identified as part of the City's High Injury Network. Transit Oriented Community: The Transit-Oriented Community (TOC) guidelines define parameters of housing incentives based on considerations such as proximity to high-quality transit, type of housing, and the land uses being replaced. The location of the Project site qualifies as Tier 3 per ZIMAS.
B.2.2	Would the physical modifications or new driveways that conflict with LADOT's Driveway Design Guidelines preclude the City from advancing the safety of vulnerable roadway users?		The Project proposes four driveways with two driveways along 7th Street and two driveways along Mesquit Street. The Project does not propose more driveways than allowed by the City's maximum standard and would not preclude the City from advancing the safety of vulnerable roadway users.

C. Network Access			
C1.1	Does the project propose to vacate or otherwise restrict public access to a street, alley, or public stairway?	MP 3.9	The Project proposes a full-width vacation/merger of Mesquit Street from the northerly right-of-way of 7th Street to the southerly right-of-way of Jesse Street. The project also proposes a half-width subsurface merger for the easterly half of Mesquit Street from the southerly right-of-way of Jesse Street to the southerly line of the LADWP property on the east side of Mesquit Street. The Project proposes to convert Mesquit Street between Jesse Street and 7th Street to a pedestrian paseo with limited vehicle access. The paseo would improve pedestrian (and bicyclist) access between Mesquit Street and 7th Street. The Project does not propose physical changes to the Mesquit Street roadway from Jesse Street to 6th Street.
C.1.2	If the answer to C.1.1 is Yes, will the project provide or maintain public access to people walking and biking on the street, alley or stairway?		MP 3.9 Increased Network Access: Streets, alleys, stairways, and other public right-of-ways play an important role in the City's mobility system by facilitating better connectivity. Therefore, this policy discourages the vacation of public rights-of-way on the basis that these types of changes may limit connectivity by increasing block sizes and removing previously accessible travel routes for multimodal activity. This policy focuses on maintaining network access through strategies, such as smaller block sizes to facilitate connectivity for travelers in the area. The Project will not restrict public access to Mesquit Street, other than limiting vehicle access (e.g. for emergency vehicles), to the pedestrian paseo from Jesse Street to 7th Street. Although the pedestrian paseo would limit vehicle access to Mesquit Street from Jesse Street to 7th Street, Mesquit Street currently ends in a cul-de-sac at 7th Street so the conversion to a pedestrian paseo would have little to no impacts on network connectivity or vehicular travel. The conversion to the Mesquit Paseo would improve bicyclist and pedestrian connectivity by creating a new connection between Mesquit Street and 7th Street through stairs, elevators, and escalators between Buildings 4 and 5.
C.2.1	Does the project create a cul-de-sac or is the project located adjacent to an existing cul-de-sac?	MP 3.10	The southern end of Mesquit Street is currently a cul-de-sac that is used for parking under the 7th Street bridge. The Project proposes to convert Mesquit Street from Jesse Street to 7th Street to a pedestrian paseo with limited vehicular access and a view corridor from Mesquit Street to 7th Street with through pedestrian and bicyclist access.
C.2.2	If yes, will the cul-de-sac maintain convenient and direct public access to people walking and biking to the adjoining street network?		MP 3.10 Cul-de-sacs: This policy discourages the use of cul-de-sacs that do not provide access for active transportation options. The southern end of Mesquit Street is currently a cul-de-sac that is used for parking under the 7th Street Bridge. The Project proposes to convert Mesquit Street from Jesse Street to 7th Street to the Mesquit Paseo with limited vehicular access and a view corridor from Mesquit Street to 7th Street with through pedestrian and bicyclist access. The Mesquit Paseo would improve access for people walking and biking by creating convenient and direct public

			access between Mesquit Street and 7th Street through stairs, elevators, and escalators between Buildings 4 and 5, which is currently unavailable as Mesquit Street and 7th Street are currently not connected.
D. Parking Supply and Transportation Demand Management			
D.1	Would the project propose a supply of onsite parking that exceeds the baseline amount as required in the Los Angeles Municipal Code or a Specific plan, whichever requirement prevails?	MP 3.8, 4.8, 4.13	4.13 Parking and Land Use Management: This policy states that excessive parking can incentivize undesirable behavior or result in large areas of vacant land that make it harder to reach destinations without a vehicle. The Project would provide a minimum of 2,000 traditional vehicle parking spaces, with parking for up to 3,500 vehicles using a combination of automated parking systems, valet parking, or other efficiency parking methods. The proposed Mesquit Specific Plan will include parking standards considered appropriate for this area and planned uses, and the Project would provide parking in accordance with those vehicle parking regulations.
D.2	If the answer to D.1. is YES, would the project propose to actively manage the demand of parking by independently pricing the supply to all users (e.g. parking cash-out), or for residential properties, unbundle the supply from the lease or sale of residential units?		4.8 Transportation Demand Management Strategies: This policy encourages greater utilization of Transportation Demand Management Strategies to reduce dependence on single-occupancy vehicles. The Project proposes several features that would actively manage parking demand and dependence on single-occupancy vehicles: • The Project would support multi-modal travel by serving as a mobility hub with car share, bikeshare, bike amenities (e.g. bike parking and bike repair facilities), pedestrian amenities (e.g. new sidewalks, pedestrian lighting, and pedestrian paseo), EV charging stations, and real-time transit information. • The Project will develop a TDM plan during construction, and the final TDM plan will be approved by LADOT prior to the City's issuance of the certificate of occupancy for the Project. Below are several TDM strategies that are applicable to the Project: o Commute Trip Reduction Program – This strategy involves the development of a program targeted towards office workers. This program also includes a promotions and marketing program, detailed below o Promotions and Marketing – This strategy involves the use of marketing and promotional tools to educate and inform employees about site-specific transportation options. This strategy includes a website and possible mobile app for transportation information specific to the Project. o Unbundled Parking – This strategy separately prices parking from leases for commercial tenants and is bundled with employee parking cash-out and pricing workplace parking.

			○ Subsidized Transit Pass – This strategy would provide tenants in the office space with the opportunity to obtain subsidized/discounted daily or monthly public transit passes to use locally/regionally. These passes can be partially or wholly subsidized by the employer. ○ Ride-Sharing Program – This strategy designates a certain percentage of parking spaces for ride-sharing vehicles, designs adequate passenger loading/unloading and waiting areas for ride-sharing vehicles, and provides a website or message board to facilitate coordination of rides. ○ The Applicant proposes to contribute to FASTLink, the Downtown TMO, or to the formation of a new Arts District TMO focused on the area around the Project. The TMO services would be available to anyone within the general Arts District community, not just residents and tenants of the proposed Project, and in this way help to alleviate current and future traffic congestion throughout the area. The Applicant will agree to contribute to the Arts District TMO/Arts District portion of a Downtown TMO following approval of the Project by becoming a member, participating in, and make a one-time contribution of $100,000 to TMO operations and marketing efforts. In addition, the applicant will encourage its office and hotel lessees to become members of the TMO and maintain that membership on an ongoing basis.
D.3	Would the project provide the minimum on and off-site bicycle parking spaces as required by Section 12.21 A.16 of the LAMC?		3.8 Bicycle Parking: The Project will provide a minimum of 288 short-term and 519 long-term bicycle parking spaces, as required by the proposed Mesquit Specific Plan, which would substantially conform to the requirements of Section 12.21 A.16 of the LAMC.
D.4	Does the Project include more than 25,000 square feet of gross floor area construction of new non-residential gross floor?		The Project proposes creative office space (approximately 944,055 sf); 308 multifamily residential housing units; a hotel (236 rooms); and a range of commercial uses including a grocery store (approximately 28,054 sf) and food hall (approximately 28,858 sf); restaurants (approximately 89,576 sf); studio/event/gallery space and a potential museum (approximately 93,617 sf); a gym (approximately 62,148 sf); and general retail (approximately 79,240 sf). The Project may also include the construction of a 3-acre pedestrian amenity deck over the railway property adjacent to the Project site to the east (Project with the Deck Concept).

D.5	If the answer to D.4. is YES, does the project comply with the City's TDM Ordinance in Section 12.26 J of the LAMC?		The Project complies with the City's TDM Ordinance with its site design elements and TDM plan. The following site design elements and applicable potential TDM strategies would fulfill the requirements of the TDM Ordinance: • Mobility Hub • Commute Trip Reduction Program • Promotions and Marketing • Ride-Sharing Program • Bicycle Parking consistent with the proposed Mesquit Specific Plan • Passenger Loading Zones • Enhancements to nearby bus stops • New sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street • Paseo on Mesquit Street with limited vehicle access • Pedestrian deck under the Project with the Deck Concept
E. Consistency with Regional Plans			
E.1	Does the Project or Plan apply one the City's efficiency-based impact thresholds (i.e. VMT per capita, VMT per employee, or VMT per service population) as discussed in Section 2.2.3 of the TAG?		Yes, the Project applied VMT per capita for the residential component and VMT per employee for the office component.
E.2	E.2 If the Answer to E.1 is YES, does the Project or Plan result in a significant VMT impact?		The Project does not result in a significant VMT impact for VMT per capita or VMT per employee.
E.3	If the Answer to E.1 is NO, does the Project result in a net increase in VMT?		The City of Los Angeles' citywide travel demand forecasting model was run to evaluate the potential for the proposed retail uses to result in a net increase in VMT. The Project with the Deck Concept includes more land uses and programming and results in a higher VMT than the Project. Therefore, the Project with the Deck Concept's results are described in detail to be conservative. The City's model estimated a total daily VMT of 96,866,000 miles within a 12-mile radius of the Project TAZ when run without the retail components of the Project with the Deck Concept. With all the Project with the Deck Concept retail uses included, the model estimated a total daily VMT of 96,898,000 miles within a 12-mile radius of the Project TAZ. This is a net increase of 32,000 daily miles, or a 0.03% increase from the network before the retail was added. This increase in VMT is

			considered to be an unavoidable significant impact, due to the significance criteria identifying an impact when any increase in VMT due to retail occurs.
E.4	4 If the Answer to E.2 or E.3 is YES, then further evaluation would be necessary to determine whether such a project or land use plan would be shown to be consistent with VMT and GHG reduction goals of the SCAG RTP/SCS		As noted in Question E.3, the Project is projected to have a significant impact on retail VMT. Given its location in a dense area of the City of Los Angeles served by public transit, the mixed-use nature of the Project, its provision of features to encourage walking and bicycling, and its proposed implementation of a TDM plan (as described below), however, the Project would be consistent with the applicable goals and objectives of the SCAG 2020-2045 RTP/SCS (SCAG, September 2020) to locate diverse jobs and housing in infill locations served by multiple transportation options and promote sustainable transportation options. Therefore, the Project's cumulative impact on VMT would not be significant.

Review of Consistency with Current Central City North Community Plan

The Central City North Community Plan was adopted in 2000 and amended in 2016 as part of the Mobility Plan 2035 Update. While an updated Community Plan is currently under development, the plan from 2016 is currently in effect and forms the basis for this review of conflicts relating to the transportation system.

The Central City North Community Plan (CCNCP) is one of 35 community plans in the City of Los Angeles that establishes the policies and programs that inform the framework for local land use, circulation, and service systems within the selected community plan area. Per the City's TAG, a review of the CCNCP was conducted to evaluate whether the project conflicts with or precludes the implementation of the community plan framework.

The CCNCP contains transportation-related objectives, policies, and programs in Chapter III, Land Use Plan Policies and Programs. The following objectives, policies, and programs are relevant to the Project:

Policy 2-2.2 New development needs to add to and enhance the existing pedestrian street activity (III-6).

- The Project supports this policy by proposing several pedestrian access improvements:
    - Add new pedestrian crosswalk on the 7th Street bridge for people walking to access the eastern portion of the Project site (near Building 4).
    - Add new elevated pedestrian walkway from the 7th Street bridge for people walking to access the eastern portion of the Project site, which would be replaced by the deck under the Project with the Deck Concept.

- Add four major pedestrian passageways (Entry Plazas) between Mesquit Street and the eastern edge of the Project site that would visually connect Boyle Heights, the Los Angeles River, the Arts District, and greater Downtown. The Entry Plazas would be located between each of Buildings 1 through 5.
- Add new sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street.
- Improve pedestrian lighting around the Project site.

Policy 2-2.3 and 2-3.4 Require that the first-floor street frontage of structures, including mixed use projects and parking structures located in pedestrian oriented districts, incorporate commercial uses (III-6).

- While the Project is not located in a designated pedestrian oriented district, the Project proposes a variety of commercial uses for the ground floor of the building. The following are uses proposed for the ground floor of each building: Building 1 would have the residential lobby and hotel lobby, Building 2 would have the office lobby and retail, Building 3 would have the studio/event/gallery lobby and retail, and Buildings 4 and 5 would have access to the parking garage.

Policy 2-3.1 New development needs to add to and enhance the existing pedestrian activity (III-6).

- The Project proposes several pedestrian access improvements. The Project would add new pedestrian crosswalks on the 7th Street Bridge for people walking to access the eastern portion of the Project Site near Building 4. The Project would also add the Elevated Pedestrian Walkway from the 7th Street Bridge, which would be replaced by the deck under the Project with the Deck Concept, for people wanting to access the eastern portion of the Project Site. Four major pedestrian passageways (Entry Plazas) are proposed between Mesquit Street and the eastern edge of the Project Site that would visually connect Boyle Heights, the Los Angeles River, the Arts District, and greater Downtown. The Entry Plazas would be located between each of Buildings 1 through 5. The Project would also add new sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street, and improve the pedestrian lighting around the Project Site.

A Transportation Improvement and Mitigation Plan (TIMP), was prepared for the CCNCP through an analysis of the land use impacts on transportation. The TIMP establishes a program of specific measures which are recommended to be undertaken during the life of the Community Plan. The TIMP provides an implementation program for the circulation needs of the Plan area. The following TIMP programs were reviewed to determine Project consistency with the CCNCP:

Street Reclassifications: The TIMP proposes the implementation of a new street classification, local industrial, in the Central City North area (III-17). None of the streets along the Project frontages are classified as local industrial.

Transportation Demand Management (TDM) Program: The TIMP identifies TDM programs and other improvements to enhance safety and mobility in the Central City North area, such as encouraging the formation of Transportation Management Associations (TMA's) and the continued implementation of the Citywide TDM Ordinance (III-20). The following policies are relevant to the Project:

- Policy 12-1.1 encourages non-residential development to provide employee incentives for utilizing alternatives to the automobile (III-21)
    - The Project will develop a TDM plan prior to issuance of building permits, and the final TDM plan will be approved by LADOT prior to the City's issuance of the certificate of occupancy for the Project. The following TDM strategies are applicable as mitigation for the office component:
        - Commute Trip Reduction Program – This strategy involves the development of a program targeted towards office workers. This program also includes a promotions and marketing program, detailed below.
        - Promotions and Marketing – This strategy involves the use of marketing and promotional tools to educate and inform employees about site-specific transportation options. This strategy includes a website and possible mobile app for transportation information specific to the Project.
        - Unbundled Parking – This strategy separately prices parking from leases for commercial tenants and is bundled with employee parking cash-out and pricing workplace parking.
        - Subsidized Transit Pass – This strategy would provide tenants in the office space with the opportunity to obtain subsidized/discounted daily or monthly public transit passes to use locally/regionally. These passes can be partially or wholly subsidized by the employer.
        - Ride-Sharing Program – This strategy designates a certain percentage of parking spaces for ride-sharing vehicles, designs adequate passenger loading/unloading and waiting areas for ride-sharing vehicles, and provides a website or message board to facilitate coordination of rides.
        - Transportation Management Organization (TMO) – This strategy involves a TMO, which is an organization that oversees the development, implementation, and operation of trip reduction strategies within a study area. The Applicant proposes to contribute to FASTLink, the Downtown TMO, or to the formation of a new Arts District TMO focused on the area around the Project. The TMO services would be available to anyone within the general Arts District community, not just residents and tenants of the proposed Project, and in this way help to alleviate current and future traffic congestion throughout the area. The Applicant will agree to contribute to the Arts District TMO/Arts District portion of a Downtown TMO following

approval of the Project by becoming a member, participating in, and make a one-time contribution of $100,000 to TMO operations and marketing efforts. In addition, the applicant will encourage its office and hotel lessees to become members of the TMO and maintain that membership on an ongoing basis.

- Policy 12-1.3 requires that proposals for major new non-residential development projects include submission of a TDM Plan to the City (III-21)
    - As described for Policy 12-1.1, the Project will develop a TDM plan during construction.
    - Policy 12-1.4 states that TDM measures in Central City North should be consistent with adopted City policy As discussed in Section 3.2 of the Transportation Assessment and shown in Appendix G, LADOT's VMT Calculator was used to quantify the potential VMT reduction for the Project due to implementation of the TDM measures proposed for the Project. The VMT Calculator incorporates research conducted by Fehr & Peers under contract to the California Air Pollution Control Officers Association (CAPCOA, 2010) and elsewhere. It considers a variety of TDM strategies and the setting in which they may apply, estimates effectiveness for each, and applies caps when appropriate (for example, simply aggregating the effectiveness of individual TDM measures can sometimes yield a result that is overestimated since more than one measure may be targeting the same trip). As shown in Table 19A and 19B in the report, with the TDM program, the vehicles trips generated by the commercial office component of the projects are estimated to be reduced by 18%.

The CCNCP also provides for various modes of non-motorized transportation/circulation such as walking and bicycle riding by establishing policies and standards to facilitate the development of a bicycle route system which is intended to compliment other transportation modes. The following policies are relevant to the Project:

Policy 13.1.4 encourages the provision of changing rooms, showers, and bicycle storage at new and existing and non-residential developments and public places (III-25).

- The Project will provide showers and a minimum of 288 short-term and 519 long-term bicycle parking spaces as required by the proposed Mesquit Specific Plan, which would also conform to the requirements of Section 12.21 A.16 of the LAMC. The Project would also provide a self-service bike repair area.

Relevant policies in Chapter V, Urban Design, were also reviewed to assess the Project's consistency with the CCNCP.

Design Policies for Individual Projects

- C. Multiple Residential – 1. Site Planning requires all multi-family residential projects of five or more units to be designed around a landscaped focal point or courtyard to serve as an amenity for residents (V-4).
    - The Project proposes a landscaped pedestrian paseo on Mesquit Street between Jesse Street and 7th Street that would be accessible to not only residents, employees, and patrons but also to the neighborhood. The Project also proposes several gardens on several buildings, such as a productive garden on Building 2, a sculpture garden on Building 3, and a desert pollinator garden and public plaza flex deck on Building 4. The Project with the Deck Concept also proposes a deck that would not only be open to the public but also host outdoor programmatic elements, such as a weekly farmers market, group exercise classes, and busking.
- C. Multiple Residential – 3. Parking Structures requires that parking structures be integrated with the design of the buildings they serve (V-4).
    - The Project proposes a subterranean parking structure, with some ground floor parking, which will maximize commercial uses on the ground floor as suggested in this policy.

Detailed Responses for 2.4 Substantially Increasing Hazards Due to A Geometric Design Feature or Incompatible Use

Adapted from Section 2.4 in Transportation Analysis Guidelines, LADOT, July 2020

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle/vehicle, vehicle/bicycle, or vehicle/pedestrian conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site. These conflicts may be created by the driveway configuration or through the placement of project driveway(s) in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to busy or congested intersections. These impacts are typically evaluated for permanent conditions after project completion but can also be evaluated for temporary conditions during project construction. If the project requires a discretionary action, and the answer is "yes" to either of the following questions, further analysis will be required to assess whether the project would result in impacts due to geometric design hazards or incompatible uses:

Screening Criteria

- Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way?
    - Yes, the Project proposes new driveways and to introduce new vehicle access to the property from the public right-of-way. The Project would reduce the total number of vehicle access points to 4 driveways as there are currently three driveways and five loading docks on the existing frontage along Mesquit Street south of Jesse Street for loading and unloading at the existing cold storage facility.

- Is the project proposing to, or required to make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)?
    - The Project is not proposing to make any dedications. 7th Street is designated as an Avenue II and has an existing right-of-way width that is narrower than the Avenue II specification. However, given that 7th Street is a bridge along the Project frontage, a dedication may not be required. Mesquit Street is designated as a Collector street and has existing right-of-way and roadway widths that are narrower than the Collector street specification. However, given that the Project is proposing a full-width vacation/merger of Mesquit Street between 7th Street and the southern edge of Jesse Street and a half-width subsurface merger of the easterly half of Mesquit Street from that point to the southern edge of the LADWP property on the east side of Mesquit Street, the Project does not propose any dedications along Mesquit Street. The Project is proposing to add sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street as the existing sidewalk network around the Project site is not complete.

Assessing Project Impacts

Project access points, internal circulation, and parking access were reviewed to assess vehicle, bicycle, and pedestrian safety impacts from an operational and safety perspective (e.g. turning radii, driveway queuing, and line of sight for turns into and out of project driveway[s]) through the lens of Threshold T-3:

> Threshold T-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Operational and safety issues related to the potential for vehicle/pedestrian and vehicle/bicycle conflicts and the severity of consequences that could result were considered for locations where project driveways would cross pedestrian facilities or bicycle facilities (bike lanes or bike paths). Preliminary project access plans were reviewed through the lens of commonly accepted traffic engineering design standards (e.g. Section 321 of LADOT's Manual of Policies and Procedures, which provides guidance on driveway design) to ascertain whether any deficiencies are apparent in the site access plans which would be considered significant. The determination of significance considered the following factors:

- The relative amount of pedestrian activity at project access points.
    - The Project site is located in a primarily industrial area with limited commercial development. The Project collected pedestrian counts at the intersections of 7th Street & Santa Fe Avenue and Mesquit Street & Jesse Street, which are the closest intersections to the Project driveways. The 7th Street & Santa Fe Avenue intersection had low pedestrian activity with 125 pedestrians observed in the AM peak period and 176 pedestrians observed in the PM peak period. The Mesquit Street & Jesse Street intersection also had low pedestrian activity with 10 pedestrians observed in the AM peak period and 3 pedestrians observed in the PM peak period. The Project will contribute to improving walkability with enhancements to the Project site, such as proposing to add new sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street.

- Design features/physical configurations that affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.
    - Pedestrian access to the Project site would be provided via new sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street, a signalized driveway with a crosswalk across the 7th Street bridge, and pedestrian walkways accessible to the neighborhood. Residents, visitors, patrons and employees arriving to the Project site by bicycle would have the same access opportunities as pedestrians and would be able to utilize on-site bicycle parking facilities. The Project's access locations would be designed to City standards and would provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls that meet the City's requirements to protect pedestrian safety. All roadways and driveways will intersect at right angles. Streets would have trees and other potential impediments to adequate driver and pedestrian visibility would be minimal. Pedestrian entrances separated from vehicular driveways would provide access from the adjacent streets, parking facilities, and transit stops.

- The type of bicycle facilities the project driveway(s) crosses and the relative level of utilization.
    - There are no existing or planned bicycle facilities along Mesquit Street or 7th Street. Bicyclists traveling eastbound on 7th Street would cross the signalized driveway and right-out-only driveway on 7th Street. The counts collected at 7th Street & Santa Fe Avenue show 16 bicyclists in the AM peak and 4 bicyclists in the PM peak periods traveling eastbound on 7th Street. Bicyclists traveling eastbound on 7th Street would have minimal conflicts with vehicles at the driveways (just vehicles turning right) since one of the driveways is signalized with restricted left-turns into the driveway and the other driveway is right-out-only. Bicyclists traveling on Mesquit Street would cross the driveways located along Mesquit Street at Jesse Street and at the northern end of the Project site. The counts collected at Mesquit Street & Jesse Street show 5 cyclists in the AM peak and 7 cyclists in the PM peak. Given that vehicles traveling on Mesquit Street will primarily be Project traffic and there will be less vehicle access points than currently present, the Project is not projected to an increase of conflicts for this factor.

- The physical conditions of the site and surrounding area, such as curves, slopes, walks, landscaping or other barriers, that could result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle impacts.
    - The streets surrounding the Project site are mostly flat and do not curve. The only street that is not flat is the 7th Street bridge. People driving westbound on 7th Street toward the Project site would have limited visibility as they approach the top of 7th Street bridge. The Project proposes to install a signal for the driveway on 7th Street; this signalized driveway has a crosswalk to facilitate pedestrians crossing 7th Street. The Project would contribute to minimizing vehicle/pedestrian, vehicle/bicycle, and vehicle/vehicle impacts by providing designated pedestrian space with the new sidewalks along the frontage on Mesquit Street from the northern end of Building 1 to Jesse Street and locating driveways at right angles to avoid visibility challenges. The driveway along Mesquit Street at Jesse Street is sloped for vehicles to enter and exit the subterranean parking garage. Drivers exiting the subterranean parking garage may have limited visibility of pedestrians crossing the driveway. The Project could implement blind spot mirrors to improve driver visibility and warning sounds/lights to alert pedestrians of approaching vehicles. The Project would locate driveways at right angles to avoid visibility challenges once vehicles have exited the subterranean parking garage.

- The project location, or project-related changes to the public right-of-way, relative to proximity to the High Injury Network or a Safe Routes to School program area.
    - There are no streets along the Project's frontage that are on the High Injury Network, and the Project is not located in a Safe Routes to School program area.

- Any other conditions, including the approximate location of incompatible uses that would substantially increase a transportation hazard.
    - While the Project is located in a primarily industrial area, the Project area is undergoing a shift from primarily industrial uses to more residential and commercial (e.g. restaurants and retail) uses; the Project proposes a mix of land uses and site amenities that is in line with the ongoing shift in land uses. The Project's multimodal amenities and location of driveways would not substantially increase transportation hazards.

Cumulative Impacts

The nearest related project to the Project site is a mixed-use office, retail, and restaurant project at 640 South Santa Fe Avenue called "Produce LA," located across Mesquit Street from the proposed Project. This project, currently under construction, will maintain the existing sidewalks along its frontages along Santa Fe Avenue and Mesquit Street and has replaced the existing sidewalk along its frontages along Jesse Street. This related project proposes an all-access driveway, with the exception of outbound left turns, on South Santa Fe Avenue and an inbound-only driveway on Mesquit Street. No cumulative impacts with the Project driveways on Mesquit are anticipated as the majority of the related project driveway activity will likely occur on South Santa Fe Avenue based on the proposed driveways. Therefore, traffic volumes for the Project and related Project would be distributed on multiple streets rather than concentrated on Mesquit Street. Other related projects located farther from the Project site would not share adjacent street frontages with the Project site.

Appendix D:
VMT Analysis Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

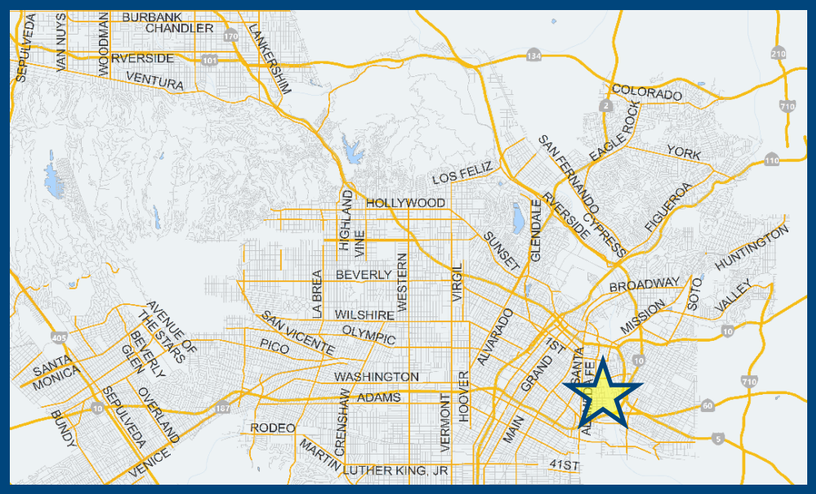
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 670 Mesquit

Scenario: Project Option 1 www

Address: 670 S MESQUIT ST, 90021



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ◉ No

Existing Land Use

Land Use Type	Value	Unit
Industrial | Warehousing/Self-Storage	205.4	ksf
Industrial | Warehousing/Self-Storage	205.4	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Housing | Affordable Housing - Family	50	DU
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	155.765	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed Project
428 Daily Vehicle Trips	27,939 Daily Vehicle Trips
3,135 Daily VMT	201,804 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	27,511 Net Daily Trips
The net increase in daily VMT ≤ 0	198,669 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	386.176 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

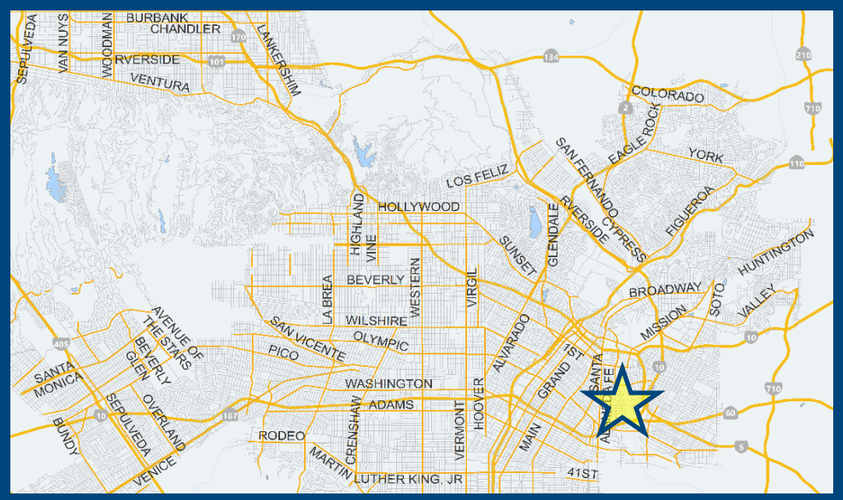
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 670 Mesquit

Scenario: Project Option 1

Address: 670 S MESQUIT ST, 90021



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	155.765	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

TDM Strategies

Select each section to show individual strategies

Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**Yes**
Max Work Based TDM Achieved?	**No**	**Yes**

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure
- **G** Neighborhood Enhancement

Traffic Calming Improvements

☐ Proposed Prj ☐ Mitigation

25 percent of streets within project with traffic calming improvements

25 percent of intersections within project with traffic calming improvements

Pedestrian Network Improvements

☑ Proposed Prj ☐ Mitigation

within project and connecting off-site

Analysis Results

Proposed Project	With Mitigation
27,040 Daily Vehicle Trips	**24,484** Daily Vehicle Trips
195,304 Daily VMT	**176,517** Daily VMT
4.0 Household VMT per Capita	**3.3** Household VMT per Capita
6.6 Work VMT per Employee	**5.4** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

6/30/2020

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

Project Information			
Land Use Type		**Value**	**Units**
Housing	*Single Family*	*0*	*DU*
	Multi Family	258	DU
	Townhouse	*0*	*DU*
	Hotel	236	Rooms
	Motel	*0*	*Rooms*
Affordable Housing	Family	50	DU
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	General Retail	79.240	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	32.737	ksf
	Bank	*0.000*	*ksf*
	Health Club	155.765	ksf
	High-Turnover Sit-Down Restaurant	44.788	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	73.646	ksf
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	General Office	944.055	ksf
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*
Other		*0*	*Trips*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

Analysis Results			
Total Employees: 4,813 Total Population: 738			
Proposed Project		***With Mitigation***	
27,040	**Daily Vehicle Trips**	**24,484**	**Daily Vehicle Trips**
195,304	**Daily VMT**	**176,517**	**Daily VMT**
4	**Household VMT per Capita**	**3.3**	**Household VMT per Capita**
6.6	**Work VMT per Employee**	**5.4**	**Work VMT per Employee**

Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average Household = 6.0 Work = 7.6			
Proposed Project		***With Mitigation***	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	*Reduce parking supply*	*City code parking provision (spaces)*	*0*	*0*
		Actual parking provision (spaces)	*0*	*0*
	Unbundle parking	Monthly cost for parking ($)	*$0*	$125
	Parking cash-out	Employees eligible (%)	*0%*	50%
	Price workplace parking	Daily parking charge ($)	*$0.00*	$6.00
		Employees subject to priced parking (%)	*0%*	50%
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	Employees and residents eligible (%)	*0%*	100%
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	$0.75
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	Employees and residents participating (%)	*0%*	100%

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	Required commute trip reduction program	Employees participating (%)	*0%*	90%
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	Car share	Car share project setting (Urban, Suburban, All Other)	*0*	Urban + Comprehensive Transit
	Bike share	Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)	*0*	Yes
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	Includes indoor bike parking/lockers, showers, & repair station (Yes/No)	Yes	Yes
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	Included (within project and connecting off-site/within project only)	within project and connecting off-site	within project and connecting off-site

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	*0%*	15%	*0%*	*0%*	*0%*	15%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Parking cash-out	*0%*	*0%*	*0%*	2%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Price workplace parking	*0%*	*0%*	*0%*	3%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Residential area parking permits	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	
Transit	Reduce transit headways	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Transit subsidies	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	
Education & Encouragement	Voluntary travel behavior change program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	*0%*	
Commute Trip Reductions	Required commute trip reduction program	*0%*	*0%*	*0%*	19%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Employer sponsored vanpool or shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Ride-share program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Shared Mobility	Car-share	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	
	School carpool program	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	*Implement/ Improve on-street bicycle facility*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
Neighborhood Enhancement	*Traffic calming improvements*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement sections 1 - 2
	Pedestrian network improvements	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*3%*	*24%*	*3%*	*32%*	*3%*	*24%*	*3%*	*11%*	*3%*	*11%*	*3%*	*7%*
MAX. TDM EFFECT	*3%*	*20%*	*3%*	*20%*	*3%*	*20%*	*3%*	*11%*	*3%*	*11%*	*3%*	*11%*

= Minimum (X%, 1-[(1-A)*(1-B)…])
where X%=

PLACE TYPE MAX:	*urban*	*75%*
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,…). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	274	-67.5%	89	7.4	2,028	659
Home Based Other Production	758	-40.9%	448	5.3	4,017	2,374
Non-Home Based Other Production	6,706	-4.6%	6,400	7.9	52,977	50,560
Home-Based Work Attraction	5,306	-26.6%	3,893	8.4	44,570	32,701
Home-Based Other Attraction	15,689	-30.1%	10,965	6.5	101,979	71,273
Non-Home Based Other Attraction	6,438	-4.6%	6,144	7.2	46,354	44,237

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-3.2%	86	638	-20.0%	71	527
Home Based Other Production	-3.2%	434	2,298	-20.0%	358	1,899
Non-Home Based Other Production	-3.2%	6,194	48,931	-10.9%	5,701	45,037
Home-Based Work Attraction	-3.2%	3,768	31,648	-20.0%	3,114	26,161
Home-Based Other Attraction	-3.2%	10,612	68,977	-10.9%	9,767	63,488
Non-Home Based Other Attraction	-3.2%	5,946	42,812	-10.9%	5,473	39,405

MXD VMT Methodology Per Capita & Per Employee

Total Population: 738
Total Employees: 4,813
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**2,936**	**2,426**
Total Home Based Work Attraction VMT	**31,648**	**26,161**
Total Home Based VMT Per Capita	**4.0**	**3.3**
Total Work Based VMT Per Employee	**6.6**	**5.4**

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

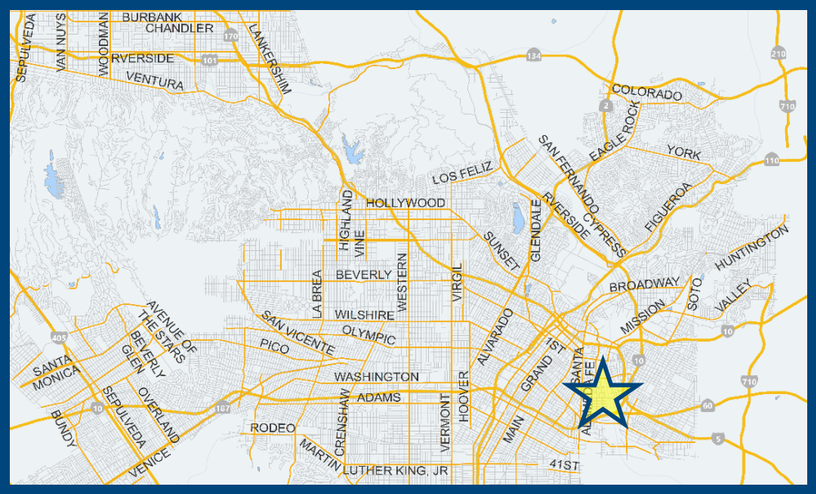
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 670 Mesquit

Scenario: Project Option 2 www

Address: 670 S MESQUIT ST, 90021



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ◉ No

Existing Land Use

Land Use Type	Value	Unit
Industrial | Warehousing/Self-Storage	205.4	ksf
Industrial | Warehousing/Self-Storage	205.4	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | Health Club	173.378	ksf
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	173.378	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed Project
428 Daily Vehicle Trips	28,408 Daily Vehicle Trips
3,135 Daily VMT	205,148 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	27,980 Net Daily Trips
The net increase in daily VMT ≤ 0	202,013 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	403.789 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

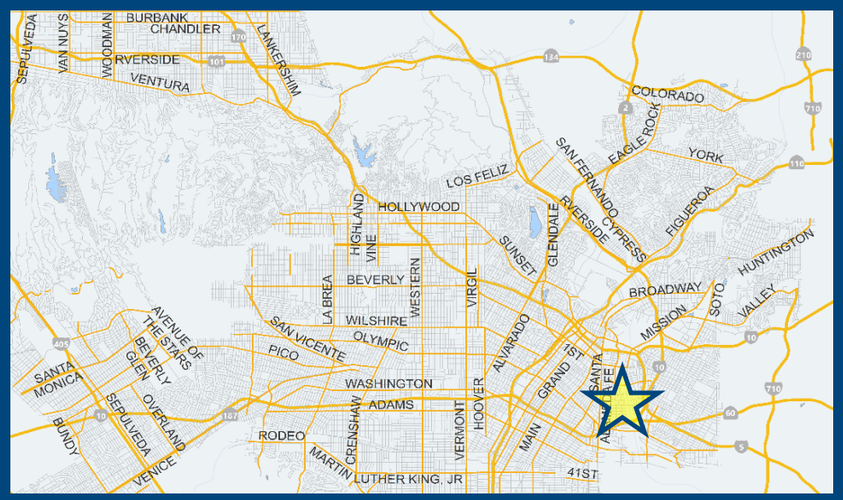
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 670 Mesquit

Scenario: Project Option 2

Address: 670 S MESQUIT ST, 90021



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	173.378	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**Yes**
Max Work Based TDM Achieved?	**No**	**Yes**

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure
- **G** Neighborhood Enhancement

Traffic Calming Improvements

☐ Proposed Prj ☐ Mitigation

25 percent of streets within project with traffic calming improvements

25 percent of intersections within project with traffic calming improvements

Pedestrian Network Improvements

☑ Proposed Prj ☐ Mitigation

within project and connecting off-site

Analysis Results

Proposed Project	With Mitigation
27,493 Daily Vehicle Trips	**24,901** Daily Vehicle Trips
198,540 Daily VMT	**179,481** Daily VMT
4.0 Household VMT per Capita	**3.3** Household VMT per Capita
6.6 Work VMT per Employee	**5.4** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

6/30/2020

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

Project Information			
Land Use Type		**Value**	**Units**
Housing	*Single Family*	*0*	*DU*
	Multi Family	258	DU
	Townhouse	*0*	*DU*
	Hotel	236	Rooms
	Motel	*0*	*Rooms*
Affordable Housing	Family	50	DU
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	General Retail	79.240	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	32.737	ksf
	Bank	*0.000*	*ksf*
	Health Club	173.378	ksf
	High-Turnover Sit-Down Restaurant	44.788	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	73.646	ksf
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	General Office	944.055	ksf
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*
Other		*0*	*Trips*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

Analysis Results			
Total Employees: 4,831 Total Population: 738			
Proposed Project		***With Mitigation***	
27,493	**Daily Vehicle Trips**	**24,901**	**Daily Vehicle Trips**
198,540	**Daily VMT**	**179,481**	**Daily VMT**
4	**Household VMT per Capita**	**3.3**	**Household VMT per Capita**
6.6	**Work VMT per Employee**	**5.4**	**Work VMT per Employee**

Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average Household = 6.0 Work = 7.6			
Proposed Project		***With Mitigation***	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	*Reduce parking supply*	*City code parking provision (spaces)*	*0*	*0*
		Actual parking provision (spaces)	*0*	*0*
	Unbundle parking	Monthly cost for parking ($)	*$0*	$125
	Parking cash-out	Employees eligible (%)	*0%*	50%
	Price workplace parking	Daily parking charge ($)	*$0.00*	$6.00
		Employees subject to priced parking (%)	*0%*	50%
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	Employees and residents eligible (%)	*0%*	100%
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	$0.75
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	Employees and residents participating (%)	*0%*	100%

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	Required commute trip reduction program	Employees participating (%)	*0%*	90%
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	Car share	Car share project setting (Urban, Suburban, All Other)	*0*	Urban + Comprehensive Transit
	Bike share	Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)	*0*	Yes
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	Includes indoor bike parking/lockers, showers, & repair station (Yes/No)	Yes	Yes
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	Included (within project and connecting off-site/within project only)	within project and connecting off-site	within project and connecting off-site

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	*0%*	15%	*0%*	*0%*	*0%*	15%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Parking cash-out	*0%*	*0%*	*0%*	2%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Price workplace parking	*0%*	*0%*	*0%*	3%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Residential area parking permits	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	
Transit	Reduce transit headways	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Transit subsidies	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	
Education & Encouragement	Voluntary travel behavior change program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	*0%*	
Commute Trip Reductions	Required commute trip reduction program	*0%*	*0%*	*0%*	19%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Employer sponsored vanpool or shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Ride-share program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Shared Mobility	Car-share	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	
	School carpool program	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement sections 1 - 2
	Pedestrian network improvements	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*3%*	*24%*	*3%*	*32%*	*3%*	*24%*	*3%*	*11%*	*3%*	*11%*	*3%*	*7%*
MAX. TDM EFFECT	*3%*	*20%*	*3%*	*20%*	*3%*	*20%*	*3%*	*11%*	*3%*	*11%*	*3%*	*11%*

= Minimum (X%, 1-[(1-A)*(1-B)…])
where X%=

PLACE TYPE MAX:	*urban*	*75%*
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,…). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	274	-67.5%	89	7.4	2,028	659
Home Based Other Production	758	-41.0%	447	5.3	4,017	2,369
Non-Home Based Other Production	6,835	-4.6%	6,523	7.9	53,997	51,532
Home-Based Work Attraction	5,331	-26.6%	3,912	8.4	44,780	32,861
Home-Based Other Attraction	15,985	-30.1%	11,170	6.5	103,903	72,605
Non-Home Based Other Attraction	6,567	-4.6%	6,267	7.2	47,282	45,122

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-3.2%	86	638	-20.0%	71	527
Home Based Other Production	-3.2%	433	2,293	-20.0%	358	1,895
Non-Home Based Other Production	-3.2%	6,313	49,872	-10.9%	5,810	45,903
Home-Based Work Attraction	-3.2%	3,786	31,802	-20.0%	3,130	26,289
Home-Based Other Attraction	-3.2%	10,810	70,266	-10.9%	9,950	64,674
Non-Home Based Other Attraction	-3.2%	6,065	43,669	-10.9%	5,582	40,193

MXD VMT Methodology Per Capita & Per Employee

Total Population: 738
Total Employees: 4,831
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**2,931**	**2,422**
Total Home Based Work Attraction VMT	**31,802**	**26,289**
Total Home Based VMT Per Capita	**4.0**	**3.3**
Total Work Based VMT Per Employee	**6.6**	**5.4**

Appendix E:
Intersection Count Sheets

Intersection Counts

April 2018

Prepared by National Data & Surveying Services

S Central Ave & 7th St

Peak Hour Turning Movement Count

ID: 18-05238-006
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS

AM: 08:15 AM - 09:15 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

S Central Ave — SOUTHBOUND

AM	102	632	26	0	506	AM
NOON	0	0	0	0	0	NOON
PM	48	620	42	0	902	PM
	0	2	0	0		

7th St — EASTBOUND

AM	NOON	PM	
1152	0	649	
0	0	0	0
26	0	60	1
275	0	727	2
57	0	66	0
AM	NOON	PM	

CONTROL

Signalized

TEV	2970	0	3322
	AM	NOON	PM
PHF	0.97		0.96

7th St — WESTBOUND

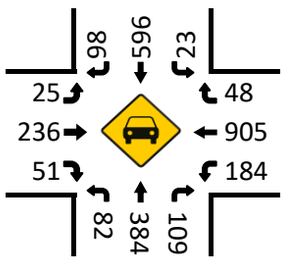
PM	NOON	AM	
68	0	68	0
545	0	957	2
104	0	201	1
0	0	0	0
981	0	422	
PM	NOON	AM	

0 1 2 0

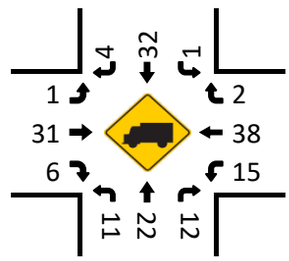
PM	790	0	56	774	212	PM
NOON	0	0	0	0	0	NOON
AM	890	0	93	412	121	AM

NORTHBOUND — S Central Ave

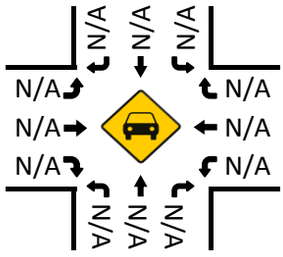
Cars (AM)



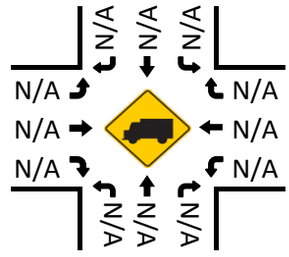
HT (AM)



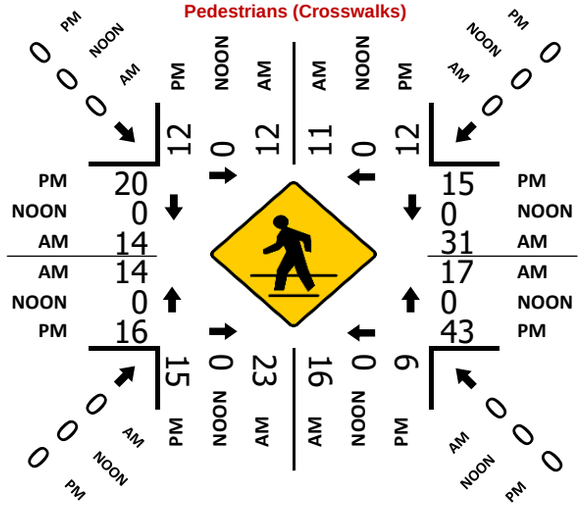
Cars (NOON)



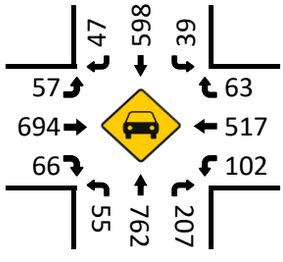
HT (NOON)



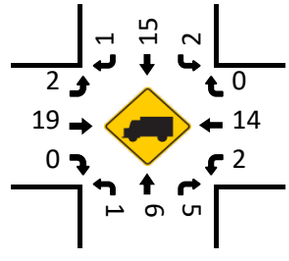
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Molino St/Merrick St & 4th St

Peak Hour Turning Movement Count

ID: 18-05238-022
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

Molino St/Merrick St — SOUTHBOUND

AM	25	16	11	0	104	AM
NOON	0	0	0	0	0	NOON
PM	31	26	48	0	142	PM

EASTBOUND (4th St)

AM	NOON	PM		
2677	0	1064	⇦	
0	0	0	↶	0
1	0	10	↱	0
306	0	1624	→	2
57	0	55	↴	0
AM	NOON	PM		

1 0 1 0

WESTBOUND (4th St)

PM	NOON	AM		
70	0	84	↰	0
962	0	2622	←	2
3	0	15	↰	0
0	0	0	↰	0
1676	0	324	⇨	
PM	NOON	AM		

0 0 1 0

CONTROL

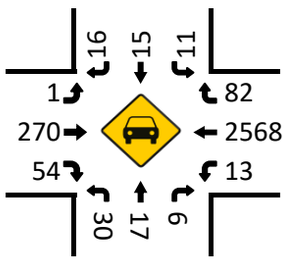
Signalized

TEV	3193	0	2966
	AM	NOON	PM
PHF	0.97		0.92

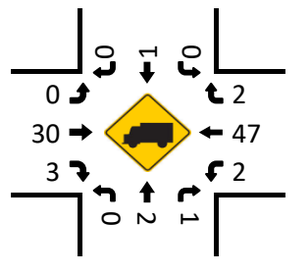
NORTHBOUND — Molino St/Merrick St

PM	84	0	71	62	4	PM
NOON	0	0	0	0	0	NOON
AM	88	0	30	19	7	AM

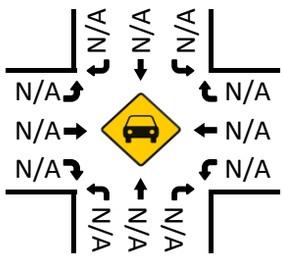
Cars (AM)



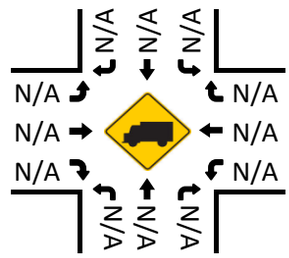
HT (AM)



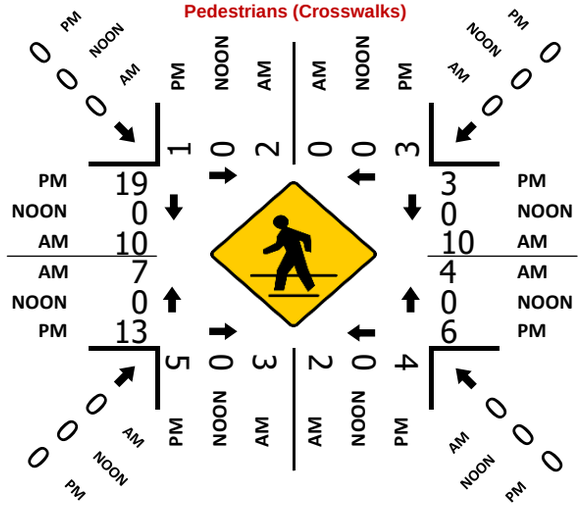
Cars (NOON)



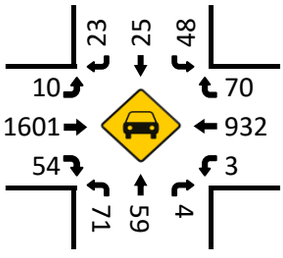
HT (NOON)



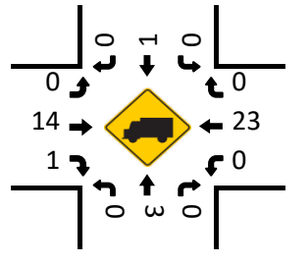
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Mateo St & 6th St

Peak Hour Turning Movement Count

ID: 18-05238-024
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

	PEAK HOURS	COUNT PERIODS
AM	09:00 AM - 10:00 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	03:00 PM - 06:00 PM

Mateo St – SOUTHBOUND

	Right	Thru	Left	U-Turn	Total
AM	123	184	3	3	241
NOON	0	0	0	0	0
PM	80	184	3	0	391
	0	1	0	0	

6th St – EASTBOUND

	AM	NOON	PM	
Total	236	0	154	
U-Turn	0	0	1	0
Left	79	0	236	1
Thru	21	0	38	0.5
Right	104	0	184	0.5

6th St – WESTBOUND

		PM	NOON	AM
Right	0	6	0	0
Thru	0	0	0	0
Left	0	4	0	0
U-Turn	0	0	0	0
Total		43	0	29

Mateo St – NORTHBOUND

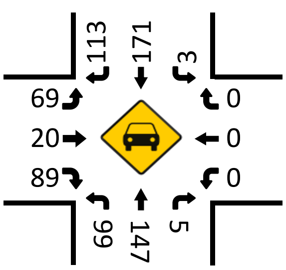
	Total	U-Turn	Left	Thru	Right
		0	0	1	0
PM	372	0	73	149	2
NOON	0	0	0	0	0
AM	288	0	113	159	5

CONTROL

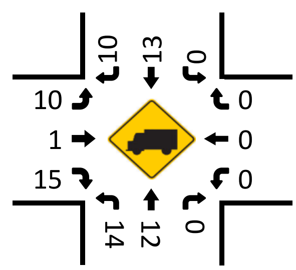
Signalized

	AM	NOON	PM
TEV	794	0	960
PHF	0.89		0.93

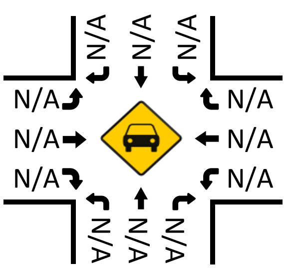
Cars (AM)



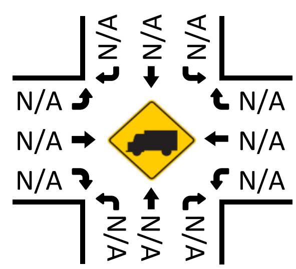
HT (AM)



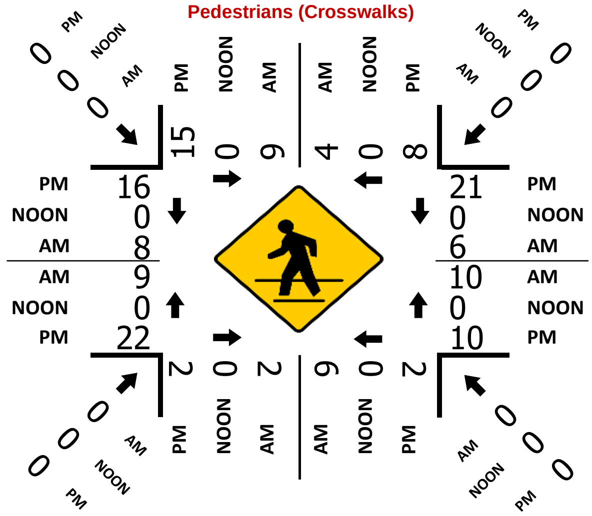
Cars (NOON)



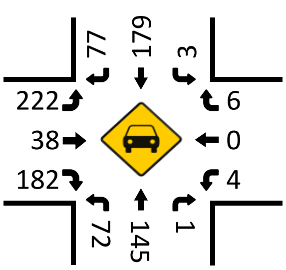
HT (NOON)



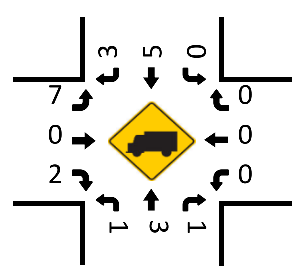
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Mateo St & 7th St

Peak Hour Turning Movement Count

ID: 18-05238-025
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

	PEAK HOURS	COUNT PERIODS
AM	07:45 AM - 08:45 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	04:45 PM - 05:45 PM	03:00 PM - 06:00 PM

Mateo St – SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	32	187	40	0	329
NOON	0	0	0	0	0
PM	33	227	90	0	232
Lanes	0	1	0	0	

7th St – EASTBOUND

	AM	NOON	PM	Lanes
Departing	1303	0	713	
U-Turn	0	0	0	0
Left	28	0	42	1
Through	301	0	809	2
Right	62	0	140	0

7th St – WESTBOUND

	Lanes	PM	NOON	AM
Right	0	58	0	94
Through	2	582	0	1197
Left	1	50	0	175
U-Turn	0	0	0	0
Departing		961	0	371

Mateo St – NORTHBOUND

	Departing	U-Turn	Left	Through	Right
Lanes		0	0	1	0
PM	417	0	98	132	62
NOON	0	0	0	0	0
AM	424	0	74	207	30

CONTROL

Signalized

	AM	NOON	PM
TEV	2427	0	2323
PHF	0.97		0.95

Cars and HT

	SB Right	SB Through	SB Left	EB Left	EB Through	EB Right	WB Right	WB Through	WB Left	NB Left	NB Through	NB Right
Cars (AM)	30	164	33	26	245	55	90	1092	168	67	195	22
Cars (NOON)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cars (PM)	33	223	88	38	763	134	57	540	50	96	129	60
HT (AM)	2	23	7	2	37	7	4	74	6	7	11	8
HT (NOON)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HT (PM)	0	4	2	3	14	6	1	11	0	2	3	2

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	Eastbound	4	0	15
North	Westbound	7	0	12
West	Southbound	11	0	23
West	Northbound	7	0	20
East	Southbound	9	0	11
East	Northbound	6	0	15
South	Eastbound	10	0	6
South	Westbound	4	0	12
Diagonals (all corners)		0	0	0

Prepared by National Data & Surveying Services

S Santa Fe Ave & 7th St

Peak Hour Turning Movement Count

ID: 18-05238-026
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

SOUTHBOUND (S Santa Fe Ave)

AM	16	155	53	0	607	AM
NOON	0	0	0	0	0	NOON
PM	17	253	76	0	464	PM

EASTBOUND (7th St)

AM	NOON	PM	
1475	0	688	
0	0	0	0
17	0	17	1
295	0	832	2
69	0	106	0
AM	NOON	PM	

WESTBOUND (7th St)

PM	NOON	AM	
93	0	225	0
568	0	1340	3
266	0	489	1
0	0	0	0
1158	0	490	
PM	NOON	AM	

CONTROL: Signalized

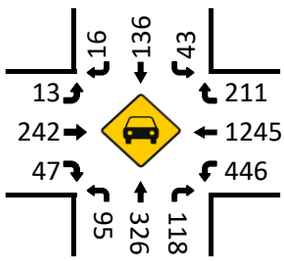
TEV	3285	0	2935
	AM	NOON	PM
PHF	0.96		0.96

NORTHBOUND (S Santa Fe Ave)

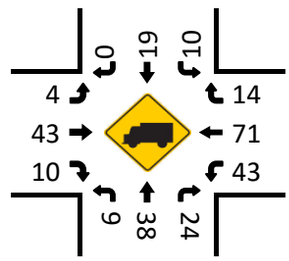
PM	625	0	103	354	250	PM
NOON	0	0	0	0	0	NOON
AM	713	0	119	365	142	AM

Turning movements: 0 1 0 0 | 0 1 1 1

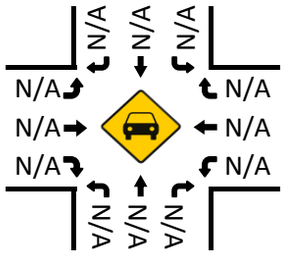
Cars (AM)



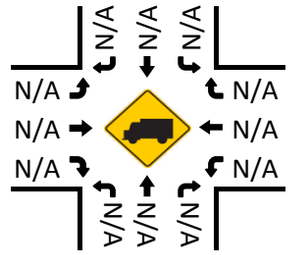
HT (AM)



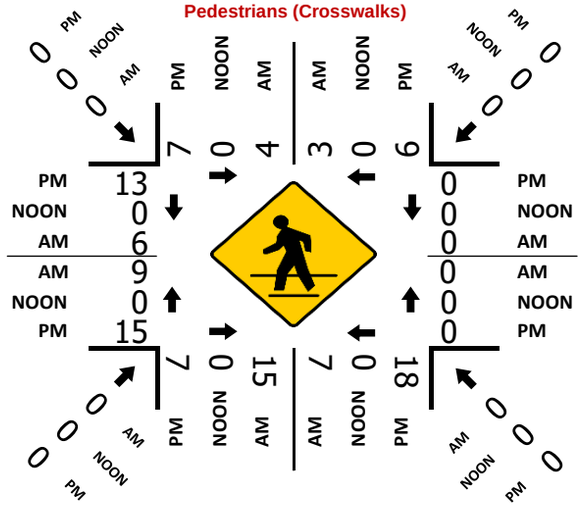
Cars (NOON)



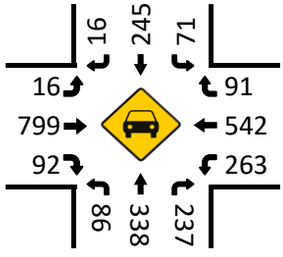
HT (NOON)



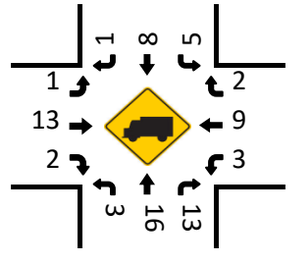
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Santa Fe Ave & 8th St

Peak Hour Turning Movement Count

ID: 18-05238-027
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS

AM	08:30 AM - 09:30 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 10:00 AM
NOON	NONE
PM	03:00 PM - 06:00 PM

S Santa Fe Ave — SOUTHBOUND

AM	387	344	19	0	697	AM
NOON	0	0	0	0	0	NOON
PM	210	511	18	0	539	PM
	0	2	0	0		

8th St — EASTBOUND

AM	NOON	PM	
567	0	398	
0	0	0	0
55	0	41	0
8	0	18	1
312	0	376	0
AM	NOON	PM	

8th St — WESTBOUND

PM	NOON	AM	
22	0	15	0
13	0	11	1
13	0	10	0
0	0	0	0
57	0	45	
PM	NOON	AM	

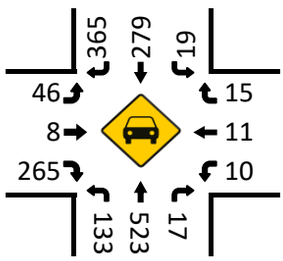
CONTROL: Signalized

TEV	1975	0	1894
	AM	NOON	PM
PHF	0.97		0.91

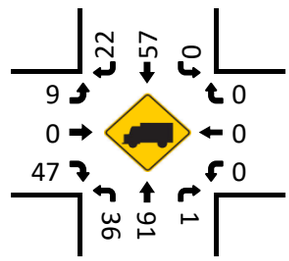
S Santa Fe Ave — NORTHBOUND

PM	900	0	175	476	21	PM
NOON	0	0	0	0	0	NOON
AM	666	0	169	627	18	AM
		0	0	2	0	

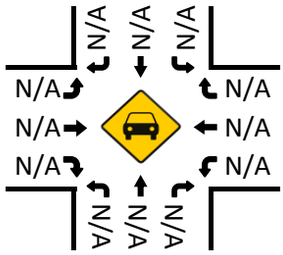
Cars (AM)



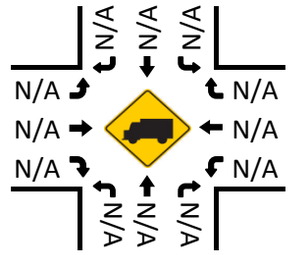
HT (AM)



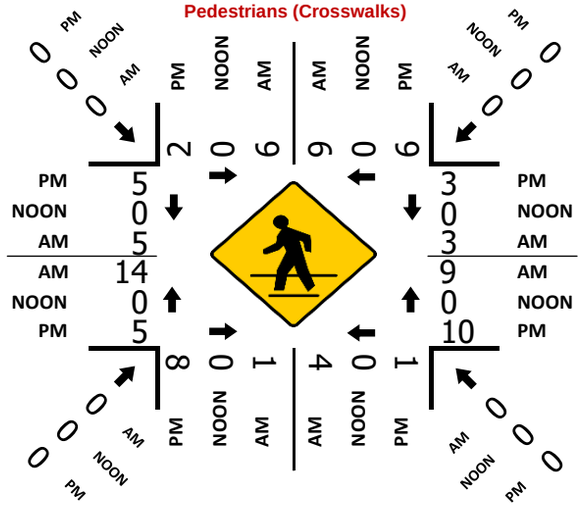
Cars (NOON)



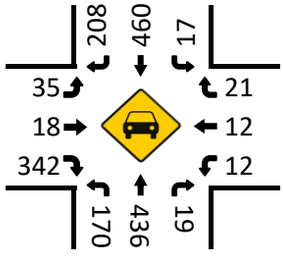
HT (NOON)



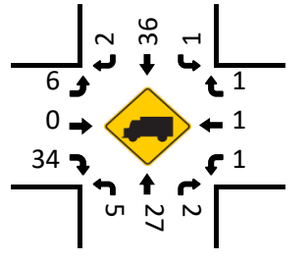
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Santa Fe Ave & Porter St

Peak Hour Turning Movement Count

ID: 18-05238-028
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 10:00 AM
NOON	NONE
PM	03:00 PM - 06:00 PM

S Santa Fe Ave — SOUTHBOUND

AM	32	652	18	0	798	AM
NOON	0	0	0	0	0	NOON
PM	47	874	15	0	638	PM
	0	2	1	0		

Porter St — EASTBOUND

AM	NOON	PM	
387	0	555	
1	0	0	0
104	0	65	1
28	0	19	0.5
418	0	260	0.5
AM	NOON	PM	

CONTROL

Signalized

TEV	2346	0	2430
	AM	NOON	PM
PHF	0.96		0.94

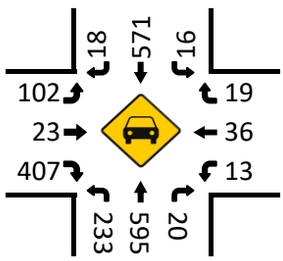
WESTBOUND — Porter St

	PM	NOON	AM
0	24	0	22
1	85	0	46
0	42	0	20
0	0	0	0
	61	0	71
	PM	NOON	AM

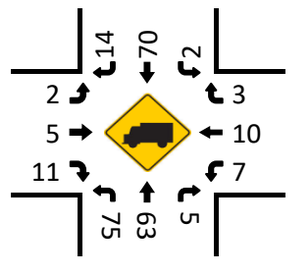
	0	1	2	0	
PM	1176	0	423	549	27
NOON	0	0	0	0	0
AM	1090	0	308	672	25

NORTHBOUND — S Santa Fe Ave

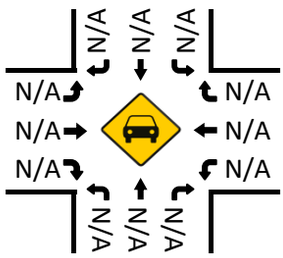
Cars (AM)



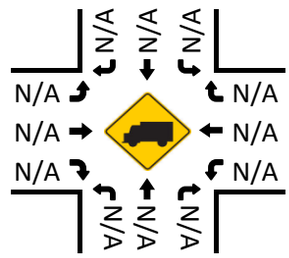
HT (AM)



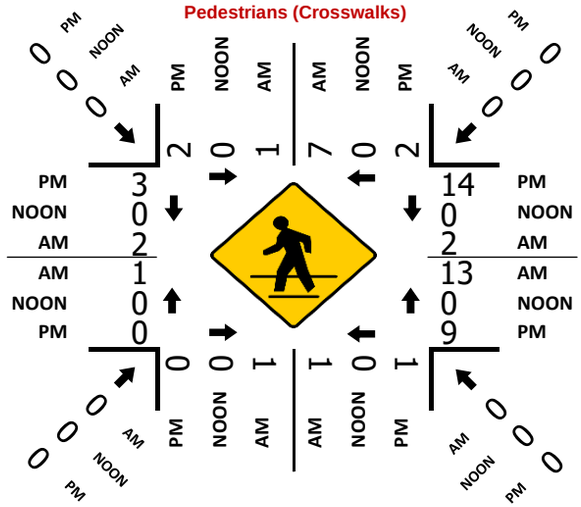
Cars (NOON)



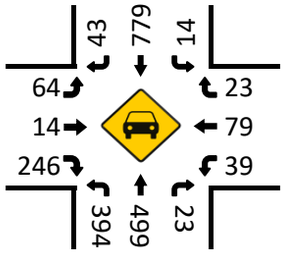
HT (NOON)



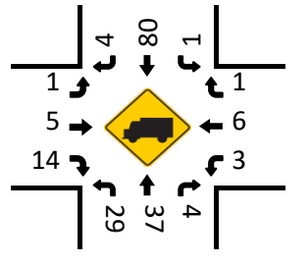
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Santa Fe Ave & Olympic Blvd

Peak Hour Turning Movement Count

ID: 18-05238-029
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

S Santa Fe Ave — SOUTHBOUND

AM	31	938	113	1	1007	AM
NOON	0	0	0	0	0	NOON
PM	51	942	118	0	1024	PM
	0	2	1	0		

Olympic Blvd — EASTBOUND

AM	NOON	PM	
1254	0	880	
0	0	0	0
32	0	35	1
271	0	860	2
309	0	379	1
AM	NOON	PM	

CONTROL

Signalized

TEV	4150	0	4464
	AM	NOON	PM
PHF	0.98		0.97

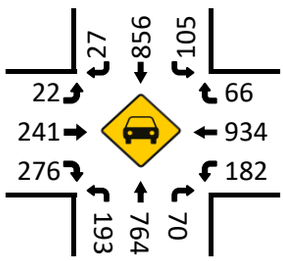
Olympic Blvd — WESTBOUND

PM	NOON	AM	
85	0	80	0
711	0	991	2
91	0	186	1
1	0	0	0
1148	0	456	
PM	NOON	AM	

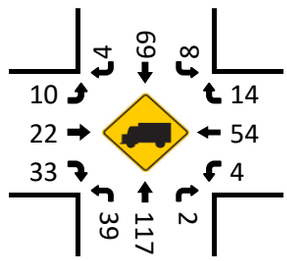
PM	1412	0	118	904	169	PM
NOON	0	0	0	0	0	NOON
AM	1433	0	232	894	72	AM
		0	1	2	0	

NORTHBOUND — S Santa Fe Ave

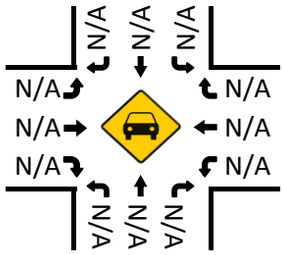
Cars (AM)



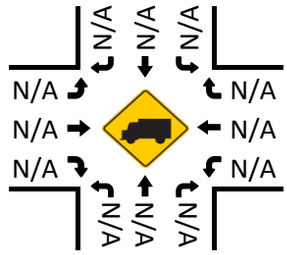
HT (AM)



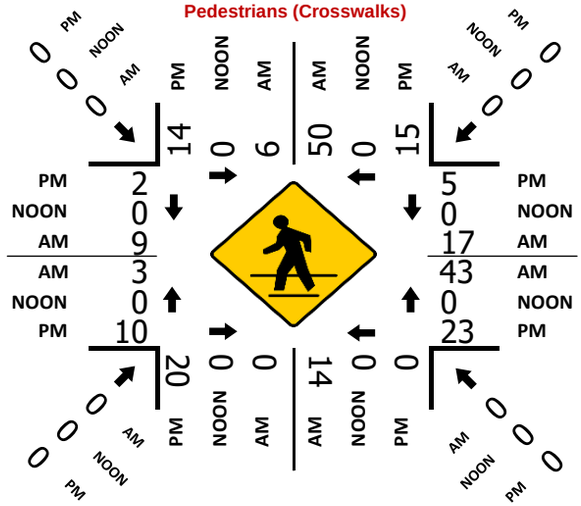
Cars (NOON)



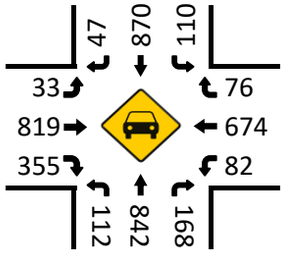
HT (NOON)



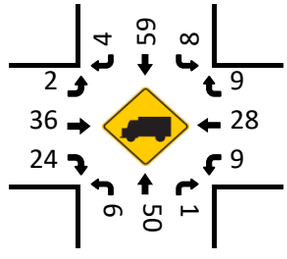
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Rio St & E 7th St

Peak Hour Turning Movement Count

ID: 18-05238-032
City: Los Angeles

Day: Tuesday
Date: 04/10/2018

	PEAK HOURS	COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	03:00 PM - 06:00 PM

S Rio St – SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	12	2	18	0	25
NOON	0	0	0	0	0
PM	8	0	15	0	13
Lanes	0	1	0	0	

E 7th St – EASTBOUND

	Lanes	AM	NOON	PM
Departing		2017	0	767
U-Turn	0	0	0	0
Left	1	10	0	10
Thru	2	360	0	1048
Right	0	0	0	0

E 7th St – WESTBOUND

	Lanes	PM	NOON	AM
Right	0	2	0	13
Thru	2	738	0	1969
Left	1	34	0	76
U-Turn	0	0	0	1
Departing		1127	0	443

CONTROL

Signalized

	AM	NOON	PM
TEV	2563	0	1942
PHF	0.97		0.90

S Rio St – NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
Lanes		0	0	1	0
PM	35	1	21	1	64
NOON	0	0	0	0	0
AM	78	0	36	2	64

Cars (AM)

Approach	Movements
Southbound	11, 1, 13
Eastbound	9, 312, 0
Westbound	11, 1861, 59
Northbound	8, 1, 29

HT (AM)

Approach	Movements
Southbound	1, 1, 5
Eastbound	1, 38, 0
Westbound	2, 86, 17
Northbound	28, 1, 35

Cars (NOON)

Approach	Movements
Southbound	N/A, N/A, N/A
Eastbound	N/A, N/A, N/A
Westbound	N/A, N/A, N/A
Northbound	N/A, N/A, N/A

HT (NOON)

Approach	Movements
Southbound	N/A, N/A, N/A
Eastbound	N/A, N/A, N/A
Westbound	N/A, N/A, N/A
Northbound	N/A, N/A, N/A

Cars (PM)

Approach	Movements
Southbound	8, 0, 13
Eastbound	10, 1008, 0
Westbound	1, 707, 9
Northbound	18, 0, 54

HT (PM)

Approach	Movements
Southbound	0, 0, 2
Eastbound	0, 16, 0
Westbound	1, 14, 25
Northbound	3, 1, 10

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	Eastbound (→)	4	0	6
North	Westbound (←)	3	0	3
South	Eastbound (→)	0	0	0
South	Westbound (←)	0	0	0
West	Southbound (↓)	0	0	0
West	Northbound (↑)	0	0	0
East	Southbound (↓)	2	0	1
East	Northbound (↑)	1	0	0
NW diagonal		0	0	0
NE diagonal		0	0	0
SW diagonal		0	0	0
SE diagonal		0	0	0

Prepared by National Data & Surveying Services

S Anderson St & E 7th St

Peak Hour Turning Movement Count

ID: 18-05238-034
City: Los Angeles

Day: Tuesday
Date: 04/10/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

SOUTHBOUND (S Anderson St)

AM	53	2	35	0	406	AM
NOON	0	0	0	0	0	NOON
PM	76	0	96	0	166	PM
	0	1	0	0		

EASTBOUND (E 7th St)

AM	NOON	PM	
2061	0	791	
1	0	0	0
48	0	69	1
363	0	1040	2
7	0	0	0
AM	NOON	PM	

WESTBOUND (E 7th St)

PM	NOON	AM	
97	0	357	0
715	0	1994	2
4	0	10	1
1	0	0	0
1139	0	402	
PM	NOON	AM	

NORTHBOUND (S Anderson St)

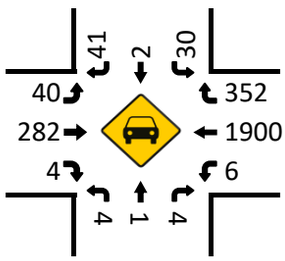
PM	4	0	0	0	2	PM
NOON	0	0	0	0	0	NOON
AM	19	0	13	1	4	AM
	0	0	0	1	0	

CONTROL

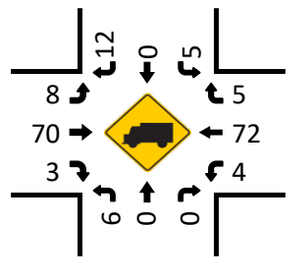
Signalized

TEV	2888	0	2100
	AM	NOON	PM
PHF	0.95		0.94

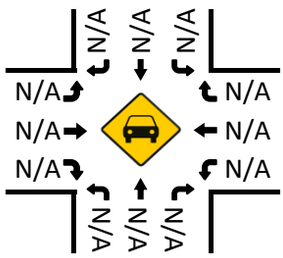
Cars (AM)



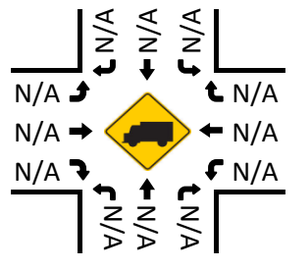
HT (AM)



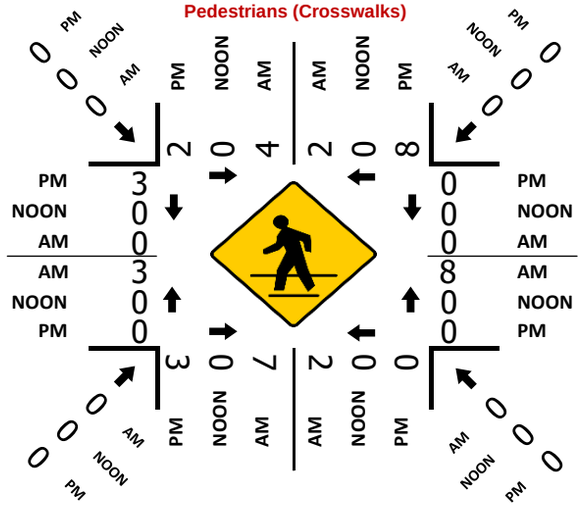
Cars (NOON)



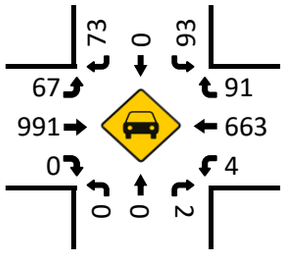
HT (NOON)



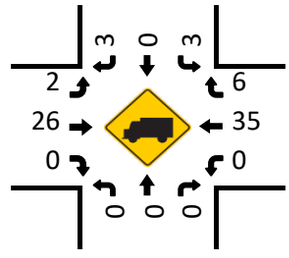
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Boyle Ave & Whittier Blvd

Peak Hour Turning Movement Count

ID: 18-05238-040
City: Los Angeles

Day: Tuesday
Date: 04/10/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

SOUTHBOUND — Boyle Ave

AM	9	372	68	0	956	AM
NOON	0	0	0	0	0	NOON
PM	9	374	134	0	950	PM
	0	2	1	0		

EASTBOUND — Whittier Blvd

AM	NOON	PM	
184	0	226	
0	0	0	0
1	0	2	0.3
1	0	0	0.3
10	0	4	0.3
AM	NOON	PM	

WESTBOUND — Whittier Blvd

PM	NOON	AM	
191	0	489	1
80	0	132	1
158	0	579	1
0	0	0	0
344	0	191	
PM	NOON	AM	

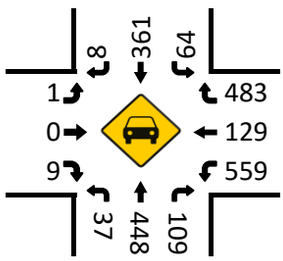
NORTHBOUND — Boyle Ave

PM	536	0	137	757	210	PM
NOON	0	0	0	0	0	NOON
AM	961	0	43	466	122	AM
		0	1	2	0	

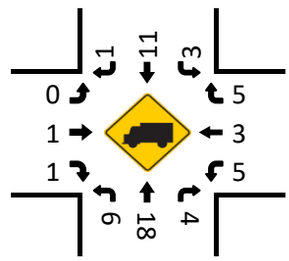
CONTROL: Signalized

TEV	2292	0	2056
	AM	NOON	PM
PHF	0.90		0.94

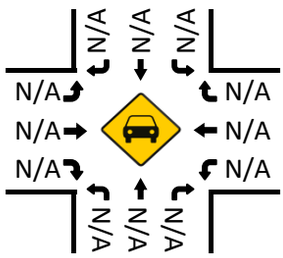
Cars (AM)



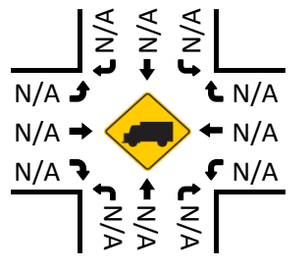
HT (AM)



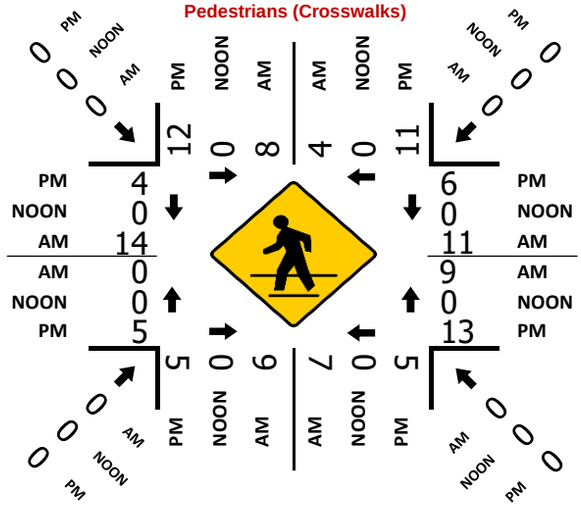
Cars (NOON)



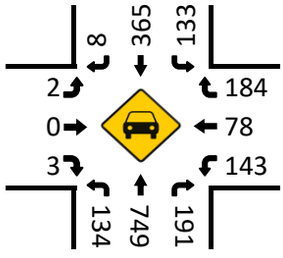
HT (NOON)



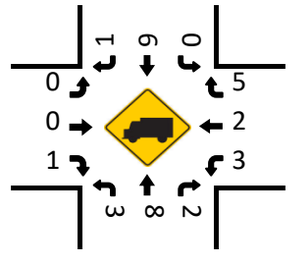
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Boyle Ave & 7th St

Peak Hour Turning Movement Count

ID: 18-05238-041
City: Los Angeles

Day: Tuesday
Date: 04/10/2018

	PEAK HOURS	COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	03:00 PM - 06:00 PM

Boyle Ave — SOUTHBOUND

	↲	↓	↳	U	⇧
AM	701	402	53	0	504
NOON	0	0	0	0	0
PM	194	407	55	0	786
Lanes	0.5	1.5	1	0	

7th St — EASTBOUND

	AM	NOON	PM	Lanes
⇦	1494	0	500	
U-turn	0	0	0	0
Left	59	0	210	1
Through	102	0	472	1
Right	104	0	377	1

7th St — WESTBOUND

Lanes		PM	NOON	AM
0	↰	44	0	32
1	←	135	0	528
1	↲	17	0	39
0	U	0	0	0
	⇨	664	0	301

CONTROL

Signalized

	AM	NOON	PM
TEV	2845	0	2751
PHF	0.95		0.90

Boyle Ave — NORTHBOUND

	⇩	U	↰	↑	↱
Lanes		0	0	3	0
PM	801	0	171	532	137
NOON	0	0	0	0	0
AM	546	1	265	413	146

Cars (AM)

Approach	Left	Through	Right
SB	53	392	674
EB	40	93	77
WB	39	525	29
NB	235	404	136

HT (AM)

Approach	Left	Through	Right
SB	0	10	10
EB	11	7	24
WB	0	3	3
NB	22	9	10

Cars (NOON)

All movements: N/A

HT (NOON)

All movements: N/A

Cars (PM)

Approach	Left	Through	Right
SB	52	398	168
EB	190	469	350
WB	17	131	44
NB	155	521	135

HT (PM)

Approach	Left	Through	Right
SB	3	9	14
EB	3	3	21
WB	0	4	0
NB	11	11	2

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North (west half)	3	0	2
North (east half)	3	0	0
West (north half)	3	0	0
West (south half)	1	0	1
East (north half)	5	0	0
East (south half)	6	0	3
South (west half)	1	0	2
South (east half)	3	0	0
NW diagonal	0	0	0
NE diagonal	0	0	0
SW diagonal	0	0	0
SE diagonal	0	0	0

Prepared by National Data & Surveying Services

Mateo St & 4th Pl

Peak Hour Turning Movement Count

ID: 18-05238-049
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

	PEAK HOURS	COUNT PERIODS
AM	09:00 AM - 10:00 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	03:00 PM - 06:00 PM

Mateo St — SOUTHBOUND

AM	0	253	21	0	148
NOON	0	0	0	0	0
PM	0	198	37	0	243
	0	1	0	0	

4th Pl — WESTBOUND

	PM	NOON	AM
0	20	0	25
1	0	0	0
0	27	0	110
0	0	0	0
	249	0	87

4th Pl — EASTBOUND

AM	NOON	PM	
0	0	0	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

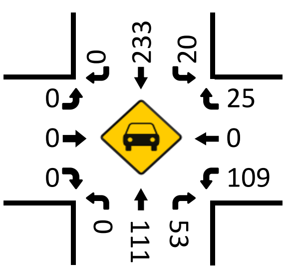
Mateo St — NORTHBOUND

		0	0	1	0
PM	225	0	0	223	212
NOON	0	0	0	0	0
AM	364	1	0	123	66

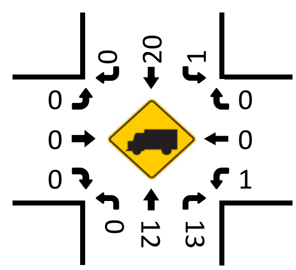
CONTROL: 1-Way Stop (WB)

	AM	NOON	PM
TEV	599	0	717
PHF	0.94		0.90

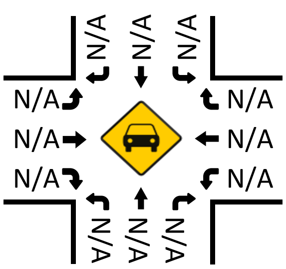
Cars (AM)



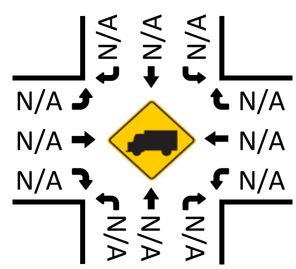
HT (AM)



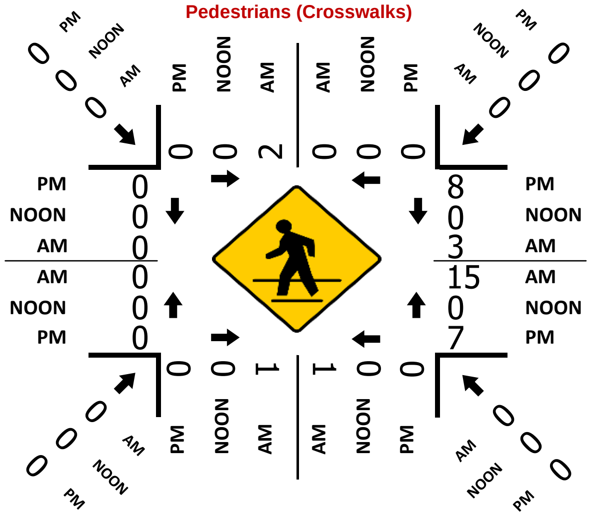
Cars (NOON)



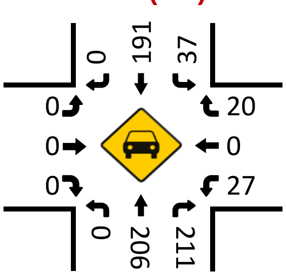
HT (NOON)



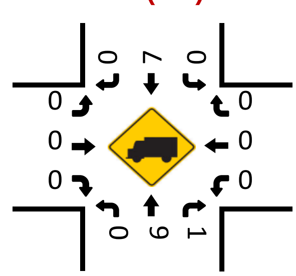
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Mateo St & Willow St

Peak Hour Turning Movement Count

ID: 18-05238-050
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS		COUNT PERIODS
AM	09:00 AM - 10:00 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	03:00 PM - 06:00 PM

Mateo St – SOUTHBOUND

	U-Turn	Left	Thru	Right	Departing
AM	0	285	36	2	262
NOON	0	0	0	0	0
PM	0	251	20	2	398
Lanes	0	1	0	0	

Note: movement columns in printed order (left to right): 0 / 285 / 36 / 2 (AM).

Willow St – EASTBOUND

	AM	NOON	PM	Lanes
Departing	0	0	0	
U-Turn	0	0	0	0
Left	0	0	0	0
Thru	0	0	0	0
Right	0	0	0	0

Willow St – WESTBOUND

	PM	NOON	AM	Lanes
Right	29	0	41	0
Thru	0	0	0	1
Left	12	0	27	0
U-Turn	0	0	0	0
Departing	44	0	52	

Mateo St – NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
Lanes		0	0	1	0
PM	263	0	0	367	24
NOON	0	0	0	0	0
AM	313	1	0	219	16

CONTROL

1-Way Stop (WB)

	AM	NOON	PM
TEV	627	0	705
PHF	0.94		0.94

Cars (AM)

SB: U 0, L 265, T 35 · EB: U 0, T 0, R 0 · WB: R 38, T 0, L 24 · NB: U 0, T 197, R 16

HT (AM)

SB: 0, 20, 1 · EB: 0, 0, 0 · WB: 3, 0, 3 · NB: 0, 22, 0

Cars (NOON)

All movements: N/A

HT (NOON)

All movements: N/A

Cars (PM)

SB: 0, 245, 20 · EB: 0, 0, 0 · WB: 29, 0, 12 · NB: 0, 349, 24

HT (PM)

SB: 0, 6, 0 · EB: 0, 0, 0 · WB: 0, 0, 0 · NB: 0, 10, 0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North leg (west side, top)	1	0	2
North leg (east side, top)	1	0	0
West leg (upper)	0	0	0
West leg (lower)	0	0	0
East leg (upper)	31	0	21
East leg (lower)	40	0	26
South leg (west side)	5	0	0
South leg (east side)	1	0	0
NW diagonal	0	0	0
NE diagonal	0	0	0
SW diagonal	0	0	0
SE diagonal	0	0	0

Prepared by National Data & Surveying Services

Mateo St & Jesse St

Peak Hour Turning Movement Count

ID: 18-05238-051
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

Mateo St — SOUTHBOUND

AM	1	252	17	4	372	AM
NOON	0	0	0	0	0	NOON
PM	7	388	29	0	191	PM
	0	1	0	0		

EASTBOUND (Jesse St)

AM	NOON	PM	
1	0	15	
0	0	0	0
6	0	2	0
0	0	1	0
3	0	3	1
AM	NOON	PM	

WESTBOUND (Jesse St)

PM	NOON	AM	
28	0	61	0
1	0	0	1
13	0	20	0
0	0	0	0
48	0	41	
PM	NOON	AM	

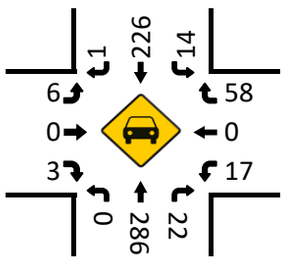
CONTROL: 1-Way Stop (WB)

TEV	689	0	659
	AM	NOON	PM
PHF	0.90		0.97

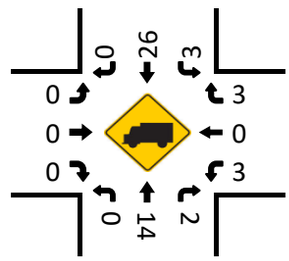
Mateo St — NORTHBOUND

	0	0	1	0		
PM	405	1	7	161	18	PM
NOON	0	0	0	0	0	NOON
AM	275	0	0	301	24	AM

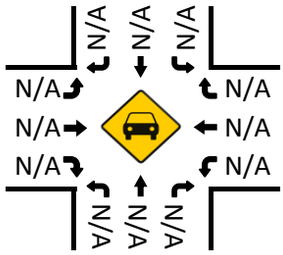
Cars (AM)



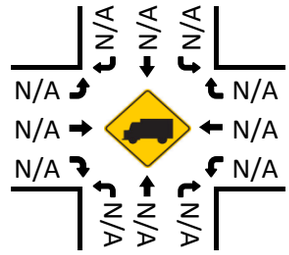
HT (AM)



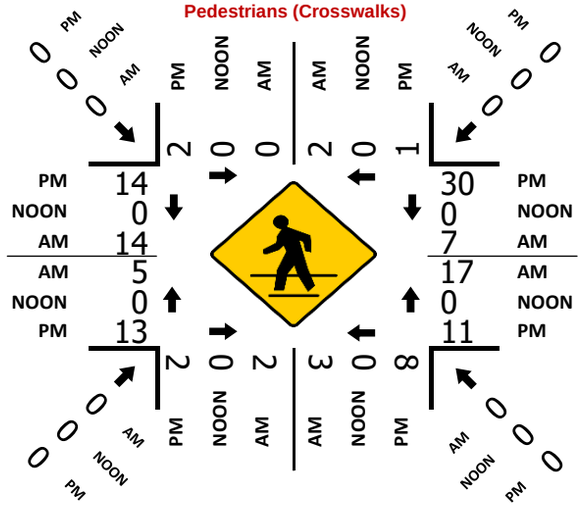
Cars (NOON)



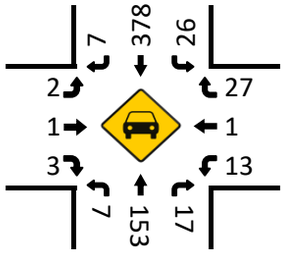
HT (NOON)



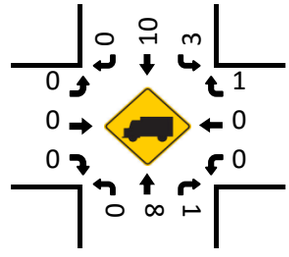
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

I-10 WB ramps & E 8th St

Peak Hour Turning Movement Count

ID: 18-05238-052
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS

AM: 08:15 AM - 09:15 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

I-10 WB ramps — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND — E 8th St

AM	NOON	PM	
247	0	314	⇦
0	0	0	↶ 0
0	0	0	↷ 0
15	0	9	→ 1
266	0	207	↷ 0
AM	NOON	PM	

WESTBOUND — E 8th St

PM	NOON	AM	
0	0	0	0 ↶
37	0	14	1 ←
338	0	549	0 ↶
0	0	0	0 ↷
433	0	382	⇨
PM	NOON	AM	

CONTROL: 3-Way Stop (NB,EB,WB)

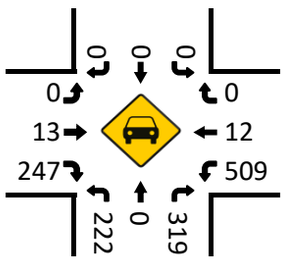
TEV	1493 AM	0 NOON	1356 PM
PHF	0.95		0.92

NORTHBOUND — I-10 WB ramps

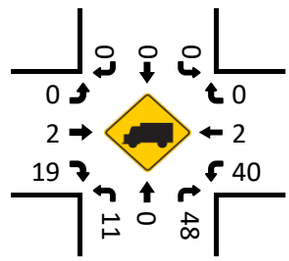
PM	609	64	277	0	424	PM
NOON	0	0	0	0	0	NOON
AM	864	49	233	0	367	AM

0 ↶ 1 ↰ 0 ↑ 1 ↱

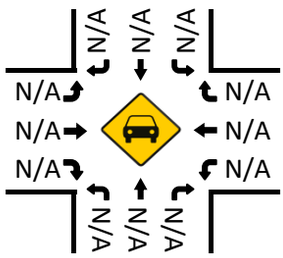
Cars (AM)



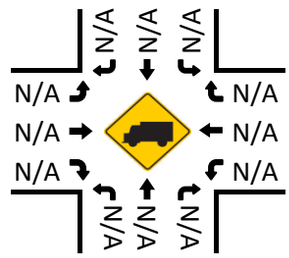
HT (AM)



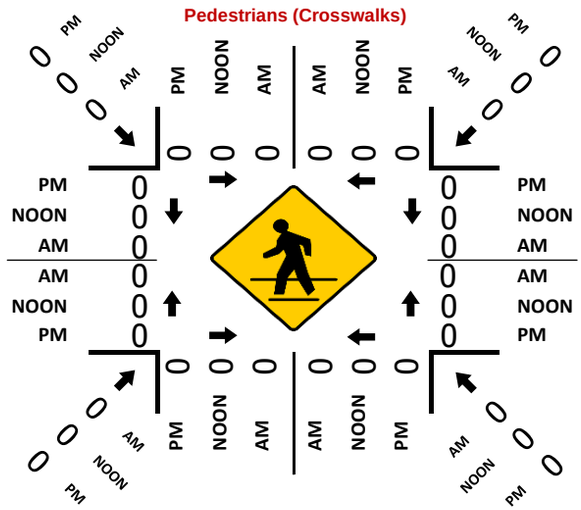
Cars (NOON)



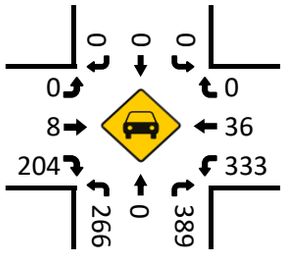
HT (NOON)



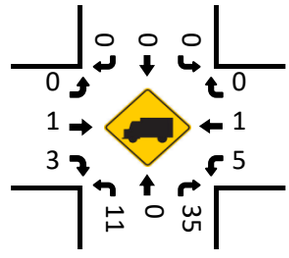
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

I-10 EB ramps & Porter St

Peak Hour Turning Movement Count

ID: 18-05238-053
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS	
AM	07:45 AM - 08:45 AM
NOON	NONE
PM	03:00 PM - 04:00 PM

COUNT PERIODS	
AM	07:00 AM - 10:00 AM
NOON	NONE
PM	03:00 PM - 06:00 PM

I-10 EB ramps — SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	204	1	569	1	444
NOON	0	0	0	0	0
PM	67	0	231	0	705
Lanes	0.5	0	1.5	0	

Porter St — EASTBOUND

	AM	NOON	PM	Lanes
Departing	227	0	106	
U-Turn	0	0	0	0
Left	99	0	173	0
Thru	49	0	157	1
Right	0	0	2	0

Porter St — WESTBOUND

	Lanes	PM	NOON	AM
Right	0	532	0	344
Thru	1	39	0	21
Left	0	1	0	1
U-Turn	0	0	0	0
Departing		393	0	618

I-10 EB ramps — NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
Lanes		0	0	1	0
PM	3	0	0	0	5
NOON	0	0	0	0	0
AM	2	0	2	0	0

CONTROL

1-Way Stop (SB)

	AM	NOON	PM
TEV	1291	0	1207
PHF	0.94		0.91

Cars (AM)

Approach	Left	Thru	Right
SB	561	1	199
EB	53	39	0
WB	1	16	248
NB	2	0	0

HT (AM)

Approach	Left	Thru	Right
SB	7	0	5
EB	46	10	0
WB	0	5	96
NB	0	0	0

Cars (NOON)

All movements: N/A

HT (NOON)

All movements: N/A

Cars (PM)

Approach	Left	Thru	Right
SB	223	0	56
EB	162	137	2
WB	1	31	469
NB	0	0	5

HT (PM)

Approach	Left	Thru	Right
SB	8	0	11
EB	11	20	0
WB	0	8	63
NB	0	0	0

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	Eastbound	1	0	1
North	Westbound	2	0	0
West	Southbound	2	0	0
West	Northbound	0	0	0
East	Southbound	1	0	1
East	Northbound	2	0	5
South	Eastbound	0	0	6
South	Westbound	0	0	2
Diagonals (all)		0	0	0

Prepared by National Data & Surveying Services

S Santa Fe Ave & Willow St

Peak Hour Turning Movement Count

ID: 18-05238-054
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS	COUNT PERIODS
07:00 AM - 08:00 AM	07:00 AM - 10:00 AM
NONE	NONE
04:30 PM - 05:30 PM	03:00 PM - 06:00 PM

S Santa Fe Ave – SOUTHBOUND

	↲	↓	↳	U	⇧
AM	7	177	0	0	535
NOON	0	0	0	0	0
PM	8	294	0	1	438
	0	1	0	0	

Willow St – EASTBOUND

	AM	NOON	PM	
⇦	40	0	26	
U	0	0	1	0
↰	0	0	11	0
→	0	0	0	1
↴	15	0	13	0

Willow St – WESTBOUND

		PM	NOON	AM
U	0	0	0	0
←	0	0	0	0
↙	0	0	0	0
↶	0	0	0	0
⇨		0	0	0

S Santa Fe Ave – NORTHBOUND

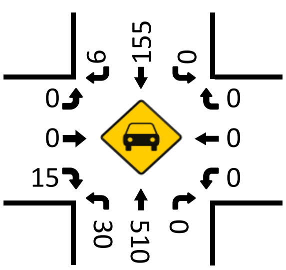
	⇩	U	↰	↑	↱
		0	0	1	0
PM	307	0	17	426	0
NOON	0	0	0	0	0
AM	192	0	33	535	0

CONTROL

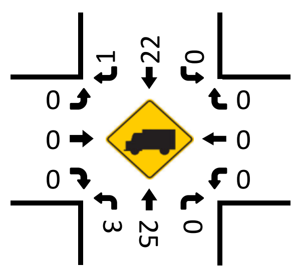
1-Way Stop (EB)

	AM	NOON	PM
TEV	767	0	771
PHF	0.94		0.92

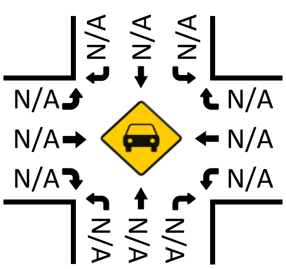
Cars (AM)



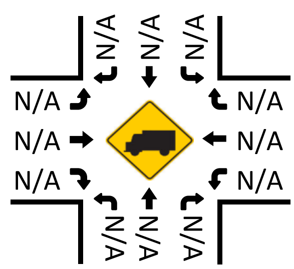
HT (AM)



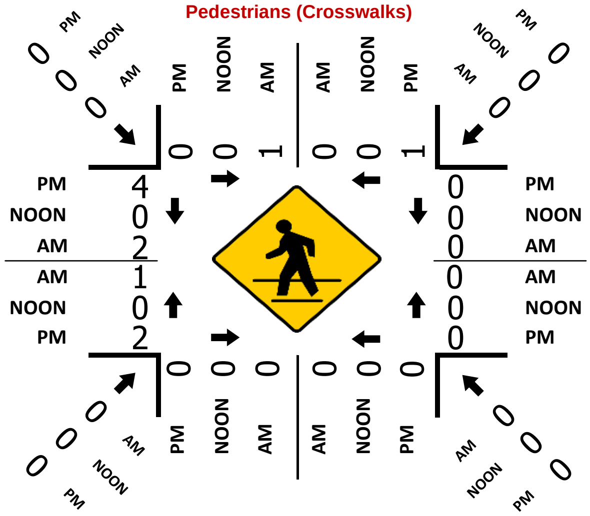
Cars (NOON)



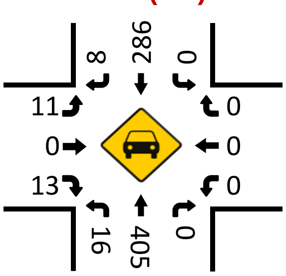
HT (NOON)



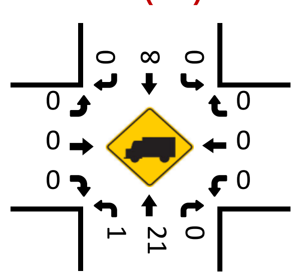
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Santa Fe Ave & Mesquit St

Peak Hour Turning Movement Count

ID: 18-05238-055
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

S Santa Fe Ave

SOUTHBOUND

AM	0	192	5	1	581	AM
NOON	0	0	0	0	0	NOON
PM	2	299	0	0	433	PM

Mesquit St — EASTBOUND

AM	NOON	PM		
0	0	2		
0	0	0	0	
7	0	0	0	
1	0	0	1	
13	0	0	0	
AM	NOON	PM		

WESTBOUND — Mesquit St

PM	NOON	AM		
1	0	7	0	
0	0	0	0	
0	0	1	0	
0	0	0	0	
0	0	6		
PM	NOON	AM		

CONTROL: No Control

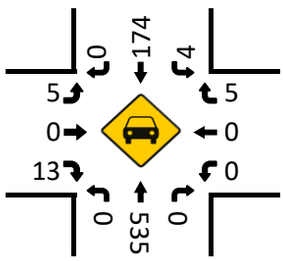
TEV	793 AM	0 NOON	734 PM
PHF	0.98		0.88

NORTHBOUND

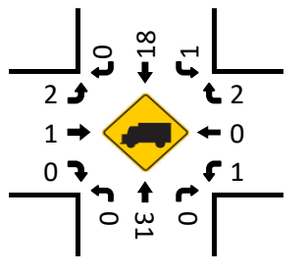
PM	299	0	0	432	0	PM
NOON	0	0	0	0	0	NOON
AM	206	0	0	566	0	AM

S Santa Fe Ave

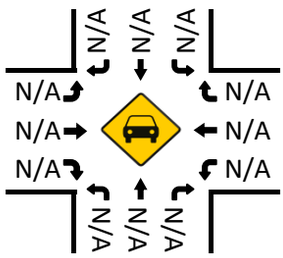
Cars (AM)



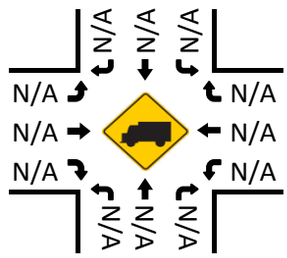
HT (AM)



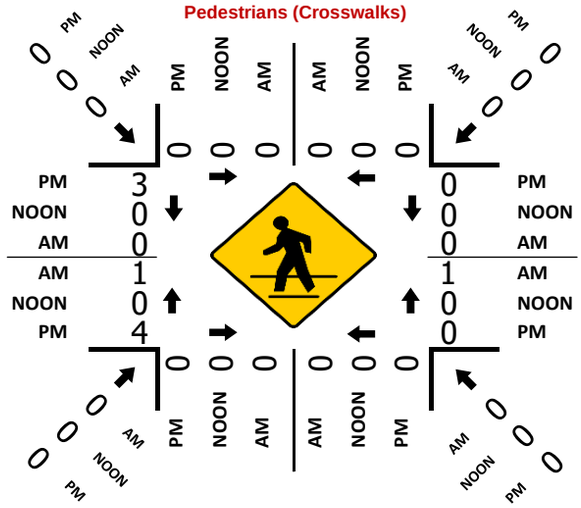
Cars (NOON)



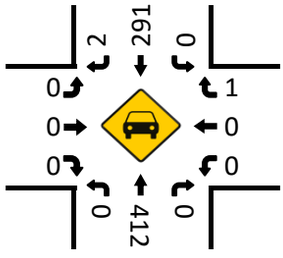
HT (NOON)



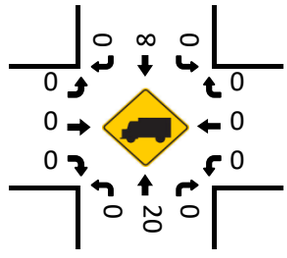
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Santa Fe Ave & Jesse St

Peak Hour Turning Movement Count

ID: 18-05238-056
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS		COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	04:45 PM - 05:45 PM	03:00 PM - 06:00 PM

S Santa Fe Ave — SOUTHBOUND

AM	9	191	4	0	569	AM
NOON	0	0	0	0	0	NOON
PM	15	283	3	0	439	PM

Jesse St — EASTBOUND

AM	NOON	PM		
87	0	48	⇦	
0	0	0	↶	0
2	0	18	↰	0
2	0	3	→	1
12	0	70	↱	0
AM	NOON	PM		

CONTROL

2-Way Stop (EB,WB)

	AM	NOON	PM
TEV	898	0	860
PHF	0.94		0.93

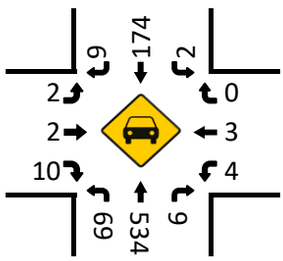
Jesse St — WESTBOUND

PM	NOON	AM		
3	0	3	↶	0
3	0	5	←	1
9	0	17	↰	0
0	0	0	↱	0
11	0	21	⇨	
PM	NOON	AM		

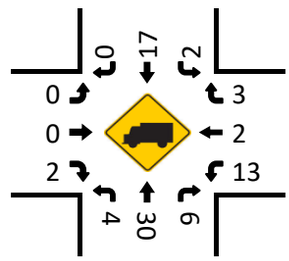
S Santa Fe Ave — NORTHBOUND

PM	362	0	30	418	5	PM
NOON	0	0	0	0	0	NOON
AM	221	1	73	564	15	AM

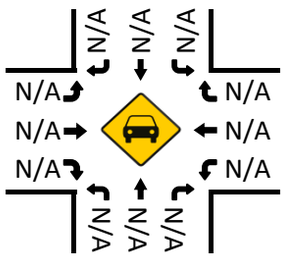
Cars (AM)



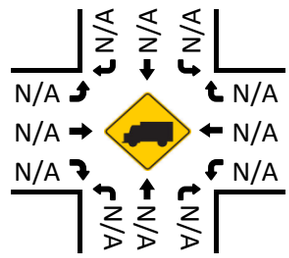
HT (AM)



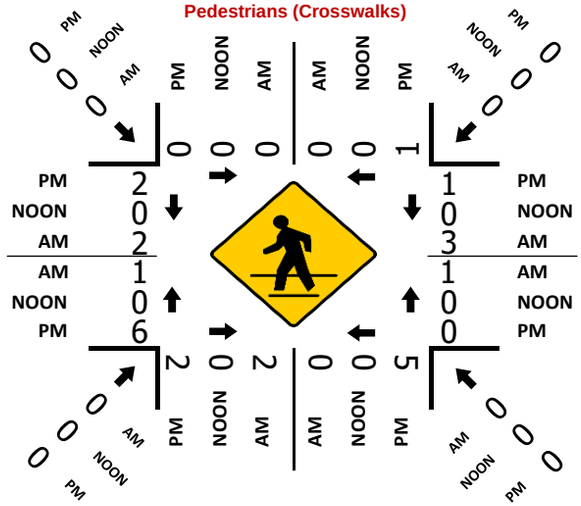
Cars (NOON)



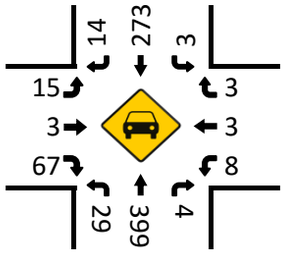
HT (NOON)



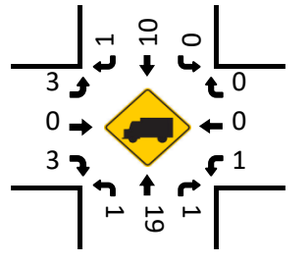
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Mesquit St & Jesse St

Peak Hour Turning Movement Count

ID: 18-05238-057
City: Los Angeles

Day: Wednesday
Date: 04/11/2018

PEAK HOURS

AM: 09:00 AM - 10:00 AM
NOON: NONE
PM: 03:15 PM - 04:15 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

Mesquit St — SOUTHBOUND

AM	7	1	0	0	9	AM
NOON	0	0	0	0	0	NOON
PM	14	0	0	0	4	PM

EASTBOUND — Jesse St

AM	NOON	PM		
32	0	39	⇦	
2	0	1	↰	0
6	0	3	↱	0
0	0	0	→	1
28	0	6	↱	0
AM	NOON	PM		

WESTBOUND — Jesse St

				PM	NOON	AM
			↰	0	0	0
			←	0	0	0
			↰	0	0	0
			↰	0	0	0
			⇨	0	0	0
				PM	NOON	AM

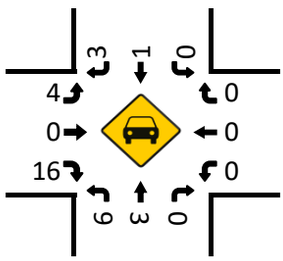
CONTROL: 1-Way Stop (EB)

TEV	70	0	49
	AM	NOON	PM
PHF	0.80		0.61

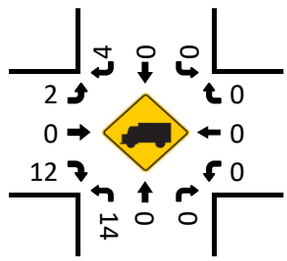
Mesquit St — NORTHBOUND

PM	6	0	24	1	0	PM
NOON	0	0	0	0	0	NOON
AM	29	0	23	3	0	AM

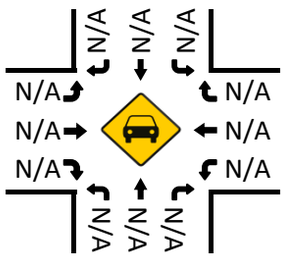
Cars (AM)



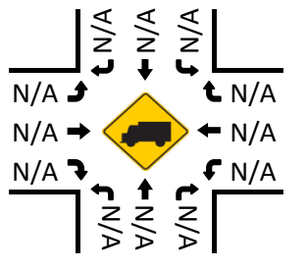
HT (AM)



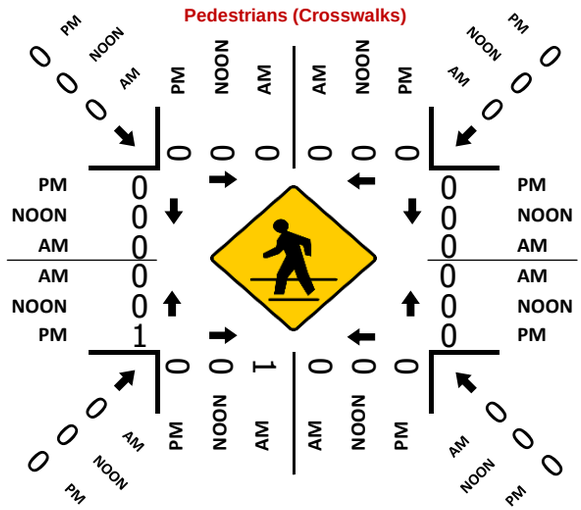
Cars (NOON)



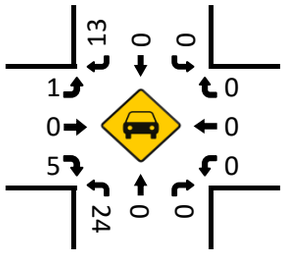
HT (NOON)



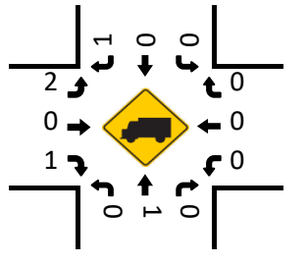
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

US-101 SB ramps & 7th St

Peak Hour Turning Movement Count

ID: 18-05238-058
City: Los Angeles

Day: Tuesday
Date: 04/10/2018

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

SOUTHBOUND — US-101 SB ramps

AM	146	0	14	0	0	AM
NOON	0	0	0	0	0	NOON
PM	90	0	69	0	0	PM

1 0 1 0

EASTBOUND — 7th St

AM	NOON	PM	
2389	0	776	
0	0	0	0
0	0	0	0
260	0	1005	1.5
144	0	139	0.5

AM NOON PM

WESTBOUND — 7th St

PM	NOON	AM	
0	0	0	0
686	0	2243	3
0	0	2	0
1	0	0	0
1075	0	274	

PM NOON AM

0 0 0 0

NORTHBOUND — US-101 SB ramps

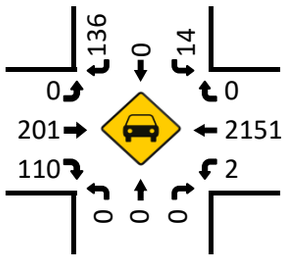
PM	139	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	146	0	0	0	0	AM

CONTROL

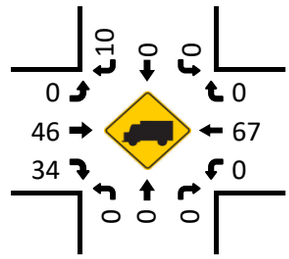
1-Way Stop (SB)

TEV	2809	0	1990
	AM	NOON	PM
PHF	0.97		0.88

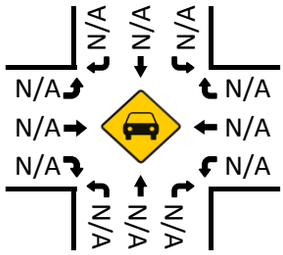
Cars (AM)



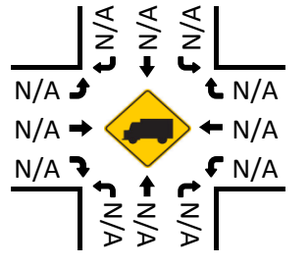
HT (AM)



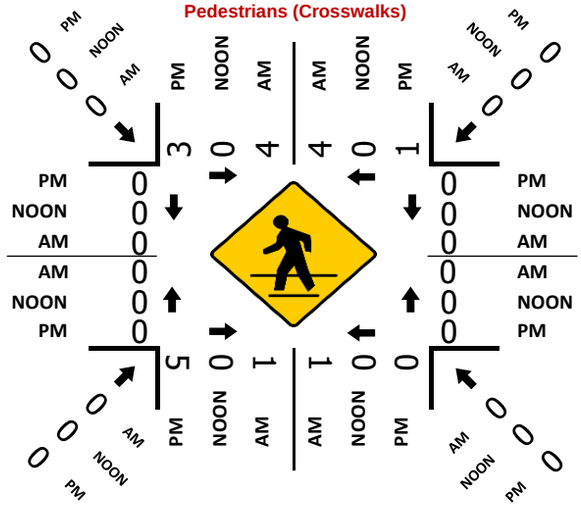
Cars (NOON)



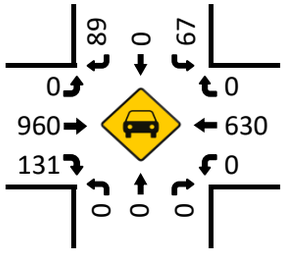
HT (NOON)



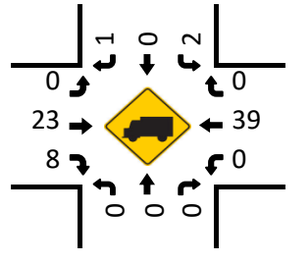
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Boyle Ave & I-5 NB ramp

Peak Hour Turning Movement Count

ID: 18-05238-060
City: Los Angeles

Day: Tuesday
Date: 04/10/2018

PEAK HOURS
AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS
AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

S Boyle Ave — SOUTHBOUND

AM	0	951	0	0	636	AM
NOON	0	0	0	0	0	NOON
PM	0	543	0	0	1088	PM

I-5 NB ramp — EASTBOUND

AM	NOON	PM	
0	0	0	
0	0	0	0
125	0	273	1
0	0	0	0
207	0	112	1
AM	NOON	PM	

WESTBOUND — I-5 NB ramp

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	
PM	NOON	AM	

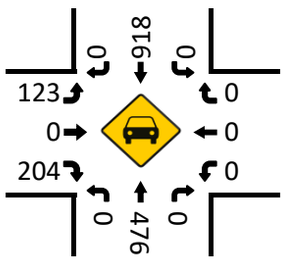
NORTHBOUND — S Boyle Ave

PM	655	0	0	815	0	PM
NOON	0	0	0	0	0	NOON
AM	1158	0	0	511	0	AM

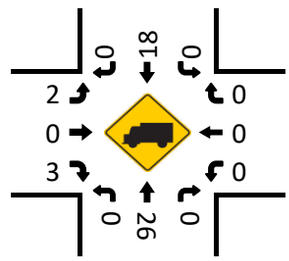
CONTROL: 1-Way Stop (EB)

TEV	1794	0	1743
	AM	NOON	PM
PHF	0.96		0.95

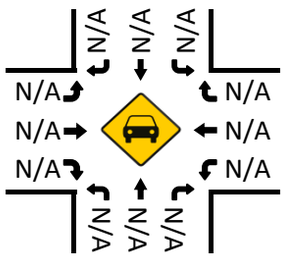
Cars (AM)



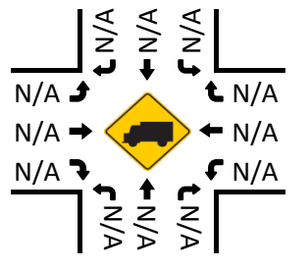
HT (AM)



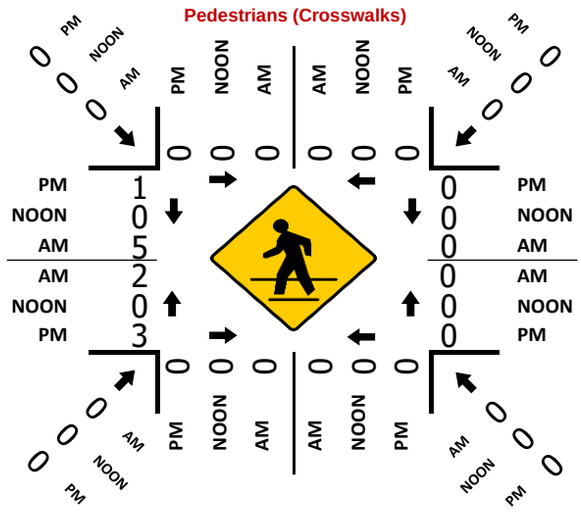
Cars (NOON)



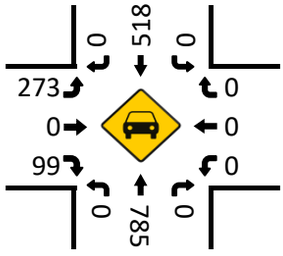
HT (NOON)



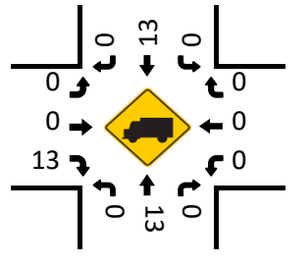
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Intersection Counts

September 2018

Prepared by National Data & Surveying Services

Alameda St & Temple St

Peak Hour Turning Movement Count

ID: 18-05638-002
City: Los Angeles

Day: Tuesday
Date: 09/25/2018

PEAK HOURS

AM: 08:45 AM - 09:45 AM
NOON: NONE
PM: 03:30 PM - 04:30 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

Alameda St — SOUTHBOUND

AM	371	969	11	0	785	AM
NOON	0	0	0	0	0	NOON
PM	266	595	60	0	991	PM
	1	2	1	0		

Temple St — EASTBOUND

AM	NOON	PM		
758	0	534		
0	0	0	0	
86	0	246	1	
100	0	397	2	
123	0	198	0	
AM	NOON	PM		

CONTROL

Signalized

TEV	2807 AM	0 NOON	2794 PM
PHF	0.93		0.90

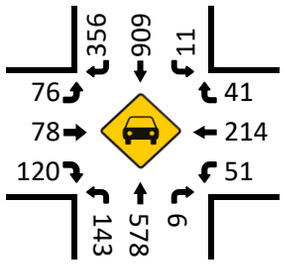
WESTBOUND — Temple St

	PM	NOON	AM
0	73	0	46
2	165	0	236
1	19	0	55
0	0	0	0
	457	0	117
	PM	NOON	AM

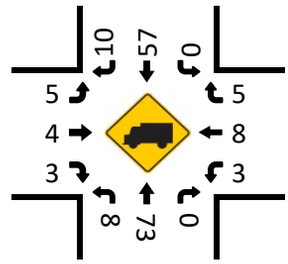
Alameda St — NORTHBOUND

	0	1	2	0		
PM	812	0	103	672	0	PM
NOON	0	0	0	0	0	NOON
AM	1147	0	151	653	6	AM

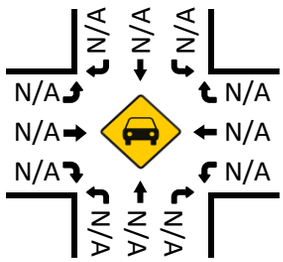
Cars (AM)



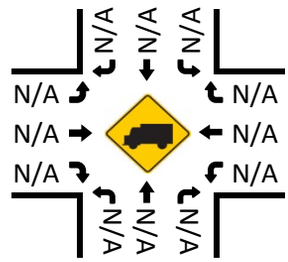
HT (AM)



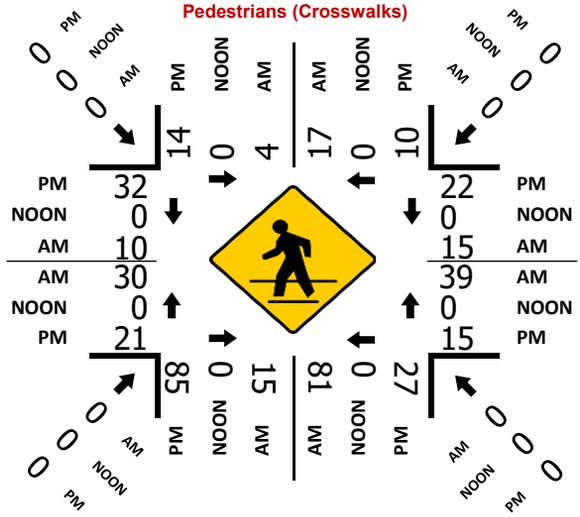
Cars (NOON)



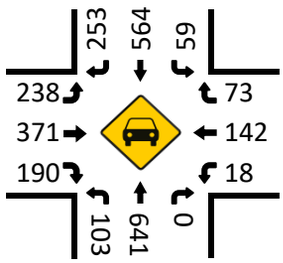
HT (NOON)



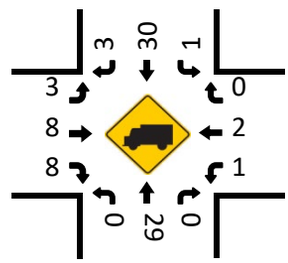
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Intersection Counts (6AM)

September 2015

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

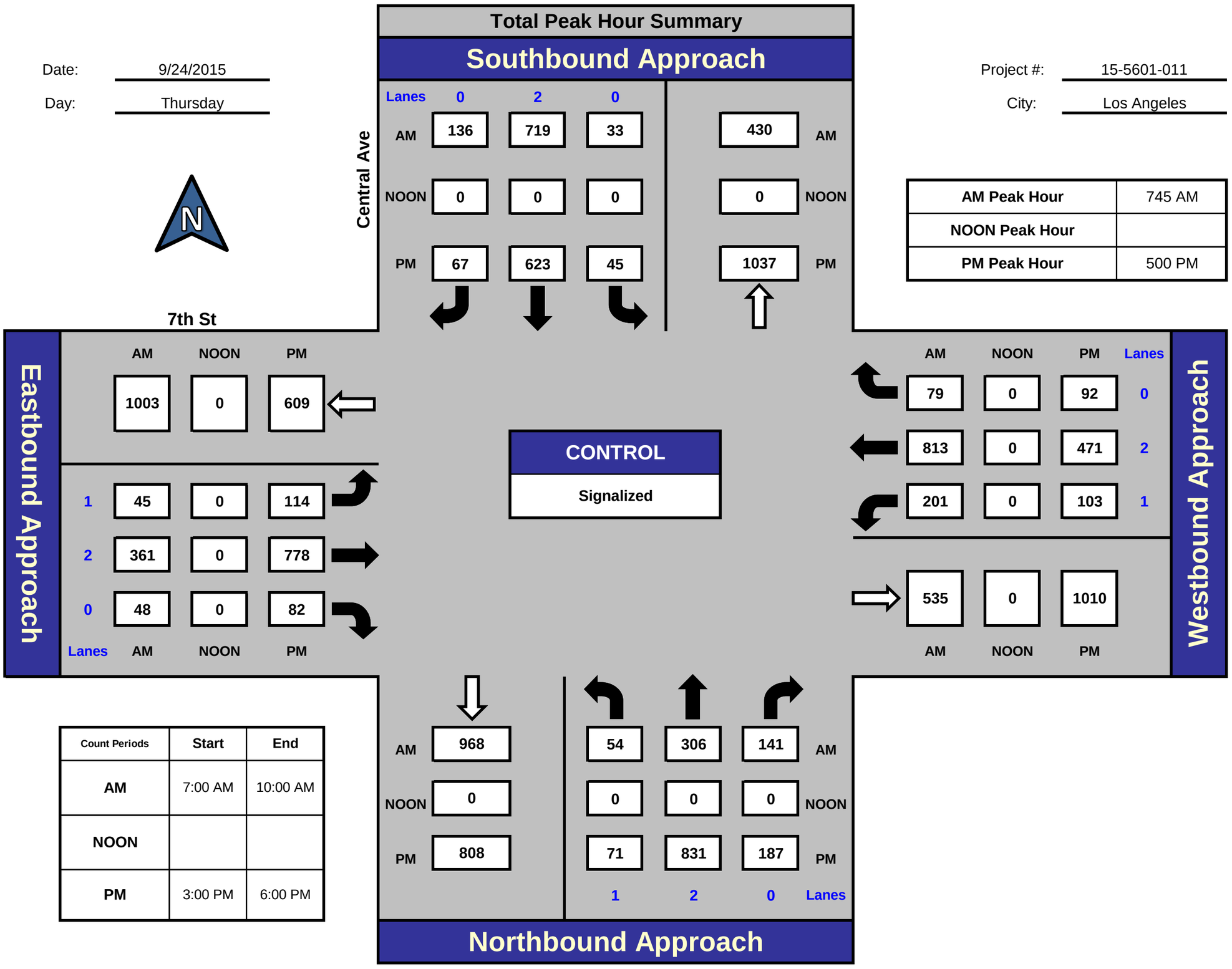
Central Ave and 7th St , Los Angeles

Date: 9/24/2015

Day: Thursday

Project #: 15-5601-011

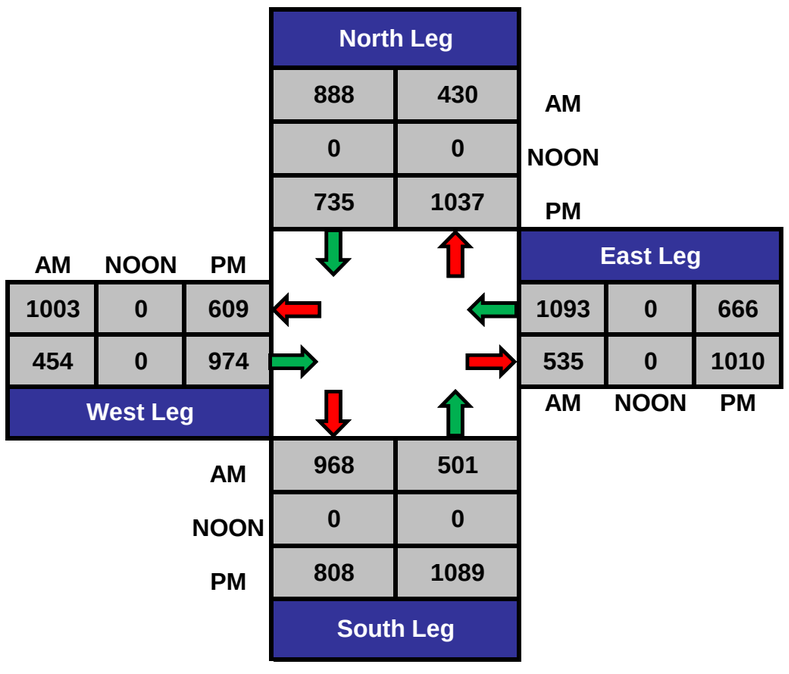
City: Los Angeles



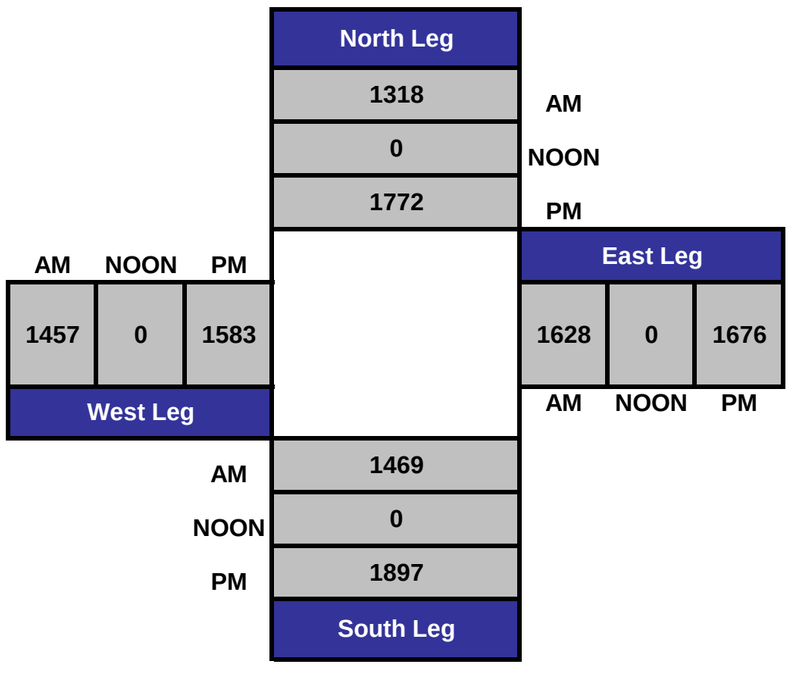
AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

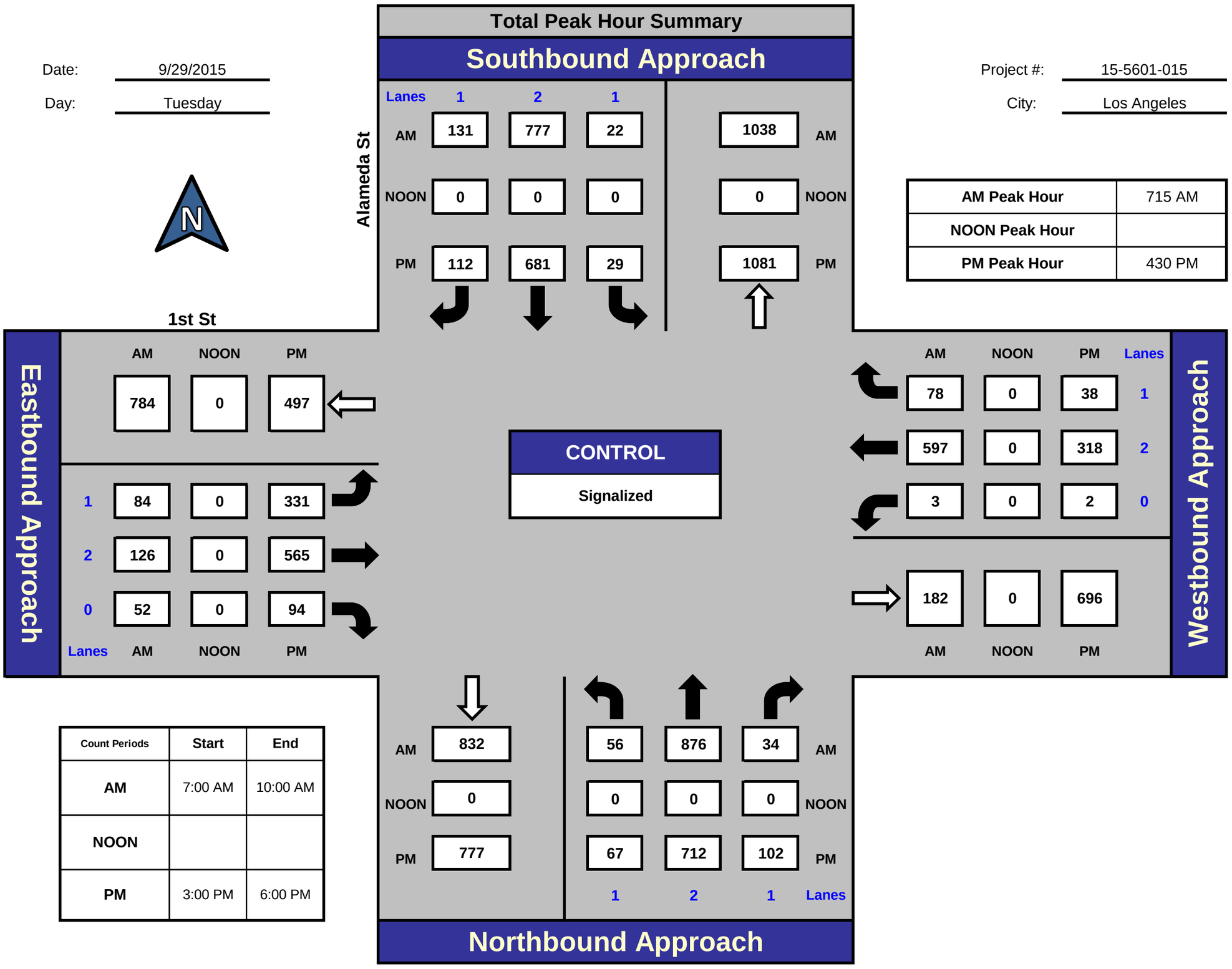
Alameda St and 1st St , Los Angeles

Date: 9/29/2015

Day: Tuesday

Project #: 15-5601-015

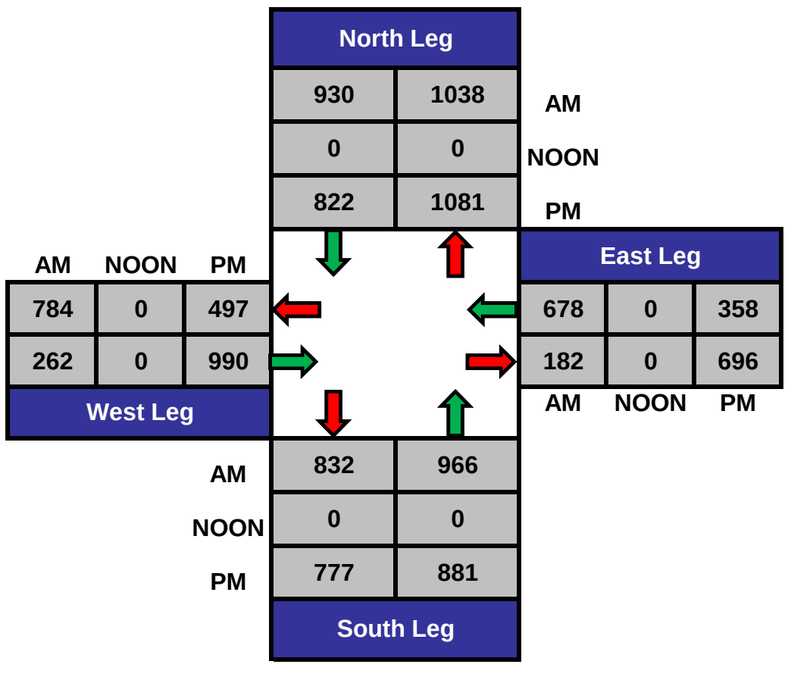
City: Los Angeles



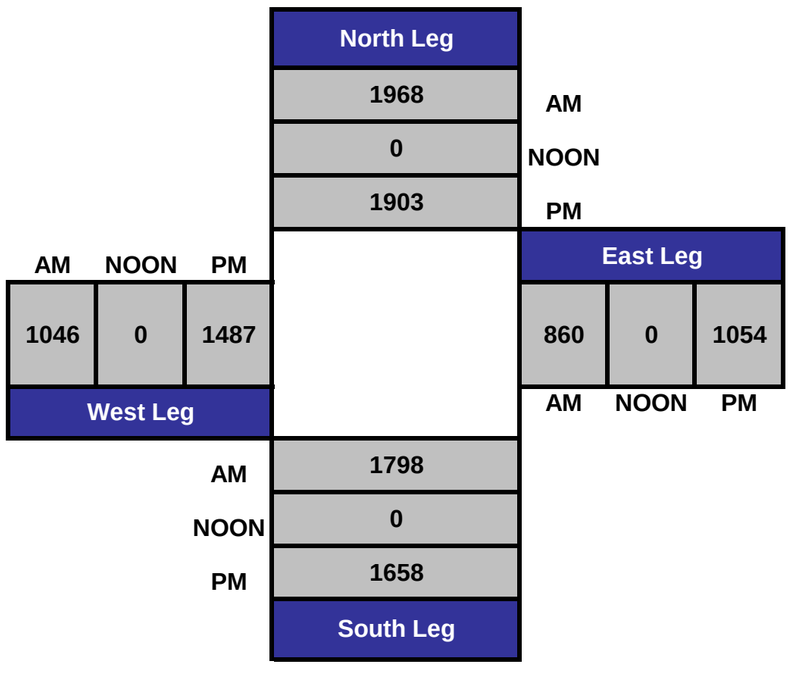
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

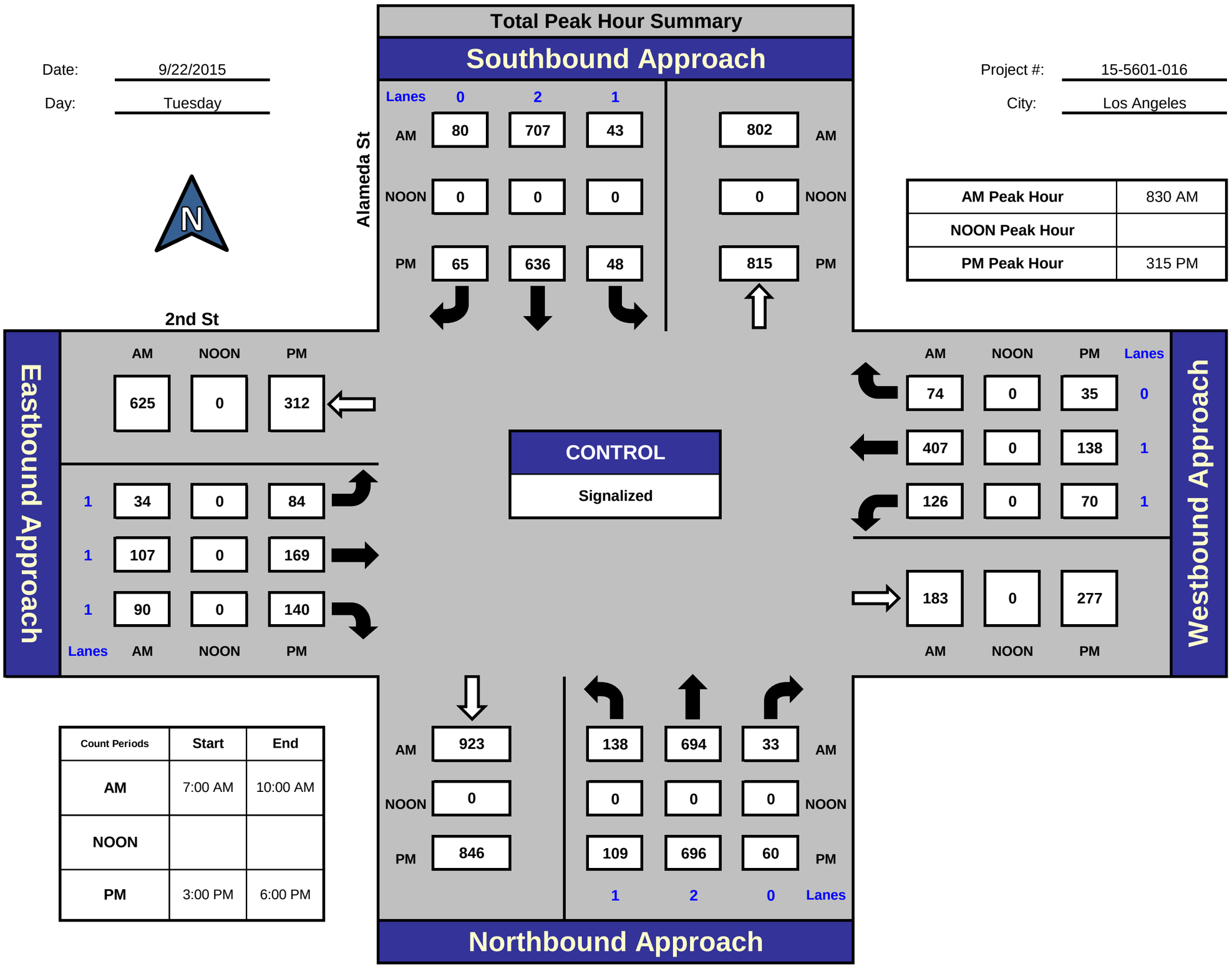
Alameda St and 2nd St , Los Angeles

Date: 9/22/2015

Day: Tuesday

Project #: 15-5601-016

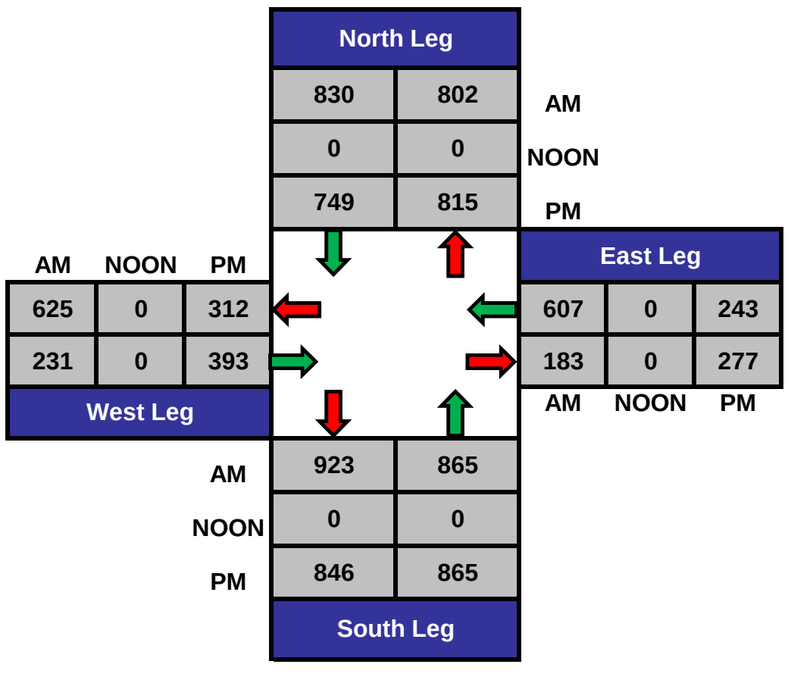
City: Los Angeles



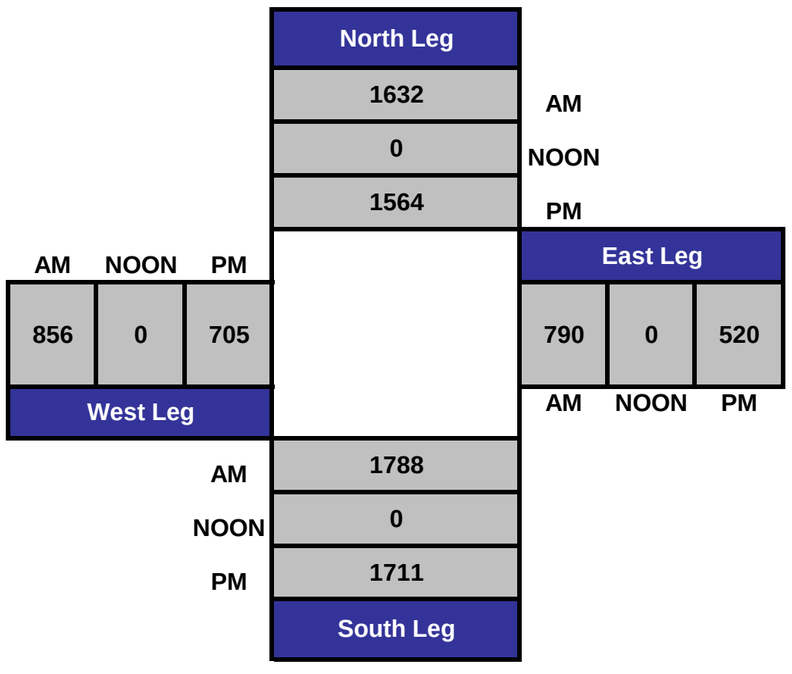
AM Peak Hour	830 AM
NOON Peak Hour	
PM Peak Hour	315 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

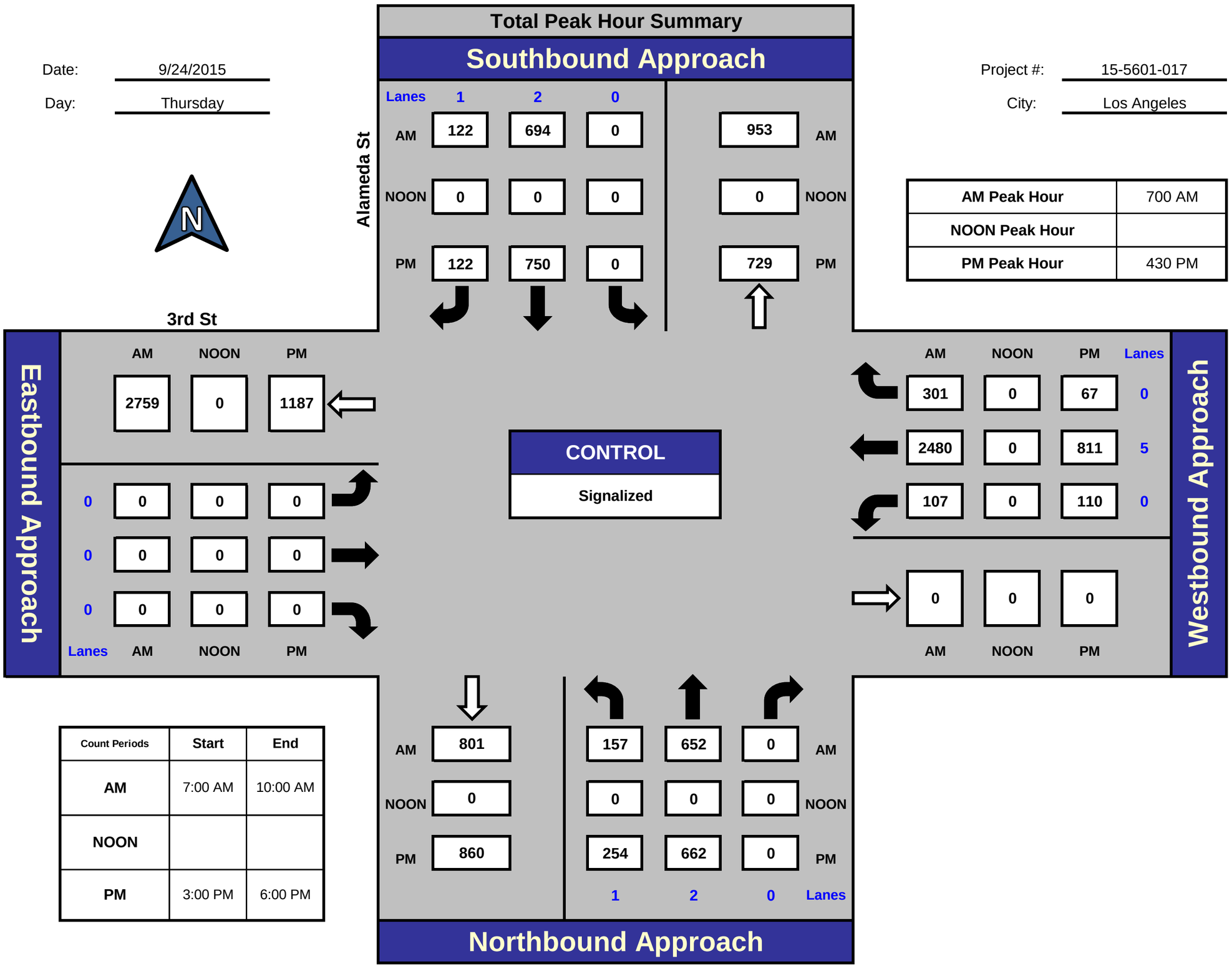
Alameda St and 3rd St , Los Angeles

Date: 9/24/2015

Day: Thursday

Project #: 15-5601-017

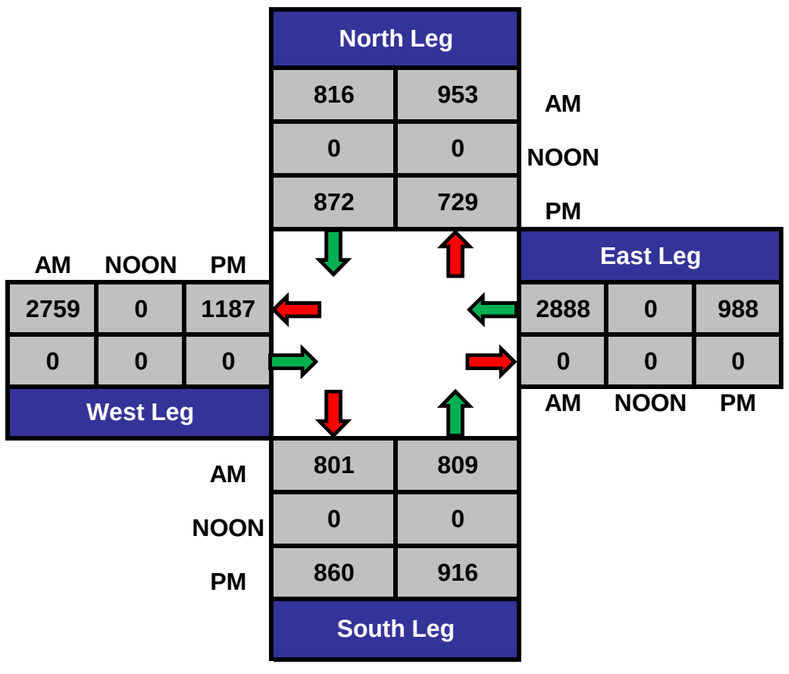
City: Los Angeles



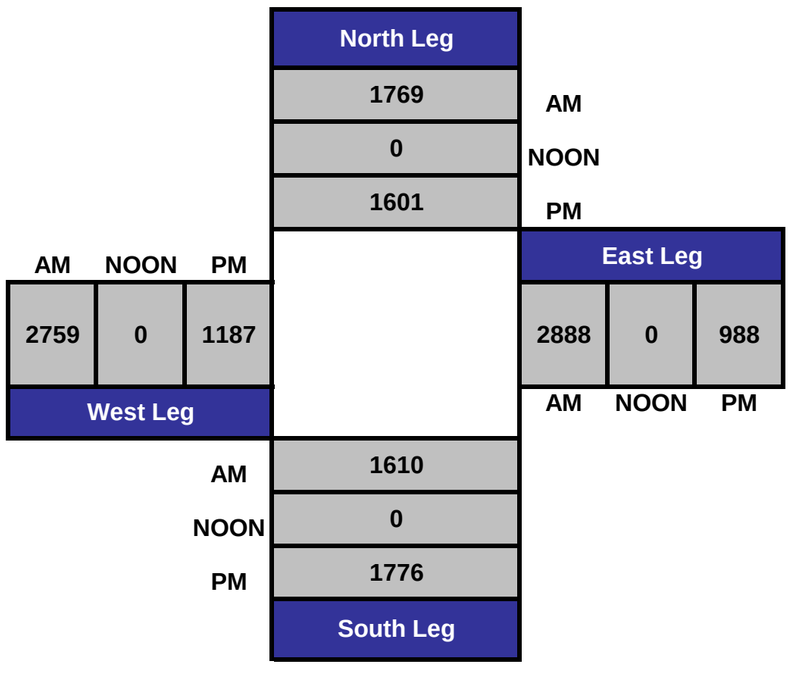
AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

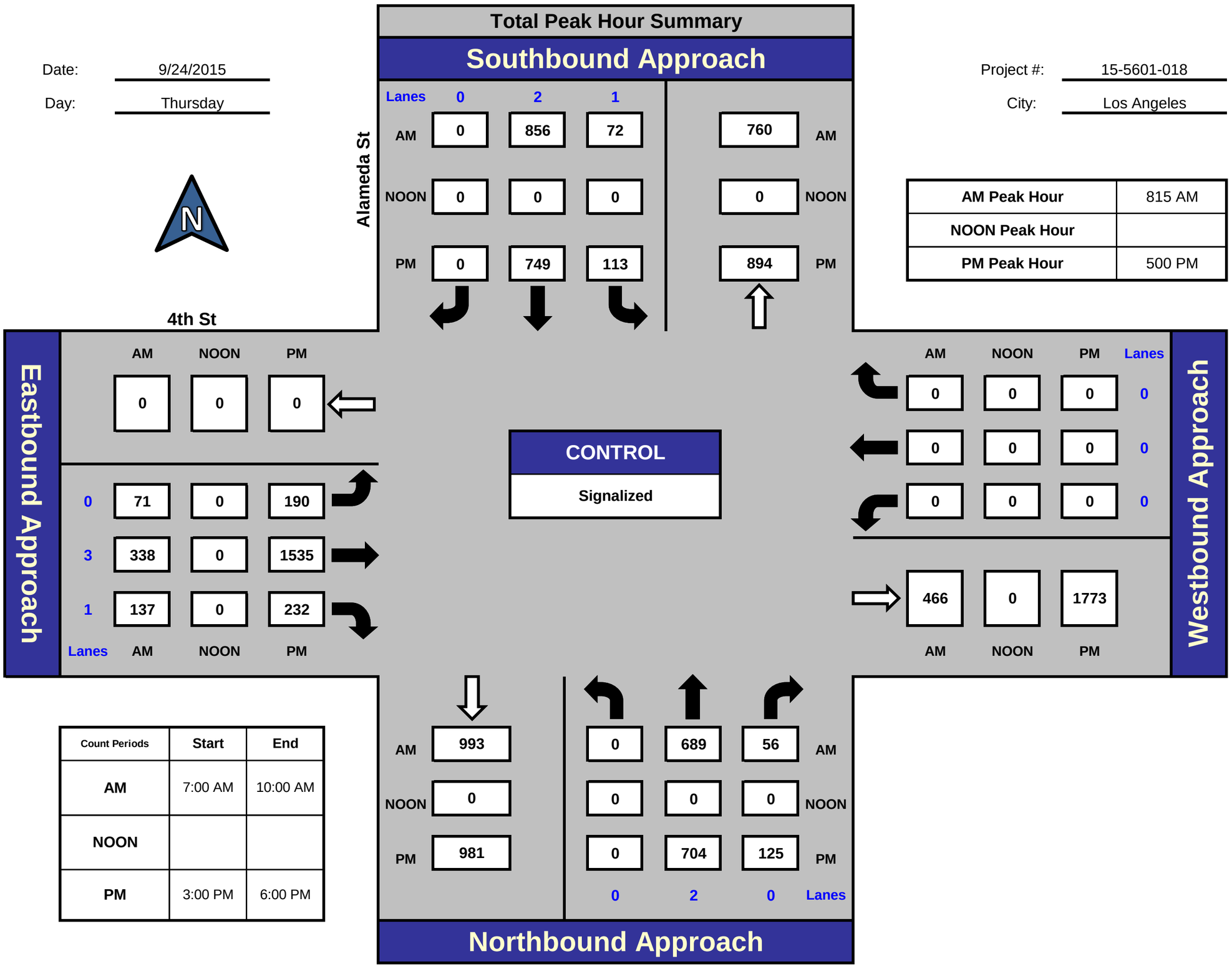
Alameda St and 4th St , Los Angeles

Date: 9/24/2015

Day: Thursday

Project #: 15-5601-018

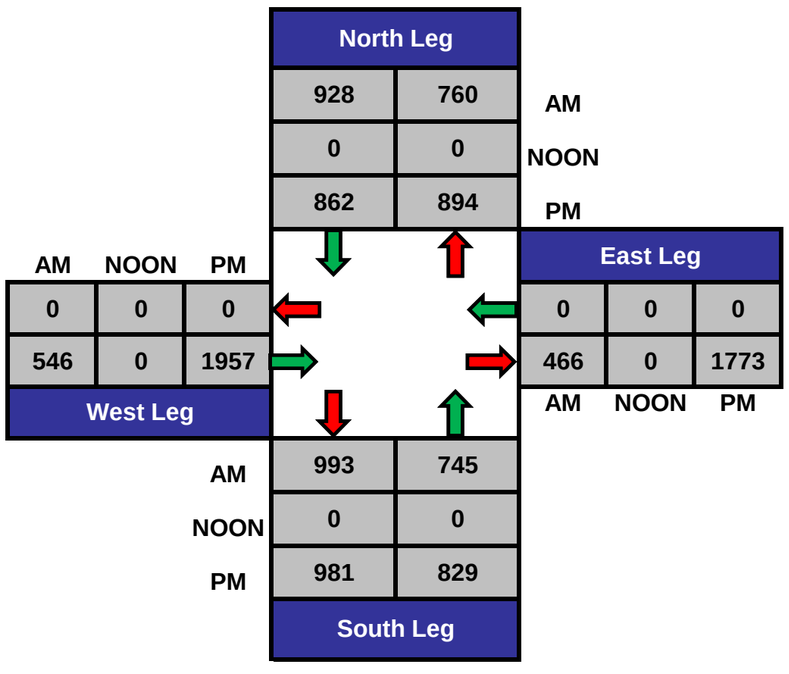
City: Los Angeles



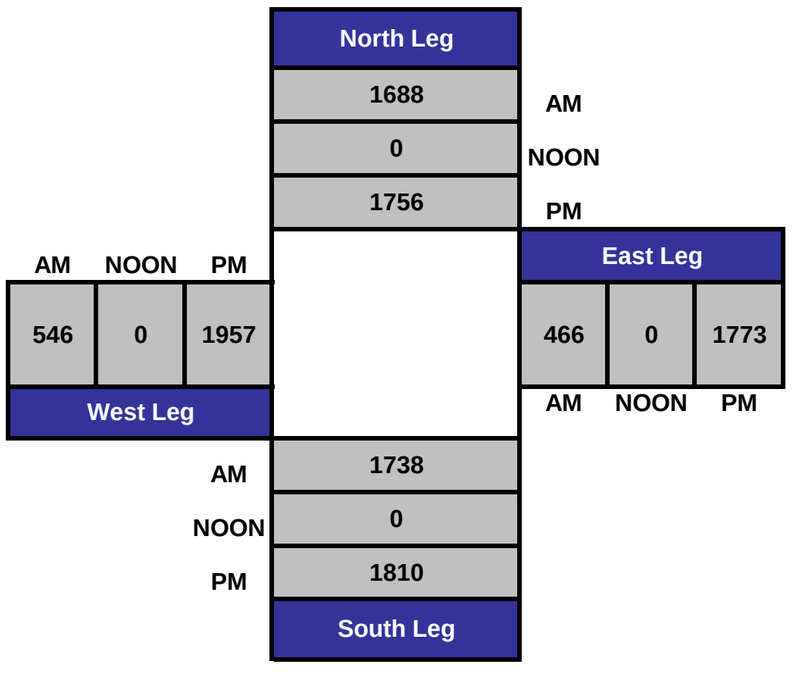
AM Peak Hour	815 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

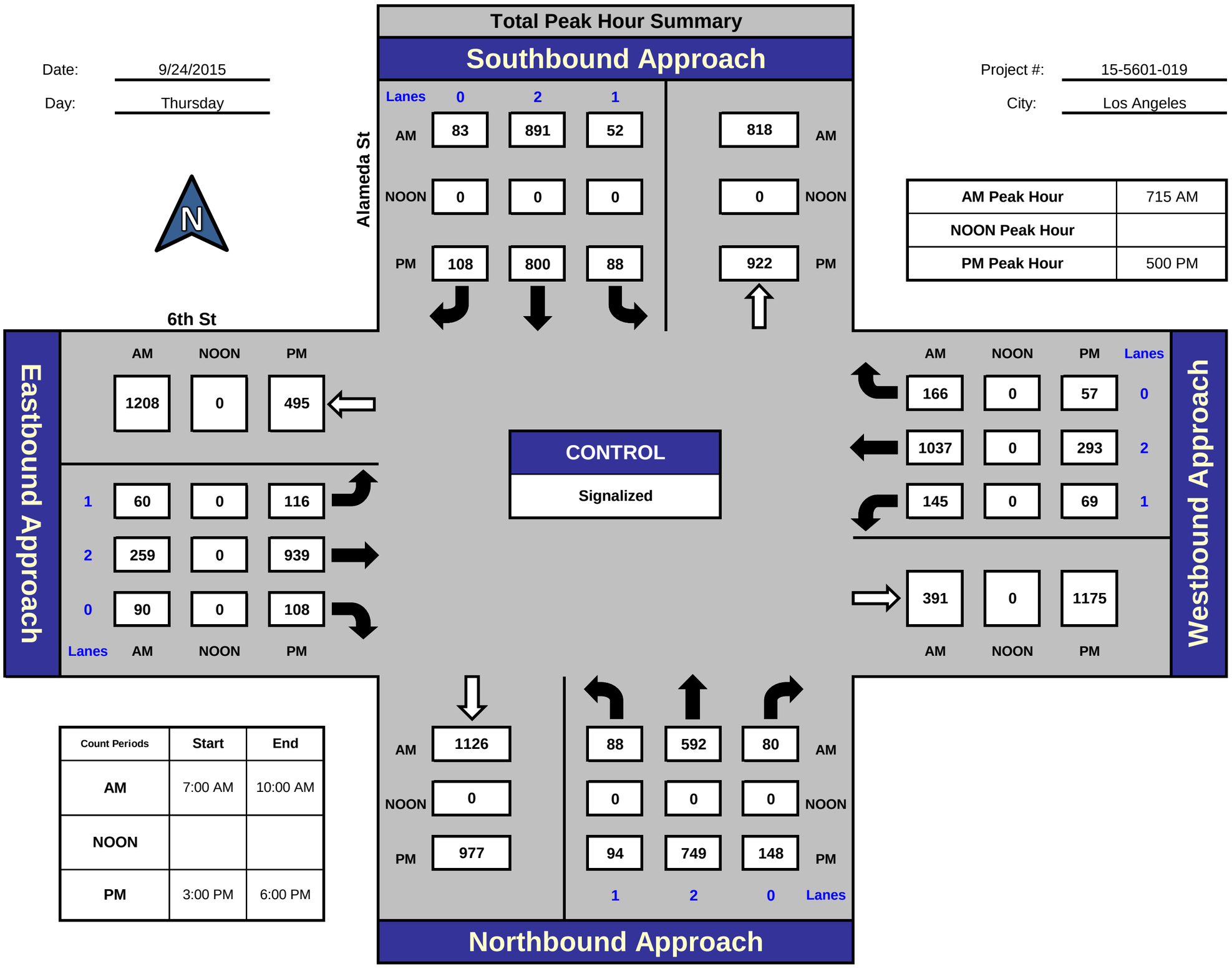
Alameda St and 6th St , Los Angeles

Date: 9/24/2015

Day: Thursday

Project #: 15-5601-019

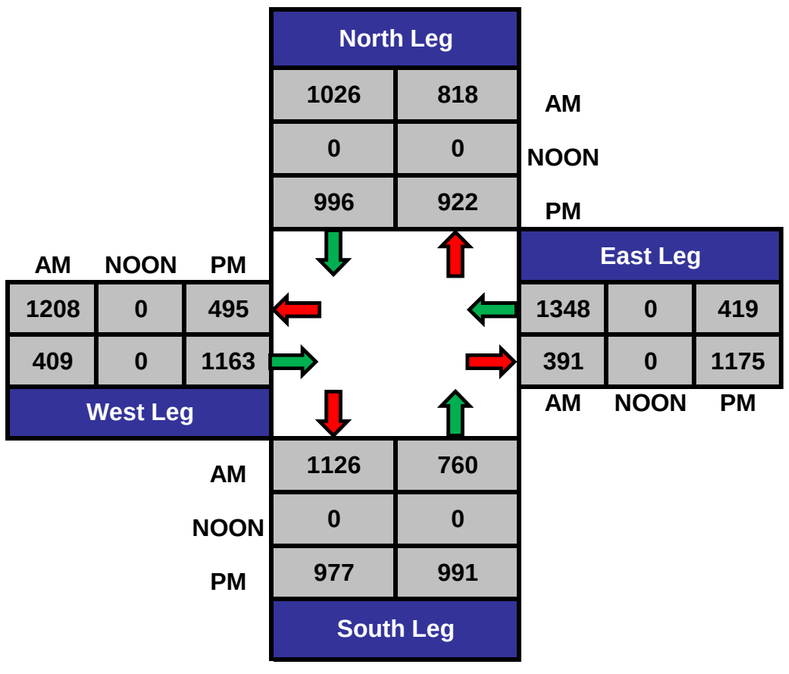
City: Los Angeles



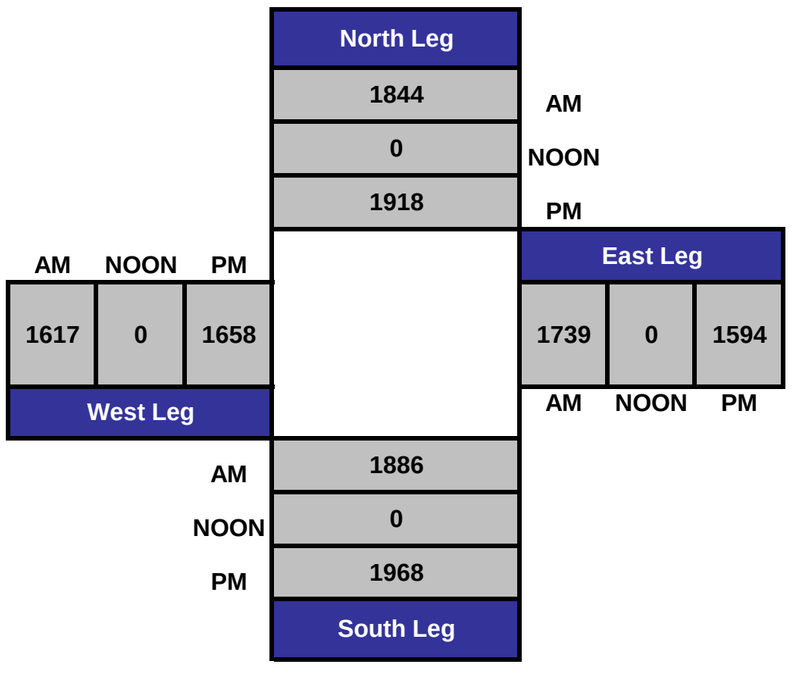
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

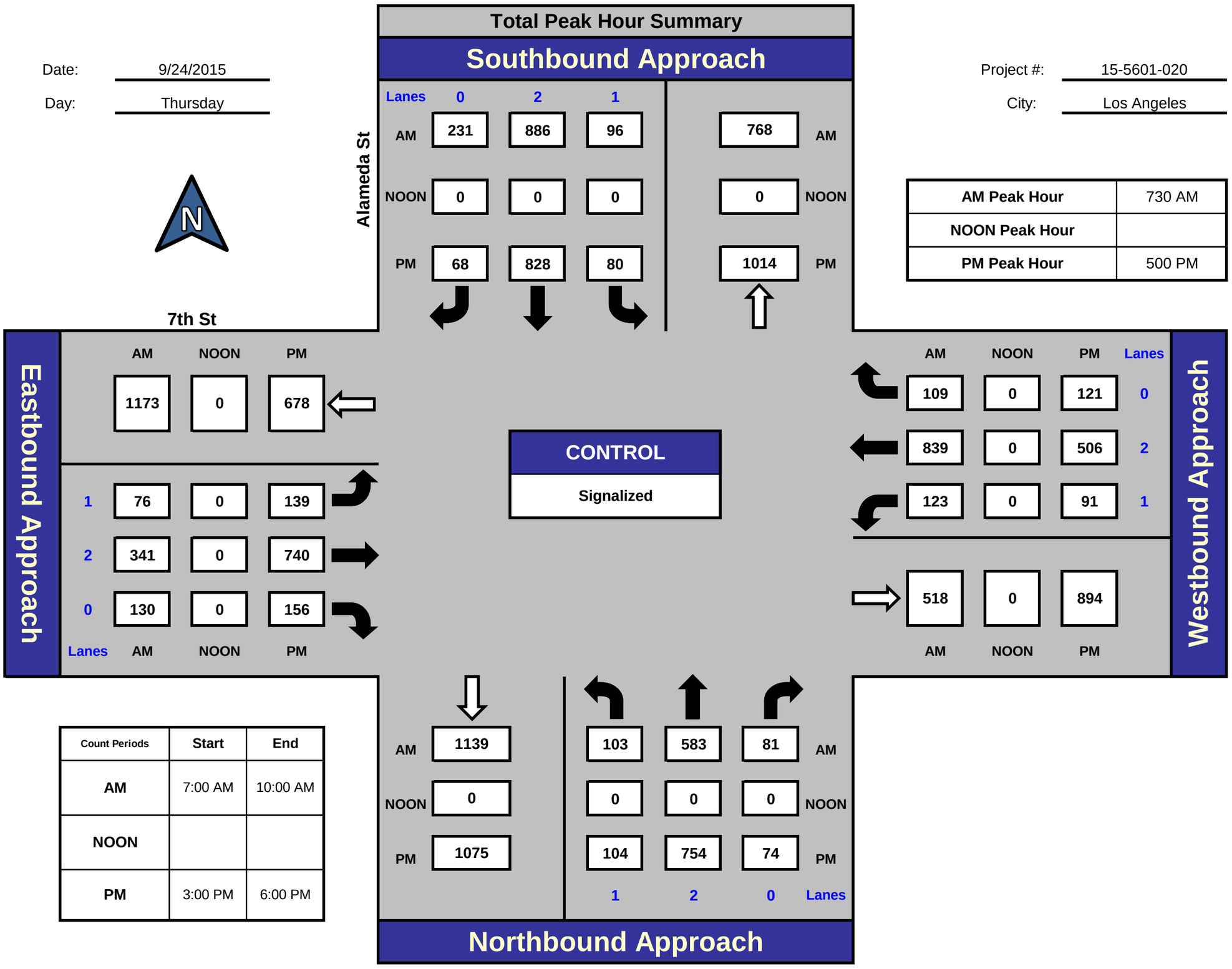
Alameda St and 7th St , Los Angeles

Date: 9/24/2015

Day: Thursday

Project #: 15-5601-020

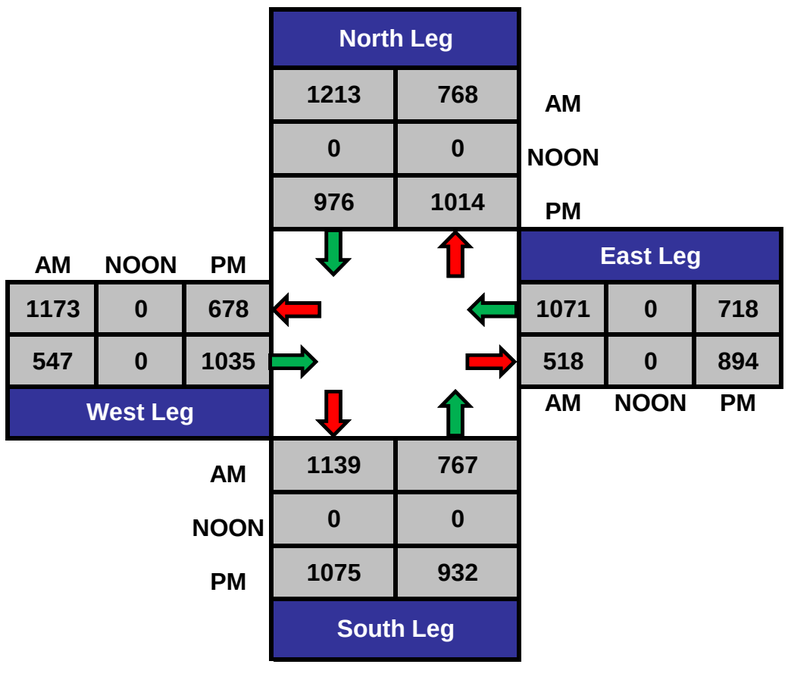
City: Los Angeles



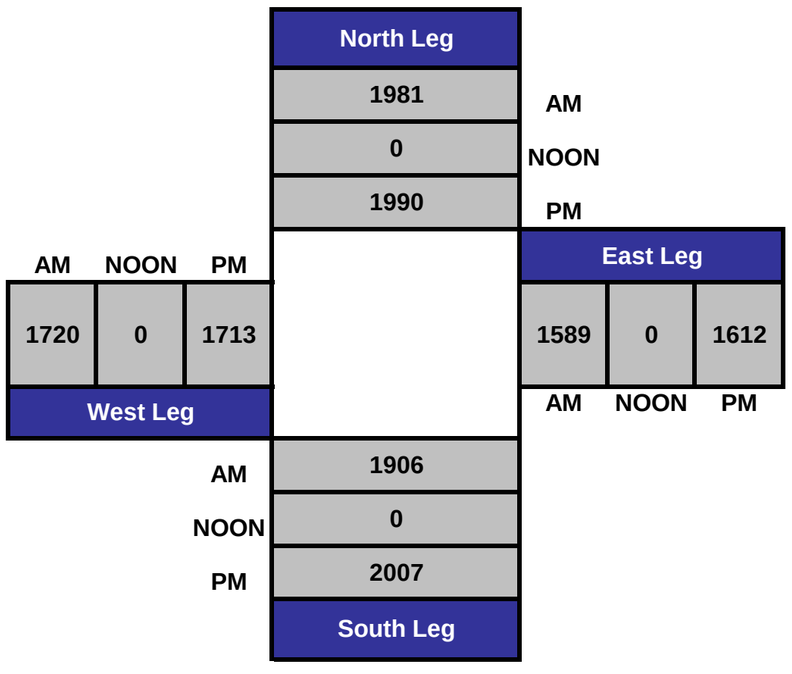
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

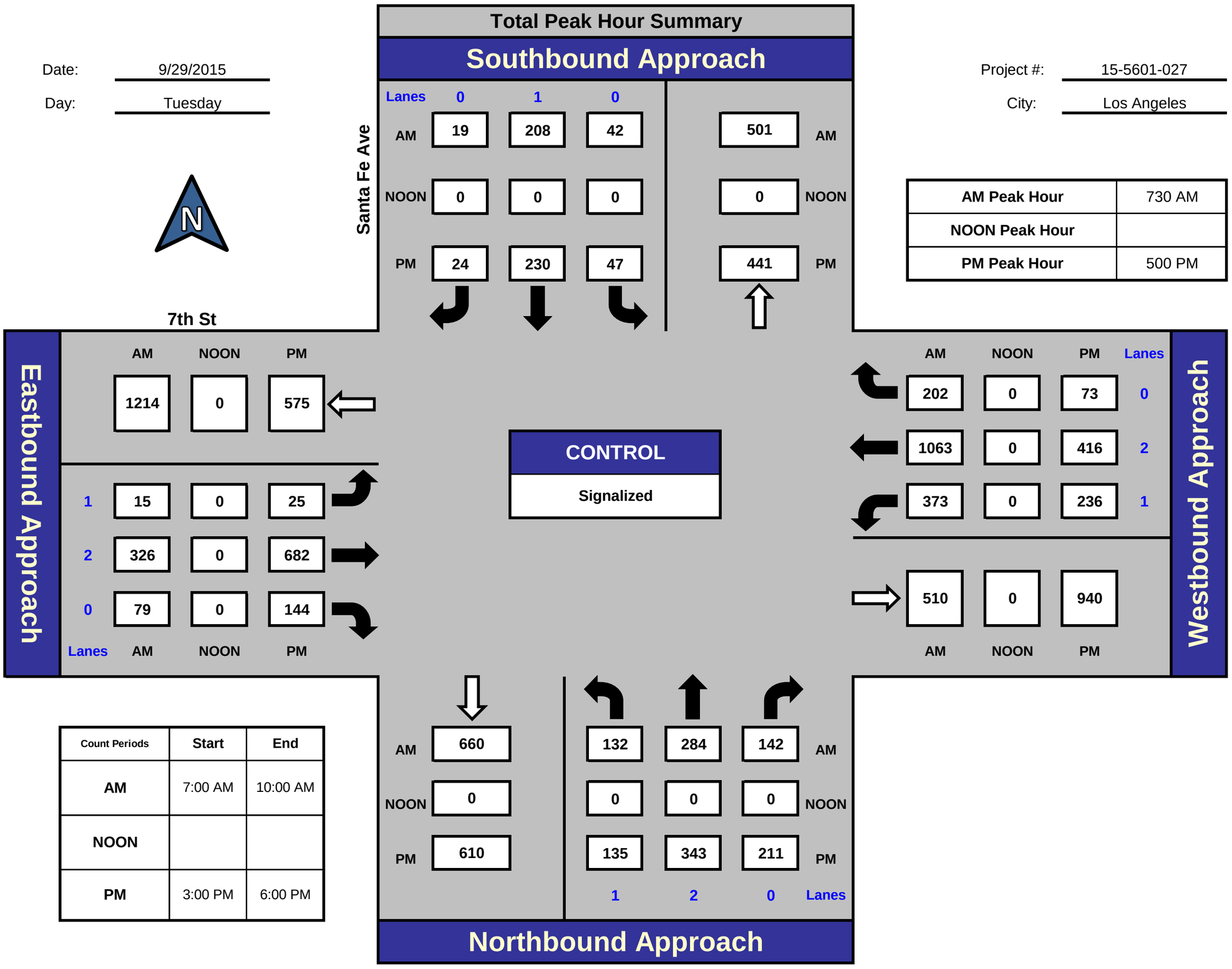
Santa Fe Ave and 7th St , Los Angeles

Date: 9/29/2015

Day: Tuesday

Project #: 15-5601-027

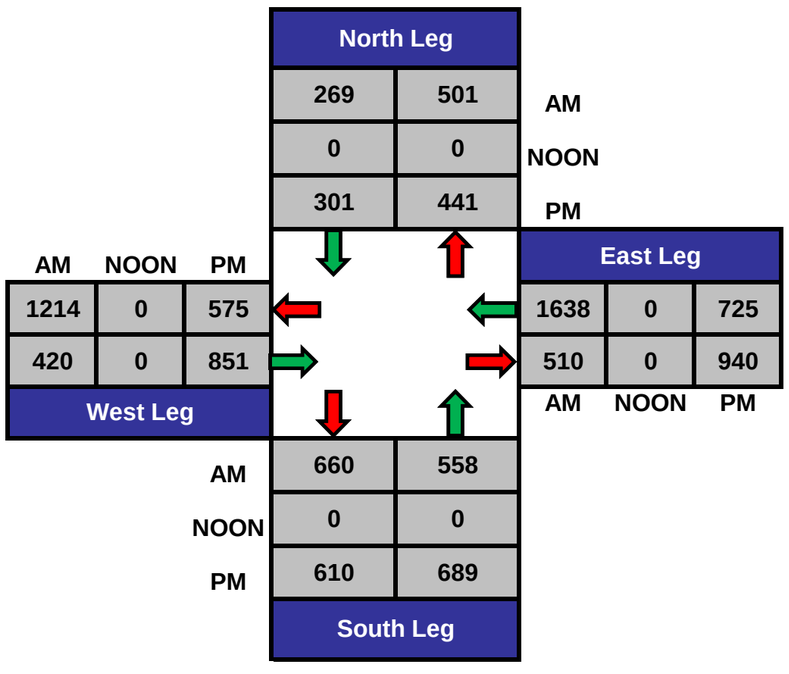
City: Los Angeles



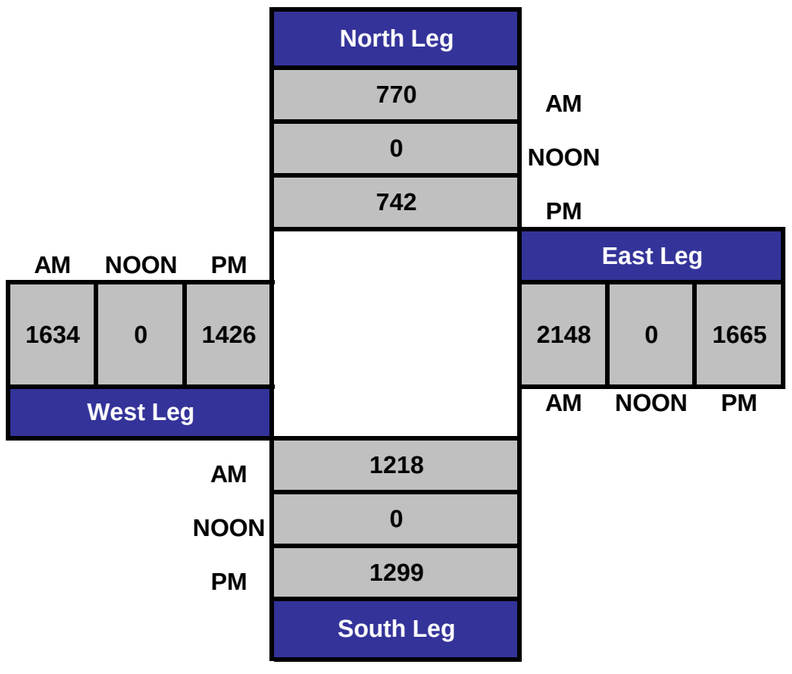
Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

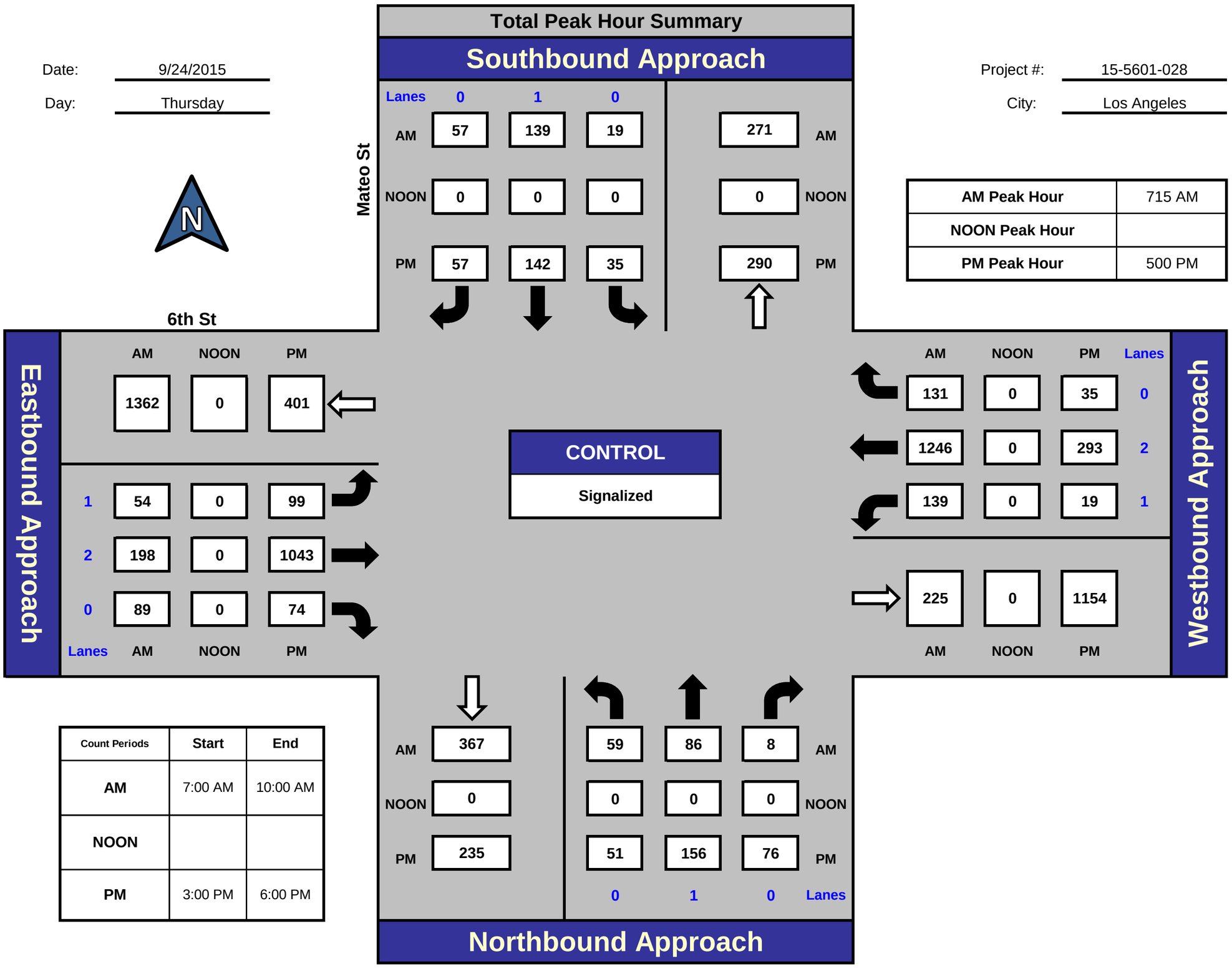
Mateo St and 6th St , Los Angeles

Date: 9/24/2015

Day: Thursday

Project #: 15-5601-028

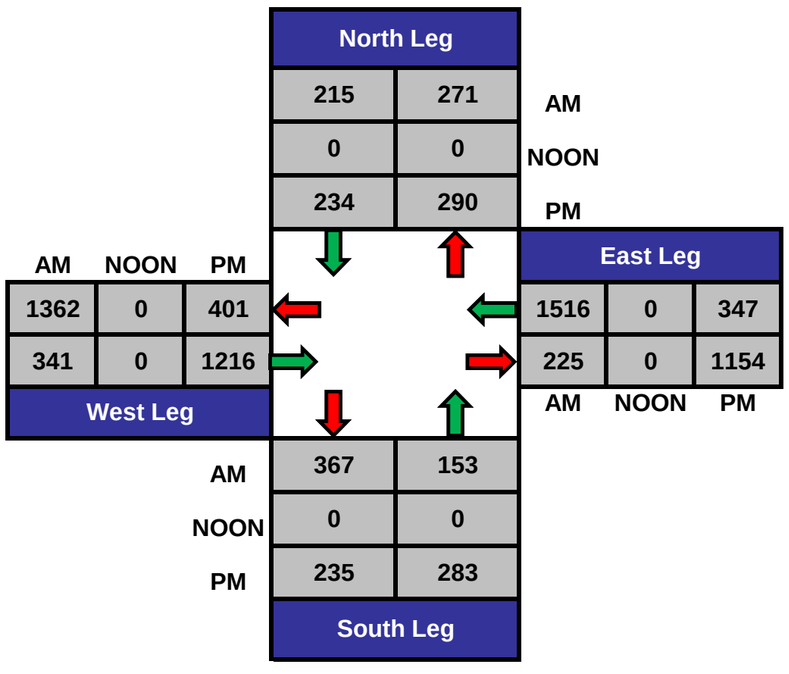
City: Los Angeles



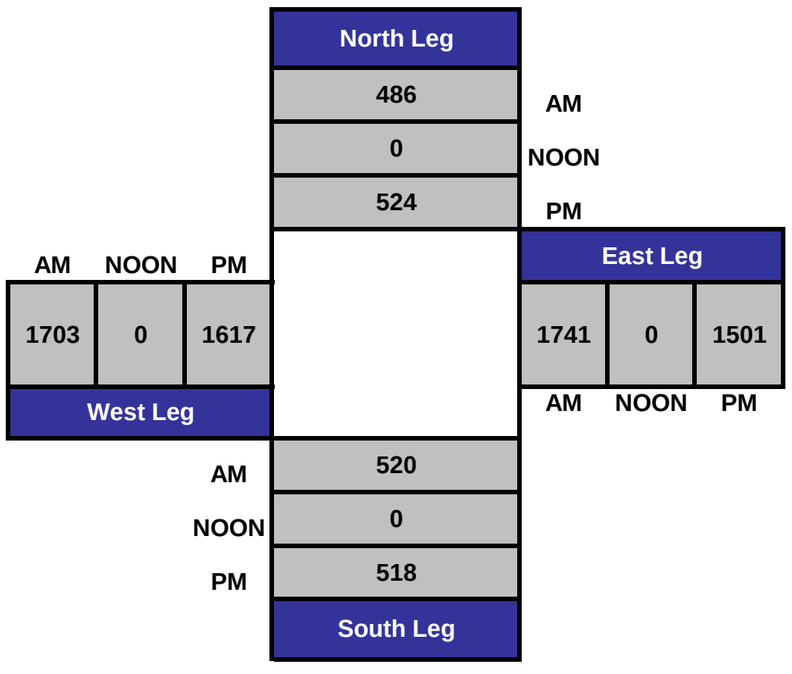
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

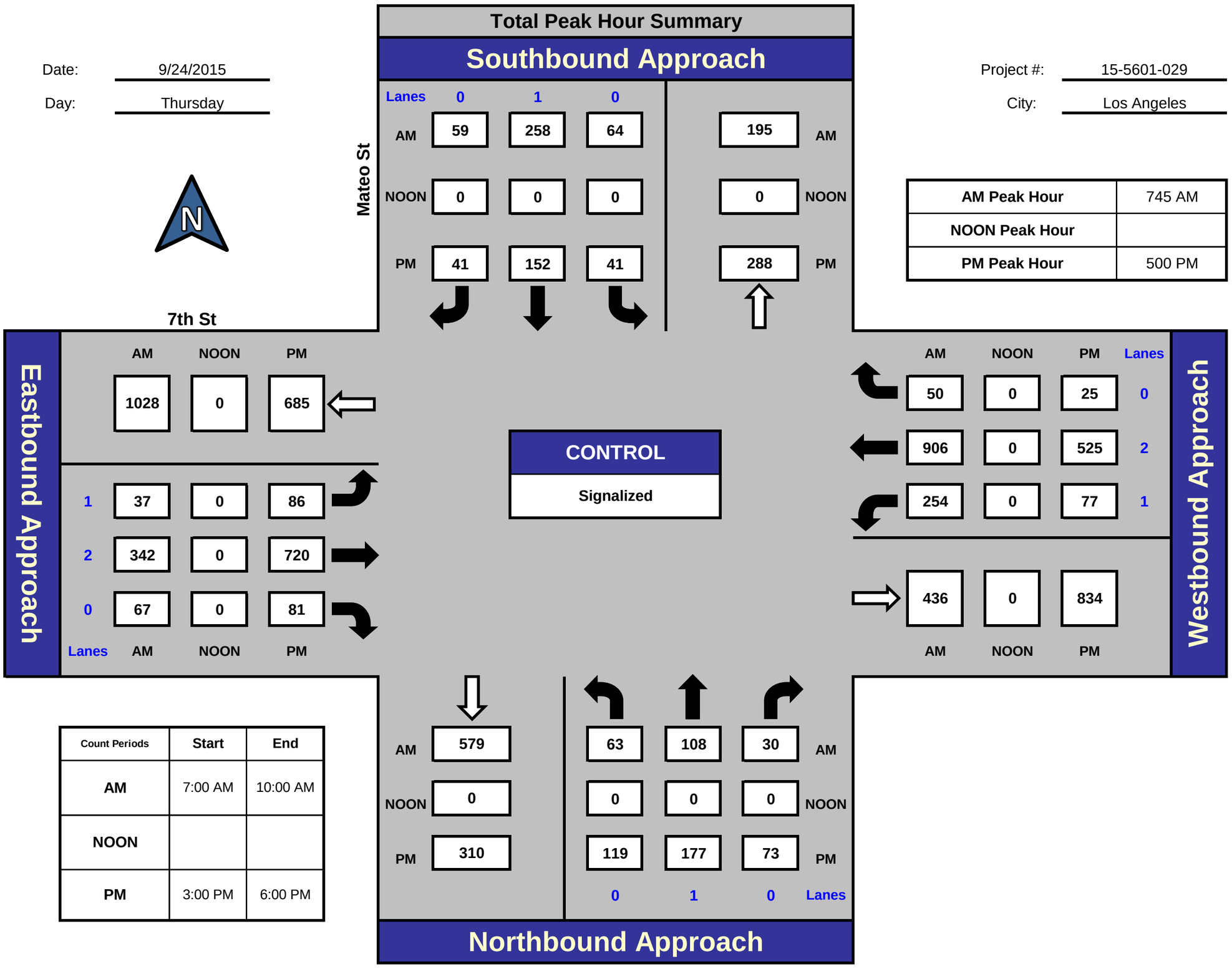
Mateo St and 7th St , Los Angeles

Date: 9/24/2015

Day: Thursday

Project #: 15-5601-029

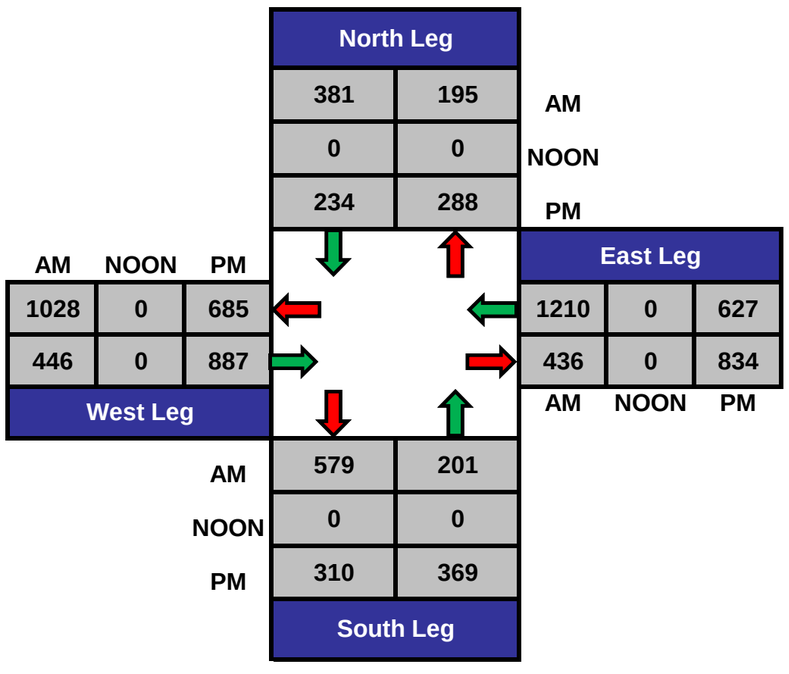
City: Los Angeles



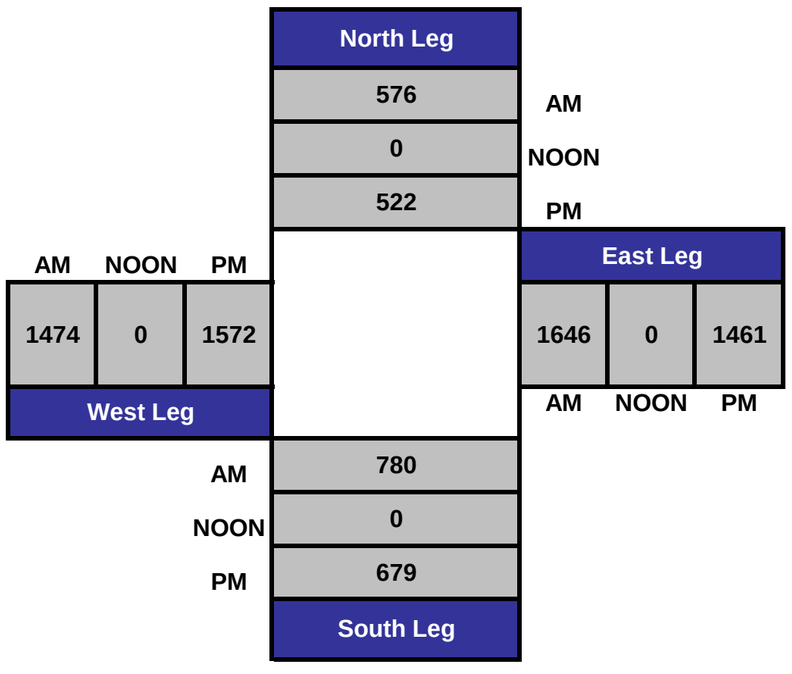
Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

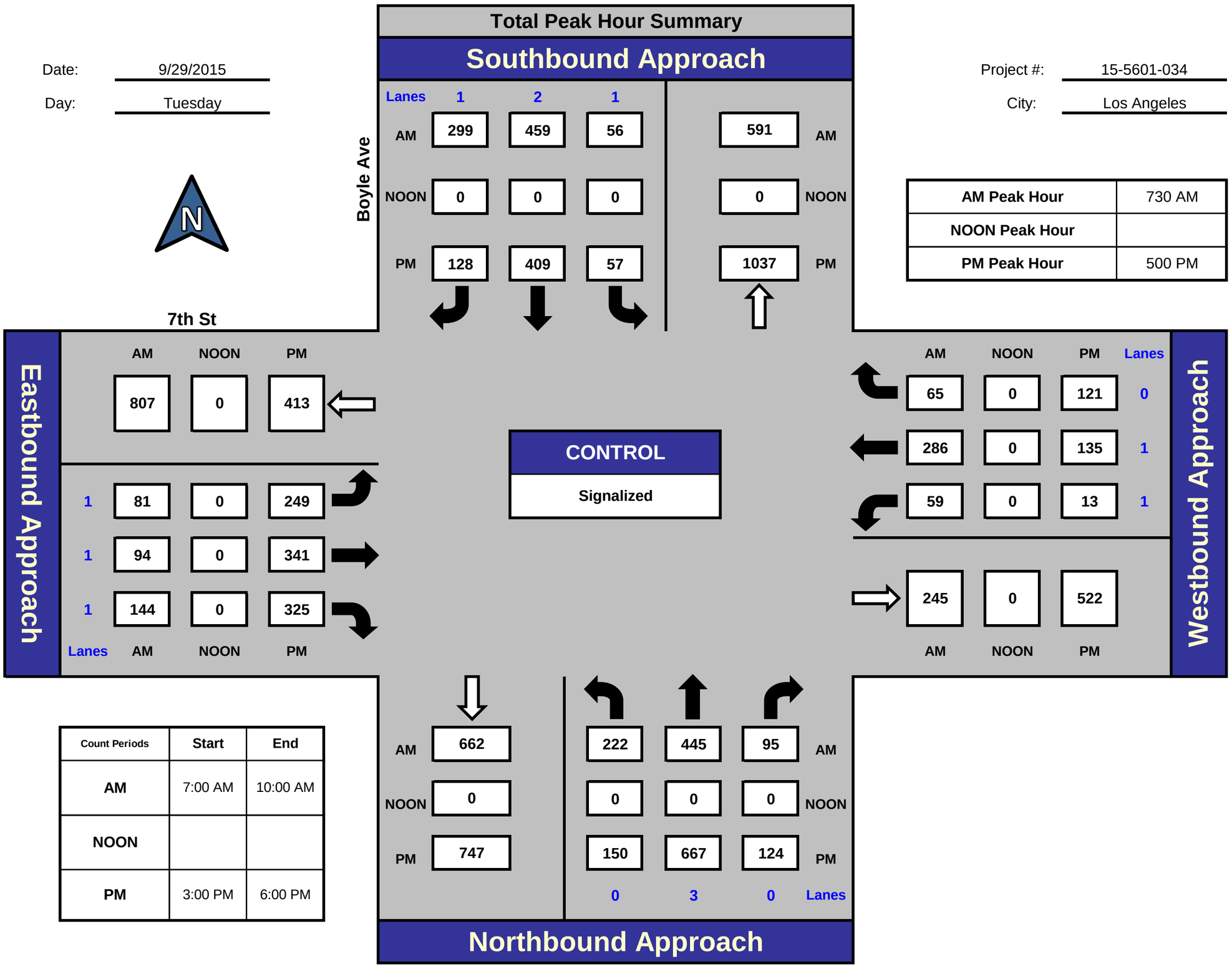
Boyle Ave and 7th St , Los Angeles

Date: 9/29/2015

Day: Tuesday

Project #: 15-5601-034

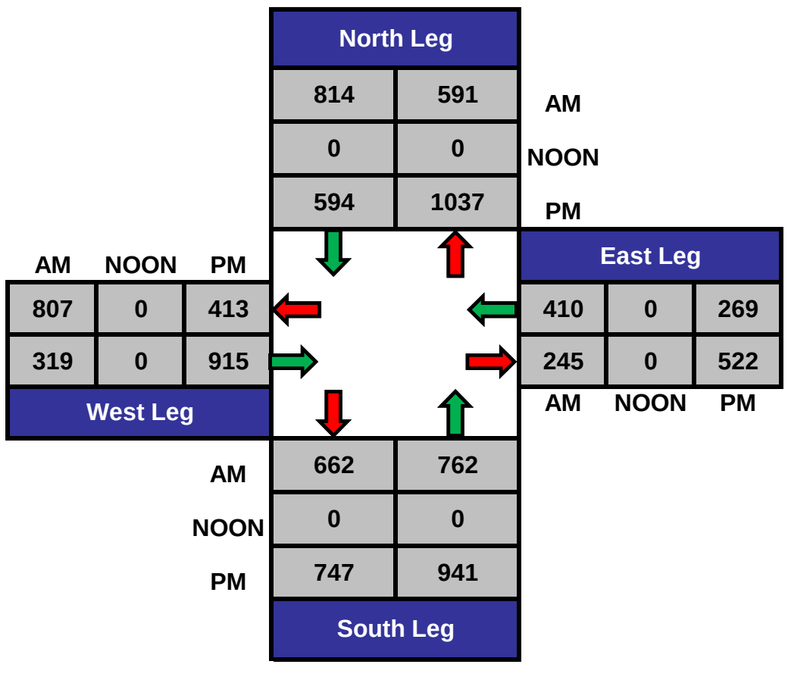
City: Los Angeles



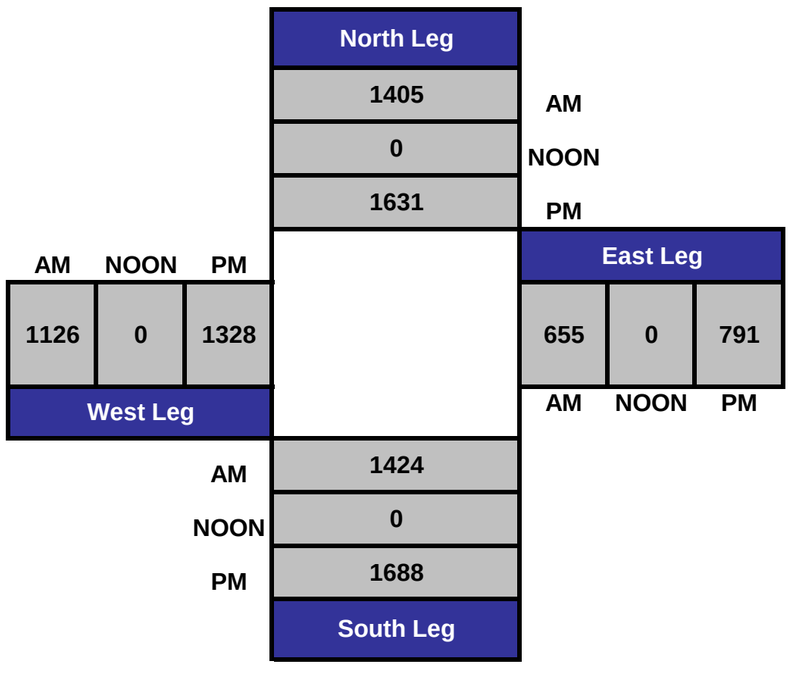
Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

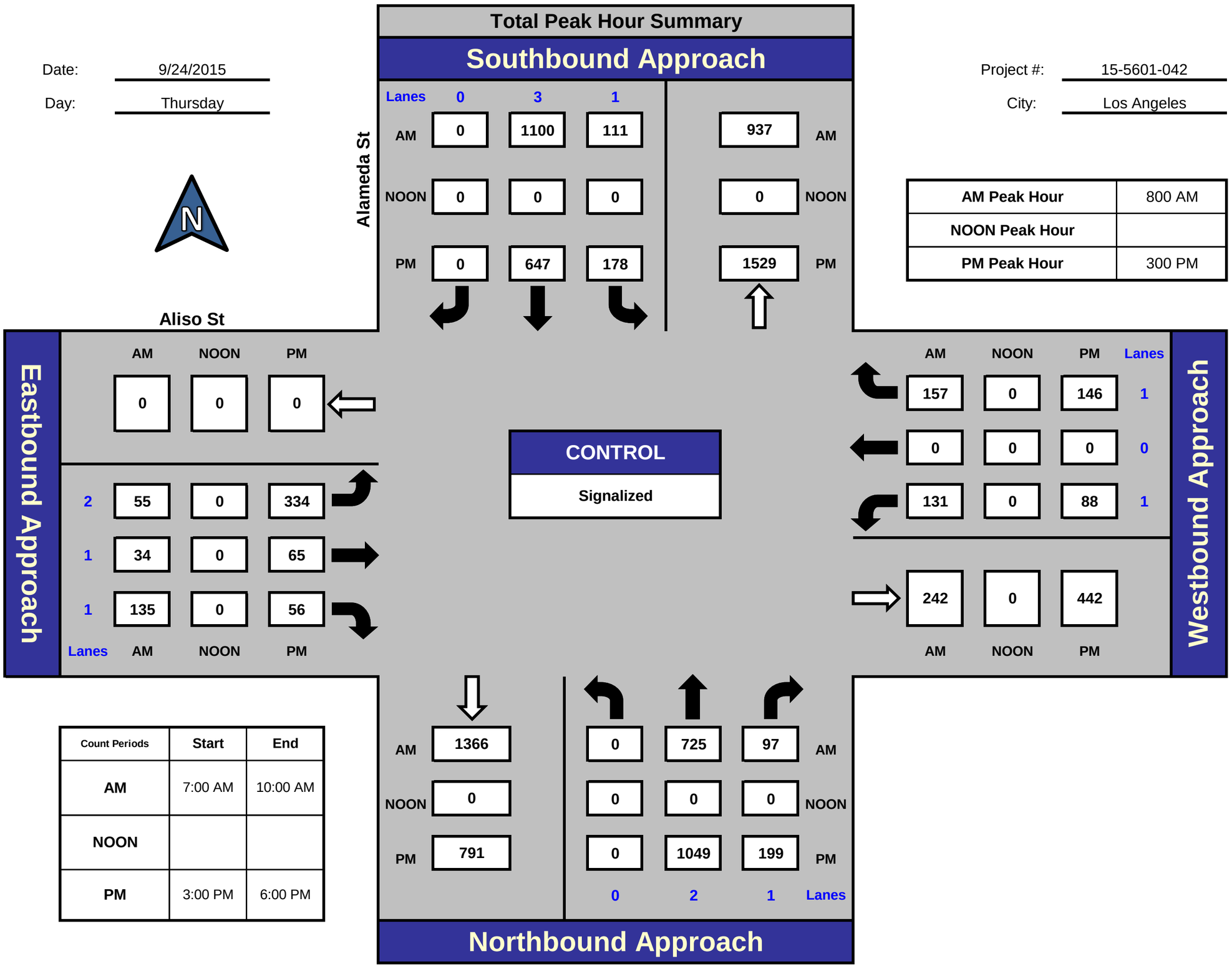
Alameda St and Aliso St , Los Angeles

Date: 9/24/2015

Day: Thursday

Project #: 15-5601-042

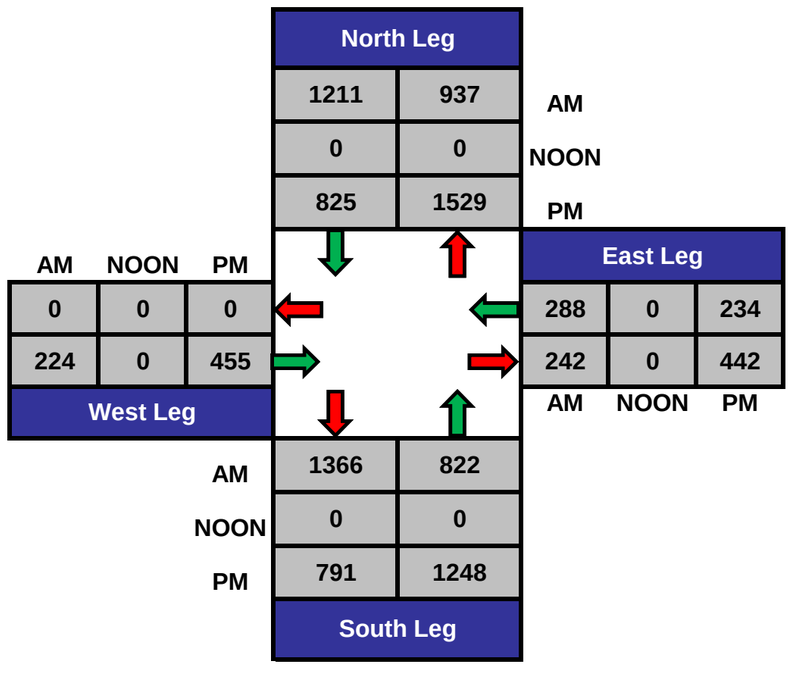
City: Los Angeles



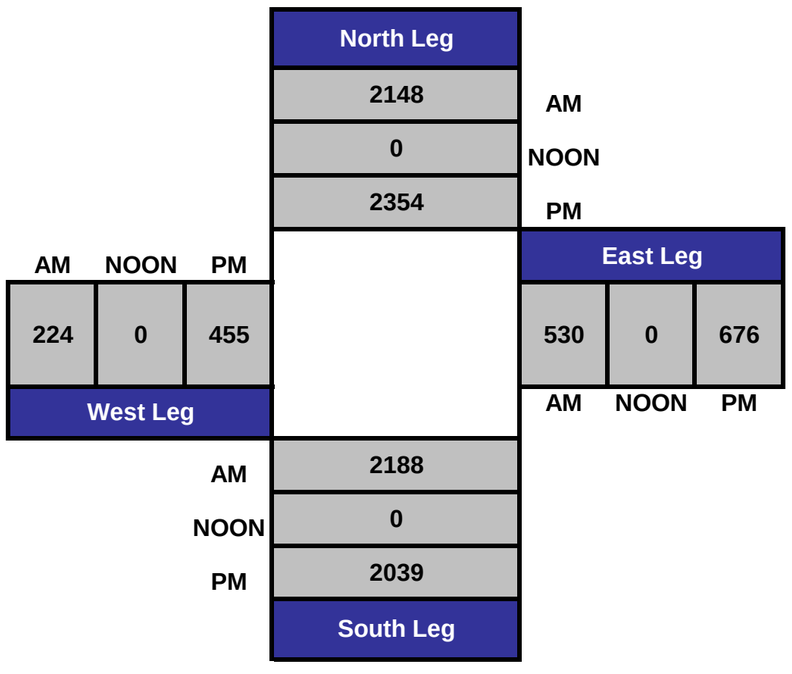
Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	300 PM

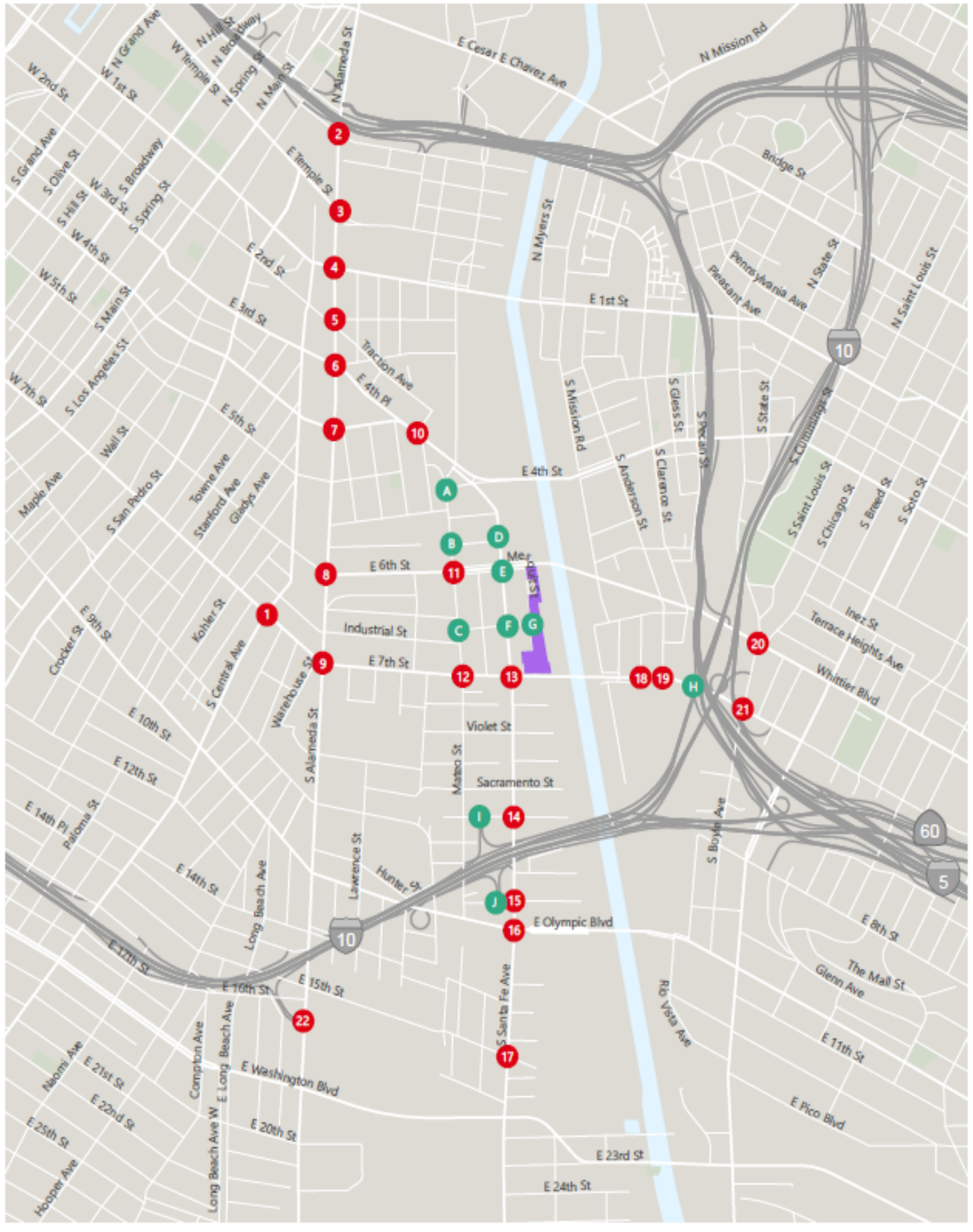
Total Ins & Outs



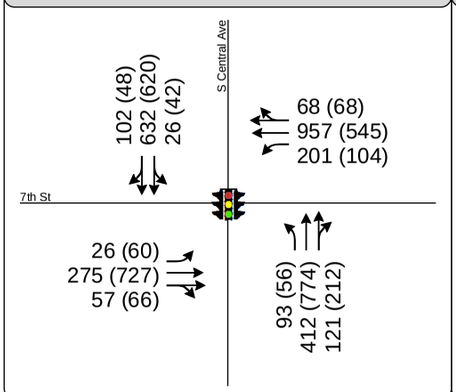
Total Volume Per Leg



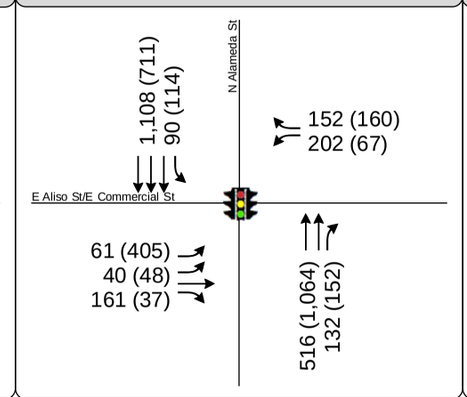
Appendix F:
Intersection Lane Configurations and Volumes



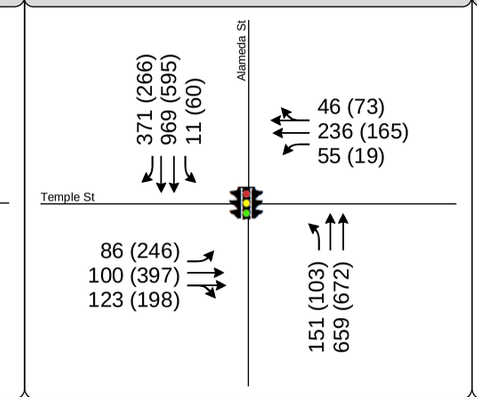
1. S Central Ave/7th St



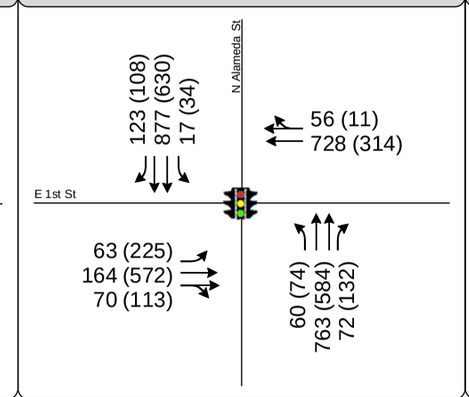
2. N Alameda St/E Aliso St/E Commercial St



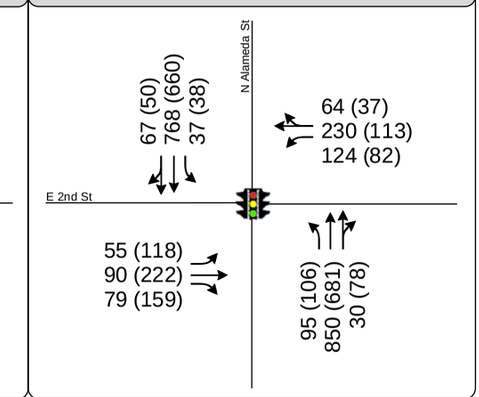
3. Alameda St/Temple St



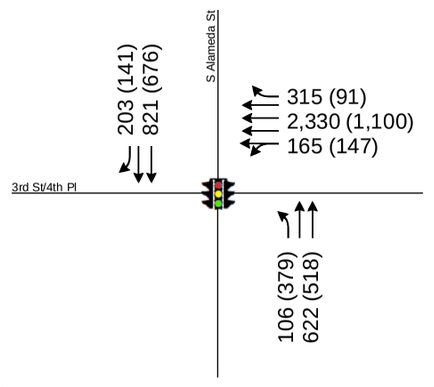
4. N Alameda St/E 1st St



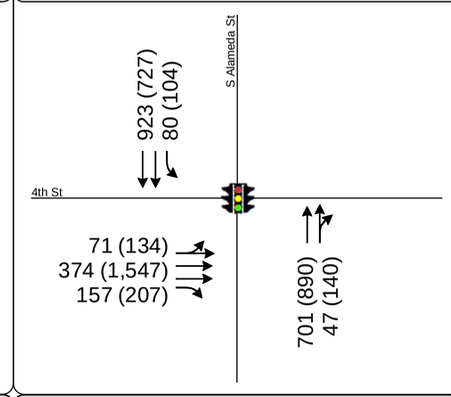
5. N Alameda St/E 2nd St



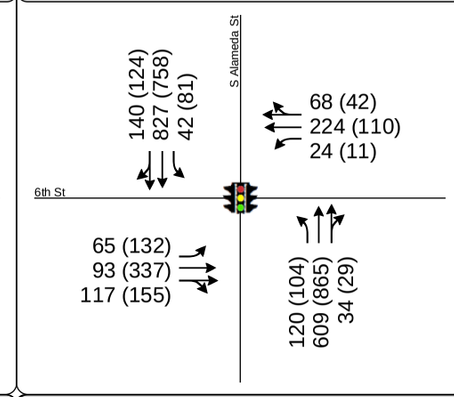
6. S Alameda St/3rd St/4th Pl



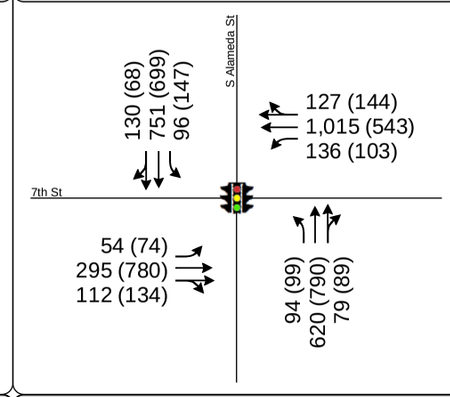
7. S Alameda St/4th St



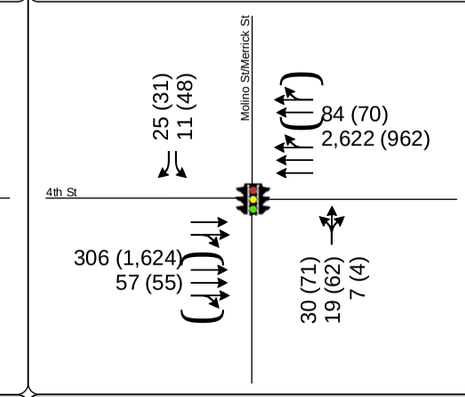
8. S Alameda St/6th St



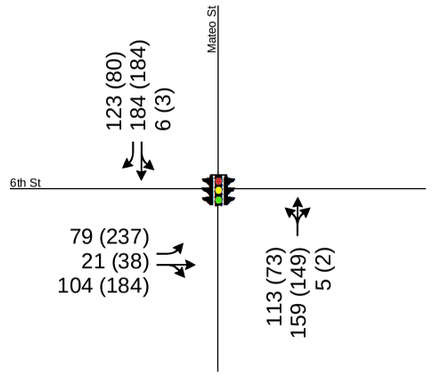
9. S Alameda St/7th St



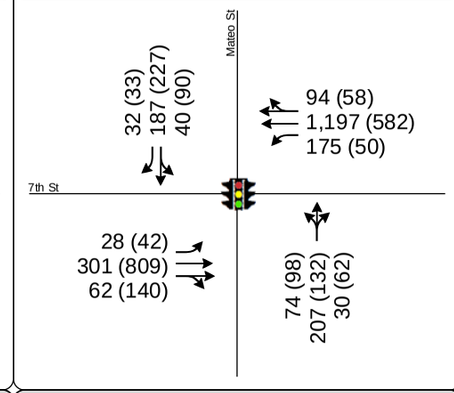
10. Molino St/Merrick St/4th St



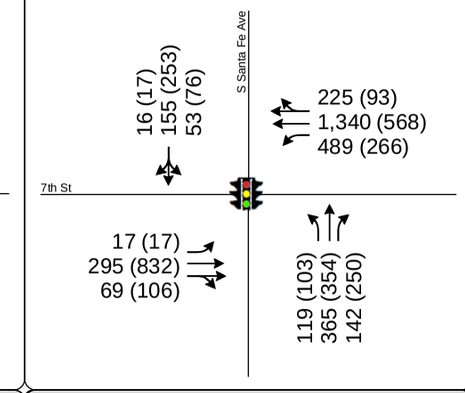
11. Mateo St/6th St



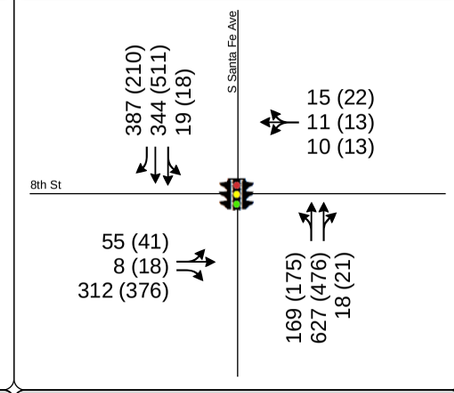
12. Mateo St/7th St



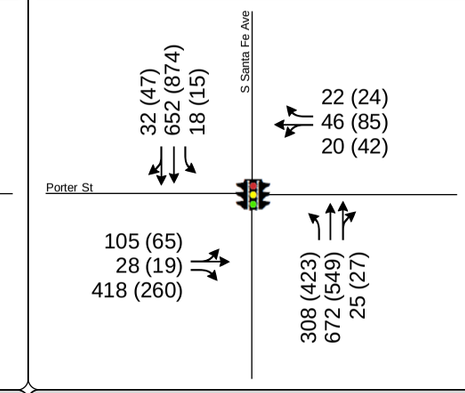
13. S Santa Fe Ave/7th St



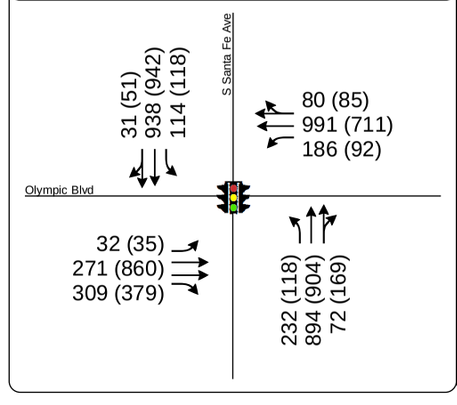
14. S Santa Fe Ave/8th St



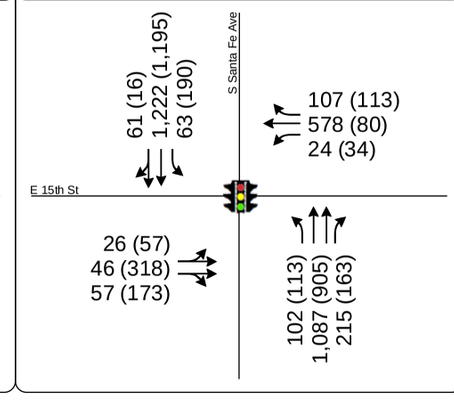
15. S Santa Fe Ave/Porter St



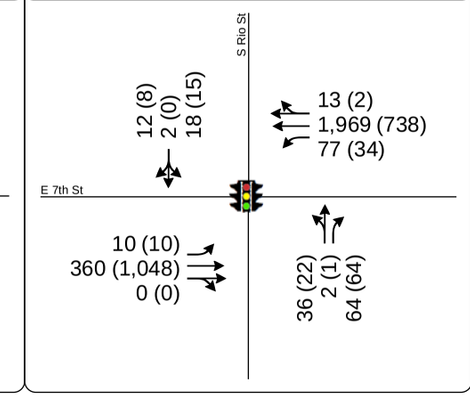
16. S Santa Fe Ave/Olympic Blvd



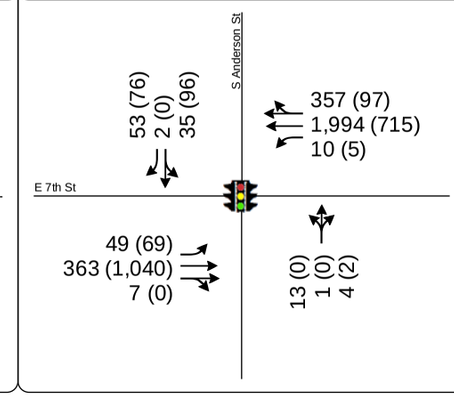
17. S Santa Fe Ave/E 15th St



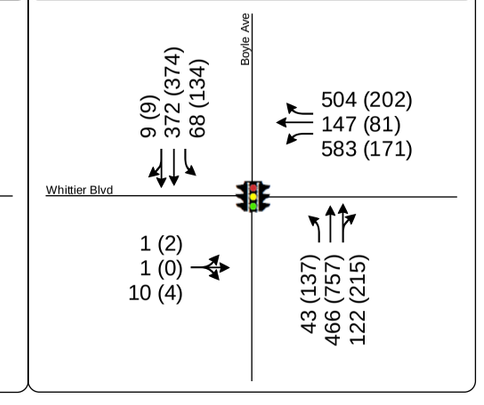
18. S Rio St/E 7th St



19. S Anderson St/E 7th St

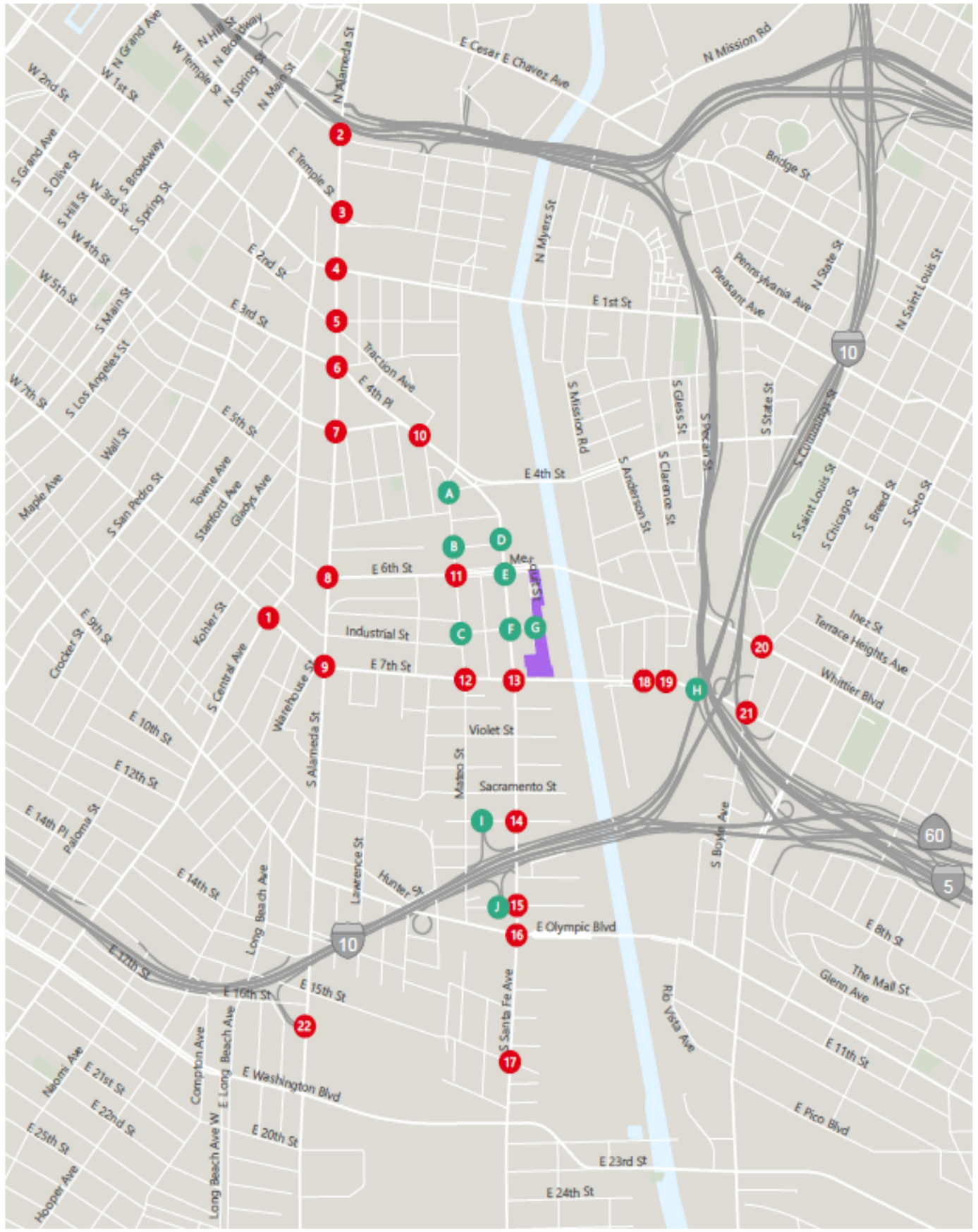


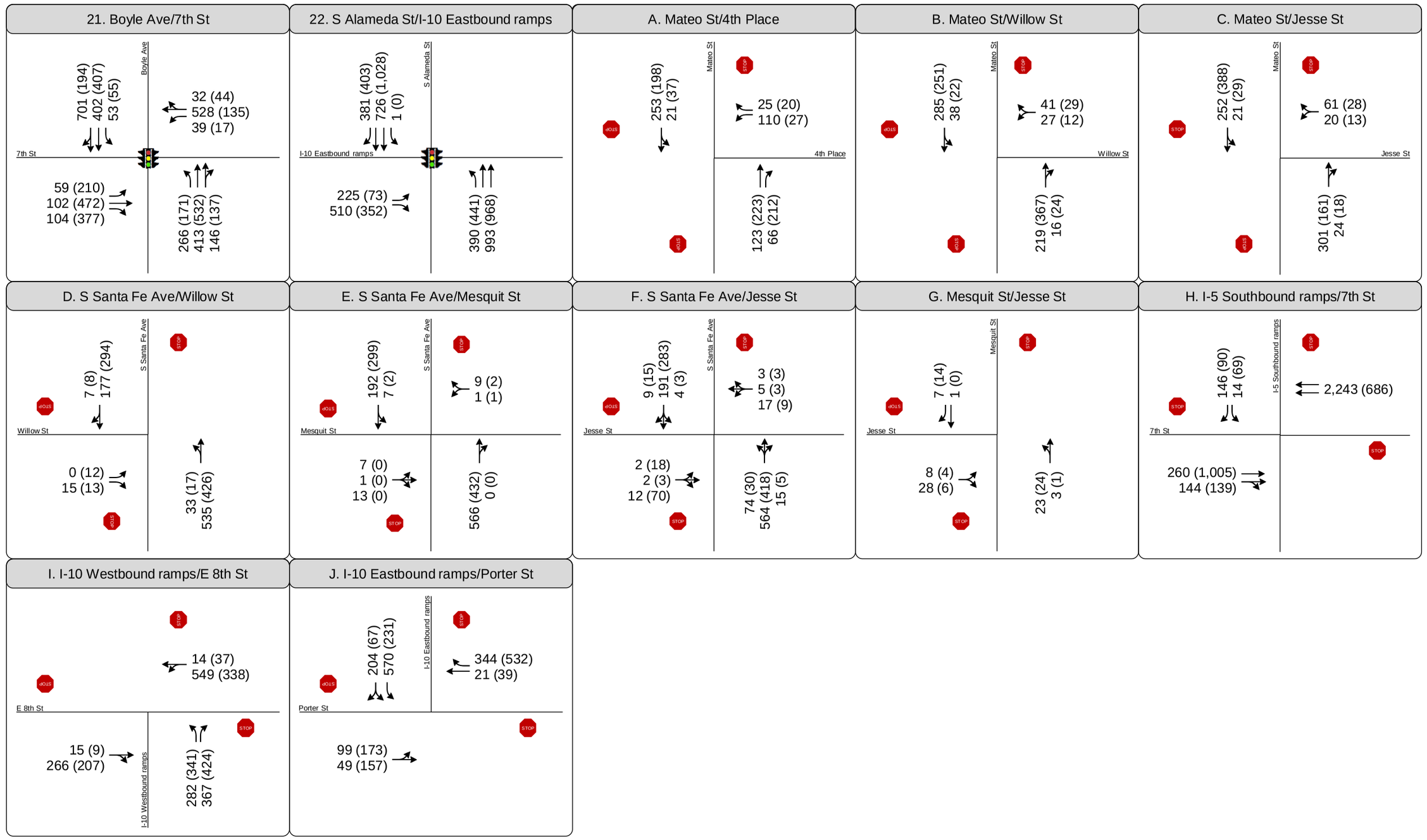
20. Boyle Ave/Whittier Blvd



LEGEND

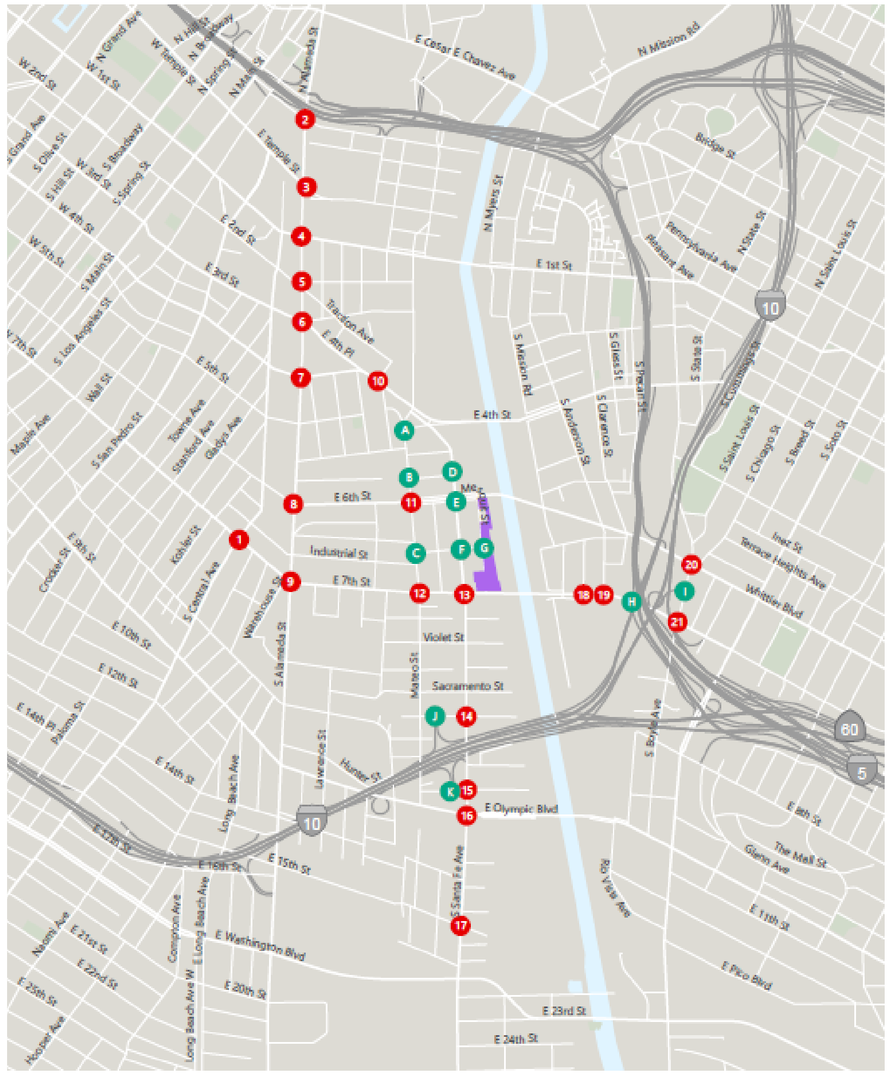
# Study Intersection	AM (PM) Peak Hour Traffic Volume
Lane Configuration	STOP Stop Sign
	Signalized





LEGEND

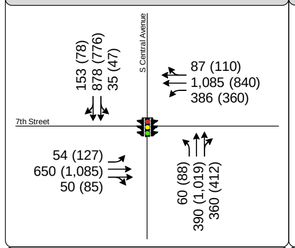
#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration	STOP	Stop Sign
			Signalized



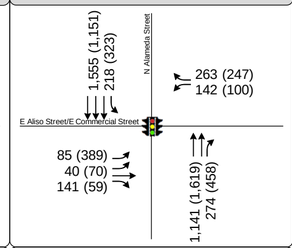
LEGEND

# Study Intersection	AM (PM) Peak Hour Traffic Volume
Lane Configuration	Stop Sign
	Signalized

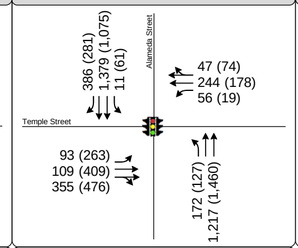
1. S Central Avenue/7th Street



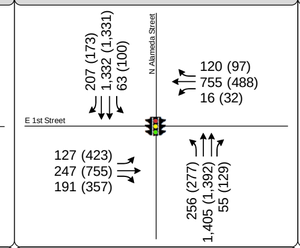
2. N Alameda Street/E Aliso Street/E Commercial Street



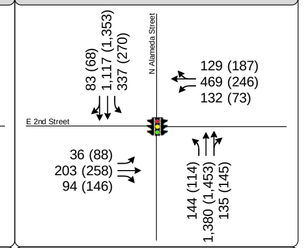
3. Alameda Street /Temple Street



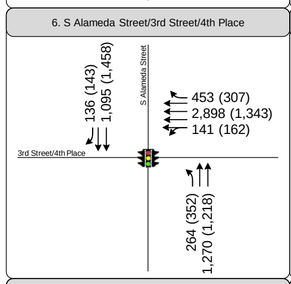
4. N Alameda Street/E 1st Street



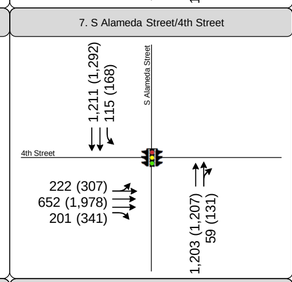
5. N Alameda Street/E 2nd Street



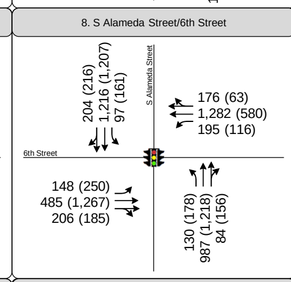
6. S Alameda Street/3rd Street/4th Place



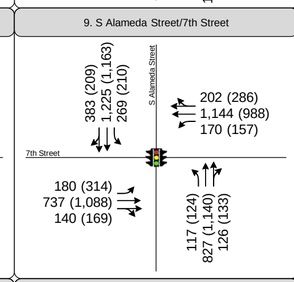
7. S Alameda Street/4th Street



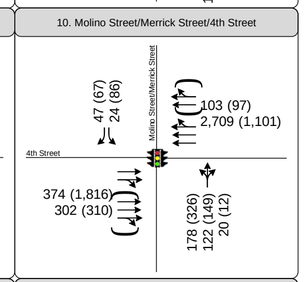
8. S Alameda Street/6th Street



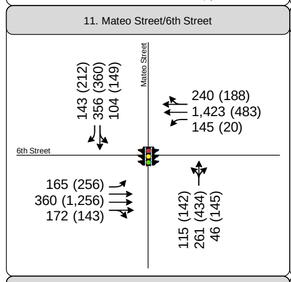
9. S Alameda Street/7th Street



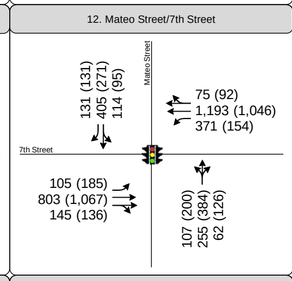
10. Molino Street/Merrick Street/4th Street



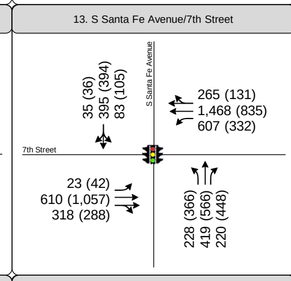
11. Mateo Street/6th Street



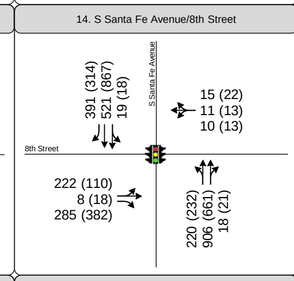
12. Mateo Street/7th Street



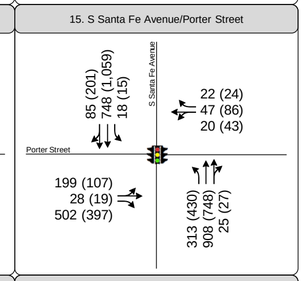
13. S Santa Fe Avenue/7th Street



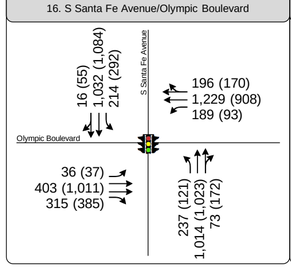
14. S Santa Fe Avenue/8th Street



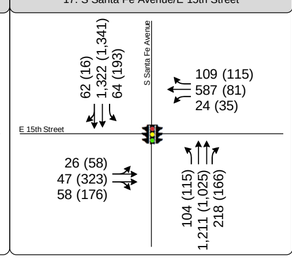
15. S Santa Fe Avenue/Porter Street



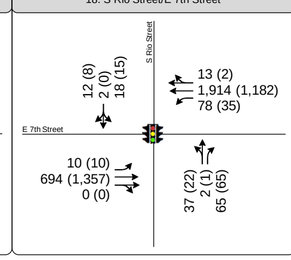
16. S Santa Fe Avenue/Olympic Boulevard



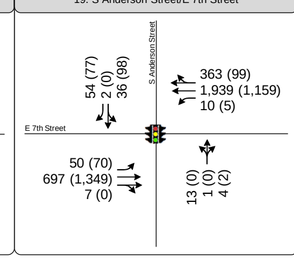
17. S Santa Fe Avenue/E 15th Street



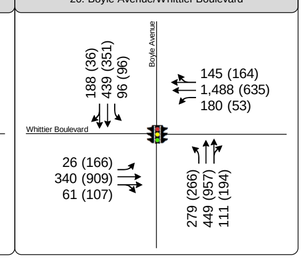
18. S Rio Street/E 7th Street



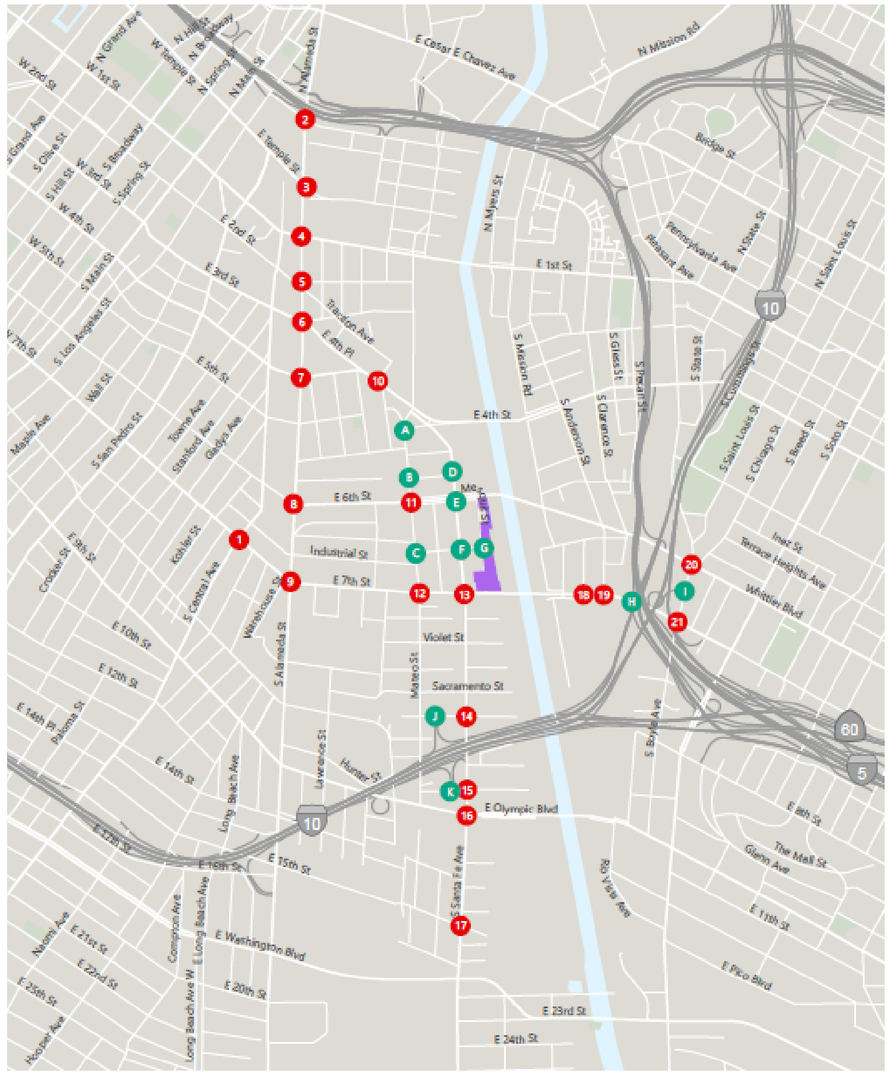
19. S Anderson Street/E 7th Street

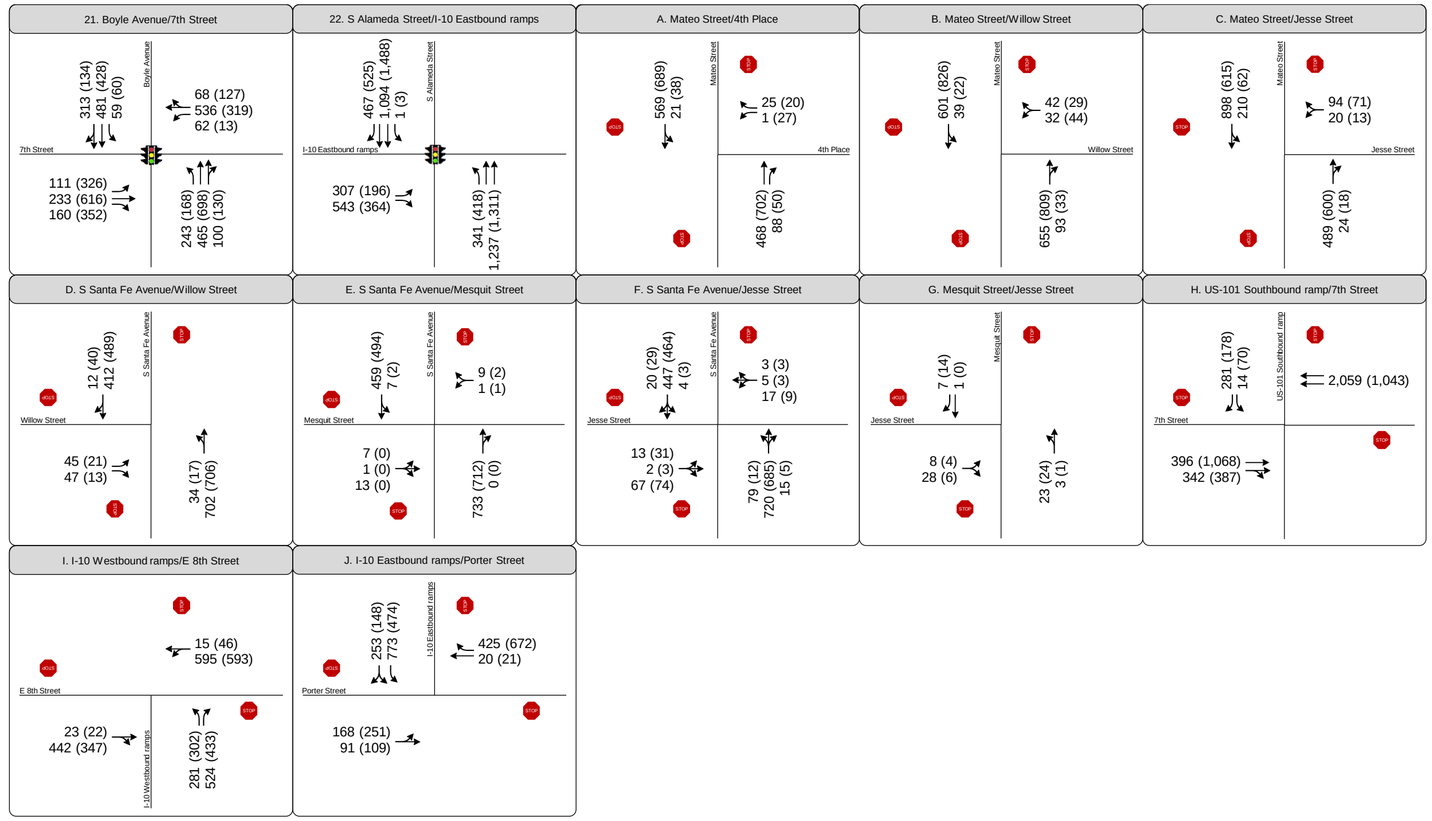


20. Boyle Avenue/Whittier Boulevard



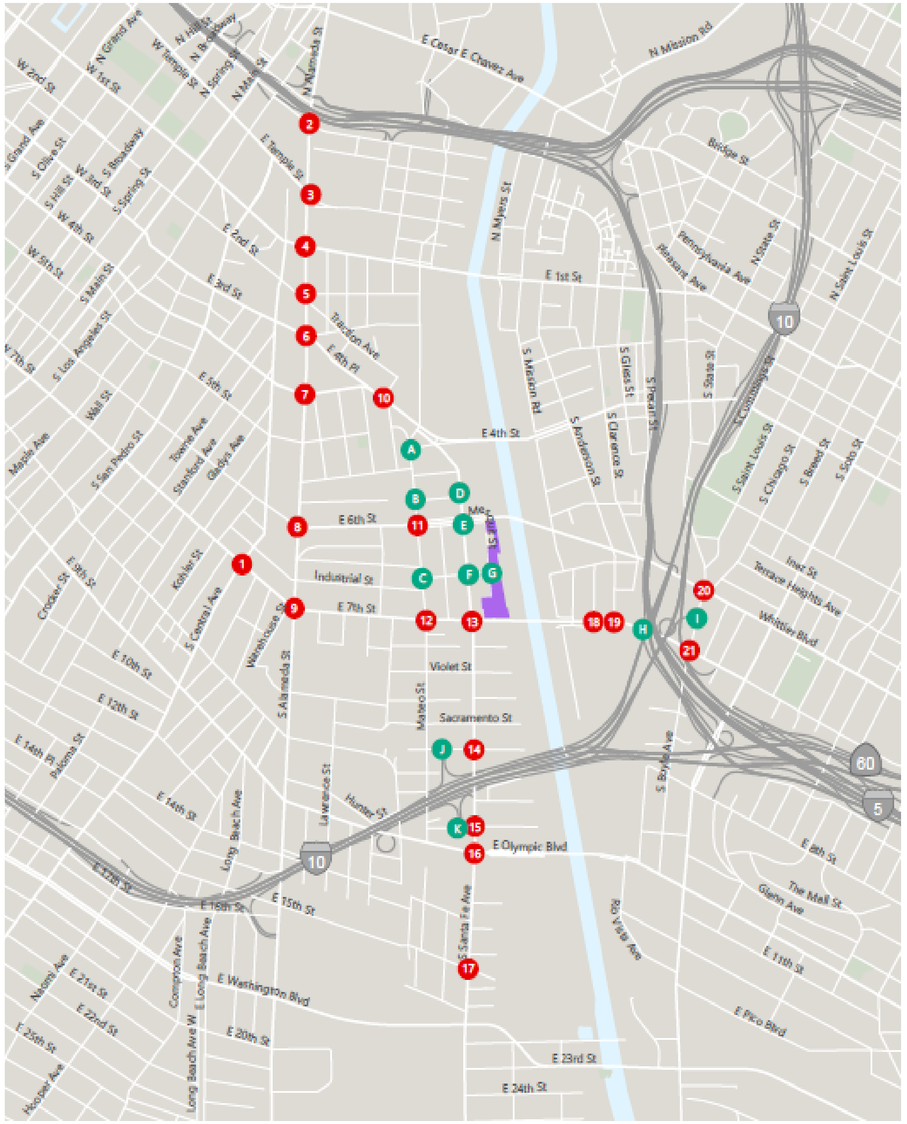
670 Mesquit
Future 2026





LEGEND

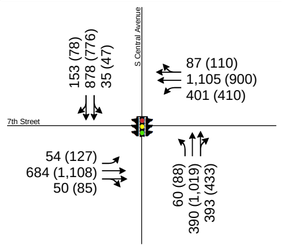
#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration		Stop Sign
			Signalized



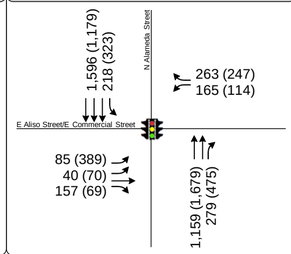
LEGEND

#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration	STOP	Stop Sign
			Signalized

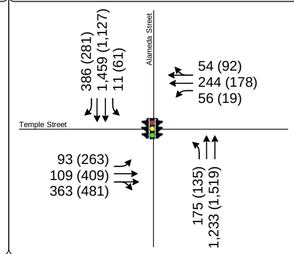
1. S Central Avenue/7th Street



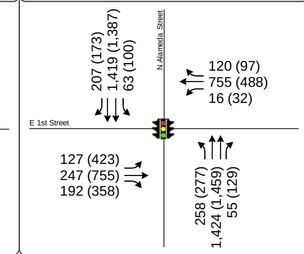
2. N Alameda Street/E Aliso Street/E Commercial Street



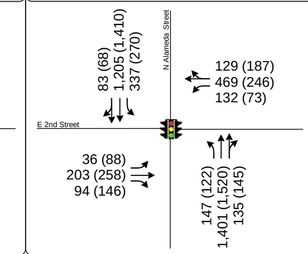
3. Alameda Street /Temple Street



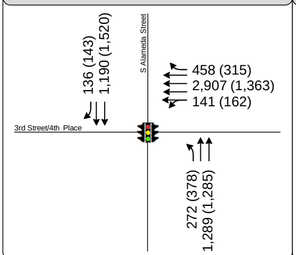
4. N Alameda Street/E 1st Street



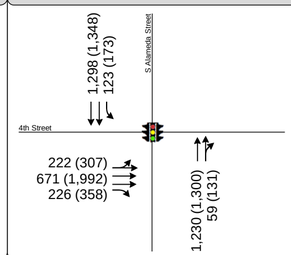
5. N Alameda Street/E 2nd Street



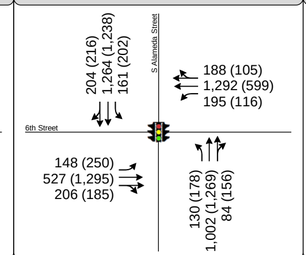
6. S Alameda Street/3rd Street/4th Place



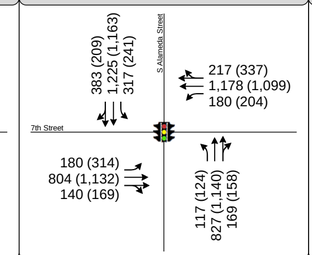
7. S Alameda Street/4th Street



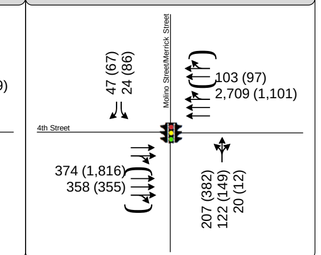
8. S Alameda Street/6th Street



9. S Alameda Street/7th Street



10. Molino Street/Merrick Street/4th Street



11. Mateo Street/6th Street

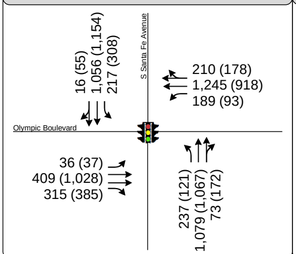
12. Mateo Street/7th Street

13. S Santa Fe Avenue/7th Street

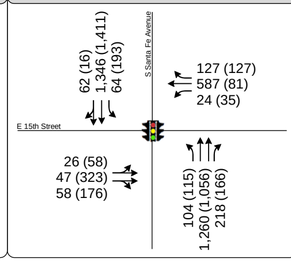
14. S Santa Fe Avenue/8th Street

15. S Santa Fe Avenue/Porter Street

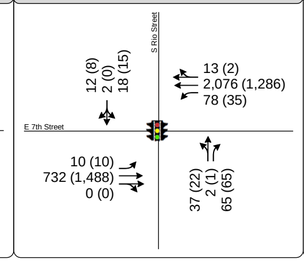
16. S Santa Fe Avenue/Olympic Boulevard



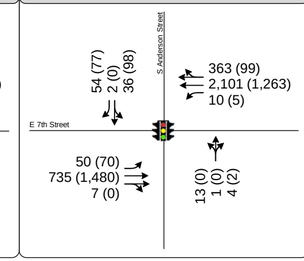
17. S Santa Fe Avenue/E 15th Street



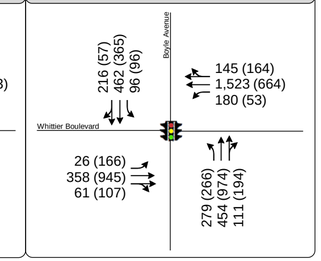
18. S Rio Street/E 7th Street

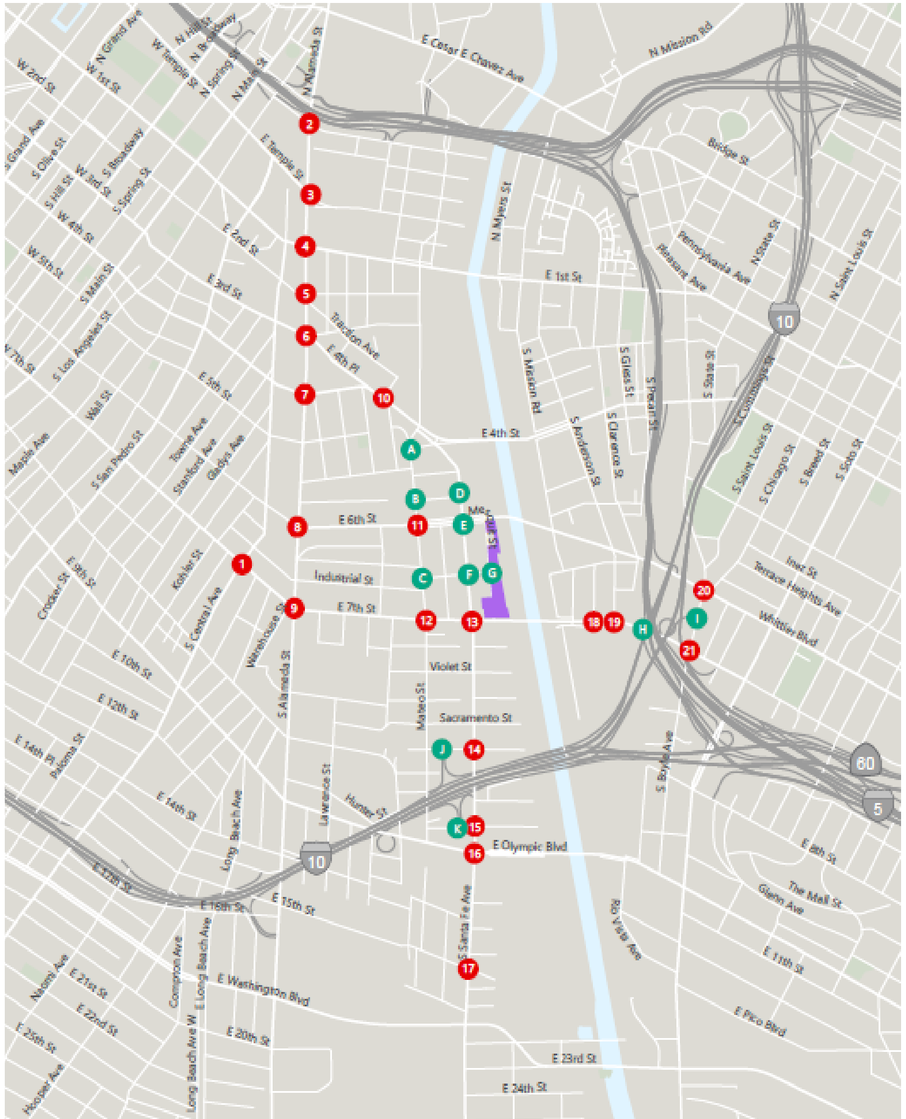


19. S Anderson Street/E 7th Street

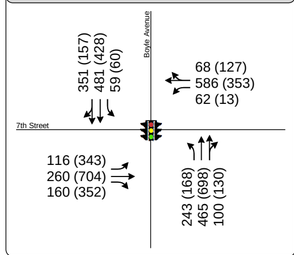


20. Boyle Avenue/Whittier Boulevard

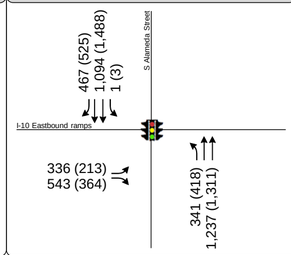




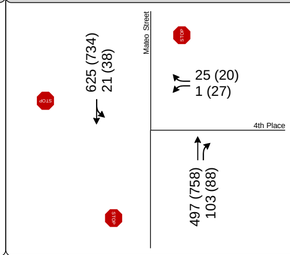
21. Boyle Avenue/7th Street



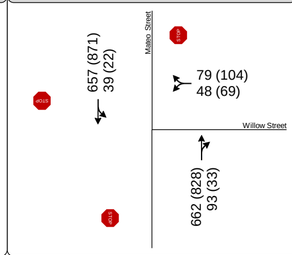
22. S Alameda Street/I-10 Eastbound ramps



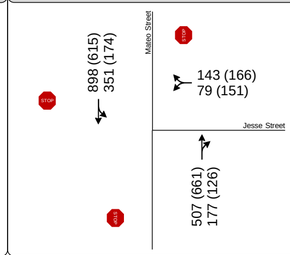
A. Mateo Street/4th Place



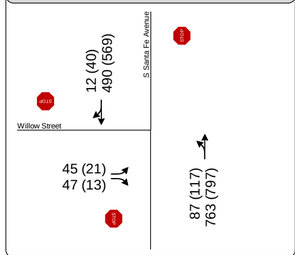
B. Mateo Street/Willow Street



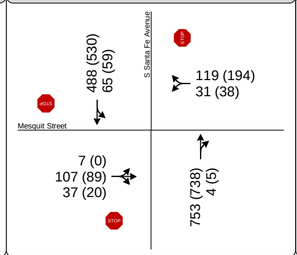
C. Mateo Street/Jesse Street



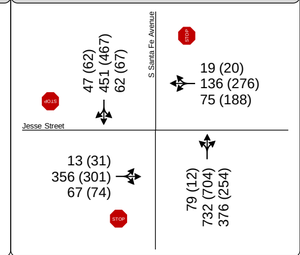
D. S Santa Fe Avenue/Willow Street



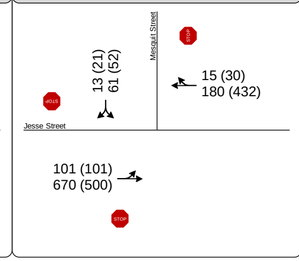
E. S Santa Fe Avenue/Mesquit Street



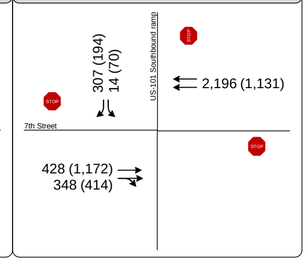
F. S Santa Fe Avenue/Jesse Street



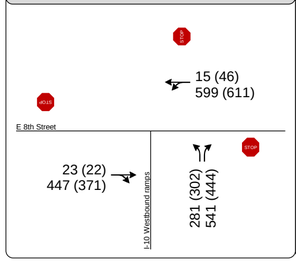
G. Mesquit Street/Jesse Street



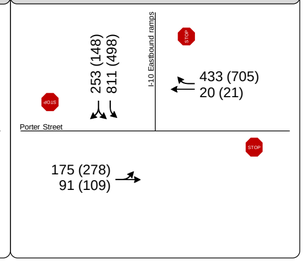
H. US-101 Southbound ramp/7th Street



I. I-10 Westbound ramps/E 8th Street

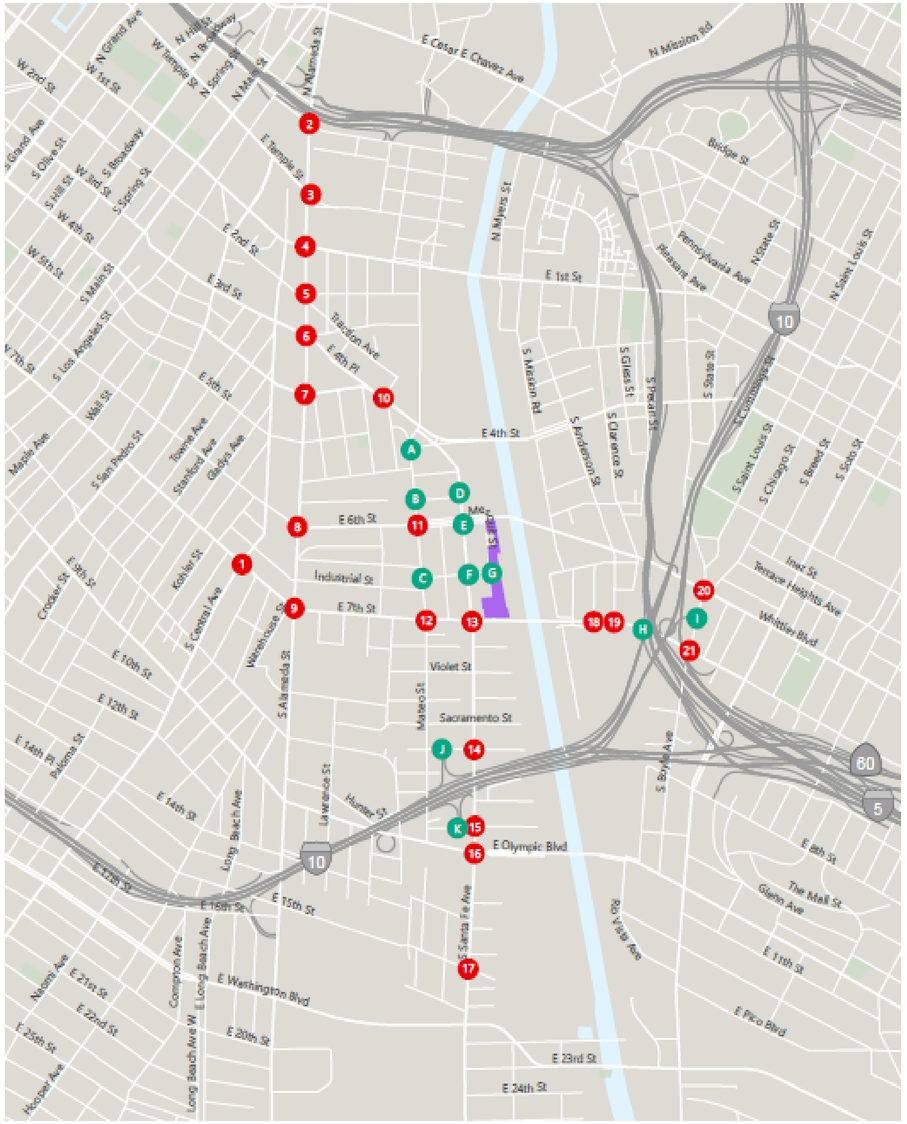


J. I-10 Eastbound ramps/Porter Street



LEGEND

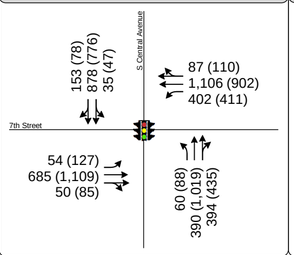
#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration	STOP	Stop Sign
			Signalized



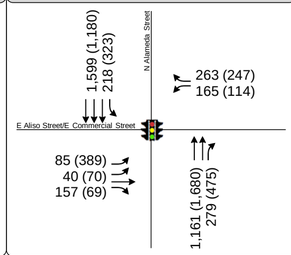
LEGEND

# Study Intersection	AM (PM) Peak Hour Traffic Volume
Lane Configuration	Stop Sign
	Signalized

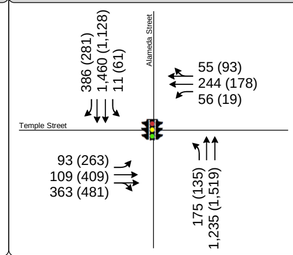
1. S Central Avenue/7th Street



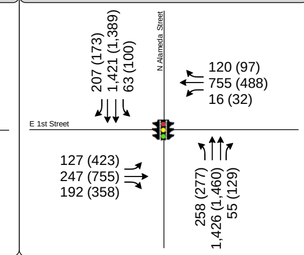
2. N Alameda Street/E Aliso Street/E Commercial Street



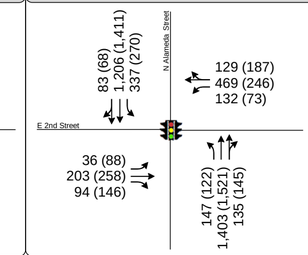
3. Alameda Street /Temple Street



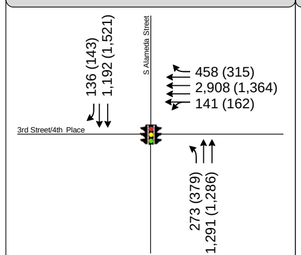
4. N Alameda Street/E 1st Street



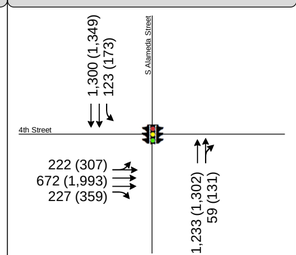
5. N Alameda Street/E 2nd Street



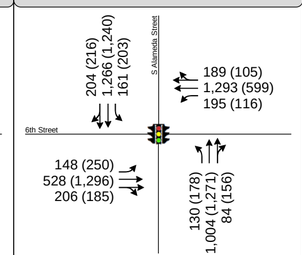
6. S Alameda Street/3rd Street/4th Place



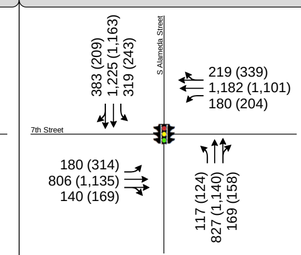
7. S Alameda Street/4th Street



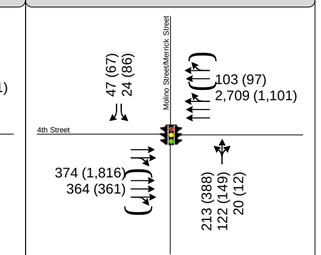
8. S Alameda Street/6th Street



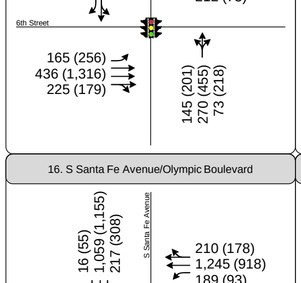
9. S Alameda Street/7th Street



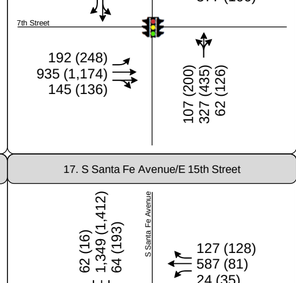
10. Molino Street/Merrick Street/4th Street



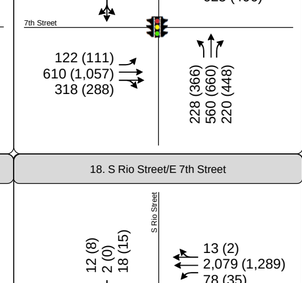
11. Mateo Street/6th Street



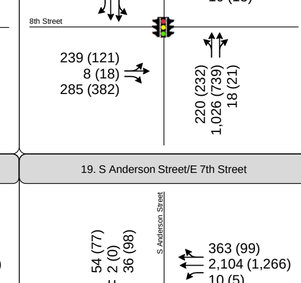
12. Mateo Street/7th Street



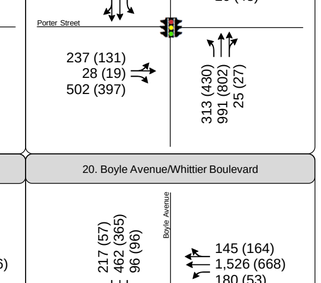
13. S Santa Fe Avenue/7th Street



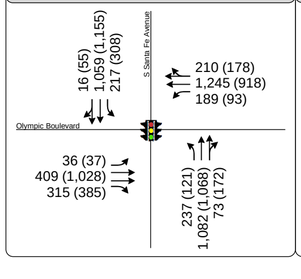
14. S Santa Fe Avenue/8th Street



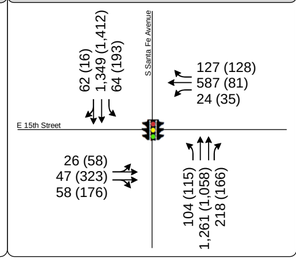
15. S Santa Fe Avenue/Porter Street



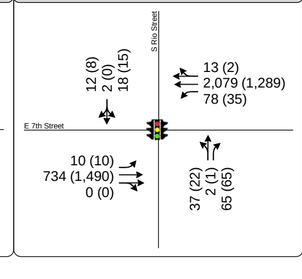
16. S Santa Fe Avenue/Olympic Boulevard



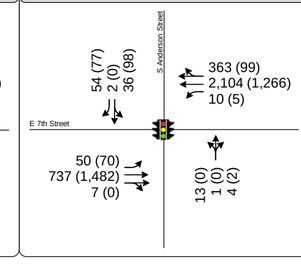
17. S Santa Fe Avenue/E 15th Street



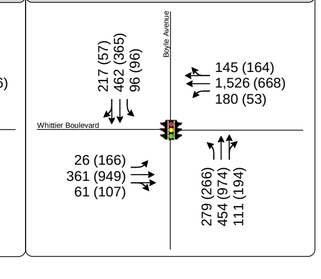
18. S Rio Street/E 7th Street

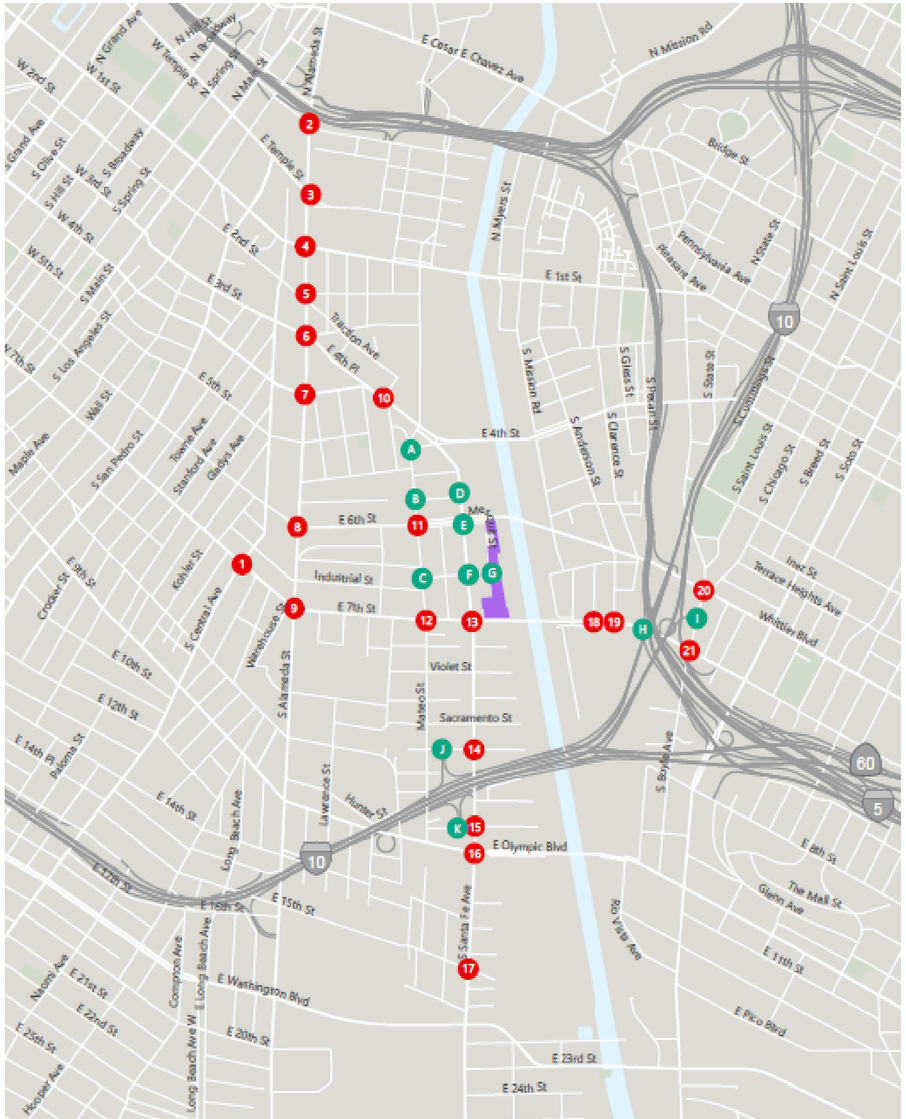


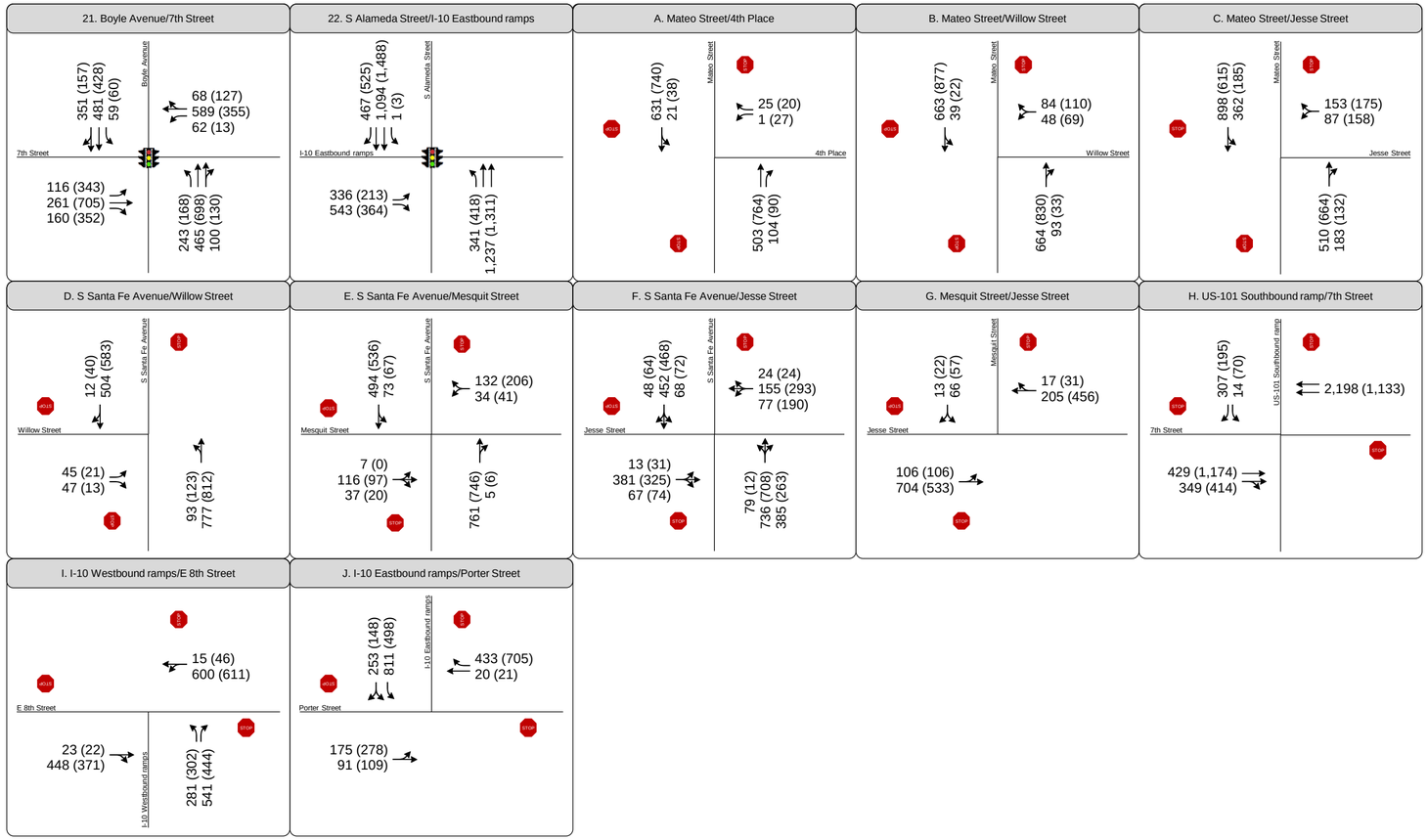
19. S Anderson Street/E 7th Street



20. Boyle Avenue/Whittier Boulevard

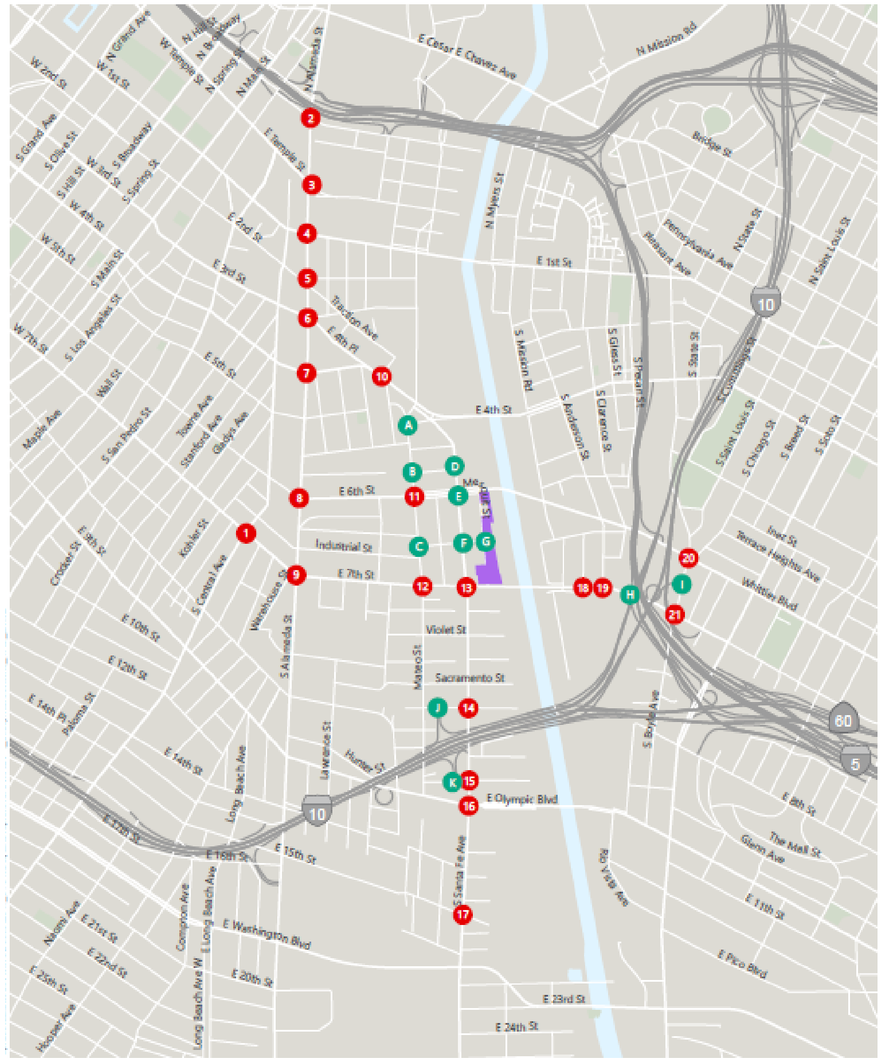






LEGEND

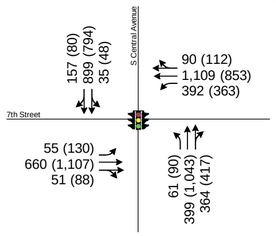
#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration		Stop Sign
			Signalized



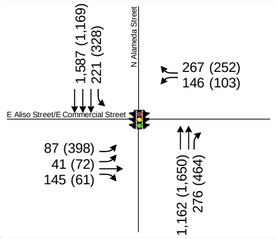
LEGEND

# Study Intersection	AM (PM) Peak Hour Traffic Volume
Lane Configuration	Stop Sign
	Signalized

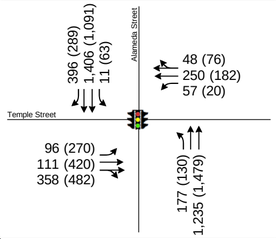
1. S Central Avenue/7th Street



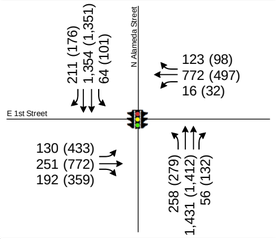
2. N Alameda Street/E Aliso Street/E Commercial Street



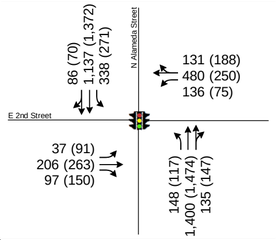
3. Alameda Street /Temple Street



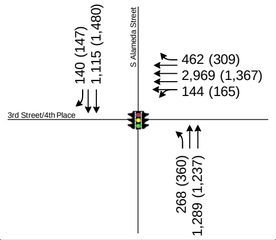
4. N Alameda Street/E 1st Street



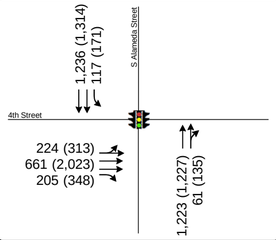
5. N Alameda Street/E 2nd Street



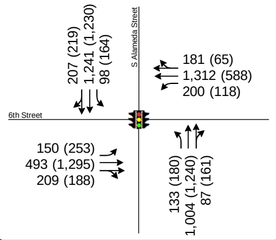
6. S Alameda Street/3rd Street/4th Place



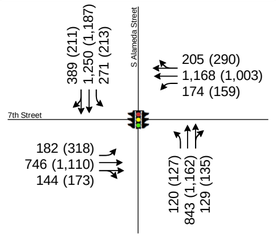
7. S Alameda Street/4th Street



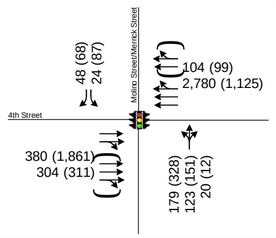
8. S Alameda Street/6th Street



9. S Alameda Street/7th Street



10. Molino Street/Merrick Street/4th Street



11. Mateo Street/6th Street

12. Mateo Street/7th Street

13. S Santa Fe Avenue/7th Street

14. S Santa Fe Avenue/8th Street

15. S Santa Fe Avenue/Porter Street

16. S Santa Fe Avenue/Olympic Boulevard

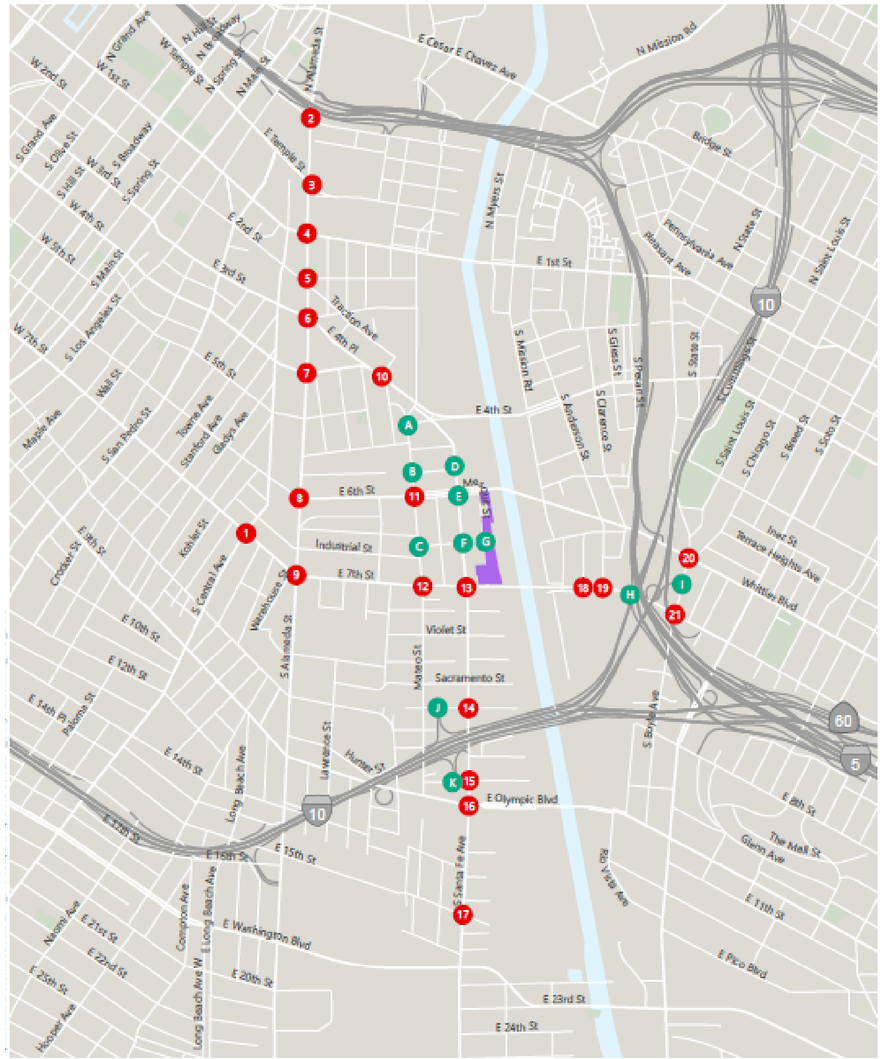
17. S Santa Fe Avenue/E 15th Street

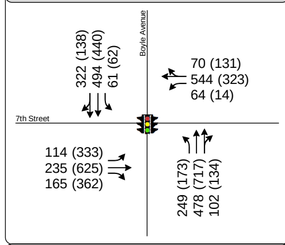
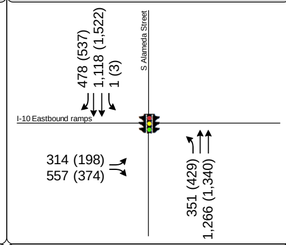
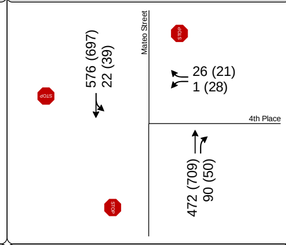
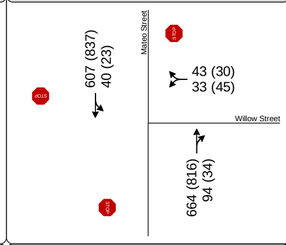
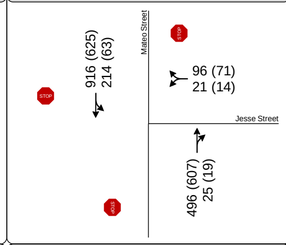
18. S Rio Street/E 7th Street

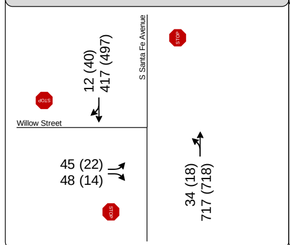
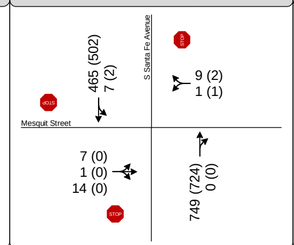
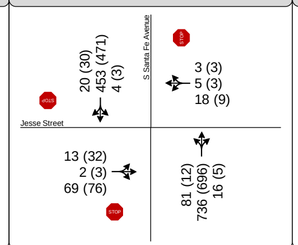
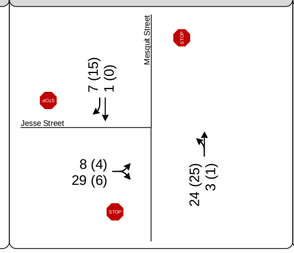
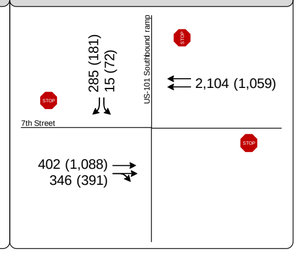
19. S Anderson Street/E 7th Street

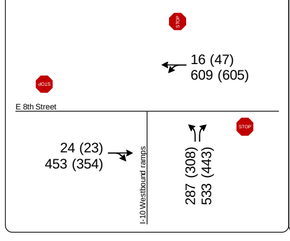
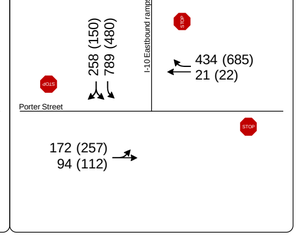
20. Boyle Avenue/Whittier Boulevard

670 Mesquit
Future 2040



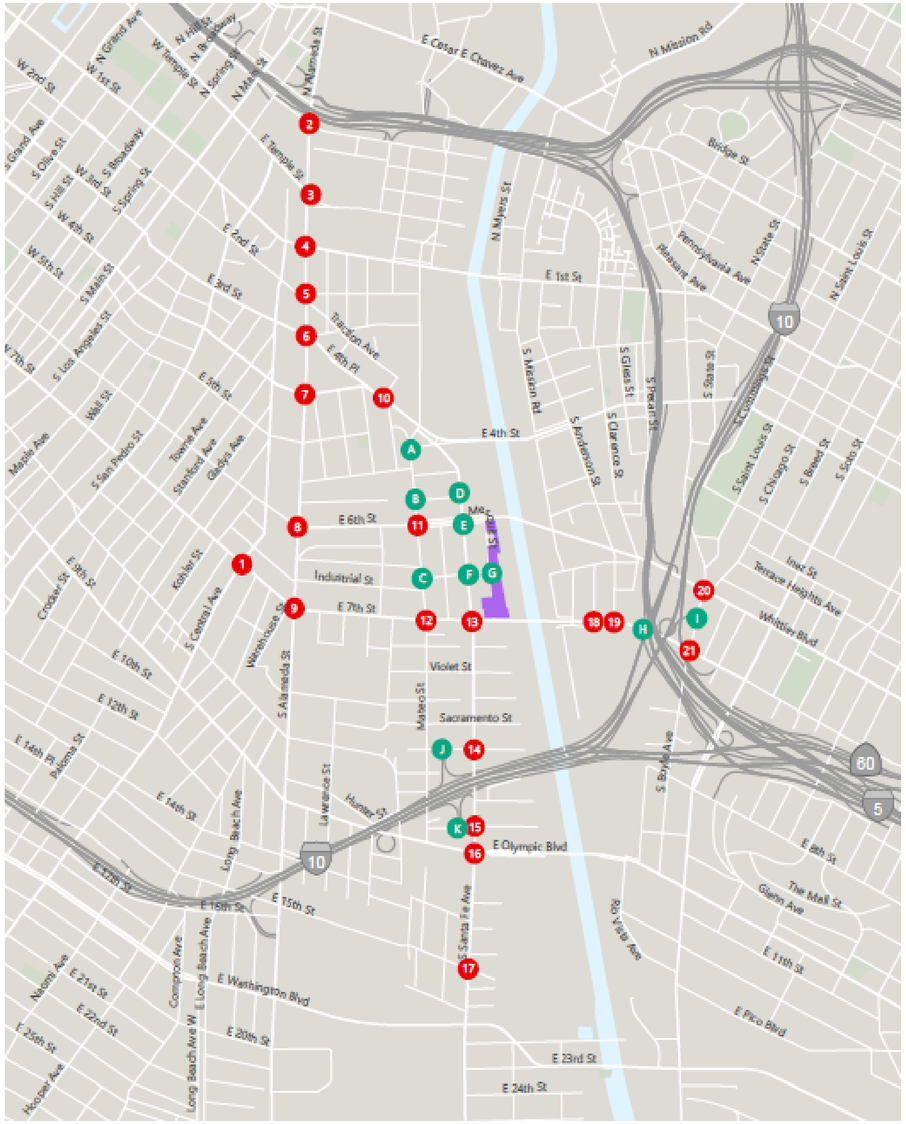
21. Boyle Avenue/7th Street	22. S Alameda Street/I-10 Eastbound ramps	A. Mateo Street/4th Place	B. Mateo Street/Willow Street	C. Mateo Street/Jesse Street
				

D. S Santa Fe Avenue/Willow Street	E. S Santa Fe Avenue/Mesquit Street	F. S Santa Fe Avenue/Jesse Street	G. Mesquit Street/Jesse Street	H. US-101 Southbound ramp/7th Street
				

I. I-10 Westbound ramps/E 8th Street	J. I-10 Eastbound ramps/Porter Street
	

LEGEND

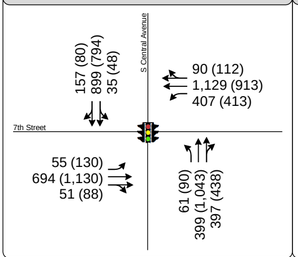
#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration	STOP	Stop Sign
			Signalized



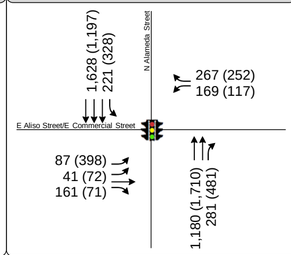
LEGEND

# Study Intersection	AM (PM) Peak Hour Traffic Volume
Lane Configuration	Stop Sign
	Signalized

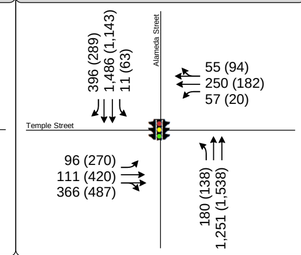
1. S Central Avenue/7th Street



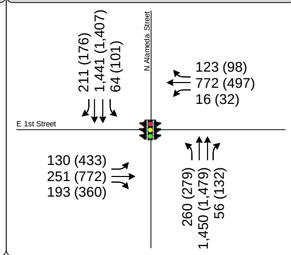
2. N Alameda Street/E Aliso Street/E Commercial Street



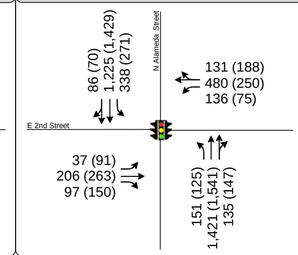
3. Alameda Street /Temple Street



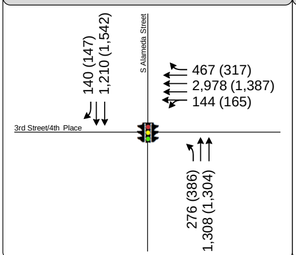
4. N Alameda Street/E 1st Street



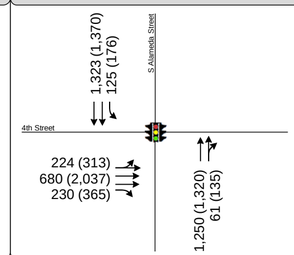
5. N Alameda Street/E 2nd Street



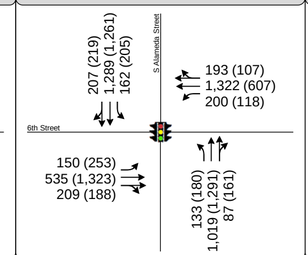
6. S Alameda Street/3rd Street/4th Place



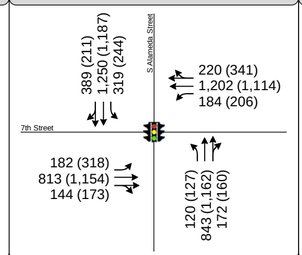
7. S Alameda Street/4th Street



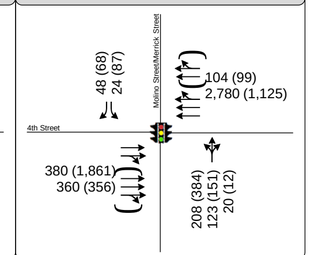
8. S Alameda Street/6th Street



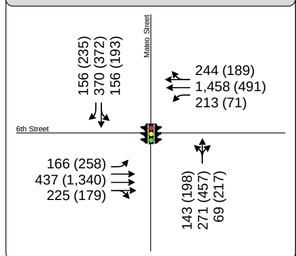
9. S Alameda Street/7th Street



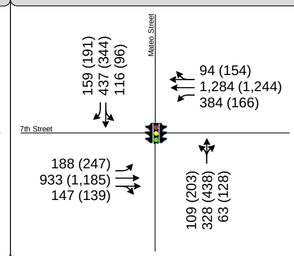
10. Molino Street/Merrick Street/4th Street



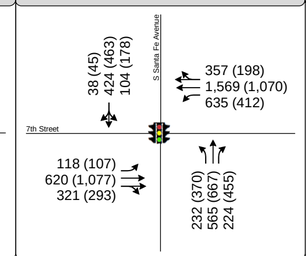
11. Mateo Street/6th Street



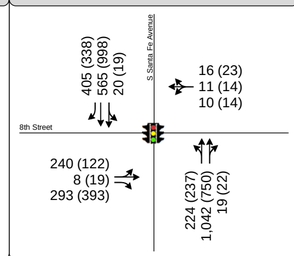
12. Mateo Street/7th Street



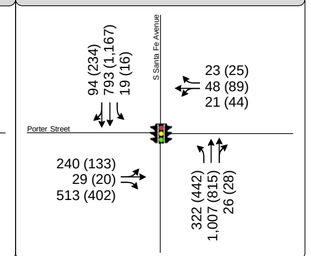
13. S Santa Fe Avenue/7th Street



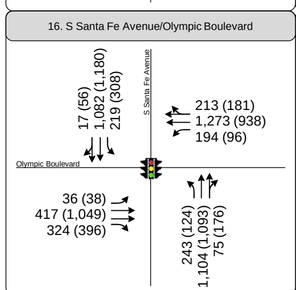
14. S Santa Fe Avenue/8th Street



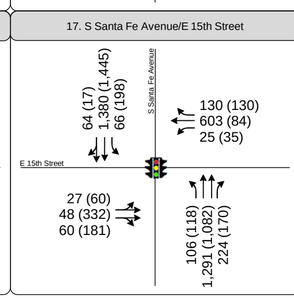
15. S Santa Fe Avenue/Porter Street



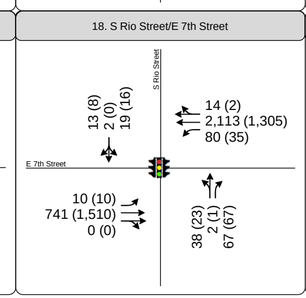
16. S Santa Fe Avenue/Olympic Boulevard



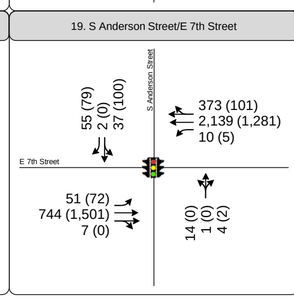
17. S Santa Fe Avenue/E 15th Street



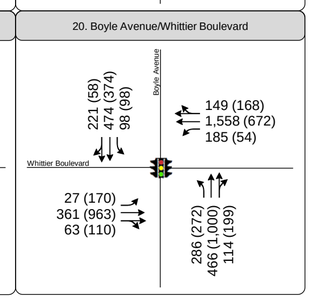
18. S Rio Street/E 7th Street

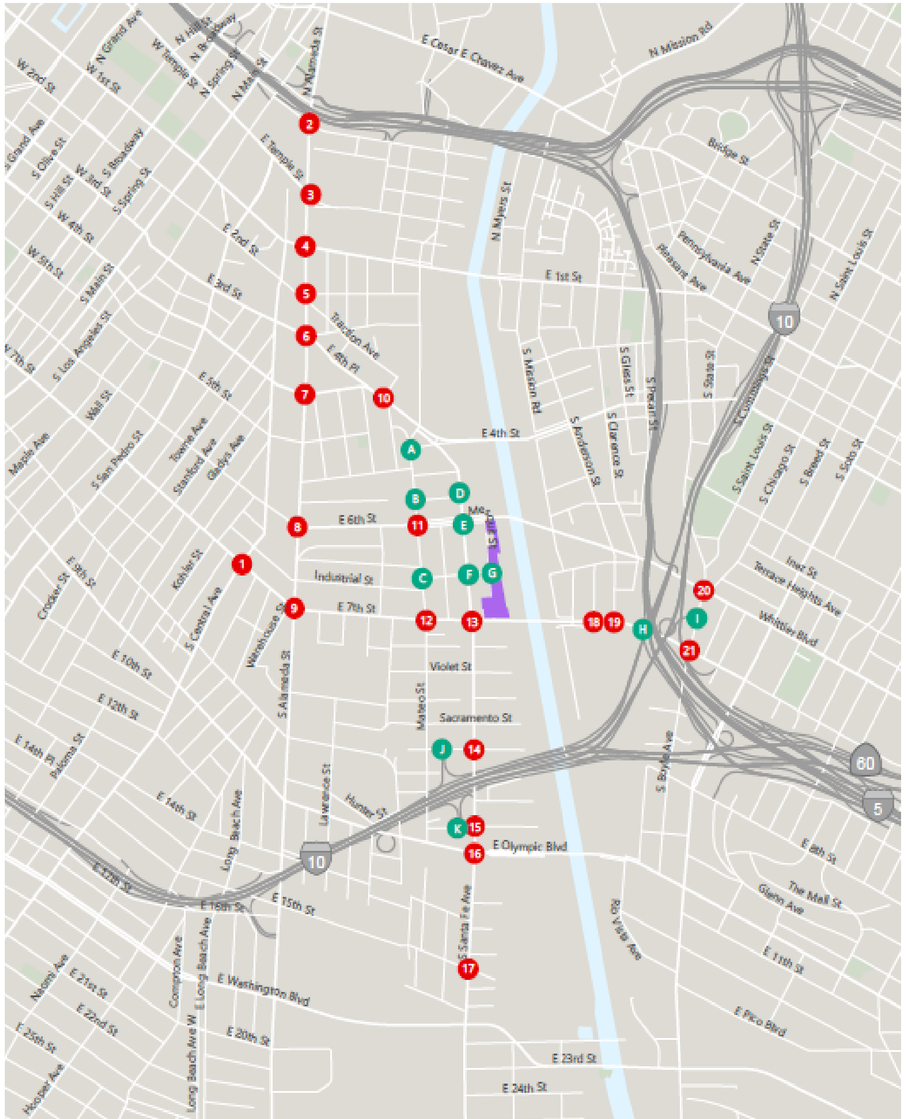


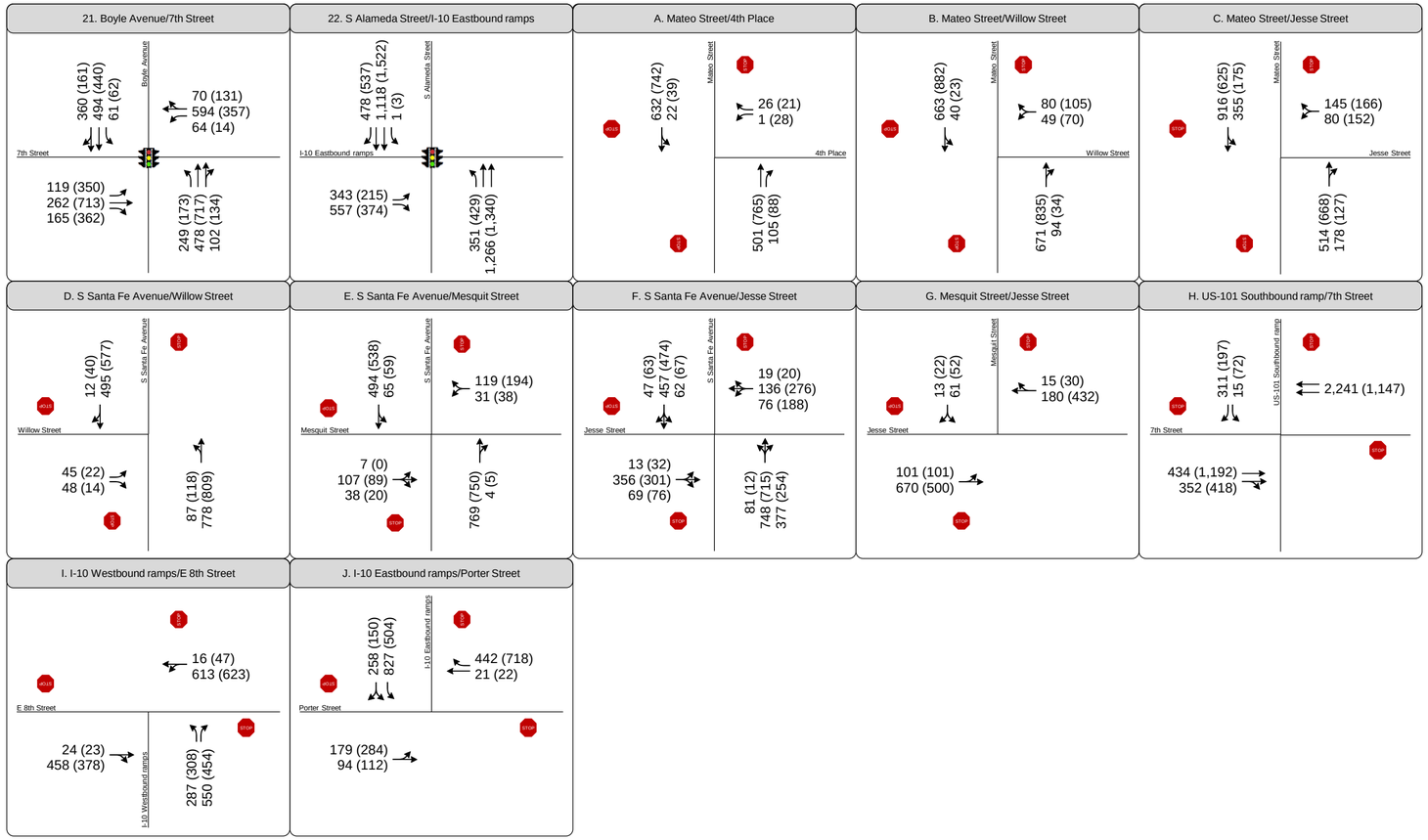
19. S Anderson Street/E 7th Street



20. Boyle Avenue/Whittier Boulevard

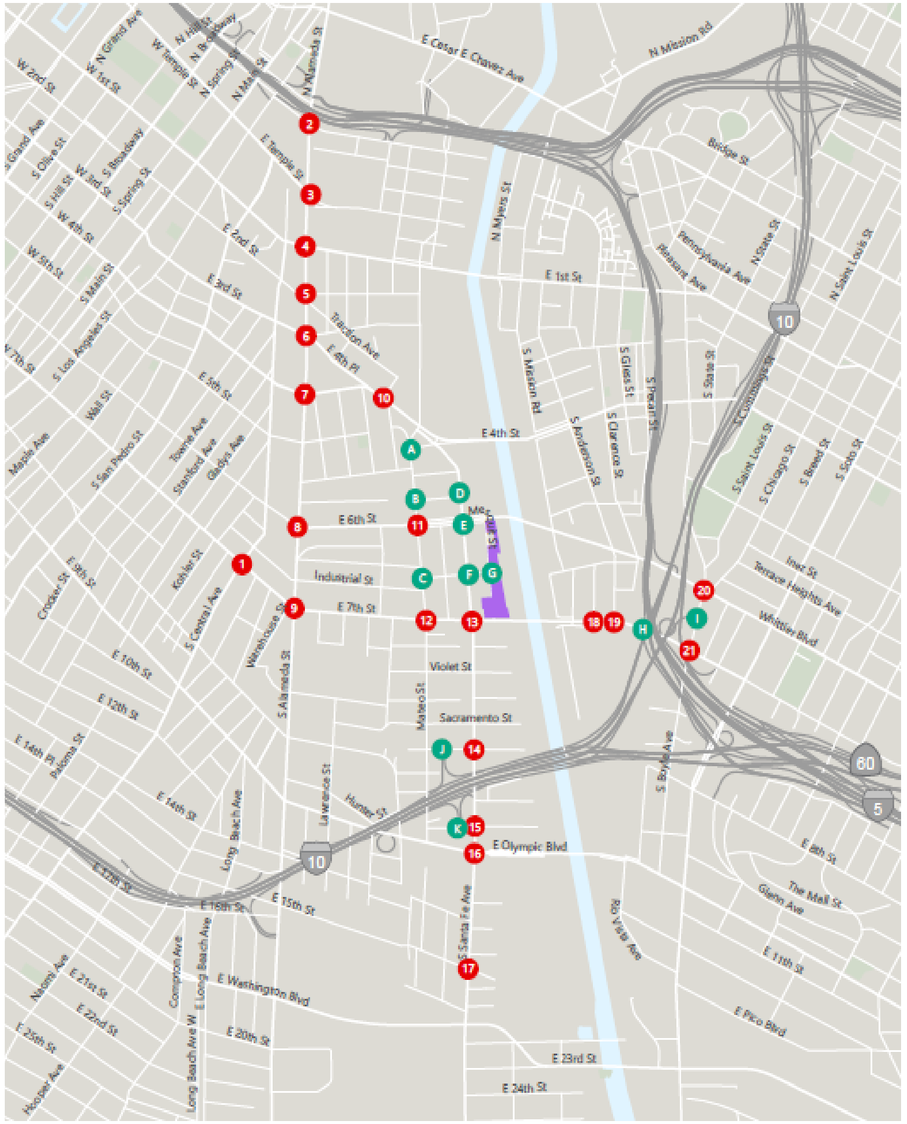






LEGEND

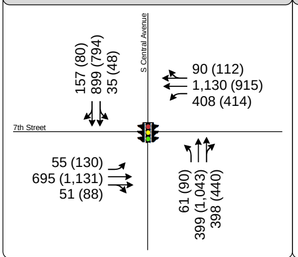
#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration		Stop Sign
			Signalized



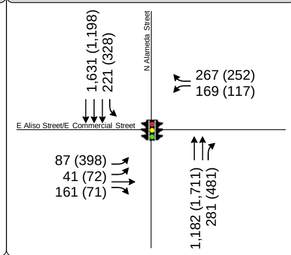
LEGEND

# Study Intersection	AM (PM) Peak Hour Traffic Volume
Lane Configuration	Stop Sign
	Signalized

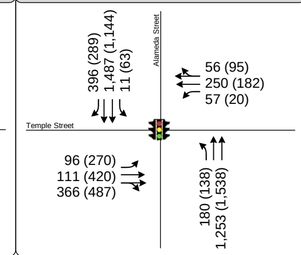
1. S Central Avenue/7th Street



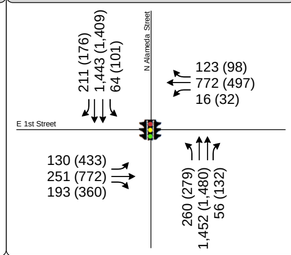
2. N Alameda Street/E Aliso Street/E Commercial Street



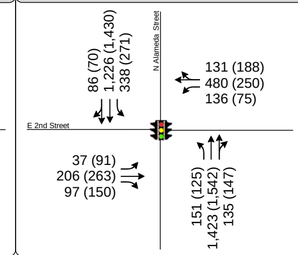
3. Alameda Street /Temple Street



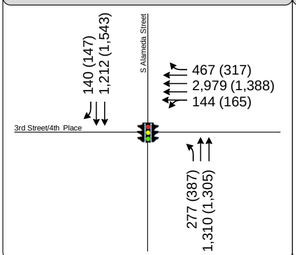
4. N Alameda Street/E 1st Street



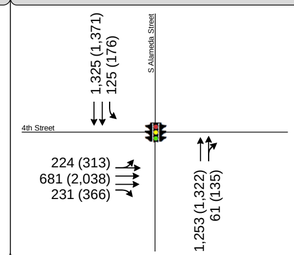
5. N Alameda Street/E 2nd Street



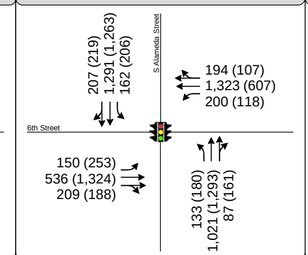
6. S Alameda Street/3rd Street/4th Place



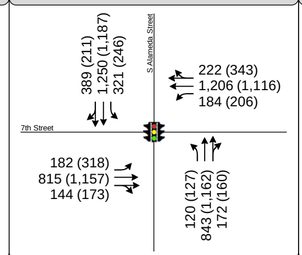
7. S Alameda Street/4th Street



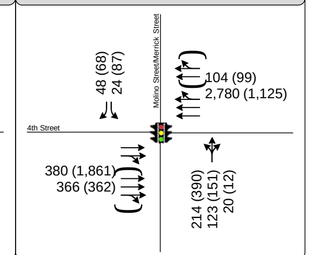
8. S Alameda Street/6th Street



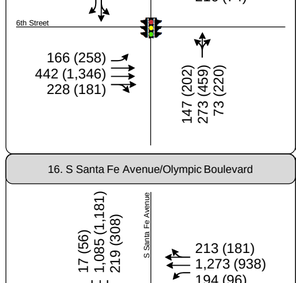
9. S Alameda Street/7th Street



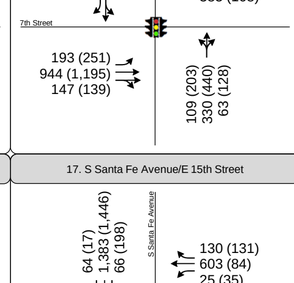
10. Molino Street/Merrick Street/4th Street



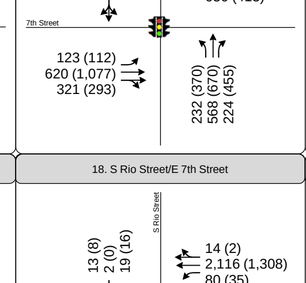
11. Mateo Street/6th Street



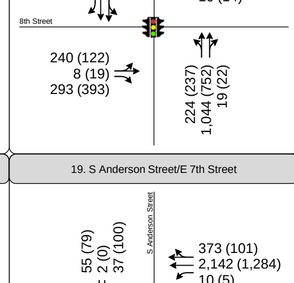
12. Mateo Street/7th Street



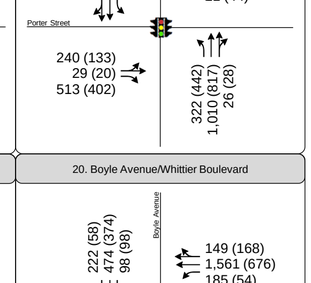
13. S Santa Fe Avenue/7th Street



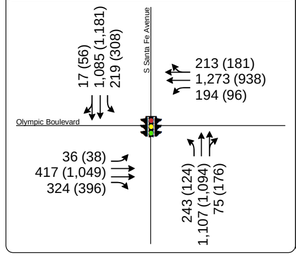
14. S Santa Fe Avenue/8th Street



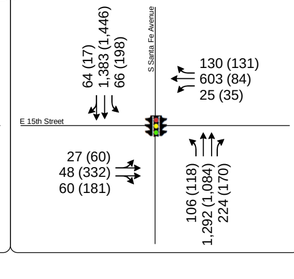
15. S Santa Fe Avenue/Porter Street



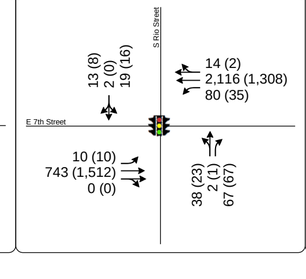
16. S Santa Fe Avenue/Olympic Boulevard



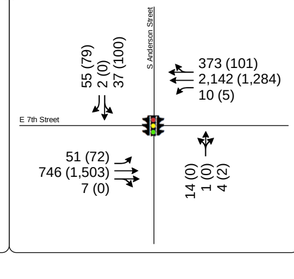
17. S Santa Fe Avenue/E 15th Street



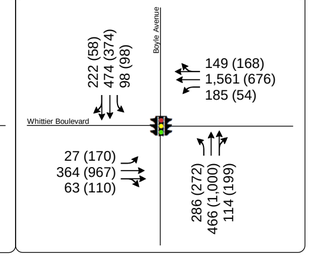
18. S Rio Street/E 7th Street

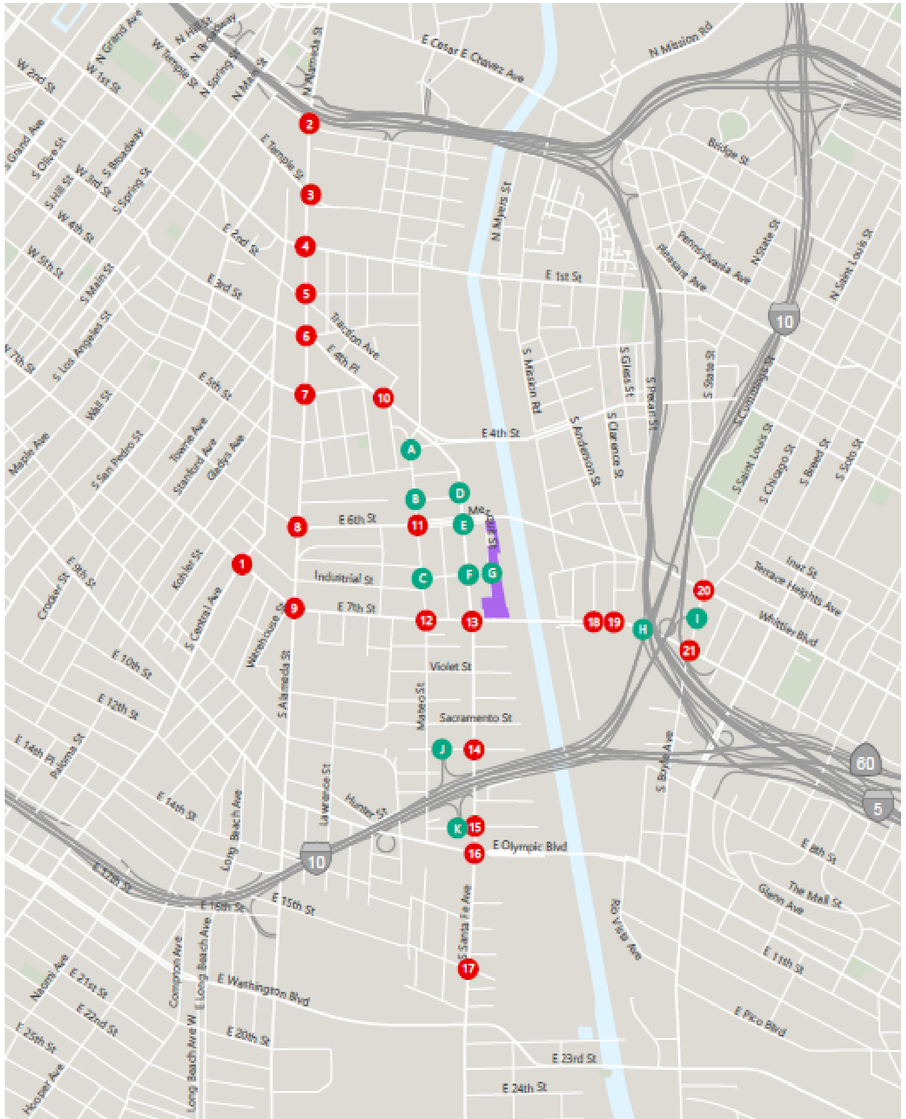


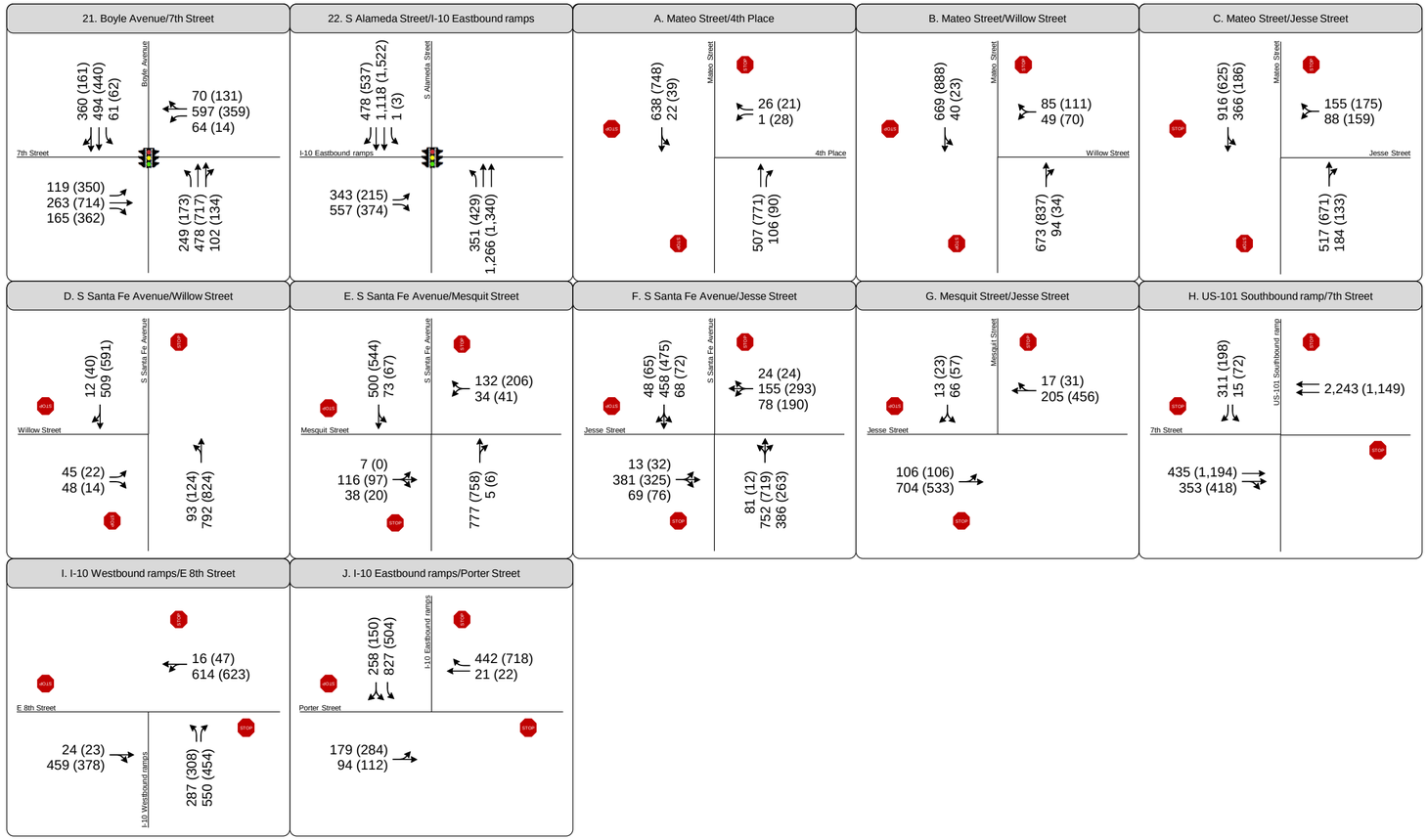
19. S Anderson Street/E 7th Street



20. Boyle Avenue/Whittier Boulevard

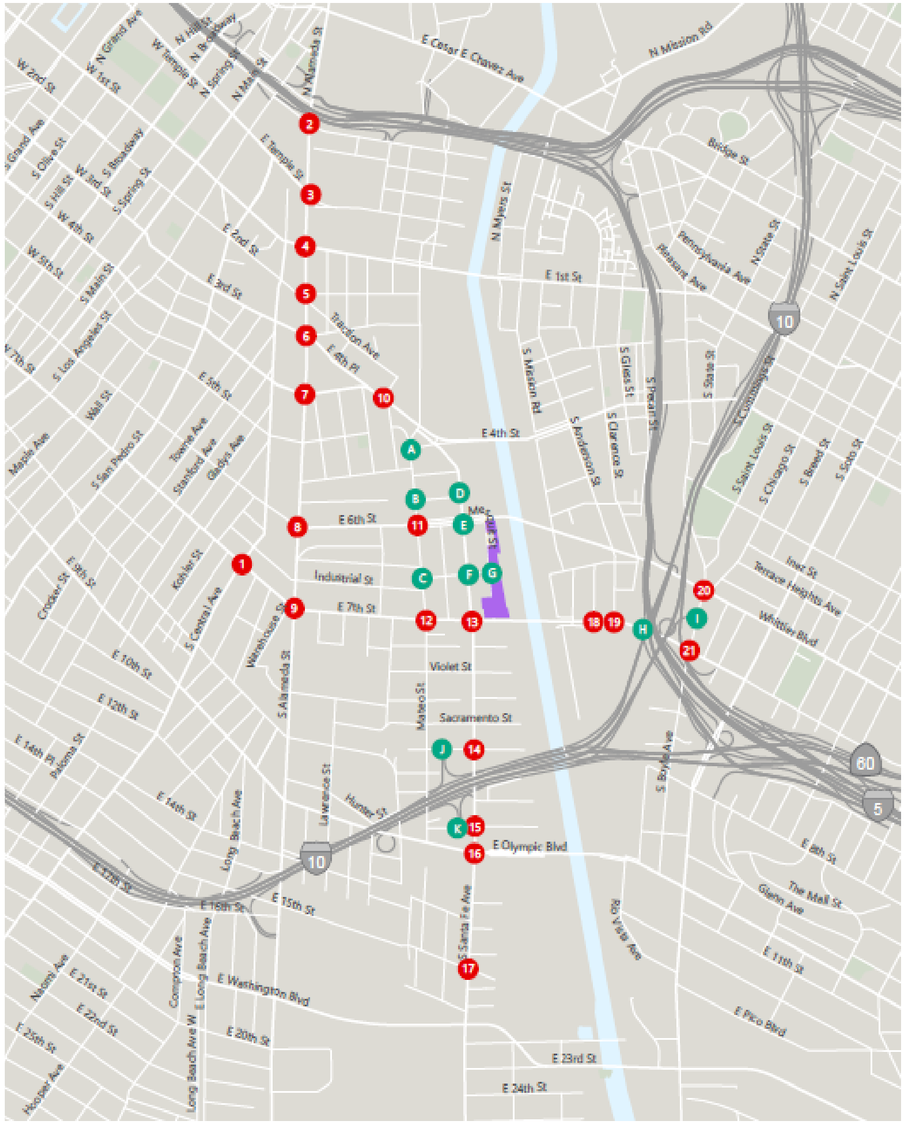






LEGEND

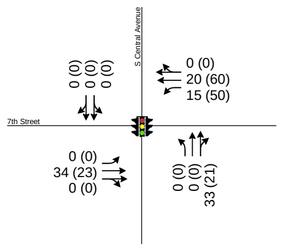
#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration	STOP	Stop Sign
			Signalized



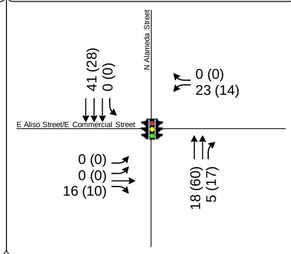
LEGEND

#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration	STOP	Stop Sign
			Signalized

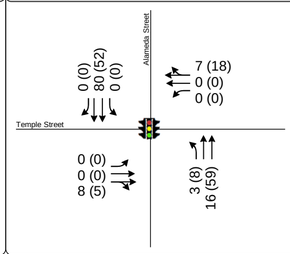
1. S Central Avenue/7th Street



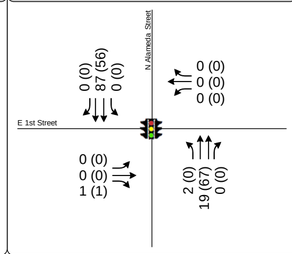
2. N Alameda Street/E Aliso Street/E Commercial Street



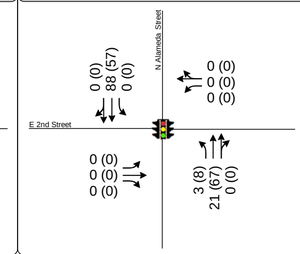
3. Alameda Street /Temple Street



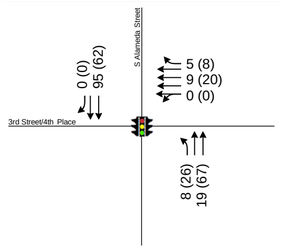
4. N Alameda Street/E 1st Street



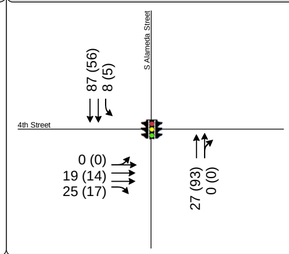
5. N Alameda Street/E 2nd Street



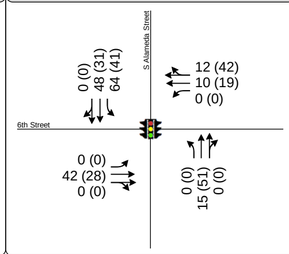
6. S Alameda Street/3rd Street/4th Place



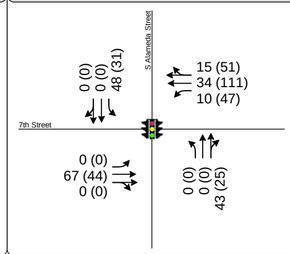
7. S Alameda Street/4th Street



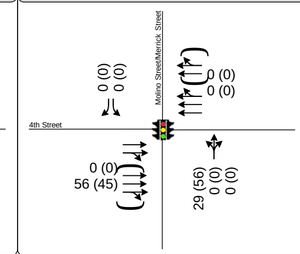
8. S Alameda Street/6th Street



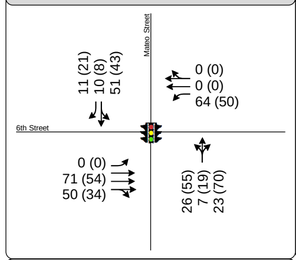
9. S Alameda Street/7th Street



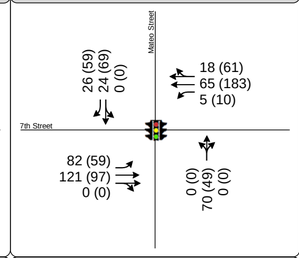
10. Molino Street/Merrick Street/4th Street



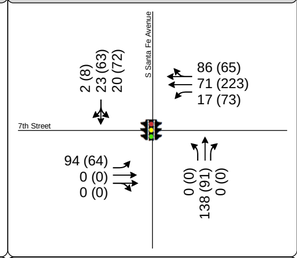
11. Mateo Street/6th Street



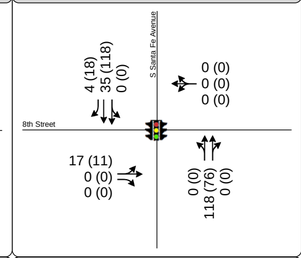
12. Mateo Street/7th Street



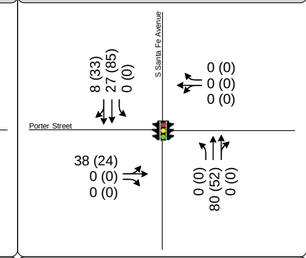
13. S Santa Fe Avenue/7th Street



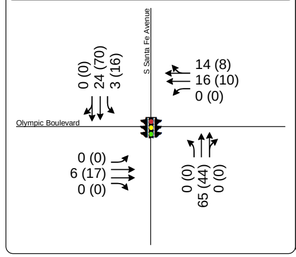
14. S Santa Fe Avenue/8th Street



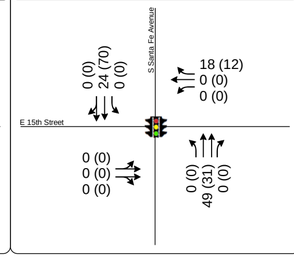
15. S Santa Fe Avenue/Porter Street



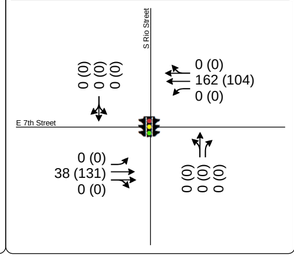
16. S Santa Fe Avenue/Olympic Boulevard



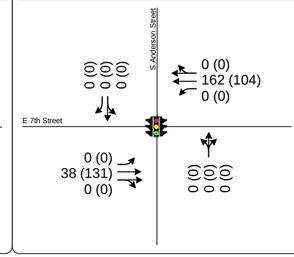
17. S Santa Fe Avenue/E 15th Street



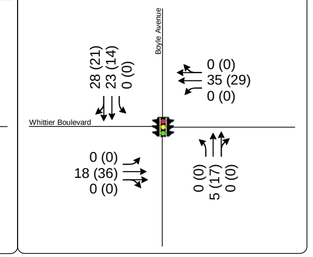
18. S Rio Street/E 7th Street



19. S Anderson Street/E 7th Street



20. Boyle Avenue/Whittier Boulevard



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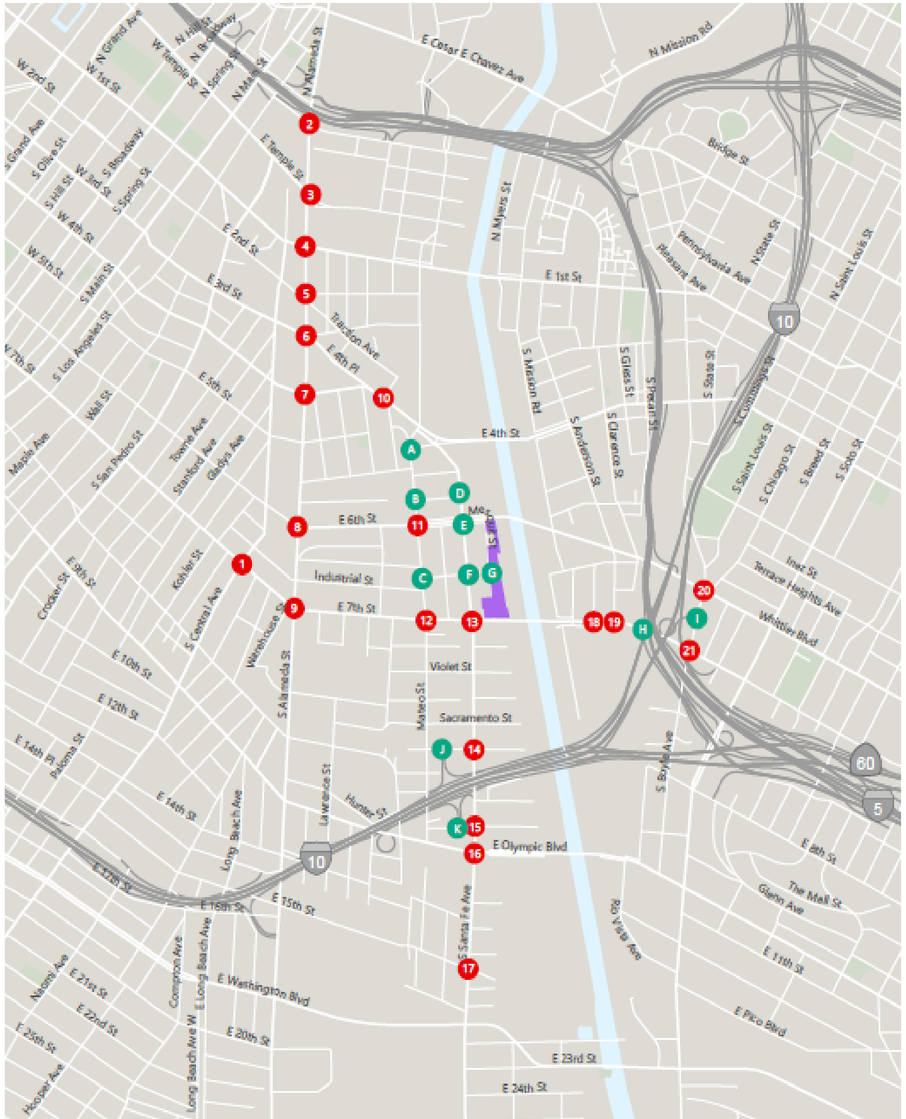
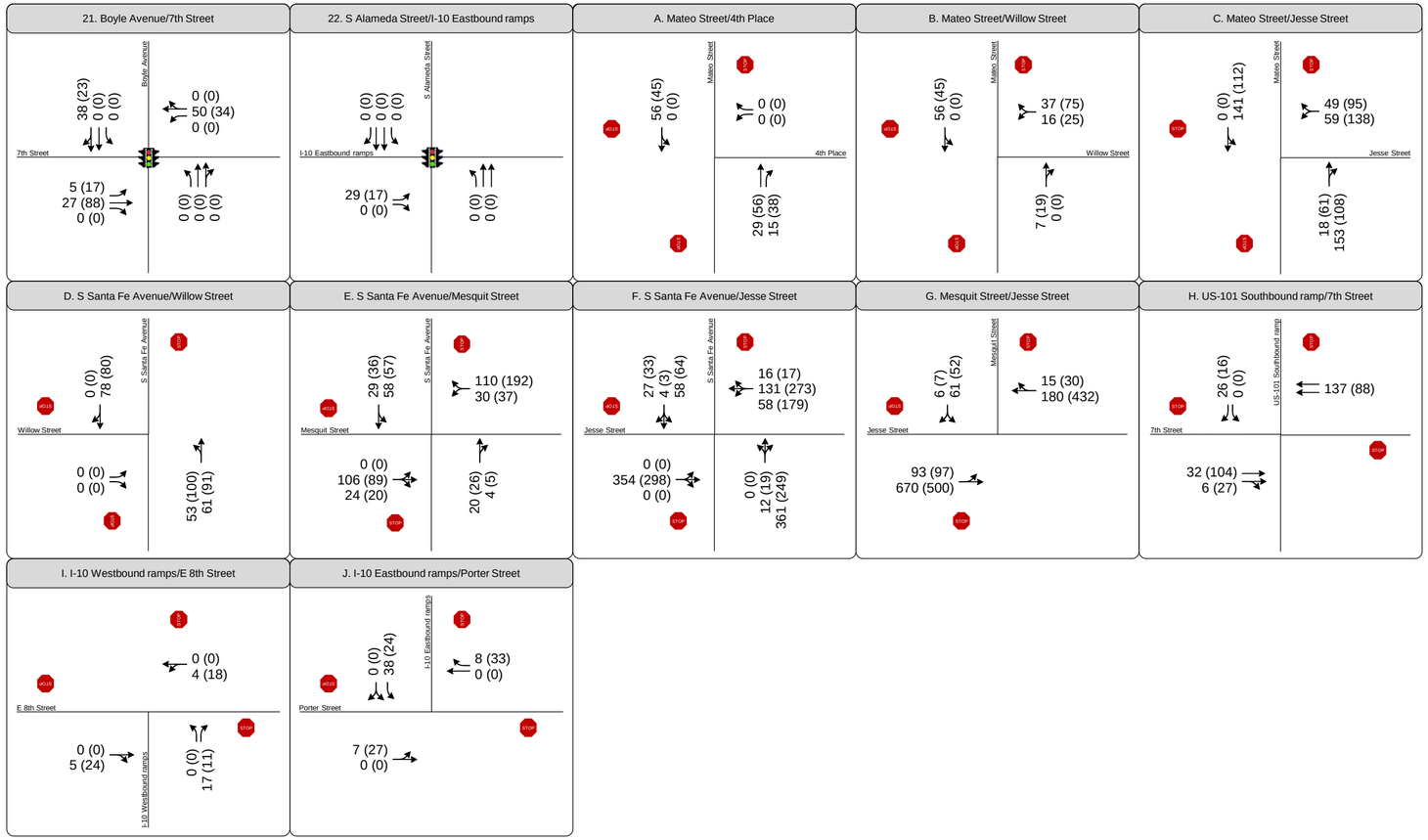
Project Only - Option 1

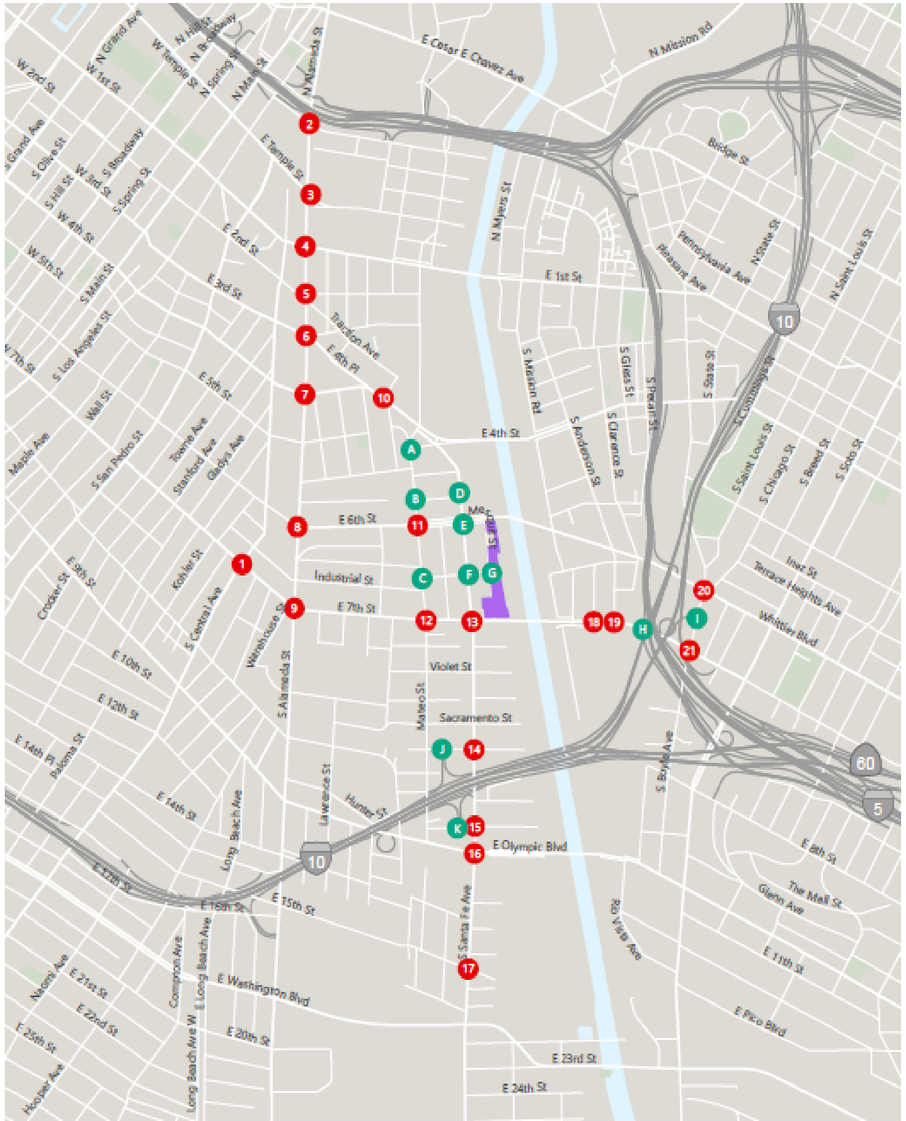




LEGEND

#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration		Stop Sign
			Signalized

670 Mesquit
Project Only - Option 1

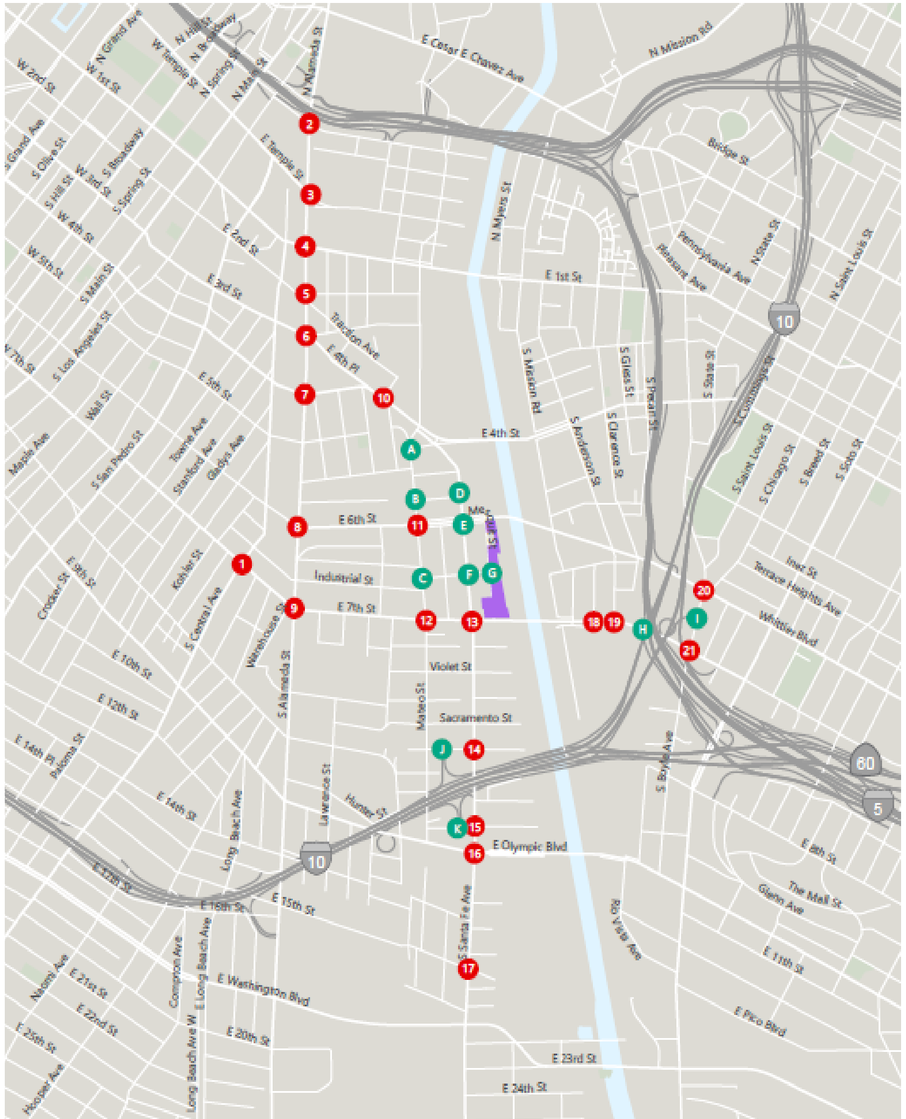


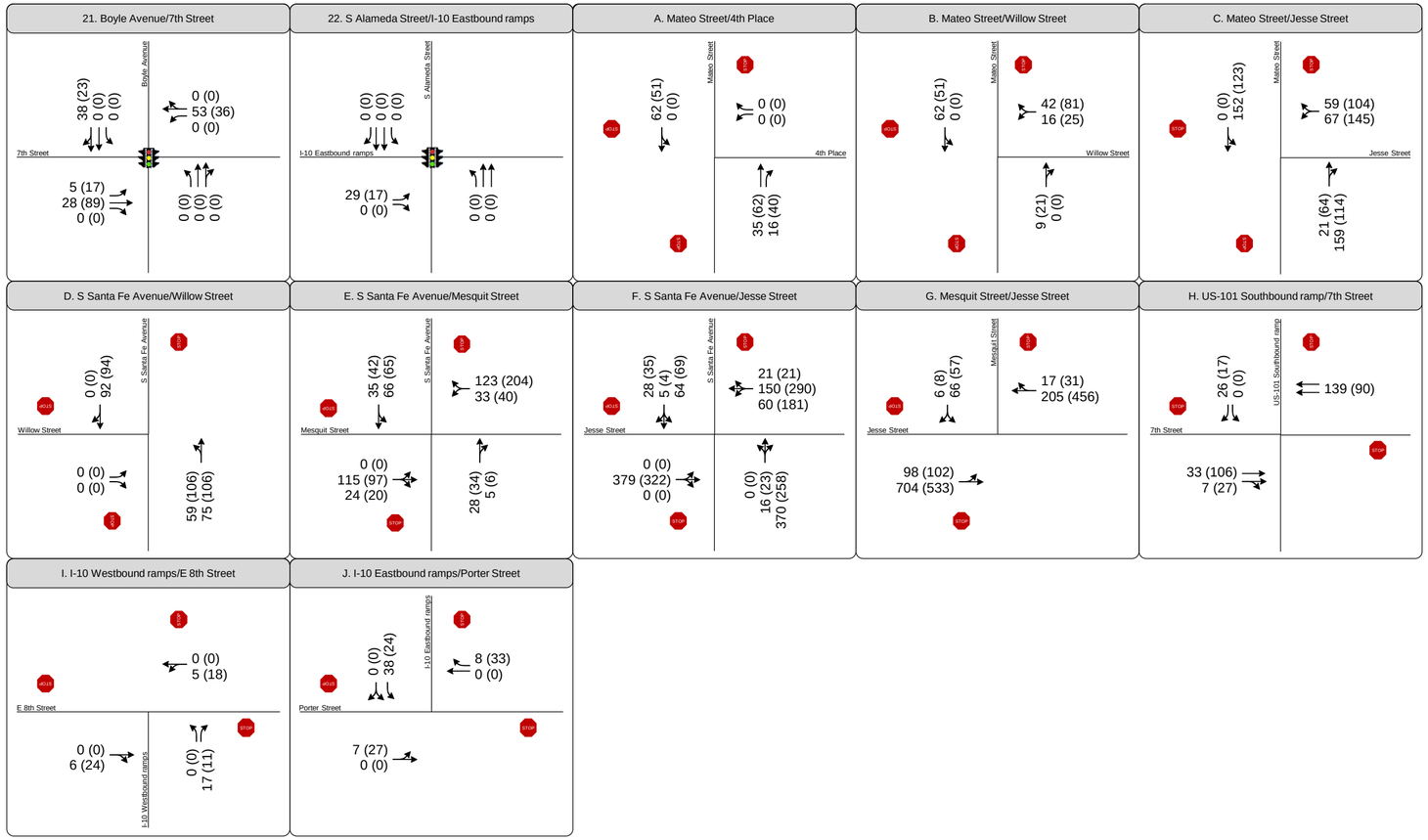
1. S Central Avenue/7th Street	2. N Alameda Street/E Aliso Street/E Commercial Street	3. Alameda Street /Temple Street	4. N Alameda Street/E 1st Street	5. N Alameda Street/E 2nd Street
0 (0) 0 (0) 0 (0) S Central Avenue 0 (0) 21 (62) 16 (51) 7th Street 0 (0) 35 (24) 0 (0) 0 (0) 0 (0) 34 (23)	44 (29) 0 (0) N Alameda Street 0 (0) 23 (14) E Aliso Street/E Commercial Street 0 (0) 0 (0) 16 (10) 20 (61) 5 (17)	0 (0) 81 (53) 0 (0) Alameda Street 8 (19) 0 (0) 0 (0) Temple Street 0 (0) 0 (0) 8 (5) 3 (8) 18 (59)	0 (0) 89 (58) 0 (0) N Alameda Street 0 (0) 0 (0) 0 (0) E 1st Street 0 (0) 0 (0) 1 (1) 2 (0) 21 (68) 0 (0)	0 (0) 89 (58) 0 (0) N Alameda Street 0 (0) 0 (0) 0 (0) E 2nd Street 0 (0) 0 (0) 0 (0) 3 (8) 23 (68) 0 (0)
6. S Alameda Street/3rd Street/4th Place	**7. S Alameda Street/4th Street**	**8. S Alameda Street/6th Street**	**9. S Alameda Street/7th Street**	**10. Molino Street/Merrick Street/4th Street**
0 (0) 97 (63) S Alameda Street 5 (8) 10 (21) 0 (0) 3rd Street/4th Place 9 (27) 21 (68)	89 (57) 8 (5) S Alameda Street 0 (0) 20 (15) 26 (18) 4th Street 30 (95) 0 (0)	0 (0) 50 (33) 64 (42) S Alameda Street 13 (42) 11 (19) 0 (0) 6th Street 0 (0) 43 (29) 0 (0) 0 (0) 17 (53) 0 (0)	0 (0) 0 (0) 50 (33) S Alameda Street 17 (53) 38 (113) 10 (47) 7th Street 0 (0) 69 (47) 0 (0) 0 (0) 0 (0) 43 (25)	0 (0) 0 (0) Molino Street/Merrick Street 0 (0) 0 (0) 4th Street 0 (0) 62 (51) 35 (62) 0 (0) 0 (0)
11. Mateo Street/6th Street	**12. Mateo Street/7th Street**	**13. S Santa Fe Avenue/7th Street**	**14. S Santa Fe Avenue/8th Street**	**15. S Santa Fe Avenue/Porter Street**
11 (21) 11 (9) 56 (46) Mateo Street 0 (0) 0 (0) 67 (53) 6th Street 0 (0) 76 (60) 53 (36) 30 (59) 9 (21) 27 (73)	30 (63) 26 (71) 0 (0) Mateo Street 21 (64) 77 (195) 6 (12) 7th Street 87 (63) 132 (107) 0 (0) 0 (0) 72 (61) 0 (0)	2 (8) 24 (64) 22 (73) S Santa Fe Avenue 91 (70) 82 (234) 18 (74) 7th Street 99 (69) 0 (0) 0 (0) 0 (0) 141 (94) 0 (0)	5 (18) 37 (120) 0 (0) S Santa Fe Avenue 0 (0) 0 (0) 0 (0) 8th Street 17 (11) 0 (0) 0 (0) 0 (0) 120 (78) 0 (0)	8 (33) 30 (87) 0 (0) S Santa Fe Avenue 0 (0) 0 (0) 0 (0) Porter Street 38 (24) 0 (0) 0 (0) 0 (0) 83 (54) 0 (0)
16. S Santa Fe Avenue/Olympic Boulevard	**17. S Santa Fe Avenue/E 15th Street**	**18. S Rio Street/E 7th Street**	**19. S Anderson Street/E 7th Street**	**20. Boyle Avenue/Whittier Boulevard**
0 (0) 27 (71) 3 (16) S Santa Fe Avenue 14 (8) 16 (10) 0 (0) Olympic Boulevard 0 (0) 6 (17) 0 (0) 0 (0) 68 (45) 0 (0)	0 (0) 27 (71) 0 (0) S Santa Fe Avenue 18 (13) 0 (0) 0 (0) E 15th Street 0 (0) 0 (0) 0 (0) 0 (0) 50 (33) 0 (0)	0 (0) 0 (0) 0 (0) S Rio Street 0 (0) 165 (107) 0 (0) E 7th Street 0 (0) 40 (133) 0 (0) 0 (0) 0 (0) 0 (0)	0 (0) 0 (0) 0 (0) S Anderson Street 0 (0) 165 (107) 0 (0) E 7th Street 0 (0) 40 (133) 0 (0) 0 (0) 0 (0) 0 (0)	29 (21) 23 (14) 0 (0) Boyle Avenue 0 (0) 38 (33) 0 (0) Whittier Boulevard 0 (0) 21 (40) 0 (0) 0 (0) 5 (17) 0 (0)

LEGEND

# Study Intersection	AM (PM) Peak Hour Traffic Volume
Lane Configuration	Stop Sign
	Signalized

670 Mesquit
Project Only - Option 2





LEGEND

#	Study Intersection	AM (PM)	Peak Hour Traffic Volume
	Lane Configuration	STOP	Stop Sign
			Signalized

Appendix G:
Intersection LOS Analysis Sheets

EXISTING CONDITIONS

CMA WORKSHEETS

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
1	North-South Street:	S Central Avenue	East-West Street:	7th Street
	Scenario:	Existing (2018)		

			AM				PM		
	No. of Phases				2				2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume		
NORTHBOUND	Left	93	1	**93**	56	1	56		
	Left-Through		0			0			
	Through	412	1	267	774	1	**493**		
	Through-Right		1			1			
	Right	121	0	121	212	0	212		
	Left-Through-Right		0			0			
	Left-Right		0			0			
SOUTHBOUND	Left	26	0	26	42	0	**42**		
	Left-Through		1			1			
	Through	632	0	**393**	620	0	418		
	Through-Right		1			1			
	Right	102	0	393	48	0	418		
	Left-Through-Right		0			0			
	Left-Right		0			0			
EASTBOUND	Left	26	1	**26**	60	1	60		
	Left-Through		0			0			
	Through	275	1	166	727	1	**397**		
	Through-Right		1			1			
	Right	57	0	57	66	0	66		
	Left-Through-Right		0			0			
	Left-Right		0			0			
WESTBOUND	Left	201	1	201	104	1	**104**		
	Left-Through		0			0			
	Through	957	1	**513**	545	1	307		
	Through-Right		1			1			
	Right	68	0	68	68	0	68		
	Left-Through-Right		0			0			
	Left-Right		0			0			
	CRITICAL VOLUMES		North-South:	486		North-South:	535		
			East-West:	539		East-West:	501		
			SUM:	1025		SUM:	1036		
	VOLUME/CAPACITY (V/C) RATIO:			0.683			0.691		
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.583**			**0.591**		
	LEVEL OF SERVICE (LOS):			**A**			**A**		

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
2	North-South Street:	N Alameda Street	East-West Street:	E Aliso Street/E Commercial Street
	Scenario:	Existing (2018)		

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 1	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	2	EB-- 0	WB--	2
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	516	2	258	1064	2	**532**
	Through-Right		0			0	
	Right	132	1	0	152	1	119
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	90	1	90	114	1	**114**
	Left-Through		0			0	
	Through	1108	3	**369**	711	3	237
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	61	2	34	405	2	**223**
	Left-Through		0			0	
	Through	40	1	40	48	1	48
	Through-Right		0			0	
	Right	161	1	**161**	37	1	37
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	202	1	**202**	67	1	67
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	152	1	152	160	1	**160**
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	369		*North-South:*	646
			East-West:	363		*East-West:*	383
			SUM:	732		*SUM:*	1029
	VOLUME/CAPACITY *(V/C)* RATIO:			0.514			0.722
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.414**			**0.622**
	LEVEL OF SERVICE (LOS):			**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
3	North-South Street:	Alameda Street	East-West Street:	Temple Street
	Scenario:	Existing (2018)		

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		2	EB-- 0	WB--	2
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	151	1	**151**	103	1	**103**
	Left-Through		0			0	
	Through	659	2	330	672	2	336
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	11	1	11	60	1	60
	Left-Through		0			0	
	Through	969	2	**485**	595	2	**298**
	Through-Right		0			0	
	Right	371	1	328	266	1	143
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	86	1	**86**	246	1	**246**
	Left-Through		0			0	
	Through	100	1	100	397	1	298
	Through-Right		1			1	
	Right	123	0	48	198	0	198
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	55	1	55	19	1	19
	Left-Through		0			0	
	Through	236	1	**141**	165	1	**119**
	Through-Right		1			1	
	Right	46	0	46	73	0	73
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	636		*North-South:*	401
			East-West:	227		*East-West:*	365
			SUM:	863		*SUM:*	766
VOLUME/CAPACITY *(V/C)* RATIO:				0.628			0.557
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.528**			**0.457**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
4	North-South Street:	N Alameda Street	East-West Street:	E 1st Street
	Scenario:	Existing (2018)		

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		3	NB-- 0	SB--	3
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	60	1	**60**	74	1	**74**
	Left-Through		0			0	
	Through	763	2	382	584	2	292
	Through-Right		0			0	
	Right	72	1	72	132	1	132
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	17	1	17	34	1	34
	Left-Through		0			0	
	Through	877	2	**439**	630	2	**315**
	Through-Right		0			0	
	Right	123	1	60	108	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	63	1	**63**	225	1	**225**
	Left-Through		0			0	
	Through	164	1	117	572	1	343
	Through-Right		1			1	
	Right	70	0	70	113	0	113
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	1	0	0	0	0	0
	Left-Through		0			0	
	Through	728	1	**392**	314	1	**163**
	Through-Right		1			1	
	Right	56	0	56	11	0	11
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	499		*North-South:*	389
			East-West:	455		*East-West:*	388
			SUM:	954		*SUM:*	777
VOLUME/CAPACITY *(V/C)* RATIO:				0.669			0.545
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.569**			**0.445**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
5	North-South Street:	N Alameda Street	East-West Street:	E 2nd Street
	Scenario:	Existing (2018)		

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	95	1	**95**	106	1	**106**
	Left-Through		0			0	
	Through	850	1	440	681	1	380
	Through-Right		1			1	
	Right	30	0	30	78	0	78
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	37	1	37	38	1	38
	Left-Through		0			0	
	Through	768	1	**418**	660	1	**355**
	Through-Right		1			1	
	Right	67	0	67	50	0	50
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	55	1	**55**	118	1	118
	Left-Through		0			0	
	Through	90	1	90	222	1	**222**
	Through-Right		0			0	
	Right	79	1	32	159	1	106
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	124	1	124	82	1	**82**
	Left-Through		0			0	
	Through	230	0	**294**	113	0	150
	Through-Right		1			1	
	Right	64	0	0	37	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	513		*North-South:*	461
			East-West:	349		*East-West:*	304
			SUM:	862		*SUM:*	765
	VOLUME/CAPACITY *(V/C)* RATIO:			0.575			0.510
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.475**			**0.410**
	LEVEL OF SERVICE (LOS):			**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
6	North-South Street:	S Alameda Street	East-West Street:	3rd Street/4th Place
	Scenario:	Existing (2018)		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	106	1	**106**	379	1	**379**
	Left-Through		0			0	
	Through	622	2	311	518	2	259
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	821	2	**411**	676	2	**338**
	Through-Right		0			0	
	Right	203	1	203	141	1	141
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	165	0	165	147	0	147
	Left-Through		1			1	
	Through	2330	3	**624**	1100	3	**312**
	Through-Right		0			0	
	Right	315	1	315	91	1	91
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	517		*North-South:*	717
			East-West:	624		*East-West:*	312
			SUM:	1141		*SUM:*	1029
VOLUME/CAPACITY *(V/C)* RATIO:				0.761			0.686
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.661**			**0.586**
LEVEL OF SERVICE (LOS):				**B**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
7	North-South Street:	S Alameda Street	East-West Street:	4th Street
	Scenario:	Existing (2018)		

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	701	1	374	890	1	**515**
	Through-Right		1			1	
	Right	47	0	47	140	0	140
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	80	1	80	104	1	**104**
	Left-Through		0			0	
	Through	923	2	**462**	727	2	364
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	71	0	71	134	0	134
	Left-Through		1			1	
	Through	374	2	148	1547	2	**560**
	Through-Right		0			0	
	Right	157	1	**157**	207	1	207
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	462		*North-South:*	619
			East-West:	157		*East-West:*	560
			SUM:	619		*SUM:*	1179
	VOLUME/CAPACITY *(V/C)* RATIO:			0.413			0.786
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.313**			**0.686**
	LEVEL OF SERVICE (LOS):			**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
8	North-South Street:	S Alameda Street	East-West Street:	6th Street
	Scenario:	Existing (2018)		

			AM				PM		
No. of Phases					2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0		SB--	0	NB-- 0		SB--	0
		EB-- 0		WB--	0	EB-- 0		WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
MOVEMENT			Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left		120	1	**120**	104	1	**104**
	Left-Through			0			0	
	Through		609	1	322	865	1	447
	Through-Right			1			1	
	Right		34	0	34	29	0	29
	Left-Through-Right			0			0	
	Left-Right			0			0	
SOUTHBOUND	Left		42	1	42	81	1	81
	Left-Through			0			0	
	Through		827	1	**484**	758	1	**441**
	Through-Right			1			1	
	Right		140	0	140	124	0	124
	Left-Through-Right			0			0	
	Left-Right			0			0	
EASTBOUND	Left		65	1	**65**	132	1	132
	Left-Through			0			0	
	Through		93	1	93	337	1	**246**
	Through-Right			1			1	
	Right		117	0	57	155	0	155
	Left-Through-Right			0			0	
	Left-Right			0			0	
WESTBOUND	Left		24	1	24	11	1	**11**
	Left-Through			0			0	
	Through		224	1	**146**	110	1	76
	Through-Right			1			1	
	Right		68	0	68	42	0	42
	Left-Through-Right			0			0	
	Left-Right			0			0	
CRITICAL VOLUMES				*North-South:*	604		*North-South:*	545
				East-West:	211		*East-West:*	257
				SUM:	815		*SUM:*	802
VOLUME/CAPACITY *(V/C)* RATIO:					0.543			0.535
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.443**			**0.435**
LEVEL OF SERVICE (LOS):					**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
9	North-South Street:	S Alameda Street	East-West Street:	7th Street
	Scenario:	Existing (2018)		

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	94	1	**94**	99	1	99
	Left-Through		0			0	
	Through	620	1	350	790	1	**440**
	Through-Right		1			1	
	Right	79	0	79	89	0	89
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	96	1	96	147	1	**147**
	Left-Through		0			0	
	Through	751	1	**441**	699	1	384
	Through-Right		1			1	
	Right	130	0	130	68	0	68
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	54	1	**54**	74	1	74
	Left-Through		0			0	
	Through	295	1	204	780	1	**457**
	Through-Right		1			1	
	Right	112	0	112	134	0	134
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	136	1	136	103	1	**103**
	Left-Through		0			0	
	Through	1015	1	**571**	543	1	344
	Through-Right		1			1	
	Right	127	0	127	144	0	144
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	535		*North-South:*	587
			East-West:	625		*East-West:*	560
			SUM:	1160		*SUM:*	1147
	VOLUME/CAPACITY *(V/C)* RATIO:			0.814			0.805
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.714**			**0.705**
	LEVEL OF SERVICE (LOS):			**C**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
10	North-South Street:	Molino Street/Merrick Street	East-West Street:	4th Street
	Scenario:	Existing (2018)		

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	30	0	30	71	0	71
	Left-Through		0			0	
	Through	19	0	**56**	62	0	**137**
	Through-Right		0			0	
	Right	7	0	0	4	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	11	1	11	48	1	**48**
	Left-Through		0			0	
	Through	16	0	0	26	0	0
	Through-Right		0			0	
	Right	25	1	**25**	31	1	31
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	1	0	**0**	10	0	0
	Left-Through		0			0	
	Through	306	1	182	1624	2	**560**
	Through-Right		1			1	
	Right	57	0	57	55	0	55
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	15	0	0	3	0	**0**
	Left-Through		0			0	
	Through	2622	2	**902**	962	1	516
	Through-Right		1			1	
	Right	84	0	84	70	0	70
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	81		*North-South:*	185
			East-West:	902		*East-West:*	560
			SUM:	983		*SUM:*	745
VOLUME/CAPACITY *(V/C)* RATIO:				0.690			0.523
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.590**			**0.423**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
11	North-South Street:	Mateo Street	East-West Street:	6th Street
	Scenario:	Existing (2018)		

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 2	SB--	0	NB-- 2	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	113	0	**113**	73	0	**73**
	Left-Through		0			0	
	Through	159	0	277	149	0	224
	Through-Right		0			0	
	Right	5	0	0	2	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	6	0	6	3	0	3
	Left-Through		1			1	
	Through	184	0	**190**	184	0	**187**
	Through-Right		0			0	
	Right	123	1	84	80	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	79	1	79	237	1	**237**
	Left-Through		0			0	
	Through	21	0	**125**	38	0	222
	Through-Right		1			1	
	Right	104	0	0	184	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	4	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	**0**
	Through-Right		0			0	
	Right	0	0	0	6	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	303		*North-South:*	260
			East-West:	125		*East-West:*	237
			SUM:	428		*SUM:*	497
	VOLUME/CAPACITY *(V/C)* RATIO:			0.285			0.331
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.185**			**0.231**
	LEVEL OF SERVICE (LOS):			**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
12	North-South Street:	Mateo Street	East-West Street:	7th Street
	Scenario:	Existing (2018)		

			AM				PM		
	No. of Phases				2				2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume		
NORTHBOUND	Left	74	0	74	98	0	**98**		
	Left-Through		0			0			
	Through	207	0	**311**	132	0	292		
	Through-Right		0			0			
	Right	30	0	0	62	0	0		
	Left-Through-Right		1			1			
	Left-Right		0			0			
SOUTHBOUND	Left	40	0	**40**	90	0	90		
	Left-Through		1			1			
	Through	187	0	227	227	0	**317**		
	Through-Right		0			0			
	Right	32	1	18	33	1	12		
	Left-Through-Right		0			0			
	Left-Right		0			0			
EASTBOUND	Left	28	1	**28**	42	1	42		
	Left-Through		0			0			
	Through	301	1	182	809	1	**475**		
	Through-Right		1			1			
	Right	62	0	62	140	0	140		
	Left-Through-Right		0			0			
	Left-Right		0			0			
WESTBOUND	Left	175	1	175	50	1	**50**		
	Left-Through		0			0			
	Through	1197	1	**646**	582	1	320		
	Through-Right		1			1			
	Right	94	0	94	58	0	58		
	Left-Through-Right		0			0			
	Left-Right		0			0			
	CRITICAL VOLUMES		*North-South:*	351		*North-South:*	415		
			East-West:	674		*East-West:*	525		
			SUM:	1025		*SUM:*	940		
	VOLUME/CAPACITY *(V/C)* RATIO:			0.683			0.627		
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.583**			**0.527**		
	LEVEL OF SERVICE (LOS):			**A**			**A**		

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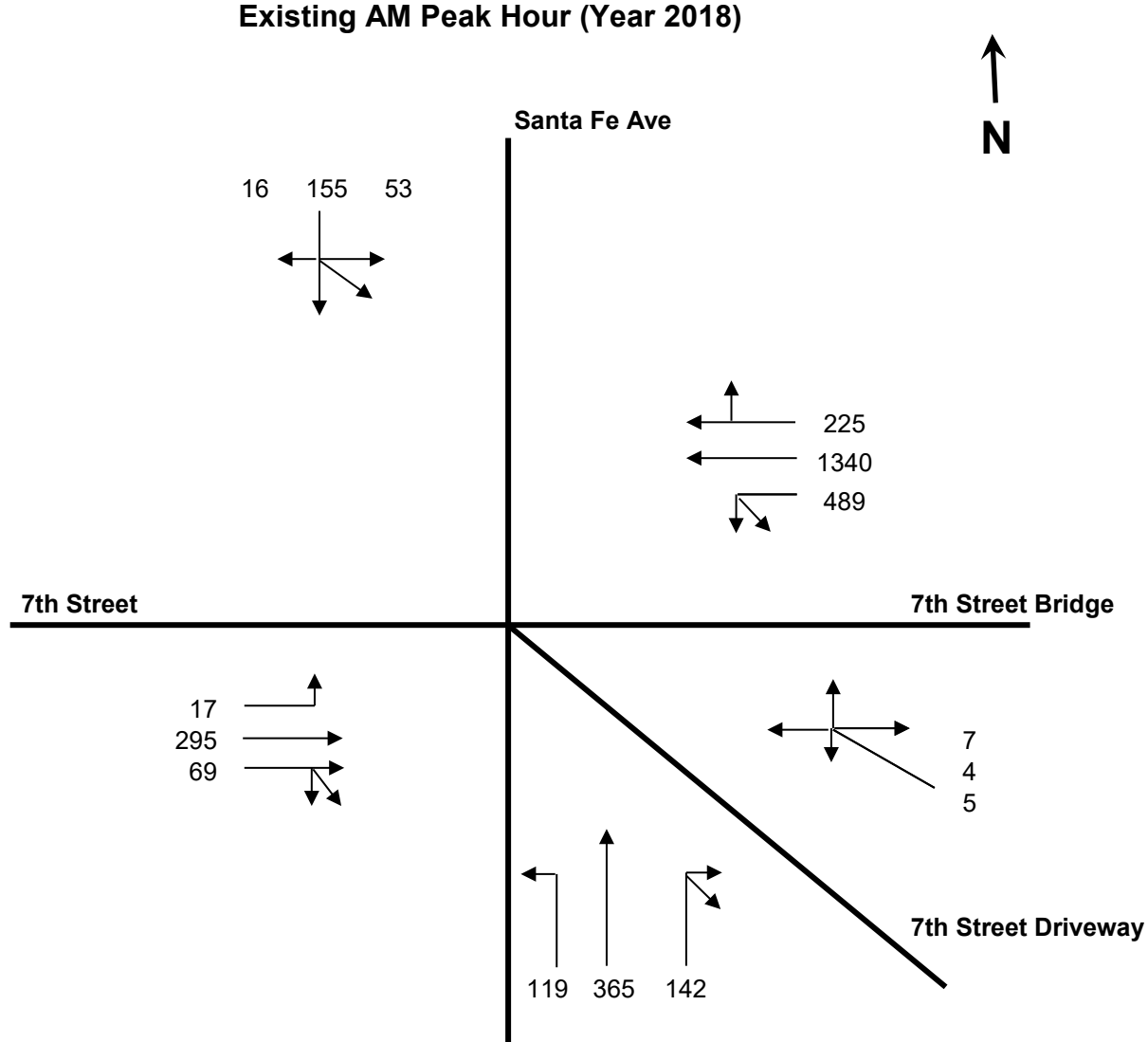
Intersection 13

Existing AM Peak Hour (Year 2018)



NWB 1) $\left\{ \frac{5 + 4 + 7}{1} \right\}$

$= \mathbf{16}$

EB-WB 2) $\left\{ \frac{1340 + 225}{2} + \frac{17}{1} \right\}$ or $\left\{ \frac{225}{1} + \frac{17}{1} \right\}$ or

$\left\{ \frac{295 + 69}{2} + \frac{489}{1} \right\}$ or $\left\{ \frac{69}{1} + \frac{489}{1} \right\}$

$= \mathbf{800}$

NB-SB 3) $\left\{ \frac{53 + 155 + 16}{1} + \frac{119}{1} \right\}$ or

$\left\{ \frac{365}{1} + \frac{53}{1} \right\}$ or $\left\{ \frac{142}{1} + \frac{53}{1} \right\}$

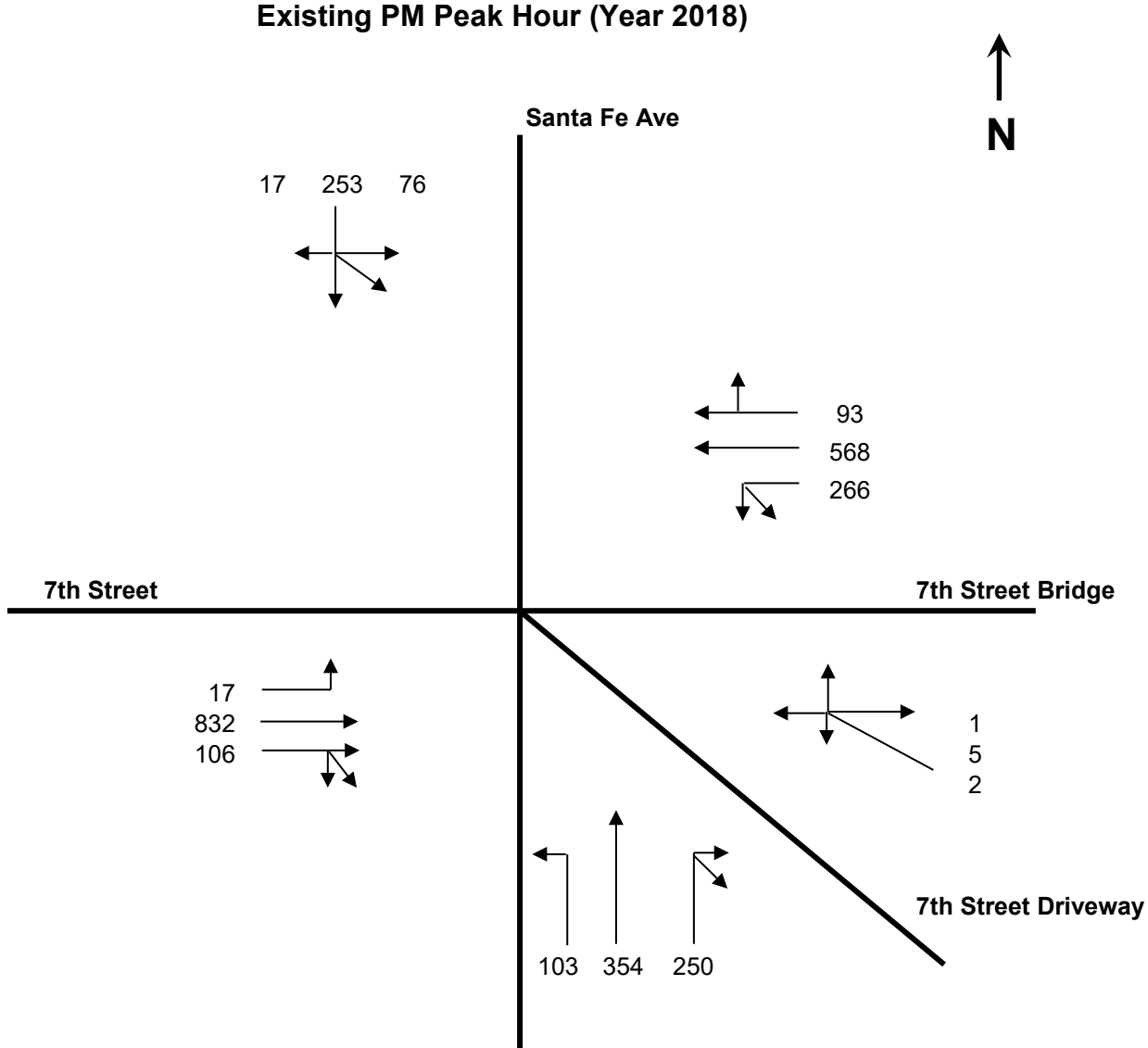
$= \mathbf{418}$

Critical Volumes = 16 + 800 + 418 = 1,234

V/C = $\frac{1,234}{1,375}$ = 0.10 = 0.797 LOS C

Intersection 13

Existing PM Peak Hour (Year 2018)



NWB 1) $\left\{ \frac{2 + 5 + 1}{1} \right\}$

$= \mathbf{8}$

EB-WB 2) $\left\{ \frac{568 + 93}{2} + \frac{17}{1} \right\}$ or $\left\{ \frac{93}{1} + \frac{17}{1} \right\}$ or

$\left\{ \frac{832 + 106}{2} + \frac{266}{1} \right\}$ or $\left\{ \frac{106}{1} + \frac{266}{1} \right\}$

$= \mathbf{735}$

NB-SB 3) $\left\{ \frac{76 + 253 + 17}{1} + \frac{103}{1} \right\}$ or

$\left\{ \frac{354}{1} + \frac{76}{1} \right\}$ or $\left\{ \frac{250}{1} + \frac{76}{1} \right\}$

$= \mathbf{449}$

Critical Volumes = 8 + 735 + 449 = 1,192

V/C = $\frac{1,192}{1,375}$ – 0.10 = 0.767 LOS C

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
14	North-South Street:	S Santa Fe Avenue	East-West Street:	8th Street
	Scenario:	Existing (2018)		

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	169	0	169	175	0	175
	Left-Through		1			1	
	Through	627	0	**645**	476	0	**497**
	Through-Right		1			1	
	Right	18	0	0	21	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	19	0	**19**	18	0	**18**
	Left-Through		1			1	
	Through	344	1	210	511	1	274
	Through-Right		0			0	
	Right	387	1	387	210	1	210
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	55	0	55	41	0	41
	Left-Through		1			1	
	Through	8	0	63	18	0	59
	Through-Right		0			0	
	Right	312	1	**228**	376	1	**289**
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	0	**10**	13	0	**13**
	Left-Through		0			0	
	Through	11	0	36	13	0	48
	Through-Right		0			0	
	Right	15	0	0	22	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	664		*North-South:*	515
			East-West:	238		*East-West:*	302
			SUM:	902		*SUM:*	817
	VOLUME/CAPACITY *(V/C)* RATIO:			0.601			0.545
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.501**			**0.445**
	LEVEL OF SERVICE (LOS):			**A**			**A**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
15	North-South Street:	S Santa Fe Avenue	East-West Street:	Porter Street
	Scenario:	Existing (2018)		

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 3	WB--	0	EB-- 3	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	308	1	**308**	423	1	**423**
	Left-Through		0			0	
	Through	672	1	349	549	1	288
	Through-Right		1			1	
	Right	25	0	25	27	0	27
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	18	1	18	15	1	15
	Left-Through		0			0	
	Through	652	1	**342**	874	1	**461**
	Through-Right		1			1	
	Right	32	0	32	47	0	47
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	105	0	**105**	65	0	**65**
	Left-Through		1			1	
	Through	28	0	133	19	0	84
	Through-Right		0			0	
	Right	418	1	110	260	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	20	0	20	42	0	42
	Left-Through		1			1	
	Through	46	0	**66**	85	0	**127**
	Through-Right		0			0	
	Right	22	1	13	24	1	17
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	650		*North-South:*	884
			East-West:	171		*East-West:*	192
			SUM:	821		*SUM:*	1076
	VOLUME/CAPACITY *(V/C)* RATIO:			0.576			0.755
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.476**			**0.655**
	LEVEL OF SERVICE (LOS):			**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
16	North-South Street:	S Santa Fe Avenue	East-West Street:	Olympic Boulevard
	Scenario:	Existing (2018)		

		AM			PM		
	No. of Phases			4			4
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 3	WB--	0	EB-- 3	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	232	1	**232**	118	1	118
	Left-Through		0			0	
	Through	894	1	483	904	1	**537**
	Through-Right		1			1	
	Right	72	0	72	169	0	169
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	114	1	114	118	1	**118**
	Left-Through		0			0	
	Through	938	1	**485**	942	1	497
	Through-Right		1			1	
	Right	31	0	31	51	0	51
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	32	1	**32**	35	1	35
	Left-Through		0			0	
	Through	271	2	136	860	2	**430**
	Through-Right		0			0	
	Right	309	1	77	379	1	261
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	186	1	186	92	1	**92**
	Left-Through		0			0	
	Through	991	1	**536**	711	1	398
	Through-Right		1			1	
	Right	80	0	80	85	0	85
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	717		*North-South:*	655
			East-West:	568		*East-West:*	522
			SUM:	1285		*SUM:*	1177
	VOLUME/CAPACITY *(V/C)* RATIO:			0.935			0.856
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.835**			**0.756**
	LEVEL OF SERVICE (LOS):			**D**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
17	North-South Street:	S Santa Fe Avenue	East-West Street:	E 15th Street
	Scenario:	Existing (2018)		

		AM				PM			
	No. of Phases				3				3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 1	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	102	1	**102**		113	1	**113**	
	Left-Through		0				0		
	Through	1087	2	544		905	2	453	
	Through-Right		0				0		
	Right	215	1	0		163	1	146	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	63	1	63		190	1	190	
	Left-Through		0				0		
	Through	1222	1	**642**		1195	1	**606**	
	Through-Right		1				1		
	Right	61	0	61		16	0	16	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	26	0	**26**		57	0	57	
	Left-Through		1				1		
	Through	46	0	103		318	0	**274**	
	Through-Right		1				1		
	Right	57	0	0		173	0	274	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	24	1	24		34	1	**34**	
	Left-Through		0				0		
	Through	578	1	**578**		80	1	80	
	Through-Right		0				0		
	Right	107	1	76		113	1	18	
	Left-Through-Right		0				0		
	Left-Right		0				0		
	CRITICAL VOLUMES		*North-South:*	744			*North-South:*	719	
			East-West:	604			*East-West:*	308	
			SUM:	1348			*SUM:*	1027	
	VOLUME/CAPACITY *(V/C)* RATIO:			0.946				0.721	
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.846**				**0.621**	
	LEVEL OF SERVICE (LOS):			**D**				**B**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
18	North-South Street:	S Rio Street	East-West Street:	E 7th Street
	Scenario:	Existing (2018)		

		AM				PM			
No. of Phases					2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--		0	NB--	0	SB--	0
	EB--	0	WB--		0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	36	0	**36**	22	0	22
	Left-Through		1			1	
	Through	2	0	38	1	0	23
	Through-Right		0			0	
	Right	64	1	26	64	1	**47**
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	18	0	18	15	0	**15**
	Left-Through		0			0	
	Through	2	0	**32**	0	0	23
	Through-Right		0			0	
	Right	12	0	0	8	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	10	1	**10**	10	1	10
	Left-Through		0			0	
	Through	360	1	180	1048	1	**524**
	Through-Right		1			1	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	77	1	77	34	1	**34**
	Left-Through		0			0	
	Through	1969	1	**991**	738	1	370
	Through-Right		1			1	
	Right	13	0	13	2	0	2
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	68		*North-South:*	62
			East-West:	1001		*East-West:*	558
			SUM:	1069		*SUM:*	620
VOLUME/CAPACITY *(V/C)* RATIO:				0.713			0.413
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.613**			**0.313**
LEVEL OF SERVICE (LOS):				**B**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
19	North-South Street:	S Anderson Street	East-West Street:	E 7th Street
	Scenario:	Existing (2018)		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	13	0	13	0	0	0
	Left-Through		0			0	
	Through	1	0	**18**	0	0	**2**
	Through-Right		0			0	
	Right	4	0	0	2	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	35	0	**35**	96	0	**96**
	Left-Through		1			1	
	Through	2	0	37	0	0	96
	Through-Right		0			0	
	Right	53	1	29	76	1	42
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	49	1	**49**	69	1	69
	Left-Through		0			0	
	Through	363	1	185	1040	1	**520**
	Through-Right		1			1	
	Right	7	0	7	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	1	10	5	1	**5**
	Left-Through		0			0	
	Through	1994	1	**1176**	715	1	406
	Through-Right		1			1	
	Right	357	0	357	97	0	97
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	53		*North-South:*	98
			East-West:	1225		*East-West:*	525
			SUM:	1278		*SUM:*	623
VOLUME/CAPACITY *(V/C)* RATIO:				0.852			0.415
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.752**			**0.315**
LEVEL OF SERVICE (LOS):				**C**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
20	North-South Street:	Boyle Avenue	East-West Street:	Whittier Boulevard
	Scenario:	Existing (2018)		

			AM				PM		
	No. of Phases				4				4
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2				2
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume		
NORTHBOUND	Left	43	1	43	137	1	137		
	Left-Through		0			0			
	Through	466	1	**294**	757	1	**486**		
	Through-Right		1			1			
	Right	122	0	122	215	0	215		
	Left-Through-Right		0			0			
	Left-Right		0			0			
SOUTHBOUND	Left	68	1	**68**	134	1	**134**		
	Left-Through		0			0			
	Through	372	1	191	374	1	192		
	Through-Right		1			1			
	Right	9	0	9	9	0	9		
	Left-Through-Right		0			0			
	Left-Right		0			0			
EASTBOUND	Left	1	0	1	2	0	2		
	Left-Through		0			0			
	Through	1	0	**12**	0	0	**6**		
	Through-Right		0			0			
	Right	10	0	0	4	0	0		
	Left-Through-Right		1			1			
	Left-Right		0			0			
WESTBOUND	Left	583	1	**583**	171	1	**171**		
	Left-Through		0			0			
	Through	147	1	147	81	1	81		
	Through-Right		0			0			
	Right	504	1	470	202	1	135		
	Left-Through-Right		0			0			
	Left-Right		0			0			
	CRITICAL VOLUMES		*North-South:*	362		*North-South:*	620		
			East-West:	595		*East-West:*	177		
			SUM:	957		*SUM:*	797		
	VOLUME/CAPACITY *(V/C)* RATIO:			0.696			0.580		
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.596**			**0.480**		
	LEVEL OF SERVICE (LOS):			**A**			**A**		

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
21	North-South Street:	Boyle Avenue	East-West Street:	7th Street
	Scenario:	Existing (2018)		

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		1	NB-- 0	SB--	1
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	266	1	**266**	171	1	**171**
	Left-Through		0			0	
	Through	413	1	280	532	1	335
	Through-Right		1			1	
	Right	146	0	146	137	0	137
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	53	1	53	55	1	55
	Left-Through		0			0	
	Through	402	1	**402**	407	1	**301**
	Through-Right		1			1	
	Right	701	0	0	194	0	194
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	59	1	**59**	210	1	210
	Left-Through		0			0	
	Through	102	1	102	472	1	**472**
	Through-Right		0			0	
	Right	104	1	0	377	1	292
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	39	1	39	17	1	**17**
	Left-Through		0			0	
	Through	528	0	**560**	135	0	179
	Through-Right		1			1	
	Right	32	0	0	44	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	668		*North-South:*	472
			East-West:	619		*East-West:*	489
			SUM:	1287		*SUM:*	961
VOLUME/CAPACITY *(V/C)* RATIO:				0.936			0.699
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.836**			**0.599**
LEVEL OF SERVICE (LOS):				**D**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
22	North-South Street:	S Alameda Street	East-West Street:	I-10 Eastbound ramps
	Scenario:	Existing (2018)		

	AM			PM		
No. of Phases			3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	3	NB-- 0	SB--	3
	EB-- 3	WB--	0	EB-- 3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	390	1	**390**	441	1	**441**
	Left-Through		0			0	
	Through	993	2	497	968	2	484
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	1	1	1	0	1	0
	Left-Through		0			0	
	Through	726	2	**363**	1028	2	**514**
	Through-Right		0			0	
	Right	381	1	156	403	1	330
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	225	1	**225**	73	1	**73**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	510	1	120	352	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	753		*North-South:*	955
			East-West:	225		*East-West:*	73
			SUM:	978		*SUM:*	1028
VOLUME/CAPACITY *(V/C)* RATIO:				0.686			0.721
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.586**			**0.621**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

CUMULATIVE BASE (2026)

CMA WORKSHEETS

Level of Service Workheet
(Circular 212 Method)

I/S #:
1

PROJECT TITLE: 670 Mesquit
North-South Street: S Central Avenue **East-West Street:** 7th Street
Scenario: Future Base (2026)

				AM				PM			
No. of Phases						2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB--	0	SB--		0		NB--	0	SB--	0
		EB--	0	WB--		0		EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?						2					2
Override Capacity						0					0
MOVEMENT				**Volume**	**No. of Lanes**	**Lane Volume**		**Volume**	**No. of Lanes**	**Lane Volume**
NORTHBOUND	Left			60	1	**60**		88	1	88
	Left-Through				0				0	
	Through			390	1	375		1019	1	**716**
	Through-Right				1				1	
	Right			360	0	360		412	0	412
	Left-Through-Right				0				0	
	Left-Right				0				0	
SOUTHBOUND	Left			35	0	35		47	0	**47**
	Left-Through				1				1	
	Through			878	0	**586**		776	0	568
	Through-Right				1				1	
	Right			153	0	586		78	0	568
	Left-Through-Right				0				0	
	Left-Right				0				0	
EASTBOUND	Left			54	1	54		127	1	127
	Left-Through				0				0	
	Through			650	1	**350**		1085	1	**585**
	Through-Right				1				1	
	Right			50	0	50		85	0	85
	Left-Through-Right				0				0	
	Left-Right				0				0	
WESTBOUND	Left			386	1	**386**		360	1	**360**
	Left-Through				0				0	
	Through			1085	1	586		840	1	475
	Through-Right				1				1	
	Right			87	0	87		110	0	110
	Left-Through-Right				0				0	
	Left-Right				0				0	
CRITICAL VOLUMES					***North-South:***	646			***North-South:***	763
					East-West:	736			***East-West:***	945
					SUM:	1382			***SUM:***	1708
VOLUME/CAPACITY *(V/C)* RATIO:						0.921				1.139
***V/C* LESS ATSAC/ATCS ADJUSTMENT:**						**0.821**				**1.039**
LEVEL OF SERVICE (LOS):						**D**				**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
2

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street
East-West Street: E Aliso Street/E Commercial Street
Scenario: Future Base (2026)

			AM			PM		
No. of Phases			3			3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2		
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 1	SB--	0	NB-- 0	SB--	0		
	EB-- 0	WB--	2	EB-- 0	WB--	2		
ATSAC-1 or ATSAC+ATCS-2?			2			2		
Override Capacity			0			0		

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1141	2	**571**	1619	2	**810**
	Through-Right		0			0	
	Right	274	1	0	458	1	408
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	218	1	**218**	323	1	**323**
	Left-Through		0			0	
	Through	1555	3	518	1151	3	384
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	85	2	47	389	2	**214**
	Left-Through		0			0	
	Through	40	1	40	70	1	70
	Through-Right		0			0	
	Right	141	1	**141**	59	1	59
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	142	1	142	100	1	100
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	263	1	**263**	247	1	**247**
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	789		*North-South:*	1133
			East-West:	404		*East-West:*	461
			SUM:	1193		*SUM:*	1594
VOLUME/CAPACITY *(V/C)* RATIO:				0.837			1.119
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.737**			**1.019**
LEVEL OF SERVICE (LOS):				C			F

Version: 1i Beta; 8/4/2011

Level of Service Workheet
(Circular 212 Method)

I/S #:
3

PROJECT TITLE: 670 Mesquit
North-South Street: Alameda Street
East-West Street: Temple Street
Scenario: Future Base (2026)

			AM			PM		
No. of Phases				4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	2	EB--	0	WB--	2
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	172	1	**172**	127	1	127
	Left-Through		0			0	
	Through	1217	2	609	1460	2	**730**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	11	1	11	61	1	**61**
	Left-Through		0			0	
	Through	1379	2	**690**	1075	2	538
	Through-Right		0			0	
	Right	386	1	340	281	1	150
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	93	1	93	263	1	263
	Left-Through		0			0	
	Through	109	1	109	409	1	409
	Through-Right		1			1	
	Right	355	0	**269**	476	0	**413**
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	56	1	**56**	19	1	**19**
	Left-Through		0			0	
	Through	244	1	146	178	1	126
	Through-Right		1			1	
	Right	47	0	47	74	0	74
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	862		*North-South:*	791
			East-West:	325		*East-West:*	432
			SUM:	1187		*SUM:*	1223
VOLUME/CAPACITY *(V/C)* RATIO:				0.863			0.889
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.763**			**0.789**
LEVEL OF SERVICE (LOS):				**C**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
4

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street
East-West Street: E 1st Street
Scenario: Future Base (2026)

			AM			PM		
No. of Phases				3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	3	SB-- 3		NB--	3	SB--	3
	EB--	0	WB-- 0		EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	256	1	**256**	277	1	**277**
	Left-Through		0			0	
	Through	1405	2	703	1392	2	696
	Through-Right		0			0	
	Right	55	1	39	129	1	97
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	63	1	63	100	1	100
	Left-Through		0			0	
	Through	1332	2	**666**	1331	2	**666**
	Through-Right		0			0	
	Right	207	1	80	173	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	127	1	**127**	423	1	**423**
	Left-Through		0			0	
	Through	247	1	247	755	1	755
	Through-Right		0			0	
	Right	191	1	63	357	1	219
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	16	1	16	32	1	32
	Left-Through		0			0	
	Through	755	1	**755**	488	1	**488**
	Through-Right		0			0	
	Right	120	1	89	97	1	47
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	922		*North-South:*	943
			East-West:	882		*East-West:*	911
			SUM:	1804		*SUM:*	1854
VOLUME/CAPACITY *(V/C)* RATIO:				1.266			1.301
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.166**			**1.201**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
5	North-South Street:	N Alameda Street	East-West Street:	E 2nd Street
	Scenario:	Future Base (2026)		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	144	1	144	114	1	114
	Left-Through		0			0	
	Through	1380	1	**758**	1453	1	**799**
	Through-Right		1			1	
	Right	135	0	135	145	0	145
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	337	1	**337**	270	1	**270**
	Left-Through		0			0	
	Through	1117	1	600	1353	1	711
	Through-Right		1			1	
	Right	83	0	83	68	0	68
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	36	1	**36**	88	1	**88**
	Left-Through		0			0	
	Through	203	1	203	258	1	258
	Through-Right		0			0	
	Right	94	1	22	146	1	89
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	132	1	132	73	1	73
	Left-Through		0			0	
	Through	469	0	**598**	246	0	**433**
	Through-Right		1			1	
	Right	129	0	0	187	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	1095		North-South:	1069
			East-West:	634		East-West:	521
			SUM:	1729		SUM:	1590
VOLUME/CAPACITY (V/C) RATIO:				1.153			1.060
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.053**			**0.960**
LEVEL OF SERVICE (LOS):				**F**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
6	North-South Street:	S Alameda Street	East-West Street:	3rd Street/4th Place
	Scenario:	Future Base (2026)		

			AM				PM			
No. of Phases					2					2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB--	0	SB--	0		NB--	0	SB--	0
		EB--	0	WB--	0		EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2					2
Override Capacity					0					0
MOVEMENT			Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left		264	1	**264**		352	1	**352**	
	Left-Through			0				0		
	Through		1270	2	635		1218	2	609	
	Through-Right			0				0		
	Right		0	0	0		0	0	0	
	Left-Through-Right			0				0		
	Left-Right			0				0		
SOUTHBOUND	Left		0	0	0		0	0	0	
	Left-Through			0				0		
	Through		1095	2	**548**		1458	2	**729**	
	Through-Right			0				0		
	Right		136	1	136		143	1	143	
	Left-Through-Right			0				0		
	Left-Right			0				0		
EASTBOUND	Left		0	0	**0**		0	0	**0**	
	Left-Through			0				0		
	Through		0	0	0		0	0	0	
	Through-Right			0				0		
	Right		0	0	0		0	0	0	
	Left-Through-Right			0				0		
	Left-Right			0				0		
WESTBOUND	Left		141	0	141		162	0	162	
	Left-Through			1				1		
	Through		2898	3	**760**		1343	3	**376**	
	Through-Right			0				0		
	Right		453	1	453		307	1	307	
	Left-Through-Right			0				0		
	Left-Right			0				0		
CRITICAL VOLUMES				North-South:	812			North-South:	1081	
				East-West:	760			East-West:	376	
				SUM:	1572			SUM:	1457	
VOLUME/CAPACITY (V/C) RATIO:					1.048				0.971	
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.948**				**0.871**	
LEVEL OF SERVICE (LOS):					**E**				**D**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
7	North-South Street:	S Alameda Street	East-West Street:	4th Street
	Scenario:	Future Base (2026)		

	AM			PM		
No. of Phases			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1203	1	**631**	1207	1	**669**
	Through-Right		1			1	
	Right	59	0	59	131	0	131
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	115	1	**115**	168	1	**168**
	Left-Through		0			0	
	Through	1211	2	606	1292	2	646
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	222	0	222	307	0	307
	Left-Through		1			1	
	Through	652	2	**291**	1978	2	**762**
	Through-Right		0			0	
	Right	201	1	201	341	1	341
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	746		North-South:	837
			East-West:	291		East-West:	762
			SUM:	1037		SUM:	1599
VOLUME/CAPACITY (V/C) RATIO:				0.691			1.066
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.591**			**0.966**
LEVEL OF SERVICE (LOS):				**A**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
8	North-South Street:	S Alameda Street	East-West Street:	6th Street
	Scenario:	Future Base (2026)		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	130	1	**130**	178	1	**178**
	Left-Through		0			0	
	Through	987	1	536	1218	1	687
	Through-Right		1			1	
	Right	84	0	84	156	0	156
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	97	1	97	161	1	161
	Left-Through		0			0	
	Through	1216	1	**710**	1207	1	**712**
	Through-Right		1			1	
	Right	204	0	204	216	0	216
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	148	1	**148**	250	1	250
	Left-Through		0			0	
	Through	485	1	346	1267	1	**726**
	Through-Right		1			1	
	Right	206	0	206	185	0	185
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	195	1	195	116	1	**116**
	Left-Through		0			0	
	Through	1282	1	**729**	580	1	322
	Through-Right		1			1	
	Right	176	0	176	63	0	63
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	840		North-South:	890
			East-West:	877		East-West:	842
			SUM:	1717		SUM:	1732
VOLUME/CAPACITY (V/C) RATIO:				1.145			1.155
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.045**			**1.055**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
9	North-South Street:	S Alameda Street	East-West Street:	7th Street
	Scenario:	Future Base (2026)		

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	117	1	**117**	124	1	124
	Left-Through		0			0	
	Through	827	1	477	1140	1	**637**
	Through-Right		1			1	
	Right	126	0	126	133	0	133
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	269	1	269	210	1	**210**
	Left-Through		0			0	
	Through	1225	1	**804**	1163	1	686
	Through-Right		1			1	
	Right	383	0	383	209	0	209
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	180	1	**180**	314	1	**314**
	Left-Through		0			0	
	Through	737	1	439	1088	1	629
	Through-Right		1			1	
	Right	140	0	140	169	0	169
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	170	1	170	157	1	157
	Left-Through		0			0	
	Through	1144	1	**673**	988	1	**637**
	Through-Right		1			1	
	Right	202	0	202	286	0	286
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	921		*North-South:*	847
			East-West:	853		*East-West:*	951
			SUM:	1774		*SUM:*	1798
VOLUME/CAPACITY *(V/C)* RATIO:				1.245			1.262
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.145**			**1.162**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
10

PROJECT TITLE: 670 Mesquit
North-South Street: Molino Street/Merrick Street **East-West Street:** 4th Street
Scenario: Future Base (2027)

				AM				PM			
No. of Phases							3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?							1				1
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB--	0	SB--	0	NB--	0	SB--	0
				EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?							2				2
Override Capacity							0				0
MOVEMENT				Volume		No. of Lanes	Lane Volume	Volume		No. of Lanes	Lane Volume
NORTHBOUND		Left		178		0	178	326		0	326
		Left-Through				0				0	
		Through		122		0	**320**	149		0	**487**
		Through-Right				0				0	
		Right		20		0	0	12		0	0
		Left-Through-Right				1				1	
		Left-Right				0				0	
SOUTHBOUND		Left		24		1	24	86		1	**86**
		Left-Through				0				0	
		Through		62		0	0	138		0	0
		Through-Right				0				0	
		Right		47		1	**47**	67		1	67
		Left-Through-Right				0				0	
		Left-Right				0				0	
EASTBOUND		Left		1		0	**0**	10		0	0
		Left-Through				0				0	
		Through		374		1	338	1816		2	**709**
		Through-Right				1				1	
		Right		302		0	302	310		0	310
		Left-Through-Right				0				0	
		Left-Right				0				0	
WESTBOUND		Left		15		0	0	3		0	**0**
		Left-Through				0				0	
		Through		2709		2	**937**	1101		1	599
		Through-Right				1				1	
		Right		103		0	103	97		0	97
		Left-Through-Right				0				0	
		Left-Right				0				0	
CRITICAL VOLUMES						*North-South:*	367			*North-South:*	573
						East-West:	937			*East-West:*	709
						SUM:	1304			*SUM:*	1282
VOLUME/CAPACITY *(V/C)* RATIO:							0.915				0.900
V/C LESS ATSAC/ATCS ADJUSTMENT:							**0.815**				**0.800**
LEVEL OF SERVICE (LOS):							**D**				**C**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:
11

PROJECT TITLE: 670 Mesquit
North-South Street: Mateo Street
East-West Street: 6th Street
Scenario: Future Base (2026)

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 2	SB--	0	NB-- 2	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		**Volume**	**No. of Lanes**	**Lane Volume**	**Volume**	**No. of Lanes**	**Lane Volume**
NORTHBOUND	Left	115	0	**115**	142	0	142
	Left-Through		0			0	
	Through	261	0	422	434	0	**721**
	Through-Right		0			0	
	Right	46	0	0	145	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	104	0	104	149	0	**149**
	Left-Through		1			1	
	Through	356	0	**460**	360	0	509
	Through-Right		0			0	
	Right	143	1	61	212	1	84
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	165	1	**165**	256	1	**256**
	Left-Through		0			0	
	Through	360	2	177	1256	2	466
	Through-Right		1			1	
	Right	172	0	172	143	0	143
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	145	1	145	20	1	20
	Left-Through		0			0	
	Through	1423	1	**832**	483	1	**336**
	Through-Right		1			1	
	Right	240	0	240	188	0	188
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			***North-South:***	575		***North-South:***	870
			East-West:	997		***East-West:***	592
			SUM:	1572		***SUM:***	1462
VOLUME/CAPACITY *(V/C)* RATIO:				1.048			0.975
***V/C* LESS ATSAC/ATCS ADJUSTMENT:**				**0.948**			**0.875**
LEVEL OF SERVICE (LOS):				**E**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
12	North-South Street:	Mateo Street	East-West Street:	7th Street
	Scenario:	Future Base (2026)		

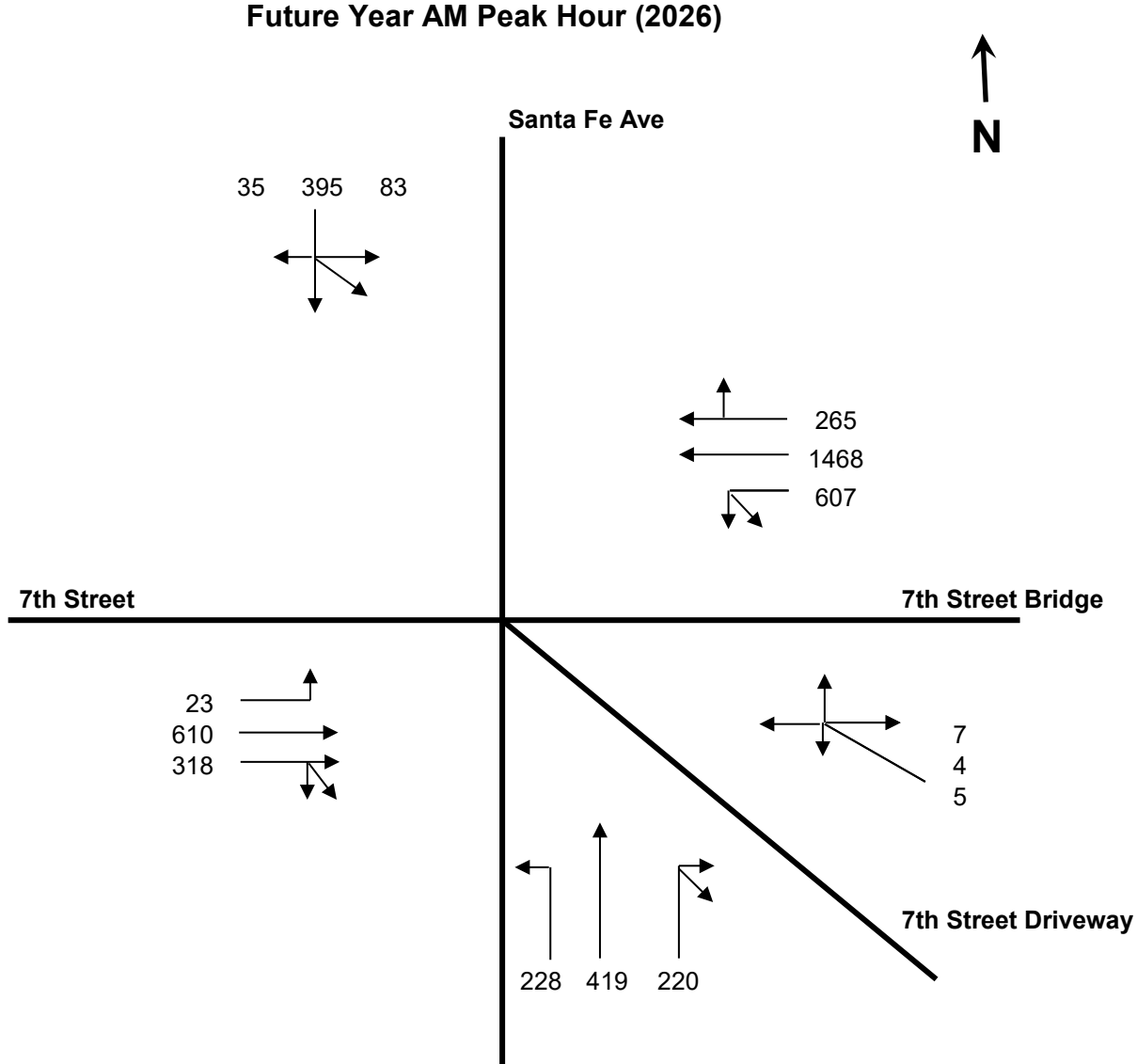
		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	107	0	**107**	200	0	200
	Left-Through		0			0	
	Through	255	0	424	384	0	**710**
	Through-Right		0			0	
	Right	62	0	0	126	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	114	0	114	95	0	**95**
	Left-Through		1			1	
	Through	405	0	**519**	271	0	366
	Through-Right		0			0	
	Right	131	1	79	131	1	39
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	105	1	105	185	1	185
	Left-Through		0			0	
	Through	803	1	**474**	1067	1	**602**
	Through-Right		1			1	
	Right	145	0	145	136	0	136
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	371	1	**371**	154	1	**154**
	Left-Through		0			0	
	Through	1193	1	634	1046	1	569
	Through-Right		1			1	
	Right	75	0	75	92	0	92
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	626		*North-South:*	805
			East-West:	845		*East-West:*	756
			SUM:	1471		*SUM:*	1561
VOLUME/CAPACITY *(V/C)* RATIO:				0.981			1.041
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.881**			**0.941**
LEVEL OF SERVICE (LOS):				**D**			**E**

Version: 1i Beta; 8/4/2011

Intersection 13

Future Year AM Peak Hour (2026)



NWB 1) $\left\{ \frac{5 + 4 + 7}{1} \right\}$

= 16

EB-WB 2) $\left\{ \frac{1468 + 265}{2} + \frac{23}{1} \right\}$ or $\left\{ \frac{265}{1} + \frac{23}{1} \right\}$ or

$\left\{ \frac{610 + 318}{2} + \frac{607}{1} \right\}$ or $\left\{ \frac{318}{1} + \frac{607}{1} \right\}$

= 1071

NB-SB 3) $\left\{ \frac{83 + 395 + 35}{1} + \frac{228}{1} \right\}$ or

$\left\{ \frac{419}{1} + \frac{83}{1} \right\}$ or $\left\{ \frac{220}{1} + \frac{83}{1} \right\}$

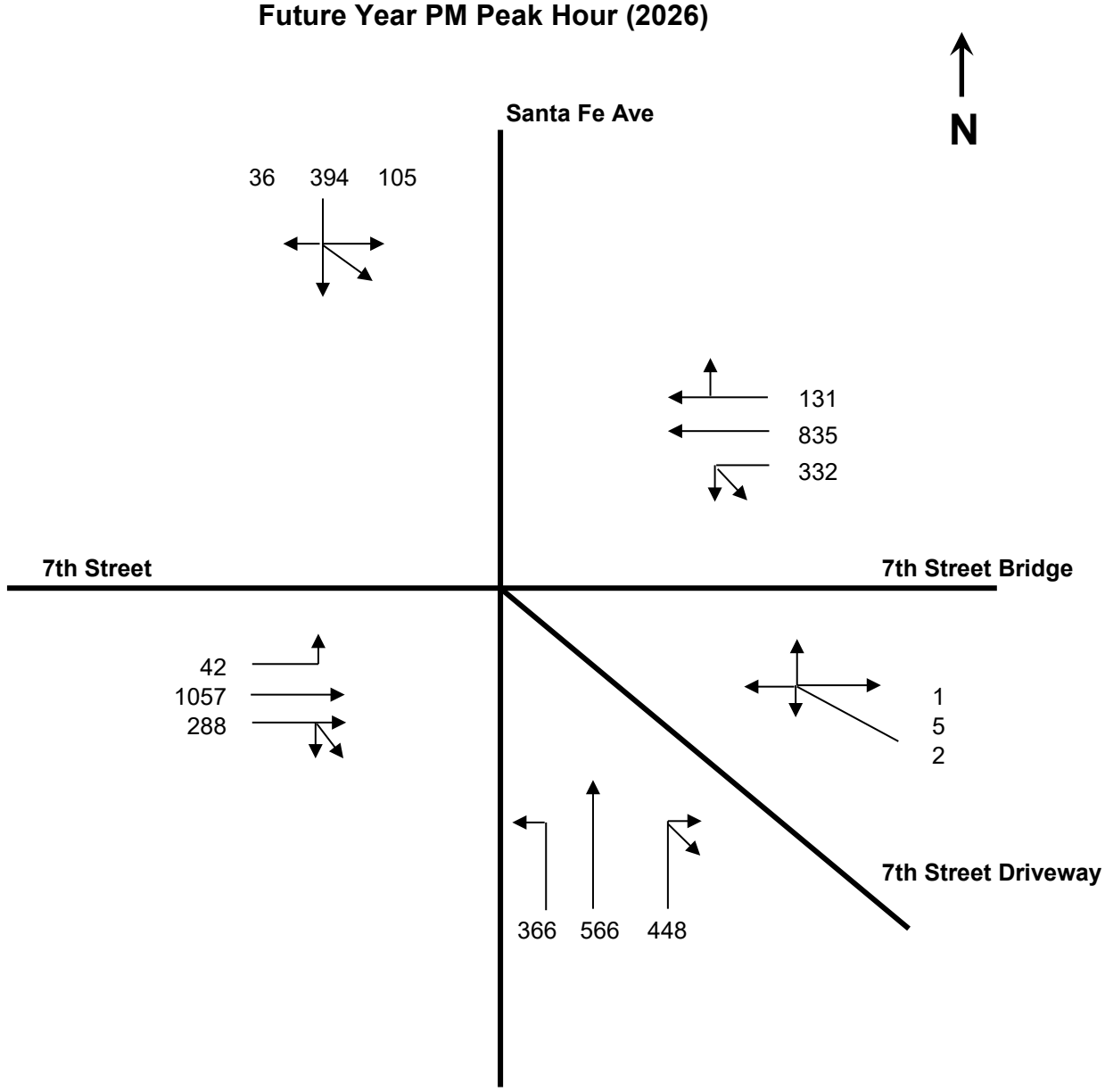
= 741

Critical Volumes = 16 + 1071 + 741 = 1,828

V/C = $\frac{1,828}{1,375}$ — 0.10 = 1.229 LOS F

Intersection 13

Future Year PM Peak Hour (2026)



NWB 1) $\left\{ \frac{2 + 5 + 1}{1} \right\}$

$= 8$

EB-WB 2) $\left\{ \frac{835 + 131}{2} + \frac{42}{1} \right\}$ or $\left\{ \frac{131}{1} + \frac{42}{1} \right\}$ or

$\left\{ \frac{1057 + 288}{2} + \frac{332}{1} \right\}$ or $\left\{ \frac{288}{1} + \frac{332}{1} \right\}$

$= 1005$

NB-SB 3) $\left\{ \frac{105 + 394 + 36}{1} + \frac{366}{1} \right\}$ or

$\left\{ \frac{566}{1} + \frac{105}{1} \right\}$ or $\left\{ \frac{448}{1} + \frac{105}{1} \right\}$

$= 901$

Critical Volumes = 8 + 1005 + 901 = 1,914

V/C = $\frac{1,914}{1,375}$ – 0.10 = 1.292 LOS F

Level of Service Workheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
14	North-South Street:	S Santa Fe Avenue	East-West Street:	8th Street
	Scenario:	Future Base (2026)		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	220	0	220	232	0	**232**
	Left-Through		1			1	
	Through	906	0	**902**	661	0	682
	Through-Right		1			1	
	Right	18	0	902	21	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	19	0	**19**	18	0	18
	Left-Through		1			1	
	Through	521	1	299	867	1	**470**
	Through-Right		0			0	
	Right	391	1	391	314	1	314
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	222	0	222	110	0	110
	Left-Through		1			1	
	Through	8	0	230	18	0	128
	Through-Right		0			0	
	Right	285	1	**285**	382	1	**266**
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	0	**10**	13	0	**13**
	Left-Through		0			0	
	Through	11	0	36	13	0	48
	Through-Right		0			0	
	Right	15	0	0	22	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	921		*North-South:*	702
			East-West:	295		*East-West:*	279
			SUM:	1216		*SUM:*	981
VOLUME/CAPACITY *(V/C)* RATIO:				0.811			0.654
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.711**			**0.554**
LEVEL OF SERVICE (LOS):				**C**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
15	North-South Street:	S Santa Fe Avenue	East-West Street:	Porter Street
	Scenario:	Future Base (2026)		

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 3	WB--		0	EB-- 3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	313	1	**313**	430	1	**430**
	Left-Through		0			0	
	Through	908	1	467	748	1	388
	Through-Right		1			1	
	Right	25	0	25	27	0	27
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	18	1	18	15	1	15
	Left-Through		0			0	
	Through	748	1	**417**	1059	1	**630**
	Through-Right		1			1	
	Right	85	0	85	201	0	201
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	199	0	**199**	107	0	**107**
	Left-Through		1			1	
	Through	28	0	227	19	0	126
	Through-Right		0			0	
	Right	502	1	189	397	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	20	0	20	43	0	43
	Left-Through		1			1	
	Through	47	0	**67**	86	0	**129**
	Through-Right		0			0	
	Right	22	1	13	24	1	17
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	730		*North-South:*	1060
			East-West:	266		*East-West:*	236
			SUM:	996		*SUM:*	1296
VOLUME/CAPACITY *(V/C)* RATIO:				0.699			0.909
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.599**			**0.809**
LEVEL OF SERVICE (LOS):				**A**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
16	North-South Street:	S Santa Fe Avenue	East-West Street:	Olympic Boulevard
	Scenario:	Future Base (2026)		

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 3	WB--		0	EB-- 3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	237	1	**237**	121	1	121
	Left-Through		0			0	
	Through	1014	1	544	1023	1	**598**
	Through-Right		1			1	
	Right	73	0	73	172	0	172
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	214	1	214	292	1	**292**
	Left-Through		0			0	
	Through	1032	1	**524**	1084	1	570
	Through-Right		1			1	
	Right	16	0	16	55	0	55
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	36	1	**36**	37	1	37
	Left-Through		0			0	
	Through	403	2	202	1011	2	**506**
	Through-Right		0			0	
	Right	315	1	78	385	1	264
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	189	1	189	93	1	**93**
	Left-Through		0			0	
	Through	1229	1	**713**	908	1	539
	Through-Right		1			1	
	Right	196	0	196	170	0	170
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	761		*North-South:*	890
			East-West:	749		*East-West:*	599
			SUM:	1510		*SUM:*	1489
VOLUME/CAPACITY *(V/C)* RATIO:				1.098			1.083
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.998**			**0.983**
LEVEL OF SERVICE (LOS):				**E**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Workheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
17	North-South Street:	S Santa Fe Avenue	East-West Street:	E 15th Street
	Scenario:	Future Base (2026)		

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 1	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	104	1	**104**	115	1	**115**
	Left-Through		0			0	
	Through	1211	2	606	1025	2	513
	Through-Right		0			0	
	Right	218	1	0	166	1	149
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	64	1	64	193	1	193
	Left-Through		0			0	
	Through	1322	1	**692**	1341	1	**679**
	Through-Right		1			1	
	Right	62	0	62	16	0	16
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	26	0	**26**	58	0	58
	Left-Through		1			1	
	Through	47	0	105	323	0	**279**
	Through-Right		1			1	
	Right	58	0	105	176	0	279
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	24	1	24	35	1	**35**
	Left-Through		0			0	
	Through	587	1	**587**	81	1	81
	Through-Right		0			0	
	Right	109	1	77	115	1	19
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	796		*North-South:*	794
			East-West:	613		*East-West:*	314
			SUM:	1409		*SUM:*	1108
VOLUME/CAPACITY *(V/C)* RATIO:				0.989			0.778
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.889**			**0.678**
LEVEL OF SERVICE (LOS):				**D**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
18	North-South Street:	S Rio Street	East-West Street:	E 7th Street
	Scenario:	Future Base (2026)		

			AM			PM		
No. of Phases				2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--		0
	EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	37	0	**37**	22	0	22
	Left-Through		1			1	
	Through	2	0	39	1	0	23
	Through-Right		0			0	
	Right	65	1	26	65	1	**48**
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	18	0	18	15	0	**15**
	Left-Through		0			0	
	Through	2	0	**32**	0	0	23
	Through-Right		0			0	
	Right	12	0	0	8	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	10	1	**10**	10	1	10
	Left-Through		0			0	
	Through	694	1	347	1357	1	**679**
	Through-Right		1			1	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	78	1	78	35	1	**35**
	Left-Through		0			0	
	Through	1914	1	**964**	1182	1	592
	Through-Right		1			1	
	Right	13	0	13	2	0	2
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	69		*North-South:*	63
			East-West:	974		*East-West:*	714
			SUM:	1043		*SUM:*	777
VOLUME/CAPACITY *(V/C)* RATIO:				0.695			0.518
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.595**			**0.418**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
19	North-South Street:	S Anderson Street	East-West Street:	E 7th Street
	Scenario:	Future Base (2026)		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	13	0	13	0	0	0
	Left-Through		0			0	
	Through	1	0	**18**	0	0	**2**
	Through-Right		0			0	
	Right	4	0	0	2	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	36	0	**36**	98	0	**98**
	Left-Through		1			1	
	Through	2	0	38	0	0	98
	Through-Right		0			0	
	Right	54	1	29	77	1	42
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	50	1	**50**	70	1	**70**
	Left-Through		0			0	
	Through	697	1	352	1349	1	675
	Through-Right		1			1	
	Right	7	0	7	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	1	10	5	1	5
	Left-Through		0			0	
	Through	1939	1	**1151**	1159	1	**629**
	Through-Right		1			1	
	Right	363	0	363	99	0	99
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	54		North-South:	100
			East-West:	1201		East-West:	699
			SUM:	1255		SUM:	799
VOLUME/CAPACITY (V/C) RATIO:				0.837			0.533
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.737**			**0.433**
LEVEL OF SERVICE (LOS):				**C**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit	East-West Street:	Whittier Boulevard
20	North-South Street:	Boyle Avenue		
	Scenario:	Future Base (2026)		

				AM				PM			
			No. of Phases				4				4
			Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2				2
			Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0		SB--	0	NB-- 0		SB--	0
				EB-- 0		WB--	0	EB-- 0		WB--	0
			ATSAC-1 or ATSAC+ATCS-2?				2				2
			Override Capacity				0				0
	MOVEMENT			Volume	No. of Lanes		Lane Volume	Volume	No. of Lanes		Lane Volume
NORTHBOUND		Left		279	1		**279**	266	1		266
		Left-Through			0				0		
		Through		449	1		280	957	1		**576**
		Through-Right			1				1		
		Right		111	0		111	194	0		194
		Left-Through-Right			0				0		
		Left-Right			0				0		
SOUTHBOUND		Left		96	1		96	96	1		**96**
		Left-Through			0				0		
		Through		439	1		**314**	351	1		194
		Through-Right			1				1		
		Right		188	0		188	36	0		36
		Left-Through-Right			0				0		
		Left-Right			0				0		
EASTBOUND		Left		26	1		26	166	1		166
		Left-Through			0				0		
		Through		340	1		**201**	909	1		**508**
		Through-Right			1				1		
		Right		61	0		61	107	0		107
		Left-Through-Right			0				0		
		Left-Right			0				0		
WESTBOUND		Left		180	1		180	53	1		53
		Left-Through			0				0		
		Through		1488	1		**817**	635	1		**400**
		Through-Right			1				1		
		Right		145	0		145	164	0		164
		Left-Through-Right			0				0		
		Left-Right			0				0		
					North-South:		593		*North-South:*		672
			CRITICAL VOLUMES		*East-West:*		1018		*East-West:*		908
					SUM:		1611		*SUM:*		1580
			VOLUME/CAPACITY *(V/C)* RATIO:				1.172				1.149
			V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.072**				**1.049**
			LEVEL OF SERVICE (LOS):				**F**				**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
21	North-South Street:	Boyle Avenue	East-West Street:	7th Street
	Scenario:	Future Base (2026)		

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		1	NB-- 0	SB--	1
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	243	1	**243**	168	1	168
	Left-Through		0			0	
	Through	465	1	283	698	1	**414**
	Through-Right		1			1	
	Right	100	0	100	130	0	130
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	59	1	59	60	1	**60**
	Left-Through		0			0	
	Through	481	1	**397**	428	1	281
	Through-Right		1			1	
	Right	313	0	313	134	0	134
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	111	1	**111**	326	1	**326**
	Left-Through		0			0	
	Through	233	1	233	616	1	616
	Through-Right		0			0	
	Right	160	1	39	352	1	268
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	62	1	62	13	1	13
	Left-Through		0			0	
	Through	536	0	**604**	319	0	**446**
	Through-Right		1			1	
	Right	68	0	0	127	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	640		*North-South:*	474
			East-West:	715		*East-West:*	772
			SUM:	1355		*SUM:*	1246
VOLUME/CAPACITY *(V/C)* RATIO:				0.985			0.906
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.885**			**0.806**
LEVEL OF SERVICE (LOS):				**D**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Workheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
22	North-South Street:	S Alameda Street	East-West Street:	I-10 Eastbound ramps
	Scenario:	Future Base (2026)		

			AM				PM			
No. of Phases					3					3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB--	0	SB--	3		NB--	0	SB--	3
		EB--	3	WB--	0		EB--	3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2					2
Override Capacity					0					0
MOVEMENT			Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left		341	1	**341**		418	1	**418**	
	Left-Through			0				0		
	Through		1237	2	619		1311	2	656	
	Through-Right			0				0		
	Right		0	0	0		0	0	0	
	Left-Through-Right			0				0		
	Left-Right			0				0		
SOUTHBOUND	Left		1	1	1		3	1	3	
	Left-Through			0				0		
	Through		1094	2	**547**		1488	2	**744**	
	Through-Right			0				0		
	Right		467	1	160		525	1	329	
	Left-Through-Right			0				0		
	Left-Right			0				0		
EASTBOUND	Left		307	1	**307**		196	1	**196**	
	Left-Through			0				0		
	Through		0	0	0		0	0	0	
	Through-Right			0				0		
	Right		543	1	202		364	1	0	
	Left-Through-Right			0				0		
	Left-Right			0				0		
WESTBOUND	Left		0	0	0		0	0	0	
	Left-Through			0				0		
	Through		1	0	**0**		0	0	**0**	
	Through-Right			0				0		
	Right		1	0	0		3	0	0	
	Left-Through-Right			0				0		
	Left-Right			0				0		
CRITICAL VOLUMES				North-South:	888			North-South:	1162	
				East-West:	307			East-West:	196	
				SUM:	1195			SUM:	1358	
VOLUME/CAPACITY (V/C) RATIO:					0.839				0.953	
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.739**				**0.853**	
LEVEL OF SERVICE (LOS):					C				D	

Version: 1i Beta; 8/4/2011

CUMULATIVE PLUS PROJECT (2026) – OPTION 1

CMA WORKSHEETS

Level of Service Worksheet
(Circular 212 Method)

I/S #:
1

PROJECT TITLE: 670 Mesquit
North-South Street: S Central Avenue **East-West Street:** 7th Street
Scenario: Future plus Project (2026) - Option 1

		AM				PM			
No. of Phases					2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0		NB--	0	SB--	0
	EB--	0	WB--	0		EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	60	1	**60**	88	1	88
	Left-Through		0			0	
	Through	390	1	390	1019	1	**726**
	Through-Right		1			1	
	Right	393	0	193	433	0	433
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	35	0	35	47	0	**47**
	Left-Through		1			1	
	Through	878	0	**586**	776	0	568
	Through-Right		1			1	
	Right	153	0	586	78	0	568
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	54	1	54	127	1	127
	Left-Through		0			0	
	Through	684	1	**367**	1108	1	**597**
	Through-Right		1			1	
	Right	50	0	50	85	0	85
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	401	1	**401**	410	1	**410**
	Left-Through		0			0	
	Through	1105	1	596	900	1	505
	Through-Right		1			1	
	Right	87	0	87	110	0	110
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	646		*North-South:*	773
			East-West:	768		*East-West:*	1007
			SUM:	1414		*SUM:*	1780
VOLUME/CAPACITY *(V/C)* RATIO:				0.943			1.187
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.843**			**1.087**
LEVEL OF SERVICE (LOS):				**D**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
2

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E Aliso Street/E Commercial Street
Scenario: Future plus Project (2026) - Option 1

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 1	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		2	EB-- 0	WB--	2
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1159	2	**580**	1679	2	**840**
	Through-Right		0			0	
	Right	279	1	0	475	1	418
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	218	1	**218**	323	1	**323**
	Left-Through		0			0	
	Through	1596	3	532	1179	3	393
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	85	2	47	389	2	**214**
	Left-Through		0			0	
	Through	40	1	40	70	1	70
	Through-Right		0			0	
	Right	157	1	**157**	69	1	69
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	165	1	165	114	1	114
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	263	1	**263**	247	1	**247**
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	798		*North-South:*	1163
			East-West:	420		*East-West:*	461
			SUM:	1218		*SUM:*	1624
VOLUME/CAPACITY *(V/C)* RATIO:				0.855			1.140
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.755**			**1.040**
LEVEL OF SERVICE (LOS):				C			F

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
3

PROJECT TITLE: 670 Mesquit
North-South Street: Alameda Street **East-West Street:** Temple Street
Scenario: Future plus Project (2026) - Option 1

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	2	EB-- 0	WB--	2
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	175	1	**175**	135	1	135
	Left-Through		0			0	
	Through	1233	2	617	1519	2	**760**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	11	1	11	61	1	**61**
	Left-Through		0			0	
	Through	1459	2	**730**	1127	2	564
	Through-Right		0			0	
	Right	386	1	340	281	1	150
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	93	1	93	263	1	263
	Left-Through		0			0	
	Through	109	1	109	409	1	409
	Through-Right		1			1	
	Right	363	0	**276**	481	0	**414**
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	56	1	**56**	19	1	**19**
	Left-Through		0			0	
	Through	244	1	149	178	1	135
	Through-Right		1			1	
	Right	54	0	54	92	0	92
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	905		*North-South:*	821
			East-West:	332		*East-West:*	433
			SUM:	1237		*SUM:*	1254
VOLUME/CAPACITY *(V/C)* RATIO:				0.900			0.912
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.800**			**0.812**
LEVEL OF SERVICE (LOS):				**C**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
4

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E 1st Street
Scenario: Future plus Project (2026) - Option 1

		AM				PM			
No. of Phases					3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 3	SB--		3	NB-- 3	SB--		3
		EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	258	1	**258**	277	1	**277**
	Left-Through		0			0	
	Through	1424	2	712	1459	2	730
	Through-Right		0			0	
	Right	55	1	39	129	1	97
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	63	1	63	100	1	100
	Left-Through		0			0	
	Through	1419	2	**710**	1387	2	**694**
	Through-Right		0			0	
	Right	207	1	80	173	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	127	1	**127**	423	1	**423**
	Left-Through		0			0	
	Through	247	1	247	755	1	755
	Through-Right		0			0	
	Right	192	1	63	358	1	220
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	16	1	16	32	1	32
	Left-Through		0			0	
	Through	755	1	**755**	488	1	**488**
	Through-Right		0			0	
	Right	120	1	89	97	1	47
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	968		*North-South:*	971
			East-West:	882		*East-West:*	911
			SUM:	1850		*SUM:*	1882
VOLUME/CAPACITY *(V/C)* RATIO:				1.298			1.321
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.198**			**1.221**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
5	North-South Street:	N Alameda Street	East-West Street:	E 2nd Street
	Scenario:	Future plus Project (2026) - Option 1		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	147	1	147	122	1	122
	Left-Through		0			0	
	Through	1401	1	**768**	1520	1	**833**
	Through-Right		1			1	
	Right	135	0	135	145	0	145
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	337	1	**337**	270	1	**270**
	Left-Through		0			0	
	Through	1205	1	644	1410	1	739
	Through-Right		1			1	
	Right	83	0	83	68	0	68
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	36	1	**36**	88	1	**88**
	Left-Through		0			0	
	Through	203	1	203	258	1	258
	Through-Right		0			0	
	Right	94	1	21	146	1	85
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	132	1	132	73	1	73
	Left-Through		0			0	
	Through	469	0	**598**	246	0	**433**
	Through-Right		1			1	
	Right	129	0	0	187	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	1105		North-South:	1103
			East-West:	634		East-West:	521
			SUM:	1739		SUM:	1624
VOLUME/CAPACITY (V/C) RATIO:				1.159			1.083
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.059**			**0.983**
LEVEL OF SERVICE (LOS):				**F**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
6

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 3rd Street/4th Place
Scenario: Future plus Project (2026) - Option 1

			AM			PM		
No. of Phases			2			2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 0		NB--	0	SB--	0
	EB--	0	WB-- 0		EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2		
Override Capacity			0			0		

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	272	1	**272**	378	1	**378**
	Left-Through		0			0	
	Through	1289	2	645	1285	2	643
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1190	2	**595**	1520	2	**760**
	Through-Right		0			0	
	Right	136	1	136	143	1	143
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	141	0	141	162	0	162
	Left-Through		1			1	
	Through	2907	3	**762**	1363	3	**381**
	Through-Right		0			0	
	Right	458	1	458	315	1	315
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	867		*North-South:*	1138
			East-West:	762		*East-West:*	381
			SUM:	1629		*SUM:*	1519
VOLUME/CAPACITY *(V/C)* RATIO:				1.086			1.013
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.986**			**0.913**
LEVEL OF SERVICE (LOS):				**E**			**E**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
7	North-South Street:	S Alameda Street	East-West Street:	4th Street
	Scenario:	Future plus Project (2026) - Option 1		

				AM				PM			
							No. of Phases				2
							Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0
				NB-- 0		SB--	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0		SB--	0
				EB-- 0		WB--		EB-- 0		WB--	0
							ATSAC-1 or ATSAC+ATCS-2?				2
							Override Capacity				0
	MOVEMENT			Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left		0	0	0		0	0	0
		Left-Through			0				0	
		Through		1230	1	**645**		1300	1	**716**
		Through-Right			1				1	
		Right		59	0	59		131	0	131
		Left-Through-Right			0				0	
		Left-Right			0				0	
SOUTHBOUND		Left		123	1	**123**		173	1	**173**
		Left-Through			0				0	
		Through		1298	2	649		1348	2	674
		Through-Right			0				0	
		Right		0	0	0		0	0	0
		Left-Through-Right			0				0	
		Left-Right			0				0	
EASTBOUND		Left		222	0	222		307	0	307
		Left-Through			1				1	
		Through		671	2	**298**		1992	2	**766**
		Through-Right			0				0	
		Right		226	1	226		358	1	358
		Left-Through-Right			0				0	
		Left-Right			0				0	
WESTBOUND		Left		0	0	**0**		0	0	**0**
		Left-Through			0				0	
		Through		0	0	0		0	0	0
		Through-Right			0				0	
		Right		0	0	0		0	0	0
		Left-Through-Right			0				0	
		Left-Right			0				0	
					North-South:	768			*North-South:*	889
		CRITICAL VOLUMES			*East-West:*	298			*East-West:*	766
					SUM:	1066			*SUM:*	1655
		VOLUME/CAPACITY *(V/C)* RATIO:				0.711				1.103
		V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.611**				**1.003**
		LEVEL OF SERVICE (LOS):				**B**				**F**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:
8

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 6th Street
Scenario: Future plus Project (2026) - Option 1

	AM			PM		
No. of Phases			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	*NB--* 0	*SB--*	0	*NB--* 0	*SB--*	0
	EB-- 0	*WB--*	0	*EB--* 0	*WB--*	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	130	1	**130**	178	1	178
	Left-Through		0			0	
	Through	1002	1	543	1269	1	**713**
	Through-Right		1			1	
	Right	84	0	84	156	0	156
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	161	1	161	202	1	**202**
	Left-Through		0			0	
	Through	1264	1	**734**	1238	1	727
	Through-Right		1			1	
	Right	204	0	204	216	0	216
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	148	1	**148**	250	1	250
	Left-Through		0			0	
	Through	527	1	367	1295	1	**740**
	Through-Right		1			1	
	Right	206	0	206	185	0	185
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	195	1	195	116	1	**116**
	Left-Through		0			0	
	Through	1292	1	**740**	599	1	352
	Through-Right		1			1	
	Right	188	0	188	105	0	105
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	864		*North-South:*	915
			East-West:	888		*East-West:*	856
			SUM:	1752		*SUM:*	1771
VOLUME/CAPACITY *(V/C)* RATIO:				1.168			1.181
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.068**			**1.081**
LEVEL OF SERVICE (LOS):				**F**			**F**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:
9

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 7th Street
Scenario: Future plus Project (2026) - Option 1

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		**Volume**	**No. of Lanes**	**Lane Volume**	**Volume**	**No. of Lanes**	**Lane Volume**
NORTHBOUND	Left	117	1	**117**	124	1	124
	Left-Through		0			0	
	Through	827	1	498	1140	1	**649**
	Through-Right		1			1	
	Right	169	0	169	158	0	158
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	317	1	317	241	1	**241**
	Left-Through		0			0	
	Through	1225	1	**804**	1163	1	686
	Through-Right		1			1	
	Right	383	0	383	209	0	209
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	180	1	**180**	314	1	**314**
	Left-Through		0			0	
	Through	804	1	472	1132	1	651
	Through-Right		1			1	
	Right	140	0	140	169	0	169
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	180	1	180	204	1	204
	Left-Through		0			0	
	Through	1178	1	**698**	1099	1	**718**
	Through-Right		1			1	
	Right	217	0	217	337	0	337
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			***North-South:***	921		***North-South:***	890
			East-West:	878		***East-West:***	1032
			SUM:	1799		***SUM:***	1922
VOLUME/CAPACITY *(V/C)* RATIO:				1.262			1.349
***V/C* LESS ATSAC/ATCS ADJUSTMENT:**				**1.162**			**1.249**
LEVEL OF SERVICE (LOS):				**F**			**F**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:
10

PROJECT TITLE: 670 Mesquit
North-South Street: Molino Street/Merrick Street **East-West Street:** 4th Street
Scenario: Future plus Project (2026) - Option 1

			AM			PM		
No. of Phases			3			3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1			1		
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0		
	EB-- 0	WB--	0	EB-- 0	WB--	0		
ATSAC-1 or ATSAC+ATCS-2?			2			2		
Override Capacity			0			0		

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	207	0	207	382	0	382
	Left-Through		0			0	
	Through	122	0	**349**	149	0	**543**
	Through-Right		0			0	
	Right	20	0	0	12	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	24	1	24	86	1	**86**
	Left-Through		0			0	
	Through	62	0	0	138	0	0
	Through-Right		0			0	
	Right	47	1	**47**	67	1	67
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	1	0	**0**	10	0	0
	Left-Through		0			0	
	Through	374	1	366	1816	2	**724**
	Through-Right		1			1	
	Right	358	0	358	355	0	355
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	15	0	0	3	0	**0**
	Left-Through		0			0	
	Through	2709	2	**937**	1101	1	599
	Through-Right		1			1	
	Right	103	0	103	97	0	97
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	396		*North-South:*	629
			East-West:	937		*East-West:*	724
			SUM:	1333		*SUM:*	1353
VOLUME/CAPACITY *(V/C)* RATIO:				0.935			0.949
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.835**			**0.849**
LEVEL OF SERVICE (LOS):				**D**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
11	North-South Street:	Mateo Street	East-West Street:	6th Street
	Scenario:	Future plus Project (2026) - Option 1		

			AM				PM			
No. of Phases					2					2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	2	SB--		0	NB--	2	SB--		0
	EB--	0	WB--		0	EB--	0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2					2
Override Capacity					0					0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	141	0	**141**	197	0	197
	Left-Through		0			0	
	Through	268	0	478	453	0	**865**
	Through-Right		0			0	
	Right	69	0	0	215	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	155	0	155	192	0	**192**
	Left-Through		1			1	
	Through	366	0	**521**	368	0	560
	Through-Right		0			0	
	Right	154	1	72	233	1	105
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	165	1	**165**	256	1	**256**
	Left-Through		0			0	
	Through	431	2	216	1310	2	496
	Through-Right		1			1	
	Right	222	0	222	177	0	177
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	209	1	209	70	1	70
	Left-Through		0			0	
	Through	1423	1	**832**	483	1	**336**
	Through-Right		1			1	
	Right	240	0	240	188	0	188
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	662		*North-South:*	1057
			East-West:	997		*East-West:*	592
			SUM:	1659		*SUM:*	1649
VOLUME/CAPACITY *(V/C)* RATIO:				1.106			1.099
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.006**			**0.999**
LEVEL OF SERVICE (LOS):				**F**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

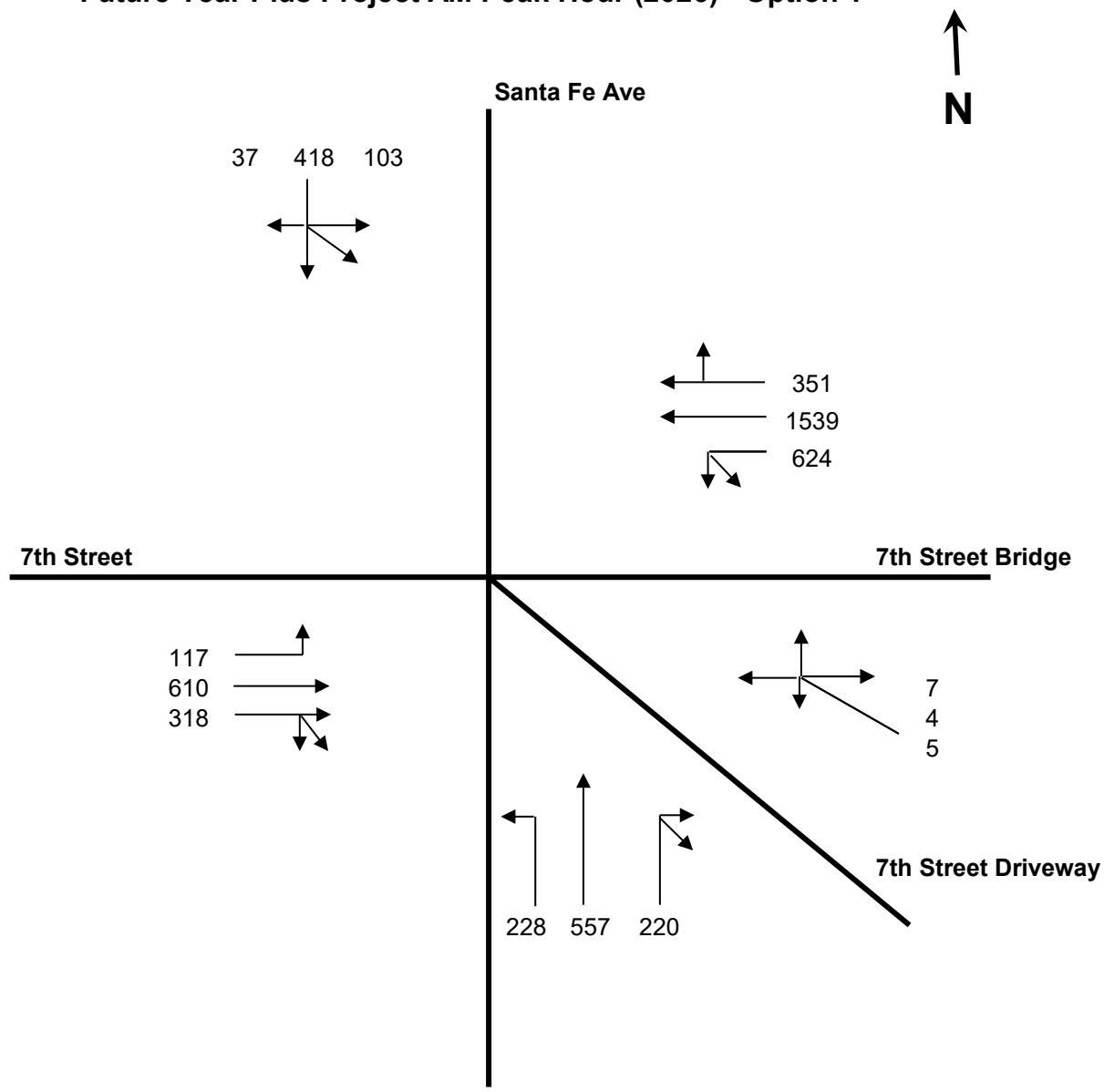
I/S #:	PROJECT TITLE:	670 Mesquit		
12	North-South Street:	Mateo Street	East-West Street:	7th Street
	Scenario:	Future plus Project (2026) - Option 1		

			AM				PM			
No. of Phases					2					2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB--	0	SB--	0		NB--	0	SB--	0
		EB--	0	WB--	0		EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2					2
Override Capacity					0					0
MOVEMENT			Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left		107	0	**107**		200	0	200	
	Left-Through			0				0		
	Through		325	0	494		433	0	**759**	
	Through-Right			0				0		
	Right		62	0	0		126	0	0	
	Left-Through-Right			1				1		
	Left-Right			0				0		
SOUTHBOUND	Left		114	0	114		95	0	**95**	
	Left-Through			1				1		
	Through		429	0	**543**		340	0	435	
	Through-Right			0				0		
	Right		157	1	64		190	1	68	
	Left-Through-Right			0				0		
	Left-Right			0				0		
EASTBOUND	Left		187	1	187		244	1	**244**	
	Left-Through			0				0		
	Through		924	1	**535**		1164	1	650	
	Through-Right			1				1		
	Right		145	0	145		136	0	136	
	Left-Through-Right			0				0		
	Left-Right			0				0		
WESTBOUND	Left		376	1	**376**		164	1	164	
	Left-Through			0				0		
	Through		1258	1	676		1229	1	**691**	
	Through-Right			1				1		
	Right		93	0	93		153	0	153	
	Left-Through-Right			0				0		
	Left-Right			0				0		
CRITICAL VOLUMES				North-South:	650			North-South:	854	
				East-West:	911			East-West:	935	
				SUM:	1561			SUM:	1789	
VOLUME/CAPACITY (V/C) RATIO:					1.041				1.193	
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.941**				**1.093**	
LEVEL OF SERVICE (LOS):					**E**				**F**	

Version: 1i Beta; 8/4/2011

Intersection 13

Future Year Plus Project AM Peak Hour (2026) - Option 1



NWB 1) $\left\{ \frac{5 + 4 + 7}{1} \right\}$

= 16

EB-WB 2) $\left\{ \frac{1539 + 351}{2} + \frac{117}{1} \right\}$ or $\left\{ \frac{351}{1} + \frac{117}{1} \right\}$ or

$\left\{ \frac{610 + 318}{2} + \frac{624}{1} \right\}$ or $\left\{ \frac{318}{1} + \frac{624}{1} \right\}$

= 1088

NB-SB 3) $\left\{ \frac{103 + 418 + 37}{1} + \frac{228}{1} \right\}$ or

$\left\{ \frac{557}{1} + \frac{103}{1} \right\}$ or $\left\{ \frac{220}{1} + \frac{103}{1} \right\}$

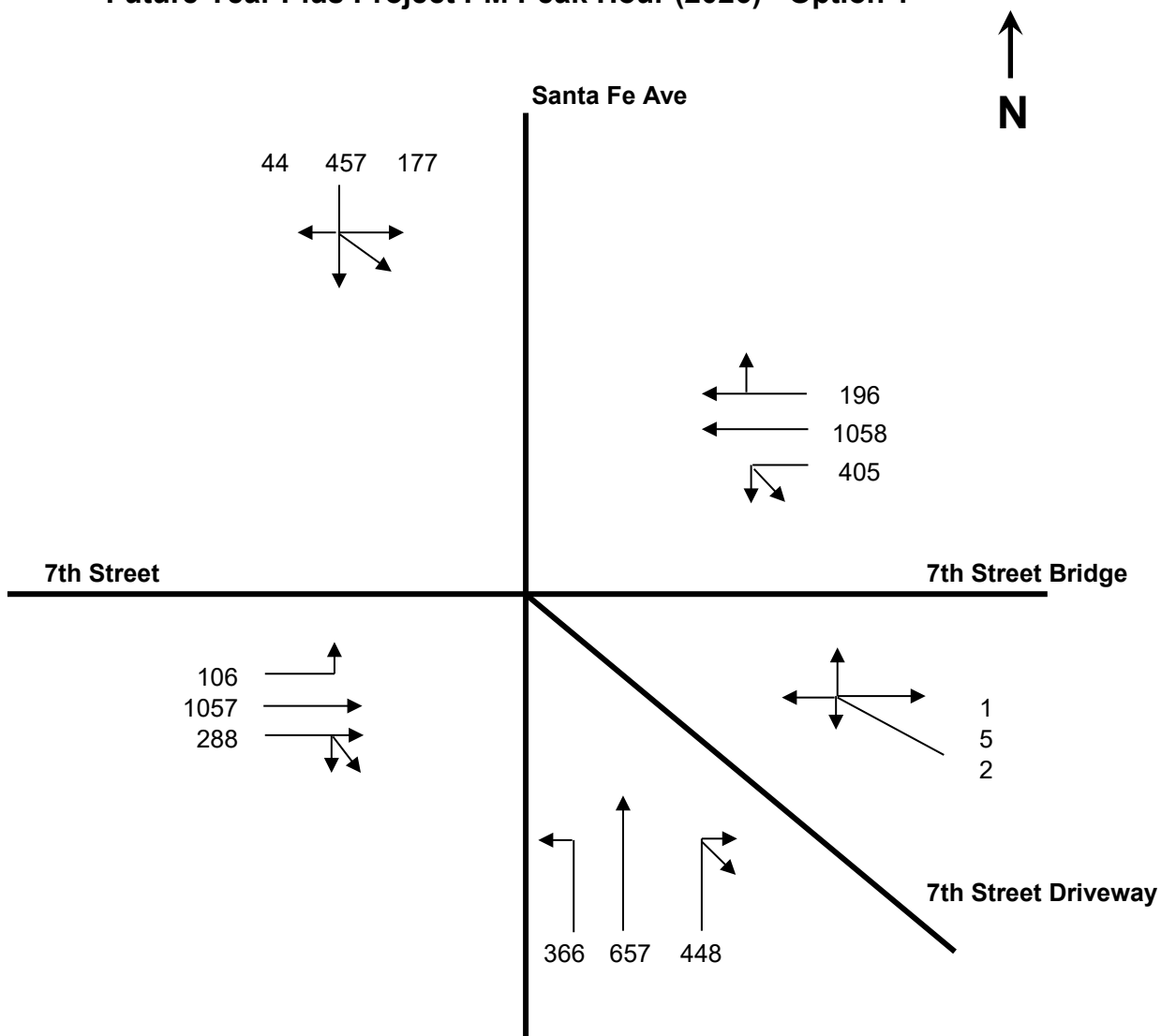
= 786

Critical Volumes = 16 + 1088 + 786 = 1,890

V/C = $\frac{1,890}{1,375}$ – 0.10 = 1.275 LOS F

Intersection 13

Future Year Plus Project PM Peak Hour (2026) - Option 1



NWB 1) $\left\{ \frac{2 + 5 + 1}{1} \right\}$

= **8**

EB-WB 2) $\left\{ \frac{1058 + 196}{2} + \frac{106}{1} \right\}$ or $\left\{ \frac{196}{1} + \frac{106}{1} \right\}$ or

$\left\{ \frac{1057 + 288}{2} + \frac{405}{1} \right\}$ or $\left\{ \frac{288}{1} + \frac{405}{1} \right\}$

= **1078**

NB-SB 3) $\left\{ \frac{177 + 457 + 44}{1} + \frac{366}{1} \right\}$ or

$\left\{ \frac{657}{1} + \frac{177}{1} \right\}$ or $\left\{ \frac{448}{1} + \frac{177}{1} \right\}$

= **1044**

Critical Volumes = 8 + 1078 + 1044 = 2,130

V/C = $\frac{2,130}{1,375}$ – 0.10 = 1.449 LOS F

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
14	North-South Street:	S Santa Fe Avenue	East-West Street:	8th Street
	Scenario:	Future plus Project (2026) - Option 1		

	AM			PM		
No. of Phases			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	220	0	220	232	0	232
	Left-Through		1			1	
	Through	1024	0	**961**	737	0	**758**
	Through-Right		1			1	
	Right	18	0	961	21	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	19	0	**19**	18	0	**18**
	Left-Through		1			1	
	Through	556	1	335	985	1	529
	Through-Right		0			0	
	Right	395	1	395	332	1	332
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	239	0	239	121	0	121
	Left-Through		1			1	
	Through	8	0	247	18	0	139
	Through-Right		0			0	
	Right	285	1	**285**	382	1	**266**
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	0	**10**	13	0	**13**
	Left-Through		0			0	
	Through	11	0	36	13	0	48
	Through-Right		0			0	
	Right	15	0	0	22	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	980		North-South:	776
			East-West:	295		East-West:	279
			SUM:	1275		SUM:	1055
VOLUME/CAPACITY (V/C) RATIO:				0.850			0.703
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.750**			**0.603**
LEVEL OF SERVICE (LOS):				**C**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
15	North-South Street:	S Santa Fe Avenue	East-West Street:	Porter Street
	Scenario:	Future plus Project (2026) - Option 1		

			AM				PM			
No. of Phases					3					3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0		SB--	0		NB-- 0		SB--	0
		EB-- 3		WB--	0		EB-- 3		WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2					2
Override Capacity					0					0
MOVEMENT			Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left		313	1	**313**		430	1	**430**	
	Left-Through			0				0		
	Through		988	1	507		800	1	414	
	Through-Right			1				1		
	Right		25	0	25		27	0	27	
	Left-Through-Right			0				0		
	Left-Right			0				0		
SOUTHBOUND	Left		18	1	18		15	1	15	
	Left-Through			0				0		
	Through		775	1	**434**		1144	1	**689**	
	Through-Right			1				1		
	Right		93	0	93		234	0	234	
	Left-Through-Right			0				0		
	Left-Right			0				0		
EASTBOUND	Left		237	0	**237**		131	0	**131**	
	Left-Through			1				1		
	Through		28	0	265		19	0	150	
	Through-Right			0				0		
	Right		502	1	189		397	1	0	
	Left-Through-Right			0				0		
	Left-Right			0				0		
WESTBOUND	Left		20	0	20		43	0	43	
	Left-Through			1				1		
	Through		47	0	**67**		86	0	**129**	
	Through-Right			0				0		
	Right		22	1	13		24	1	17	
	Left-Through-Right			0				0		
	Left-Right			0				0		
CRITICAL VOLUMES				*North-South:*	747			*North-South:*	1119	
				East-West:	304			*East-West:*	260	
				SUM:	1051			*SUM:*	1379	
VOLUME/CAPACITY *(V/C)* RATIO:					0.738				0.968	
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.638**				**0.868**	
LEVEL OF SERVICE (LOS):					**B**				**D**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
16	North-South Street:	S Santa Fe Avenue	East-West Street:	Olympic Boulevard
	Scenario:	Future plus Project (2026) - Option 1		

			AM			PM		
No. of Phases				4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	3	WB--	0	EB--	3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	237	1	237	121	1	121
	Left-Through		0			0	
	Through	1079	1	**576**	1067	1	**620**
	Through-Right		1			1	
	Right	73	0	73	172	0	172
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	217	1	**217**	308	1	**308**
	Left-Through		0			0	
	Through	1056	1	536	1154	1	605
	Through-Right		1			1	
	Right	16	0	16	55	0	55
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	36	1	**36**	37	1	37
	Left-Through		0			0	
	Through	409	2	205	1028	2	**514**
	Through-Right		0			0	
	Right	315	1	78	385	1	264
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	189	1	189	93	1	**93**
	Left-Through		0			0	
	Through	1245	1	**728**	918	1	548
	Through-Right		1			1	
	Right	210	0	210	178	0	178
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	793		North-South:	928
			East-West:	764		East-West:	607
			SUM:	1557		SUM:	1535
VOLUME/CAPACITY (V/C) RATIO:				1.132			1.116
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.032**			**1.016**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
17	North-South Street:	S Santa Fe Avenue	East-West Street:	E 15th Street
	Scenario:	Future plus Project (2026) - Option 1		

			AM			PM		
No. of Phases				3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	1	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	104	1	**104**	115	1	**115**
	Left-Through		0			0	
	Through	1260	2	630	1056	2	528
	Through-Right		0			0	
	Right	218	1	0	166	1	149
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	64	1	64	193	1	193
	Left-Through		0			0	
	Through	1346	1	**704**	1411	1	**714**
	Through-Right		1			1	
	Right	62	0	62	16	0	16
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	26	0	**26**	58	0	58
	Left-Through		1			1	
	Through	47	0	105	323	0	**279**
	Through-Right		1			1	
	Right	58	0	105	176	0	279
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	24	1	24	35	1	**35**
	Left-Through		0			0	
	Through	587	1	**587**	81	1	81
	Through-Right		0			0	
	Right	127	1	95	127	1	31
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	808		North-South:	829
			East-West:	613		East-West:	314
			SUM:	1421		SUM:	1143
VOLUME/CAPACITY (V/C) RATIO:				0.997			0.802
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.897**			**0.702**
LEVEL OF SERVICE (LOS):				**D**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
18	North-South Street:	S Rio Street	East-West Street:	E 7th Street
	Scenario:	Future plus Project (2026) - Option 1		

				AM				PM			
							No. of Phases				
							2				2
							Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				
							0				0
				NB-- 0	SB--	0	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	
				EB-- 0	WB--	0		EB-- 0	WB--	0	
						2	ATSAC-1 or ATSAC+ATCS-2?			2	
						0	Override Capacity			0	
	MOVEMENT			Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left		37	0	**37**		22	0	22	
		Left-Through			1				1		
		Through		2	0	39		1	0	23	
		Through-Right			0				0		
		Right		65	1	26		65	1	**48**	
		Left-Through-Right			0				0		
		Left-Right			0				0		
SOUTHBOUND		Left		18	0	18		15	0	**15**	
		Left-Through			0				0		
		Through		2	0	**32**		0	0	23	
		Through-Right			0				0		
		Right		12	0	0		8	0	0	
		Left-Through-Right			1				1		
		Left-Right			0				0		
EASTBOUND		Left		10	1	**10**		10	1	10	
		Left-Through			0				0		
		Through		732	1	366		1488	1	**744**	
		Through-Right			1				1		
		Right		0	0	0		0	0	0	
		Left-Through-Right			0				0		
		Left-Right			0				0		
WESTBOUND		Left		78	1	78		35	1	**35**	
		Left-Through			0				0		
		Through		2076	1	**1045**		1286	1	644	
		Through-Right			1				1		
		Right		13	0	13		2	0	2	
		Left-Through-Right			0				0		
		Left-Right			0				0		
					North-South:	69			*North-South:*	63	
			CRITICAL VOLUMES		*East-West:*	1055			*East-West:*	779	
					SUM:	1124			*SUM:*	842	
			VOLUME/CAPACITY *(V/C)* RATIO:			0.749				0.561	
			V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.649**				**0.461**	
			LEVEL OF SERVICE (LOS):			**B**				**A**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
19	North-South Street:	S Anderson Street	East-West Street:	E 7th Street
	Scenario:	Future plus Project (2026) - Option 1		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	13	0	13	0	0	**0**
	Left-Through		0			0	
	Through	1	0	**18**	0	0	2
	Through-Right		0			0	
	Right	4	0	0	2	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	36	0	**36**	98	0	98
	Left-Through		1			0	
	Through	2	0	38	0	0	**175**
	Through-Right		0			0	
	Right	54	1	29	77	0	0
	Left-Through-Right		0			1	
	Left-Right		0			0	
EASTBOUND	Left	50	1	**50**	70	0	**0**
	Left-Through		0			0	
	Through	735	1	371	1480	2	493
	Through-Right		1			1	
	Right	7	0	7	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	1	10	5	0	0
	Left-Through		0			0	
	Through	2101	1	**1232**	1263	1	**681**
	Through-Right		1			1	
	Right	363	0	363	99	0	99
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	54		*North-South:*	175
			East-West:	1282		*East-West:*	681
			SUM:	1336		*SUM:*	856
VOLUME/CAPACITY *(V/C)* RATIO:				0.891			0.571
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.791**			**0.471**
LEVEL OF SERVICE (LOS):				**C**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
20	North-South Street:	Boyle Avenue	East-West Street:	Whittier Boulevard
	Scenario:	Future plus Project (2026) - Option 1		

			AM			PM		
					4			4
		No. of Phases			2			2
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
			EB-- 0	WB--	0	EB-- 0	WB--	0
		ATSAC-1 or ATSAC+ATCS-2?			2			2
		Override Capacity			0			0
	MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	279	1	**279**	266	1	266
		Left-Through		0			0	
		Through	454	1	283	974	1	**584**
		Through-Right		1			1	
		Right	111	0	111	194	0	194
		Left-Through-Right		0			0	
		Left-Right		0			0	
SOUTHBOUND		Left	96	1	96	96	1	**96**
		Left-Through		0			0	
		Through	462	1	**339**	365	1	211
		Through-Right		1			1	
		Right	216	0	216	57	0	57
		Left-Through-Right		0			0	
		Left-Right		0			0	
EASTBOUND		Left	26	1	26	166	1	166
		Left-Through		0			0	
		Through	358	1	**210**	945	1	**526**
		Through-Right		1			1	
		Right	61	0	61	107	0	107
		Left-Through-Right		0			0	
		Left-Right		0			0	
WESTBOUND		Left	180	1	180	53	1	53
		Left-Through		0			0	
		Through	1523	1	**834**	664	1	**414**
		Through-Right		1			1	
		Right	145	0	145	164	0	164
		Left-Through-Right		0			0	
		Left-Right		0			0	
		CRITICAL VOLUMES		North-South:	618		North-South:	680
				East-West:	1044		East-West:	940
				SUM:	1662		SUM:	1620
		VOLUME/CAPACITY (V/C) RATIO:			1.209			1.178
		V/C LESS ATSAC/ATCS ADJUSTMENT:			**1.109**			**1.078**
		LEVEL OF SERVICE (LOS):			**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
21	North-South Street:	Boyle Avenue	East-West Street:	7th Street
	Scenario:	Future plus Project (2026) - Option 1		

			AM			PM		
No. of Phases				4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	1	NB--	0	SB--	1
	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	243	1	**243**	168	1	168
	Left-Through		0			0	
	Through	465	1	283	698	1	**414**
	Through-Right		1			1	
	Right	100	0	100	130	0	130
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	59	1	59	60	1	**60**
	Left-Through		0			0	
	Through	481	1	**416**	428	1	293
	Through-Right		1			1	
	Right	351	0	351	157	0	157
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	116	1	**116**	343	1	**343**
	Left-Through		0			0	
	Through	260	1	260	704	1	704
	Through-Right		0			0	
	Right	160	1	39	352	1	268
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	62	1	62	13	1	13
	Left-Through		0			0	
	Through	586	0	**654**	353	0	**480**
	Through-Right		1			1	
	Right	68	0	0	127	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	659		North-South:	474
			East-West:	770		East-West:	823
			SUM:	1429		SUM:	1297
VOLUME/CAPACITY (V/C) RATIO:				1.039			0.943
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.939**			**0.843**
LEVEL OF SERVICE (LOS):				**E**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
22	North-South Street:	S Alameda Street	East-West Street:	I-10 Eastbound ramps
	Scenario:	Future plus Project (2026) - Option 1		

				AM			PM		
No. of Phases						3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--			3	NB--	0	SB--			3
	EB--	3	WB--			0	EB--	3	WB--			0
ATSAC-1 or ATSAC+ATCS-2?						2						2
Override Capacity						0						0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	341	1	**341**	418	1	**418**
	Left-Through		0			0	
	Through	1237	2	619	1311	2	656
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	1	1	1	3	1	3
	Left-Through		0			0	
	Through	1094	2	**547**	1488	2	**744**
	Through-Right		0			0	
	Right	467	1	131	525	1	312
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	336	1	**336**	213	1	**213**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	543	1	202	364	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	1	0	0	3	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	888		North-South:	1162
			East-West:	336		East-West:	213
			SUM:	1224		SUM:	1375
VOLUME/CAPACITY (V/C) RATIO:				0.859			0.965
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.759**			**0.865**
LEVEL OF SERVICE (LOS):				C			D

Version: 1i Beta; 8/4/2011

CUMULATIVE PLUS PROJECT (2026) – OPTION 2

CMA WORKSHEETS

Level of Service Worksheet
(Circular 212 Method)

I/S #:
1

PROJECT TITLE: 670 Mesquit
North-South Street: S Central Avenue **East-West Street:** 7th Street
Scenario: Future plus Project (2026) - Option 2

	AM				PM			
No. of Phases				2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	*NB--*	0	*SB--*	0	*NB--*	0	*SB--*	0
	EB--	0	*WB--*	0	*EB--*	0	*WB--*	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	60	1	**60**	88	1	88
	Left-Through		0			0	
	Through	390	1	390	1019	1	**727**
	Through-Right		1			1	
	Right	394	0	193	435	0	435
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	35	0	35	47	0	**47**
	Left-Through		1			1	
	Through	878	0	**586**	776	0	568
	Through-Right		1			1	
	Right	153	0	586	78	0	568
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	54	1	54	127	1	127
	Left-Through		0			0	
	Through	685	1	**368**	1109	1	**597**
	Through-Right		1			1	
	Right	50	0	50	85	0	85
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	402	1	**402**	411	1	**411**
	Left-Through		0			0	
	Through	1106	1	597	902	1	506
	Through-Right		1			1	
	Right	87	0	87	110	0	110
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	646		*North-South:*	774
			East-West:	770		*East-West:*	1008
			SUM:	1416		*SUM:*	1782
VOLUME/CAPACITY *(V/C)* RATIO:				0.944			1.188
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.844**			**1.088**
LEVEL OF SERVICE (LOS):				**D**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
2

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E Aliso Street/E Commercial Street
Scenario: Future plus Project (2026) - Option 2

			AM			PM		
No. of Phases			3			3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2		
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 1	SB--	0	NB-- 0	SB--	0		
	EB-- 0	WB--	2	EB-- 0	WB--	2		
ATSAC-1 or ATSAC+ATCS-2?			2			2		
Override Capacity			0			0		

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1161	2	**581**	1680	2	**840**
	Through-Right		0			0	
	Right	279	1	0	475	1	418
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	218	1	**218**	323	1	**323**
	Left-Through		0			0	
	Through	1599	3	533	1180	3	393
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	85	2	47	389	2	**214**
	Left-Through		0			0	
	Through	40	1	40	70	1	70
	Through-Right		0			0	
	Right	157	1	**157**	69	1	69
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	165	1	165	114	1	114
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	263	1	**263**	247	1	**247**
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	799		*North-South:*	1163
			East-West:	420		*East-West:*	461
			SUM:	1219		*SUM:*	1624
VOLUME/CAPACITY *(V/C)* RATIO:				0.855			1.140
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.755**			**1.040**
LEVEL OF SERVICE (LOS):				C			F

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
3

PROJECT TITLE: 670 Mesquit
North-South Street: Alameda Street **East-West Street:** Temple Street
Scenario: Future plus Project (2026) - Option 2

		AM				PM			
No. of Phases					4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		2	EB-- 0	WB--		2
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
MOVEMENT		**Volume**	**No. of Lanes**		**Lane Volume**	**Volume**	**No. of Lanes**		**Lane Volume**
NORTHBOUND	Left	175	1		**175**	135	1		135
	Left-Through		0				0		
	Through	1235	2		618	1519	2		**760**
	Through-Right		0				0		
	Right	0	0		0	0	0		0
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	11	1		11	61	1		**61**
	Left-Through		0				0		
	Through	1460	2		**730**	1128	2		564
	Through-Right		0				0		
	Right	386	1		340	281	1		150
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	93	1		93	263	1		263
	Left-Through		0				0		
	Through	109	1		109	409	1		409
	Through-Right		1				1		
	Right	363	0		**276**	481	0		**414**
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	56	1		**56**	19	1		**19**
	Left-Through		0				0		
	Through	244	1		150	178	1		136
	Through-Right		1				1		
	Right	55	0		55	93	0		93
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES				*North-South:*	905			*North-South:*	821
				East-West:	332			*East-West:*	433
				SUM:	1237			*SUM:*	1254
VOLUME/CAPACITY *(V/C)* RATIO:					0.900				0.912
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.800**				**0.812**
LEVEL OF SERVICE (LOS):					**C**				**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
4

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E 1st Street
Scenario: Future plus Project (2026) - Option 2

		AM				PM			
No. of Phases					3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 3	SB--		3	NB-- 3	SB--		3
		EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
MOVEMENT		**Volume**	**No. of Lanes**	**Lane Volume**		**Volume**	**No. of Lanes**	**Lane Volume**	
NORTHBOUND	Left	258	1	**258**		277	1	**277**	
	Left-Through		0				0		
	Through	1426	2	713		1460	2	730	
	Through-Right		0				0		
	Right	55	1	39		129	1	97	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	63	1	63		100	1	100	
	Left-Through		0				0		
	Through	1421	2	**711**		1389	2	**695**	
	Through-Right		0				0		
	Right	207	1	80		173	1	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	127	1	**127**		423	1	**423**	
	Left-Through		0				0		
	Through	247	1	247		755	1	755	
	Through-Right		0				0		
	Right	192	1	63		358	1	220	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	16	1	16		32	1	32	
	Left-Through		0				0		
	Through	755	1	**755**		488	1	**488**	
	Through-Right		0				0		
	Right	120	1	89		97	1	47	
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES			*North-South:*	969			*North-South:*	972	
			East-West:	882			*East-West:*	911	
			SUM:	1851			*SUM:*	1883	
VOLUME/CAPACITY *(V/C)* RATIO:				1.299				1.321	
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.199**				**1.221**	
LEVEL OF SERVICE (LOS):				**F**				**F**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
5

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E 2nd Street
Scenario: Future plus Project (2026) - Option 2

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	147	1	147	122	1	122
	Left-Through		0			0	
	Through	1403	1	**769**	1521	1	**833**
	Through-Right		1			1	
	Right	135	0	135	145	0	145
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	337	1	**337**	270	1	**270**
	Left-Through		0			0	
	Through	1206	1	645	1411	1	740
	Through-Right		1			1	
	Right	83	0	83	68	0	68
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	36	1	**36**	88	1	**88**
	Left-Through		0			0	
	Through	203	1	203	258	1	258
	Through-Right		0			0	
	Right	94	1	21	146	1	85
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	132	1	132	73	1	73
	Left-Through		0			0	
	Through	469	0	**598**	246	0	**433**
	Through-Right		1			1	
	Right	129	0	0	187	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	1106		*North-South:*	1103
			East-West:	634		*East-West:*	521
			SUM:	1740		*SUM:*	1624
VOLUME/CAPACITY *(V/C)* RATIO:				1.160			1.083
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.060**			**0.983**
LEVEL OF SERVICE (LOS):				**F**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #: 6

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 3rd Street/4th Place
Scenario: Future plus Project (2026) - Option 2

	AM			PM		
No. of Phases			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	*NB--* 0	*SB--*	0	*NB--* 0	*SB--*	0
	EB-- 0	*WB--*	0	*EB--* 0	*WB--*	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	273	1	**273**	379	1	**379**
	Left-Through		0			0	
	Through	1291	2	646	1286	2	643
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1192	2	**596**	1521	2	**761**
	Through-Right		0			0	
	Right	136	1	136	143	1	143
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	141	0	141	162	0	162
	Left-Through		1			1	
	Through	2908	3	**762**	1364	3	**382**
	Through-Right		0			0	
	Right	458	1	458	315	1	315
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	869		*North-South:*	1140
			East-West:	762		*East-West:*	382
			SUM:	1631		*SUM:*	1522
VOLUME/CAPACITY *(V/C)* RATIO:				1.087			1.015
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.987**			**0.915**
LEVEL OF SERVICE (LOS):				**E**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
7	North-South Street:	S Alameda Street	East-West Street:	4th Street
	Scenario:	Future plus Project (2026) - Option 2		

			AM				PM			
No. of Phases					2					2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--		0		NB-- 0	SB--		0
		EB-- 0	WB--		0		EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2					2
Override Capacity					0					0
MOVEMENT			Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left		0	0	0		0	0	0	
	Left-Through			0				0		
	Through		1233	1	**646**		1302	1	**717**	
	Through-Right			1				1		
	Right		59	0	59		131	0	131	
	Left-Through-Right			0				0		
	Left-Right			0				0		
SOUTHBOUND	Left		123	1	**123**		173	1	**173**	
	Left-Through			0				0		
	Through		1300	2	650		1349	2	675	
	Through-Right			0				0		
	Right		0	0	0		0	0	0	
	Left-Through-Right			0				0		
	Left-Right			0				0		
EASTBOUND	Left		222	0	222		307	0	307	
	Left-Through			1				1		
	Through		672	2	**298**		1993	2	**767**	
	Through-Right			0				0		
	Right		227	1	227		359	1	359	
	Left-Through-Right			0				0		
	Left-Right			0				0		
WESTBOUND	Left		0	0	**0**		0	0	**0**	
	Left-Through			0				0		
	Through		0	0	0		0	0	0	
	Through-Right			0				0		
	Right		0	0	0		0	0	0	
	Left-Through-Right			0				0		
	Left-Right			0				0		
CRITICAL VOLUMES				*North-South:*	769			*North-South:*	890	
				East-West:	298			*East-West:*	767	
				SUM:	1067			*SUM:*	1657	
VOLUME/CAPACITY *(V/C)* RATIO:					0.711				1.105	
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.611**				**1.005**	
LEVEL OF SERVICE (LOS):					**B**				**F**	

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
8	North-South Street:	S Alameda Street	East-West Street:	6th Street
	Scenario:	Future plus Project (2026) - Option 2		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	130	1	**130**	178	1	178
	Left-Through		0			0	
	Through	1004	1	544	1271	1	**714**
	Through-Right		1			1	
	Right	84	0	84	156	0	156
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	161	1	161	203	1	**203**
	Left-Through		0			0	
	Through	1266	1	**735**	1240	1	728
	Through-Right		1			1	
	Right	204	0	204	216	0	216
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	148	1	**148**	250	1	250
	Left-Through		0			0	
	Through	528	1	367	1296	1	**741**
	Through-Right		1			1	
	Right	206	0	206	185	0	185
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	195	1	195	116	1	**116**
	Left-Through		0			0	
	Through	1293	1	**741**	599	1	352
	Through-Right		1			1	
	Right	189	0	189	105	0	105
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	865		North-South:	917
			East-West:	889		East-West:	857
			SUM:	1754		SUM:	1774
VOLUME/CAPACITY (V/C) RATIO:				1.169			1.183
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.069**			**1.083**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
9

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 7th Street
Scenario: Future plus Project (2026) - Option 2

	AM			PM		
No. of Phases			3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	*NB--* 0	*SB--*	0	*NB--* 0	*SB--*	0
	EB-- 0	*WB--*	0	*EB--* 0	*WB--*	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	117	1	**117**	124	1	124
	Left-Through		0			0	
	Through	827	1	498	1140	1	**649**
	Through-Right		1			1	
	Right	169	0	169	158	0	158
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	319	1	319	243	1	**243**
	Left-Through		0			0	
	Through	1225	1	**804**	1163	1	686
	Through-Right		1			1	
	Right	383	0	383	209	0	209
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	180	1	**180**	314	1	**314**
	Left-Through		0			0	
	Through	806	1	473	1135	1	652
	Through-Right		1			1	
	Right	140	0	140	169	0	169
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	180	1	180	204	1	204
	Left-Through		0			0	
	Through	1182	1	**701**	1101	1	**720**
	Through-Right		1			1	
	Right	219	0	219	339	0	339
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	921		*North-South:*	892
			East-West:	881		*East-West:*	1034
			SUM:	1802		*SUM:*	1926
VOLUME/CAPACITY *(V/C)* RATIO:				1.265			1.352
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.165**			**1.252**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Workheet
(Circular 212 Method)

I/S #:
10

PROJECT TITLE: 670 Mesquit
North-South Street: Molino Street/Merrick Street **East-West Street:** 4th Street
Scenario: Future plus Project (2026) - Option 2

			AM			PM		
No. of Phases			3			3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1			1		
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0		
	EB-- 0	WB--	0	EB-- 0	WB--	0		
ATSAC-1 or ATSAC+ATCS-2?			2			2		
Override Capacity			0			0		

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	213	0	213	388	0	388
	Left-Through		0			0	
	Through	122	0	**355**	149	0	**549**
	Through-Right		0			0	
	Right	20	0	0	12	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	24	1	24	86	1	**86**
	Left-Through		0			0	
	Through	62	0	0	138	0	0
	Through-Right		0			0	
	Right	47	1	**47**	67	1	67
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	1	0	**0**	10	0	0
	Left-Through		0			0	
	Through	374	1	369	1816	2	**726**
	Through-Right		1			1	
	Right	364	0	364	361	0	361
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	15	0	0	3	0	**0**
	Left-Through		0			0	
	Through	2709	2	**937**	1101	1	599
	Through-Right		1			1	
	Right	103	0	103	97	0	97
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	402		*North-South:*	635
			East-West:	937		*East-West:*	726
			SUM:	1339		*SUM:*	1361
VOLUME/CAPACITY *(V/C)* RATIO:				0.940			0.955
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.840**			**0.855**
LEVEL OF SERVICE (LOS):				**D**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
11	North-South Street:	Mateo Street	East-West Street:	6th Street
	Scenario:	Future plus Project (2026) - Option 2		

			AM				PM			
No. of Phases					2					2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	2	SB--		0	NB--	2	SB--		0
	EB--	0	WB--		0	EB--	0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2					2
Override Capacity					0					0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	145	0	**145**	201	0	201
	Left-Through		0			0	
	Through	270	0	488	455	0	**874**
	Through-Right		0			0	
	Right	73	0	0	218	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	160	0	160	195	0	**195**
	Left-Through		1			1	
	Through	367	0	**527**	369	0	564
	Through-Right		0			0	
	Right	154	1	72	233	1	105
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	165	1	**165**	256	1	**256**
	Left-Through		0			0	
	Through	436	2	218	1316	2	498
	Through-Right		1			1	
	Right	225	0	225	179	0	179
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	212	1	212	73	1	73
	Left-Through		0			0	
	Through	1423	1	**832**	483	1	**336**
	Through-Right		1			1	
	Right	240	0	240	188	0	188
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	672		*North-South:*	1069
			East-West:	997		*East-West:*	592
			SUM:	1669		*SUM:*	1661
VOLUME/CAPACITY *(V/C)* RATIO:				1.113			1.107
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.013**			**1.007**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:			
12	North-South Street:	Mateo Street	East-West Street:	7th Street
	Scenario:	Future plus Project (2026) - Option 2		

	AM			PM		
No. of Phases			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	107	0	**107**	200	0	200
	Left-Through		0			0	
	Through	327	0	496	435	0	**761**
	Through-Right		0			0	
	Right	62	0	0	126	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	114	0	114	95	0	**95**
	Left-Through		1			1	
	Through	431	0	**545**	342	0	437
	Through-Right		0			0	
	Right	161	1	65	194	1	70
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	192	1	192	248	1	**248**
	Left-Through		0			0	
	Through	935	1	**540**	1174	1	655
	Through-Right		1			1	
	Right	145	0	145	136	0	136
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	377	1	**377**	166	1	166
	Left-Through		0			0	
	Through	1270	1	683	1241	1	**699**
	Through-Right		1			1	
	Right	96	0	96	156	0	156
	Left-Through-Right		0			0	
	Left-Right		0			0	

CRITICAL VOLUMES	*North-South:*	652	*North-South:*	856
	East-West:	917	*East-West:*	947
	SUM:	1569	*SUM:*	1803
VOLUME/CAPACITY *(V/C)* RATIO:		1.046		1.202
V/C LESS ATSAC/ATCS ADJUSTMENT:		**0.946**		**1.102**
LEVEL OF SERVICE (LOS):		**E**		**F**

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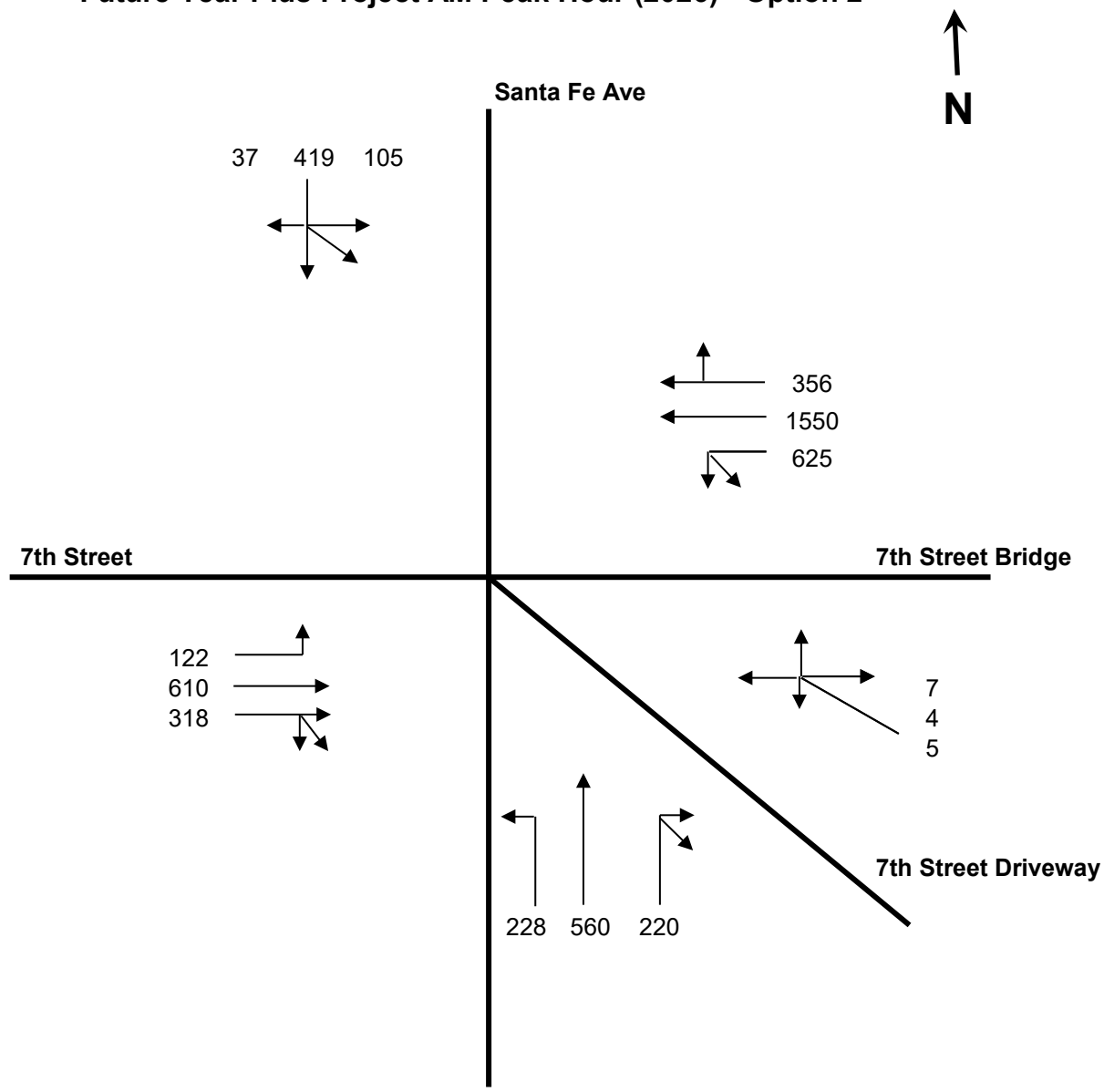
Intersection 13

Future Year Plus Project AM Peak Hour (2026) - Option 2



NWB 1) $\left\{ \frac{5 + 4 + 7}{1} \right\}$

= **16**

EB-WB 2) $\left\{ \frac{1550 + 356}{2} + \frac{122}{1} \right\}$ or $\left\{ \frac{356}{1} + \frac{122}{1} \right\}$ or

$\left\{ \frac{610 + 318}{2} + \frac{625}{1} \right\}$ or $\left\{ \frac{318}{1} + \frac{625}{1} \right\}$

= **1089**

NB-SB 3) $\left\{ \frac{105 + 419 + 37}{1} + \frac{228}{1} \right\}$ or

$\left\{ \frac{560}{1} + \frac{105}{1} \right\}$ or $\left\{ \frac{220}{1} + \frac{105}{1} \right\}$

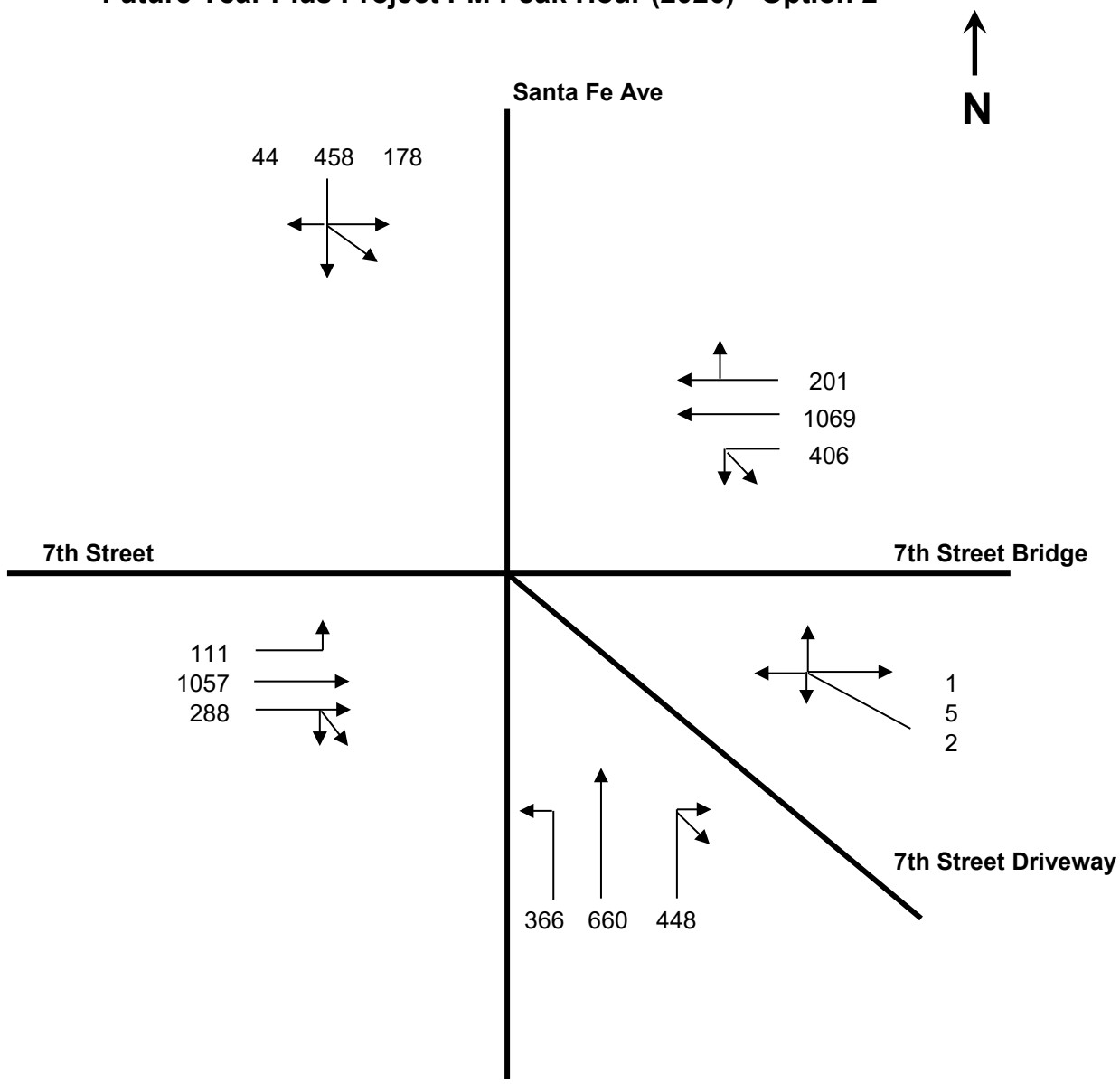
= **789**

Critical Volumes = 16 + 1089 + 789 = 1,894

V/C = $\frac{1,894}{1,375}$ – 0.10 = 1.277 LOS F

Intersection 13

Future Year Plus Project PM Peak Hour (2026) - Option 2



NWB 1) $\left\{ \frac{2 + 5 + 1}{1} \right\}$

= **8**

EB-WB 2) $\left\{ \frac{1069}{2} + \frac{201}{2} + \frac{111}{1} \right\}$ or $\left\{ \frac{201}{1} + \frac{111}{1} \right\}$ or

$\left\{ \frac{1057}{2} + \frac{288}{2} + \frac{406}{1} \right\}$ or $\left\{ \frac{288}{1} + \frac{406}{1} \right\}$

= **1079**

NB-SB 3) $\left\{ \frac{178 + 458 + 44}{1} + \frac{366}{1} \right\}$ or

$\left\{ \frac{660}{1} + \frac{178}{1} \right\}$ or $\left\{ \frac{448}{1} + \frac{178}{1} \right\}$

= **1046**

Critical Volumes = 8 + 1079 + 1046 = 2,133

V/C = $\frac{2,133}{1,375}$ – 0.10 = 1.451 LOS F

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
14	North-South Street:	S Santa Fe Avenue	East-West Street:	8th Street
	Scenario:	Future plus Project (2026) - Option 2		

	AM			PM		
No. of Phases			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	220	0	220	232	0	232
	Left-Through		1			1	
	Through	1026	0	**962**	739	0	**760**
	Through-Right		1			1	
	Right	18	0	962	21	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	19	0	**19**	18	0	**18**
	Left-Through		1			1	
	Through	558	1	336	987	1	530
	Through-Right		0			0	
	Right	396	1	396	332	1	332
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	239	0	239	121	0	121
	Left-Through		1			1	
	Through	8	0	247	18	0	139
	Through-Right		0			0	
	Right	285	1	**285**	382	1	**266**
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	0	**10**	13	0	**13**
	Left-Through		0			0	
	Through	11	0	36	13	0	48
	Through-Right		0			0	
	Right	15	0	0	22	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	981		North-South:	778
			East-West:	295		East-West:	279
			SUM:	1276		SUM:	1057
VOLUME/CAPACITY (V/C) RATIO:				0.851			0.705
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.751**			**0.605**
LEVEL OF SERVICE (LOS):				**C**			**B**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	
15	

PROJECT TITLE: 670 Mesquit
North-South Street: S Santa Fe Avenue **East-West Street:** Porter Street
Scenario: Future plus Project (2026) - Option 2

	AM				PM			
No. of Phases				3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	3	WB--	0	EB--	3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	313	1	**313**	430	1	**430**
	Left-Through		0			0	
	Through	991	1	508	802	1	415
	Through-Right		1			1	
	Right	25	0	25	27	0	27
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	18	1	18	15	1	15
	Left-Through		0			0	
	Through	778	1	**436**	1146	1	**690**
	Through-Right		1			1	
	Right	93	0	93	234	0	234
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	237	0	**237**	131	0	**131**
	Left-Through		1			1	
	Through	28	0	265	19	0	150
	Through-Right		0			0	
	Right	502	1	189	397	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	20	0	20	43	0	43
	Left-Through		1			1	
	Through	47	0	**67**	86	0	**129**
	Through-Right		0			0	
	Right	22	1	13	24	1	17
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	749		*North-South:*	1120
			East-West:	304		*East-West:*	260
			SUM:	1053		*SUM:*	1380
VOLUME/CAPACITY *(V/C)* RATIO:				0.739			0.968
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.639**			**0.868**
LEVEL OF SERVICE (LOS):				**B**			**D**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
16	North-South Street:	S Santa Fe Avenue	East-West Street:	Olympic Boulevard
	Scenario:	Future plus Project (2026) - Option 2		

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 3	WB--	0	EB-- 3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	237	1	237	121	1	121
	Left-Through		0			0	
	Through	1082	1	**578**	1068	1	**620**
	Through-Right		1			1	
	Right	73	0	73	172	0	172
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	217	1	**217**	308	1	**308**
	Left-Through		0			0	
	Through	1059	1	538	1155	1	605
	Through-Right		1			1	
	Right	16	0	16	55	0	55
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	36	1	**36**	37	1	37
	Left-Through		0			0	
	Through	409	2	205	1028	2	**514**
	Through-Right		0			0	
	Right	315	1	78	385	1	264
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	189	1	189	93	1	**93**
	Left-Through		0			0	
	Through	1245	1	**728**	918	1	548
	Through-Right		1			1	
	Right	210	0	210	178	0	178
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	795		North-South:	928
			East-West:	764		East-West:	607
			SUM:	1559		SUM:	1535
VOLUME/CAPACITY (V/C) RATIO:				1.134			1.116
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.034**			**1.016**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
17	North-South Street:	S Santa Fe Avenue	East-West Street:	E 15th Street
	Scenario:	Future plus Project (2026) - Option 2		

			AM			PM		
No. of Phases				3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 1	SB--		0	NB-- 0	SB--		0
	EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	104	1	**104**	115	1	**115**
	Left-Through		0			0	
	Through	1261	2	631	1058	2	529
	Through-Right		0			0	
	Right	218	1	0	166	1	149
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	64	1	64	193	1	193
	Left-Through		0			0	
	Through	1349	1	**706**	1412	1	**714**
	Through-Right		1			1	
	Right	62	0	62	16	0	16
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	26	0	**26**	58	0	58
	Left-Through		1			1	
	Through	47	0	105	323	0	**279**
	Through-Right		1			1	
	Right	58	0	105	176	0	279
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	24	1	24	35	1	**35**
	Left-Through		0			0	
	Through	587	1	**587**	81	1	81
	Through-Right		0			0	
	Right	127	1	95	128	1	32
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	810		*North-South:*	829
			East-West:	613		*East-West:*	314
			SUM:	1423		*SUM:*	1143
VOLUME/CAPACITY *(V/C)* RATIO:				0.999			0.802
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.899**			**0.702**
LEVEL OF SERVICE (LOS):				**D**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
18	North-South Street:	S Rio Street	East-West Street:	E 7th Street
	Scenario:	Future plus Project (2026) - Option 2		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	37	0	**37**	22	0	22
	Left-Through		1			1	
	Through	2	0	39	1	0	23
	Through-Right		0			0	
	Right	65	1	26	65	1	**48**
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	18	0	18	15	0	**15**
	Left-Through		0			0	
	Through	2	0	**32**	0	0	23
	Through-Right		0			0	
	Right	12	0	0	8	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	10	1	**10**	10	1	10
	Left-Through		0			0	
	Through	734	1	367	1490	1	**745**
	Through-Right		1			1	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	78	1	78	35	1	**35**
	Left-Through		0			0	
	Through	2079	1	**1046**	1289	1	646
	Through-Right		1			1	
	Right	13	0	13	2	0	2
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	69		*North-South:*	63
			East-West:	1056		*East-West:*	780
			SUM:	1125		*SUM:*	843
VOLUME/CAPACITY *(V/C)* RATIO:				0.750			0.562
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.650**			**0.462**
LEVEL OF SERVICE (LOS):				**B**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
19	North-South Street:	S Anderson Street	East-West Street:	E 7th Street
	Scenario:	Future plus Project (2026) - Option 2		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	13	0	13	0	0	0
	Left-Through		0			0	
	Through	1	0	**18**	0	0	**2**
	Through-Right		0			0	
	Right	4	0	0	2	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	36	0	**36**	98	0	**98**
	Left-Through		1			1	
	Through	2	0	38	0	0	98
	Through-Right		0			0	
	Right	54	1	29	77	1	42
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	50	1	**50**	70	1	**70**
	Left-Through		0			0	
	Through	737	1	372	1482	1	741
	Through-Right		1			1	
	Right	7	0	7	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	1	10	5	1	5
	Left-Through		0			0	
	Through	2104	1	**1234**	1266	1	**683**
	Through-Right		1			1	
	Right	363	0	363	99	0	99
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	54		North-South:	100
			East-West:	1284		East-West:	753
			SUM:	1338		SUM:	853
VOLUME/CAPACITY (V/C) RATIO:				0.892			0.569
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.792**			**0.469**
LEVEL OF SERVICE (LOS):				C			A

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
20	North-South Street:	Boyle Avenue	East-West Street:	Whittier Boulevard
	Scenario:	Future plus Project (2026) - Option 2		

			AM			PM		
					4			4
		No. of Phases			2			2
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0		
		ATSAC-1 or ATSAC+ATCS-2?			2			2
		Override Capacity			0			0
	MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	279	1	**279**	266	1	266
		Left-Through		0			0	
		Through	454	1	283	974	1	**584**
		Through-Right		1			1	
		Right	111	0	111	194	0	194
		Left-Through-Right		0			0	
		Left-Right		0			0	
SOUTHBOUND		Left	96	1	96	96	1	**96**
		Left-Through		0			0	
		Through	462	1	**340**	365	1	211
		Through-Right		1			1	
		Right	217	0	217	57	0	57
		Left-Through-Right		0			0	
		Left-Right		0			0	
EASTBOUND		Left	26	1	26	166	1	166
		Left-Through		0			0	
		Through	361	1	**211**	949	1	**528**
		Through-Right		1			1	
		Right	61	0	61	107	0	107
		Left-Through-Right		0			0	
		Left-Right		0			0	
WESTBOUND		Left	180	1	180	53	1	53
		Left-Through		0			0	
		Through	1526	1	**836**	668	1	**416**
		Through-Right		1			1	
		Right	145	0	145	164	0	164
		Left-Through-Right		0			0	
		Left-Right		0			0	
		CRITICAL VOLUMES		North-South:	619		North-South:	680
				East-West:	1047		East-West:	944
				SUM:	1666		SUM:	1624
		VOLUME/CAPACITY (V/C) RATIO:			1.212			1.181
		V/C LESS ATSAC/ATCS ADJUSTMENT:			**1.112**			**1.081**
		LEVEL OF SERVICE (LOS):			**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
21

PROJECT TITLE: 670 Mesquit
North-South Street: Boyle Avenue **East-West Street:** 7th Street
Scenario: Future plus Project (2026) - Option 2

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	1	NB-- 0	SB--	1
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		**Volume**	**No. of Lanes**	**Lane Volume**	**Volume**	**No. of Lanes**	**Lane Volume**
NORTHBOUND	Left	243	1	**243**	168	1	168
	Left-Through		0			0	
	Through	465	1	283	698	1	**414**
	Through-Right		1			1	
	Right	100	0	100	130	0	130
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	59	1	59	60	1	**60**
	Left-Through		0			0	
	Through	481	1	**416**	428	1	293
	Through-Right		1			1	
	Right	351	0	351	157	0	157
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	116	1	**116**	343	1	**343**
	Left-Through		0			0	
	Through	261	1	261	705	1	705
	Through-Right		0			0	
	Right	160	1	39	352	1	268
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	62	1	62	13	1	13
	Left-Through		0			0	
	Through	589	0	**657**	355	0	**482**
	Through-Right		1			1	
	Right	68	0	0	127	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	659		*North-South:*	474
			East-West:	773		*East-West:*	825
			SUM:	1432		*SUM:*	1299
VOLUME/CAPACITY *(V/C)* RATIO:				1.041			0.945
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.941**			**0.845**
LEVEL OF SERVICE (LOS):				**E**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Workheet
(Circular 212 Method)

I/S #:
22

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** I-10 Eastbound ramps
Scenario: Future plus Project (2026) - Option 2

	AM			PM		
No. of Phases			3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	*NB--* 0	*SB--*	3	*NB--* 0	*SB--*	3
	EB-- 3	*WB--*	0	*EB--* 3	*WB--*	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	341	1	**341**	418	1	**418**
	Left-Through		0			0	
	Through	1237	2	619	1311	2	656
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	1	1	1	3	1	3
	Left-Through		0			0	
	Through	1094	2	**547**	1488	2	**744**
	Through-Right		0			0	
	Right	467	1	131	525	1	312
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	336	1	**336**	213	1	**213**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	543	1	202	364	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	1	0	0	3	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	888		*North-South:*	1162
			East-West:	336		*East-West:*	213
			SUM:	1224		*SUM:*	1375
VOLUME/CAPACITY *(V/C)* RATIO:				0.859			0.965
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.759**			**0.865**
LEVEL OF SERVICE (LOS):				C			D

Version: 1i Beta; 8/4/2011

CUMULATIVE BASE (2040)

CMA WORKSHEETS

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
1	North-South Street:	S Central Avenue	East-West Street:	7th Street
	Scenario:	Future Base (2040)		

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	61	1	**61**	90	1	90
	Left-Through		0			0	
	Through	399	1	382	1043	1	**730**
	Through-Right		1			1	
	Right	364	0	364	417	0	417
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	35	0	35	48	0	**48**
	Left-Through		1			1	
	Through	899	0	**598**	794	0	581
	Through-Right		1			1	
	Right	157	0	598	80	0	581
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	55	1	55	130	1	130
	Left-Through		0			0	
	Through	660	1	**356**	1107	1	**598**
	Through-Right		1			1	
	Right	51	0	51	88	0	88
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	392	1	**392**	363	1	**363**
	Left-Through		0			0	
	Through	1109	1	600	853	1	483
	Through-Right		1			1	
	Right	90	0	90	112	0	112
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	659		*North-South:*	778
			East-West:	748		*East-West:*	961
			SUM:	1407		*SUM:*	1739
	VOLUME/CAPACITY *(V/C)* RATIO:			0.938			1.159
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.838**			**1.059**
	LEVEL OF SERVICE (LOS):			**D**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
2	North-South Street:	N Alameda Street	East-West Street:	E Aliso Street/E Commercial Street
	Scenario:	Future Base (2040)		

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 1	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		2	EB-- 0	WB--	2
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1162	2	**581**	1650	2	**825**
	Through-Right		0			0	
	Right	276	1	0	464	1	413
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	221	1	**221**	328	1	**328**
	Left-Through		0			0	
	Through	1587	3	529	1169	3	390
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	87	2	48	398	2	**219**
	Left-Through		0			0	
	Through	41	1	41	72	1	72
	Through-Right		0			0	
	Right	145	1	**145**	61	1	61
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	146	1	146	103	1	103
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	267	1	**267**	252	1	**252**
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	802		*North-South:*	1153
			East-West:	412		*East-West:*	471
			SUM:	1214		*SUM:*	1624
VOLUME/CAPACITY *(V/C)* RATIO:				0.852			1.140
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.752**			**1.040**
LEVEL OF SERVICE (LOS):				**C**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
3	North-South Street:	Alameda Street	East-West Street:	Temple Street
	Scenario:	Future Base (2040)		

			AM				PM		
		No. of Phases			4				4
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0				0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0		SB--	0
			EB-- 0	WB--	2	EB-- 0		WB--	2
		ATSAC-1 or ATSAC+ATCS-2?			2				2
		Override Capacity			0				0
	MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes		Lane Volume
NORTHBOUND		Left	177	1	**177**	130	1		130
		Left-Through		0			0		
		Through	1235	2	618	1479	2		**740**
		Through-Right		0			0		
		Right	0	0	0	0	0		0
		Left-Through-Right		0			0		
		Left-Right		0			0		
SOUTHBOUND		Left	11	1	11	63	1		**63**
		Left-Through		0			0		
		Through	1406	2	**703**	1091	2		546
		Through-Right		0			0		
		Right	396	1	348	289	1		154
		Left-Through-Right		0			0		
		Left-Right		0			0		
EASTBOUND		Left	96	1	96	270	1		270
		Left-Through		0			0		
		Through	111	1	111	420	1		**420**
		Through-Right		1			1		
		Right	358	0	**270**	482	0		417
		Left-Through-Right		0			0		
		Left-Right		0			0		
WESTBOUND		Left	57	1	**57**	20	1		**20**
		Left-Through		0			0		
		Through	250	1	149	182	1		129
		Through-Right		1			1		
		Right	48	0	48	76	0		76
		Left-Through-Right		0			0		
		Left-Right		0			0		
	CRITICAL VOLUMES			*North-South:*	880		*North-South:*		803
				East-West:	327		*East-West:*		440
				SUM:	1207		*SUM:*		1243
	VOLUME/CAPACITY *(V/C)* RATIO:				0.878				0.904
	V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.778**				**0.804**
	LEVEL OF SERVICE (LOS):				**C**				**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
4	North-South Street:	N Alameda Street	East-West Street:	E 1st Street
	Scenario:	Future Base (2040)		

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--	3		NB-- 3	SB--	3
	EB-- 0	WB--	0		EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2				2
Override Capacity			0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	258	1	**258**	279	1	**279**
	Left-Through		0			0	
	Through	1431	2	716	1412	2	706
	Through-Right		0			0	
	Right	56	1	40	132	1	100
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	64	1	64	101	1	101
	Left-Through		0			0	
	Through	1354	2	**677**	1351	2	**676**
	Through-Right		0			0	
	Right	211	1	81	176	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	130	1	**130**	433	1	**433**
	Left-Through		0			0	
	Through	251	1	251	772	1	772
	Through-Right		0			0	
	Right	192	1	63	359	1	220
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	16	1	16	32	1	32
	Left-Through		0			0	
	Through	772	1	**772**	497	1	**497**
	Through-Right		0			0	
	Right	123	1	91	98	1	48
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	935		*North-South:*	955
			East-West:	902		*East-West:*	930
			SUM:	1837		*SUM:*	1885
VOLUME/CAPACITY *(V/C)* RATIO:				1.289			1.323
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.189**			**1.223**
LEVEL OF SERVICE (LOS):				**F**			**F**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
5	North-South Street:	N Alameda Street	East-West Street:	E 2nd Street
	Scenario:	Future Base (2040)		

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	148	1	148	117	1	117
	Left-Through		0			0	
	Through	1400	1	**768**	1474	1	**811**
	Through-Right		1			1	
	Right	135	0	135	147	0	147
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	338	1	**338**	271	1	**271**
	Left-Through		0			0	
	Through	1137	1	612	1372	1	721
	Through-Right		1			1	
	Right	86	0	86	70	0	70
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	37	1	**37**	91	1	**91**
	Left-Through		0			0	
	Through	206	1	206	263	1	263
	Through-Right		0			0	
	Right	97	1	23	150	1	92
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	136	1	136	75	1	75
	Left-Through		0			0	
	Through	480	0	**611**	250	0	**438**
	Through-Right		1			1	
	Right	131	0	0	188	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	1106		*North-South:*	1082
			East-West:	648		*East-West:*	529
			SUM:	1754		*SUM:*	1611
	VOLUME/CAPACITY *(V/C)* RATIO:			1.169			1.074
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**1.069**			**0.974**
	LEVEL OF SERVICE (LOS):			**F**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
6	North-South Street:	S Alameda Street	East-West Street:	3rd Street/4th Place
	Scenario:	Future Base (2040)		

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	268	1	**268**	360	1	**360**
	Left-Through		0			0	
	Through	1289	2	645	1237	2	619
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1115	2	**558**	1480	2	**740**
	Through-Right		0			0	
	Right	140	1	140	147	1	147
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	144	0	144	165	0	165
	Left-Through		1			1	
	Through	2969	3	**778**	1367	3	**383**
	Through-Right		0			0	
	Right	462	1	462	309	1	309
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	826		*North-South:*	1100
			East-West:	778		*East-West:*	383
			SUM:	1604		*SUM:*	1483
	VOLUME/CAPACITY *(V/C)* RATIO:			1.069			0.989
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.969**			**0.889**
	LEVEL OF SERVICE (LOS):			**E**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
7	North-South Street:	S Alameda Street	East-West Street:	4th Street
	Scenario:	Future Base (2040)		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1223	1	**642**	1227	1	**681**
	Through-Right		1			1	
	Right	61	0	61	135	0	135
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	117	1	**117**	171	1	**171**
	Left-Through		0			0	
	Through	1236	2	618	1314	2	657
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	224	0	224	313	0	313
	Left-Through		1			1	
	Through	661	2	**295**	2023	2	**779**
	Through-Right		0			0	
	Right	205	1	205	348	1	348
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	759		*North-South:*	852
			East-West:	295		*East-West:*	779
			SUM:	1054		*SUM:*	1631
VOLUME/CAPACITY *(V/C)* RATIO:				0.703			1.087
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.603**			**0.987**
LEVEL OF SERVICE (LOS):				**B**			**E**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
8	North-South Street:	S Alameda Street	East-West Street:	6th Street
	Scenario:	Future Base (2040)		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	133	1	**133**	180	1	**180**
	Left-Through		0			0	
	Through	1004	1	546	1240	1	701
	Through-Right		1			1	
	Right	87	0	87	161	0	161
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	98	1	98	164	1	164
	Left-Through		0			0	
	Through	1241	1	**724**	1230	1	**725**
	Through-Right		1			1	
	Right	207	0	207	219	0	219
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	150	1	**150**	253	1	253
	Left-Through		0			0	
	Through	493	1	351	1295	1	**742**
	Through-Right		1			1	
	Right	209	0	209	188	0	188
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	200	1	200	118	1	**118**
	Left-Through		0			0	
	Through	1312	1	**747**	588	1	327
	Through-Right		1			1	
	Right	181	0	181	65	0	65
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	857		*North-South:*	905
			East-West:	897		*East-West:*	860
			SUM:	1754		*SUM:*	1765
VOLUME/CAPACITY *(V/C)* RATIO:				1.169			1.177
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.069**			**1.077**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
9	North-South Street:	S Alameda Street	East-West Street:	7th Street
	Scenario:	Future Base (2040)		

			AM				PM		
					3				3
		No. of Phases			0				0
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?							
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	
			EB-- 0	WB--	0	EB-- 0	WB--	0	
		ATSAC-1 or ATSAC+ATCS-2?			2			2	
		Override Capacity			0			0	
	MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left	120	1	**120**	127	1	127	
		Left-Through		0			0		
		Through	843	1	486	1162	1	**649**	
		Through-Right		1			1		
		Right	129	0	129	135	0	135	
		Left-Through-Right		0			0		
		Left-Right		0			0		
SOUTHBOUND		Left	271	1	271	213	1	**213**	
		Left-Through		0			0		
		Through	1250	1	**820**	1187	1	699	
		Through-Right		1			1		
		Right	389	0	389	211	0	211	
		Left-Through-Right		0			0		
		Left-Right		0			0		
EASTBOUND		Left	182	1	**182**	318	1	**318**	
		Left-Through		0			0		
		Through	746	1	445	1110	1	642	
		Through-Right		1			1		
		Right	144	0	144	173	0	173	
		Left-Through-Right		0			0		
		Left-Right		0			0		
WESTBOUND		Left	174	1	174	159	1	159	
		Left-Through		0			0		
		Through	1168	1	**687**	1003	1	**647**	
		Through-Right		1			1		
		Right	205	0	205	290	0	290	
		Left-Through-Right		0			0		
		Left-Right		0			0		
	CRITICAL VOLUMES			*North-South:*	940		*North-South:*	862	
				East-West:	869		*East-West:*	965	
				SUM:	1809		*SUM:*	1827	
	VOLUME/CAPACITY *(V/C)* RATIO:				1.269			1.282	
	V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.169**			**1.182**	
	LEVEL OF SERVICE (LOS):				**F**			**F**	

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
10	North-South Street:	Molino Street/Merrick Street	East-West Street:	4th Street
	Scenario:	Future Base (2040)		

			AM				PM		
		No. of Phases			3				3
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1				1
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0		SB--	0
			EB-- 0	WB--	0	EB-- 0		WB--	0
		ATSAC-1 or ATSAC+ATCS-2?			2				2
		Override Capacity			0				0
	MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	179	0	179	328	0	328
		Left-Through		0			0	
		Through	123	0	**322**	151	0	**491**
		Through-Right		0			0	
		Right	20	0	0	12	0	0
		Left-Through-Right		1			1	
		Left-Right		0			0	
SOUTHBOUND		Left	24	1	24	87	1	**87**
		Left-Through		0			0	
		Through	63	0	0	139	0	0
		Through-Right		0			0	
		Right	48	1	**48**	68	1	68
		Left-Through-Right		0			0	
		Left-Right		0			0	
EASTBOUND		Left	1	0	**0**	10	0	0
		Left-Through		0			0	
		Through	380	1	342	1861	2	**724**
		Through-Right		1			1	
		Right	304	0	304	311	0	311
		Left-Through-Right		0			0	
		Left-Right		0			0	
WESTBOUND		Left	16	0	0	3	0	**0**
		Left-Through		0			0	
		Through	2780	2	**961**	1125	1	612
		Through-Right		1			1	
		Right	104	0	104	99	0	99
		Left-Through-Right		0			0	
		Left-Right		0			0	
		CRITICAL VOLUMES		*North-South:*	370		*North-South:*	578
				East-West:	961		*East-West:*	724
				SUM:	1331		*SUM:*	1302
		VOLUME/CAPACITY *(V/C)* RATIO:			0.934			0.914
		V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.834**			**0.814**
		LEVEL OF SERVICE (LOS):			**D**			**D**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
11	North-South Street:	Mateo Street	East-West Street:	6th Street
	Scenario:	Future Base (2040)		

			AM				PM		
No. of Phases					2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 2		SB--	0	NB-- 2		SB--	0
		EB-- 0		WB--	0	EB-- 0		WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
MOVEMENT			Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left		117	0	**117**	143	0	143
	Left-Through			0			0	
	Through		264	0	427	438	0	**728**
	Through-Right			0			0	
	Right		46	0	0	147	0	0
	Left-Through-Right			1			1	
	Left-Right			0			0	
SOUTHBOUND	Left		105	0	105	150	0	**150**
	Left-Through			1			1	
	Through		360	0	**465**	364	0	514
	Through-Right			0			0	
	Right		145	1	62	214	1	85
	Left-Through-Right			0			0	
	Left-Right			0			0	
EASTBOUND	Left		166	1	**166**	258	1	**258**
	Left-Through			0			0	
	Through		366	2	180	1286	2	477
	Through-Right			1			1	
	Right		175	0	175	145	0	145
	Left-Through-Right			0			0	
	Left-Right			0			0	
WESTBOUND	Left		149	1	149	21	1	21
	Left-Through			0			0	
	Through		1458	1	**851**	491	1	**340**
	Through-Right			1			1	
	Right		244	0	244	189	0	189
	Left-Through-Right			0			0	
	Left-Right			0			0	
CRITICAL VOLUMES				*North-South:*	582		*North-South:*	878
				East-West:	1017		*East-West:*	598
				SUM:	1599		*SUM:*	1476
VOLUME/CAPACITY *(V/C)* RATIO:					1.066			0.984
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.966**			**0.884**
LEVEL OF SERVICE (LOS):					**E**			**D**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
12	North-South Street:	Mateo Street	East-West Street:	7th Street
	Scenario:	Future Base (2040)		

			AM				PM		
	No. of Phases				2				2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	109	0	**109**		203	0	203	
	Left-Through		0				0		
	Through	258	0	430		389	0	**720**	
	Through-Right		0				0		
	Right	63	0	0		128	0	0	
	Left-Through-Right		1				1		
	Left-Right		0				0		
SOUTHBOUND	Left	116	0	116		96	0	**96**	
	Left-Through		1				1		
	Through	413	0	**529**		275	0	371	
	Through-Right		0				0		
	Right	133	1	80		132	1	38	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	106	1	106		188	1	188	
	Left-Through		0				0		
	Through	812	1	**480**		1088	1	**614**	
	Through-Right		1				1		
	Right	147	0	147		139	0	139	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	379	1	**379**		156	1	**156**	
	Left-Through		0				0		
	Through	1219	1	648		1061	1	577	
	Through-Right		1				1		
	Right	76	0	76		93	0	93	
	Left-Through-Right		0				0		
	Left-Right		0				0		
	CRITICAL VOLUMES		*North-South:*	638			*North-South:*	816	
			East-West:	859			*East-West:*	770	
			SUM:	1497			*SUM:*	1586	
	VOLUME/CAPACITY *(V/C)* RATIO:			0.998				1.057	
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.898**				**0.957**	
	LEVEL OF SERVICE (LOS):			**D**				**E**	

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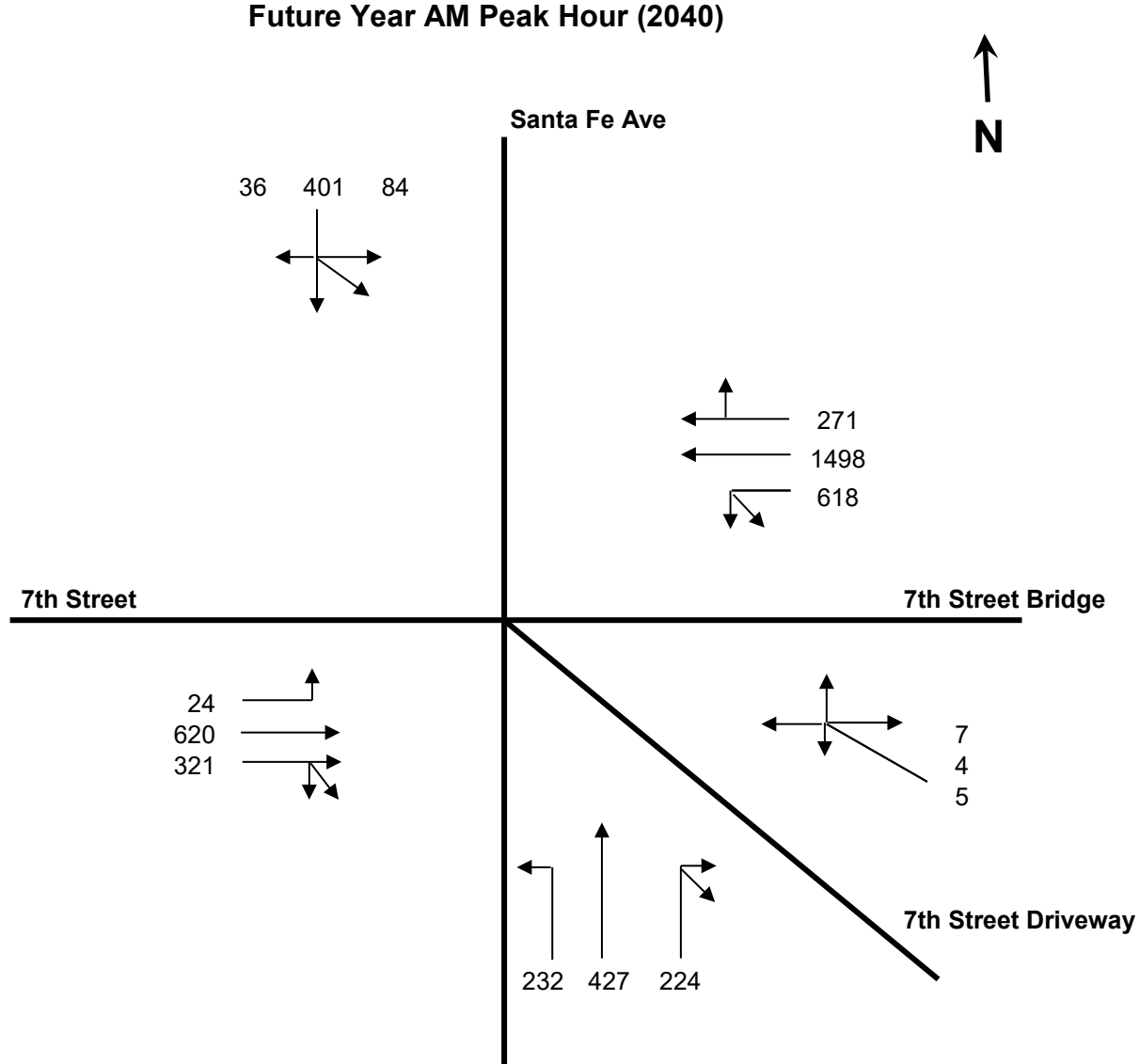
Intersection 13

Future Year AM Peak Hour (2040)



NWB 1) $\left\{ \frac{5 + 4 + 7}{1} \right\}$

= 16

EB-WB 2) $\left\{ \frac{1498 + 271}{2} + \frac{24}{1} \right\}$ or $\left\{ \frac{271}{1} + \frac{24}{1} \right\}$ or

$\left\{ \frac{620 + 321}{2} + \frac{618}{1} \right\}$ or $\left\{ \frac{321}{1} + \frac{618}{1} \right\}$

= 1089

NB-SB 3) $\left\{ \frac{84 + 401 + 36}{1} + \frac{232}{1} \right\}$ or

$\left\{ \frac{427}{1} + \frac{84}{1} \right\}$ or $\left\{ \frac{224}{1} + \frac{84}{1} \right\}$

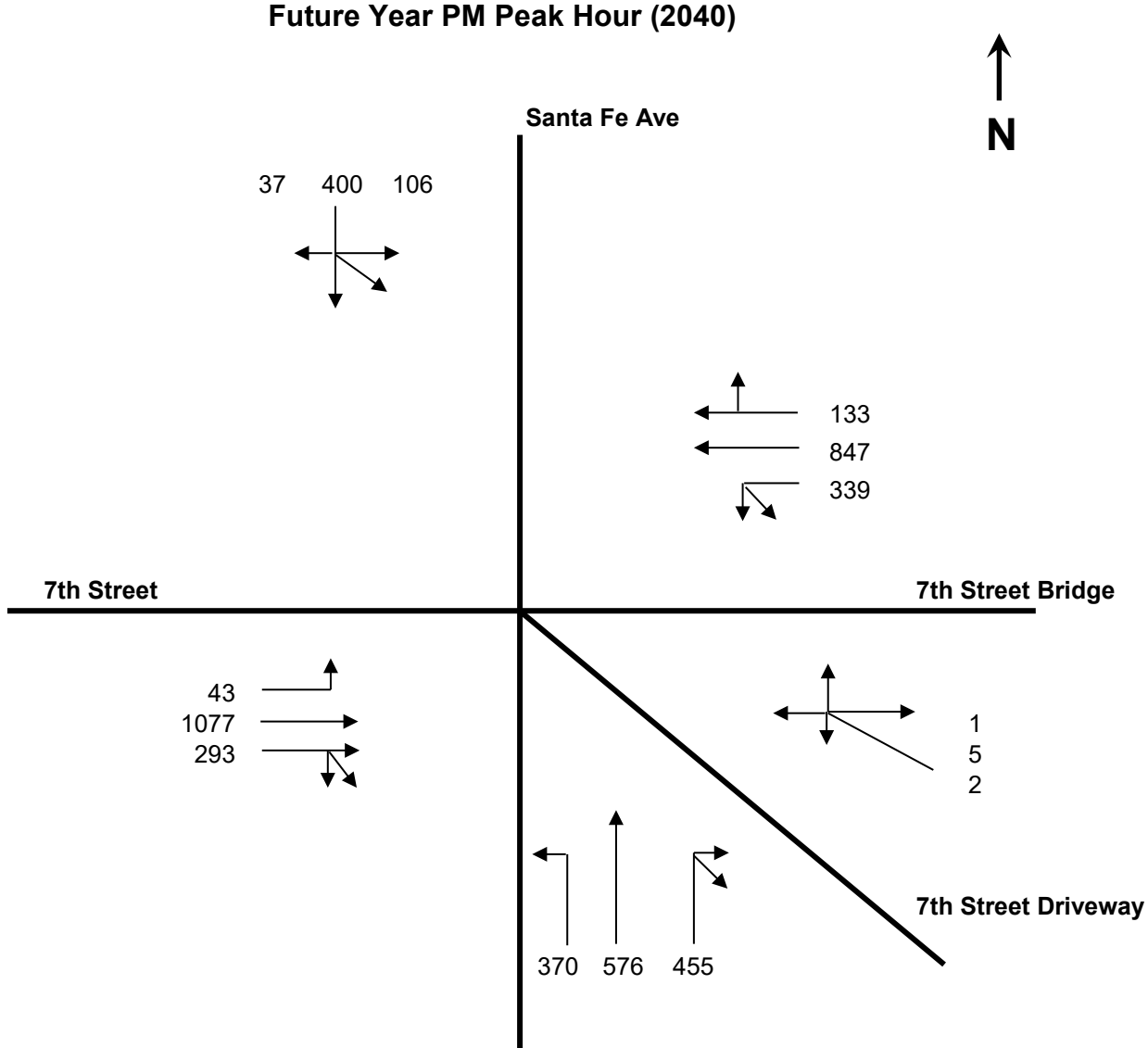
= 753

Critical Volumes = 16 + 1089 + 753 = 1,858

V/C = $\frac{1,858}{1,375}$ – 0.10 = 1.251 LOS F

Intersection 13

Future Year PM Peak Hour (2040)



NWB 1) $\left\{ \frac{2 + 5 + 1}{1} \right\}$

= **8**

EB-WB 2) $\left\{ \frac{847 + 133}{2} + \frac{43}{1} \right\}$ or $\left\{ \frac{133}{1} + \frac{43}{1} \right\}$ or

$\left\{ \frac{1077 + 293}{2} + \frac{339}{1} \right\}$ or $\left\{ \frac{293}{1} + \frac{339}{1} \right\}$

= **1024**

NB-SB 3) $\left\{ \frac{106 + 400 + 37}{1} + \frac{370}{1} \right\}$ or

$\left\{ \frac{576}{1} + \frac{106}{1} \right\}$ or $\left\{ \frac{455}{1} + \frac{106}{1} \right\}$

= **913**

Critical Volumes = 8 + 1024 + 913 = 1,945

V/C = $\frac{1,945}{1,375}$ – 0.10 = 1.315 LOS F

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
14	North-South Street:	S Santa Fe Avenue	East-West Street:	8th Street
	Scenario:	Future Base (2040)		

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	224	0	224	237	0	**237**
	Left-Through		1			1	
	Through	924	0	**920**	674	0	696
	Through-Right		1			1	
	Right	19	0	920	22	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	20	0	**20**	19	0	19
	Left-Through		1			1	
	Through	530	1	305	880	1	**478**
	Through-Right		0			0	
	Right	401	1	401	320	1	320
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	223	0	223	111	0	111
	Left-Through		1			1	
	Through	8	0	231	19	0	130
	Through-Right		0			0	
	Right	293	1	**293**	393	1	**275**
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	0	**10**	14	0	**14**
	Left-Through		0			0	
	Through	11	0	37	14	0	51
	Through-Right		0			0	
	Right	16	0	0	23	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	940		*North-South:*	715
			East-West:	303		*East-West:*	289
			SUM:	1243		*SUM:*	1004
	VOLUME/CAPACITY *(V/C)* RATIO:			0.829			0.669
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.729**			**0.569**
	LEVEL OF SERVICE (LOS):			**C**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
15	North-South Street:	S Santa Fe Avenue	East-West Street:	Porter Street
	Scenario:	Future Base (2040)		

		AM				PM			
No. of Phases					3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0		NB--	0	SB--	0
	EB--	3	WB--	0		EB--	3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	322	1	**322**	442	1	**442**
	Left-Through		0			0	
	Through	927	1	477	763	1	396
	Through-Right		1			1	
	Right	26	0	26	28	0	28
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	19	1	19	16	1	16
	Left-Through		0			0	
	Through	766	1	**426**	1082	1	**642**
	Through-Right		1			1	
	Right	86	0	86	201	0	201
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	202	0	**202**	109	0	**109**
	Left-Through		1			1	
	Through	29	0	231	20	0	129
	Through-Right		0			0	
	Right	513	1	191	402	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	21	0	21	44	0	44
	Left-Through		1			1	
	Through	48	0	**69**	89	0	**133**
	Through-Right		0			0	
	Right	23	1	14	25	1	17
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	748		*North-South:*	1084
			East-West:	271		*East-West:*	242
			SUM:	1019		*SUM:*	1326
VOLUME/CAPACITY *(V/C)* RATIO:				0.715			0.931
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.615**			**0.831**
LEVEL OF SERVICE (LOS):				**B**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
16	North-South Street:	S Santa Fe Avenue	East-West Street:	Olympic Boulevard
	Scenario:	Future Base (2040)		

		AM			PM		
	No. of Phases			4			4
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 3	WB--	0	EB-- 3	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	243	1	**243**	124	1	124
	Left-Through		0			0	
	Through	1039	1	557	1049	1	**613**
	Through-Right		1			1	
	Right	75	0	75	176	0	176
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	216	1	216	292	1	**292**
	Left-Through		0			0	
	Through	1058	1	**538**	1110	1	583
	Through-Right		1			1	
	Right	17	0	17	56	0	56
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	36	1	**36**	38	1	38
	Left-Through		0			0	
	Through	411	2	206	1032	2	**516**
	Through-Right		0			0	
	Right	324	1	81	396	1	272
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	194	1	194	96	1	**96**
	Left-Through		0			0	
	Through	1257	1	**728**	928	1	551
	Through-Right		1			1	
	Right	199	0	199	173	0	173
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	781		*North-South:*	905
			East-West:	764		*East-West:*	612
			SUM:	1545		*SUM:*	1517
	VOLUME/CAPACITY *(V/C)* RATIO:			1.124			1.103
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**1.024**			**1.003**
	LEVEL OF SERVICE (LOS):			**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
17	North-South Street:	S Santa Fe Avenue	East-West Street:	E 15th Street
	Scenario:	Future Base (2040)		

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 1	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	106	1	**106**	118	1	**118**
	Left-Through		0			0	
	Through	1242	2	621	1051	2	526
	Through-Right		0			0	
	Right	224	1	0	170	1	153
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	66	1	66	198	1	198
	Left-Through		0			0	
	Through	1356	1	**710**	1375	1	**696**
	Through-Right		1			1	
	Right	64	0	64	17	0	17
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	27	0	**27**	60	0	60
	Left-Through		1			1	
	Through	48	0	108	332	0	**287**
	Through-Right		1			1	
	Right	60	0	0	181	0	287
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	25	1	25	35	1	**35**
	Left-Through		0			0	
	Through	603	1	**603**	84	1	84
	Through-Right		0			0	
	Right	112	1	79	118	1	19
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	816		*North-South:*	814
			East-West:	630		*East-West:*	322
			SUM:	1446		*SUM:*	1136
	VOLUME/CAPACITY *(V/C)* RATIO:			1.015			0.797
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.915**			**0.697**
	LEVEL OF SERVICE (LOS):			**E**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
18	North-South Street:	S Rio Street	East-West Street:	E 7th Street
	Scenario:	Future Base (2040)		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	38	0	**38**	23	0	23
	Left-Through		1			1	
	Through	2	0	40	1	0	24
	Through-Right		0			0	
	Right	67	1	27	67	1	**50**
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	19	0	19	16	0	**16**
	Left-Through		0			0	
	Through	2	0	**34**	0	0	24
	Through-Right		0			0	
	Right	13	0	0	8	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	10	1	**10**	10	1	10
	Left-Through		0			0	
	Through	703	1	352	1379	1	**690**
	Through-Right		1			1	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	80	1	80	35	1	**35**
	Left-Through		0			0	
	Through	1951	1	**983**	1201	1	602
	Through-Right		1			1	
	Right	14	0	14	2	0	2
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	72		*North-South:*	66
			East-West:	993		*East-West:*	725
			SUM:	1065		*SUM:*	791
VOLUME/CAPACITY *(V/C)* RATIO:				0.710			0.527
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.610**			**0.427**
LEVEL OF SERVICE (LOS):				**B**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
19	North-South Street:	S Anderson Street	East-West Street:	E 7th Street
	Scenario:	Future Base (2040)		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	14	0	14	0	0	0
	Left-Through		0			0	
	Through	1	0	**19**	0	0	**2**
	Through-Right		0			0	
	Right	4	0	0	2	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	37	0	**37**	100	0	**100**
	Left-Through		1			1	
	Through	2	0	39	0	0	100
	Through-Right		0			0	
	Right	55	1	30	79	1	43
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	51	1	**51**	72	1	**72**
	Left-Through		0			0	
	Through	706	1	357	1370	1	685
	Through-Right		1			1	
	Right	7	0	7	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	1	10	5	1	5
	Left-Through		0			0	
	Through	1977	1	**1175**	1177	1	**639**
	Through-Right		1			1	
	Right	373	0	373	101	0	101
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	56		*North-South:*	102
			East-West:	1226		*East-West:*	711
			SUM:	1282		*SUM:*	813
VOLUME/CAPACITY *(V/C)* RATIO:				0.855			0.542
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.755**			**0.442**
LEVEL OF SERVICE (LOS):				**C**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
20	North-South Street:	Boyle Avenue	East-West Street:	Whittier Boulevard
	Scenario:	Future Base (2040)		

		AM			PM		
	No. of Phases			4			4
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	286	1	**286**	272	1	272
	Left-Through		0			0	
	Through	461	1	288	983	1	**591**
	Through-Right		1			1	
	Right	114	0	114	199	0	199
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	98	1	98	98	1	**98**
	Left-Through		0			0	
	Through	451	1	**322**	360	1	199
	Through-Right		1			1	
	Right	193	0	193	37	0	37
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	27	1	27	170	1	170
	Left-Through		0			0	
	Through	343	1	**203**	927	1	**519**
	Through-Right		1			1	
	Right	63	0	63	110	0	110
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	185	1	185	54	1	54
	Left-Through		0			0	
	Through	1523	1	**836**	643	1	**406**
	Through-Right		1			1	
	Right	149	0	149	168	0	168
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	608		*North-South:*	689
			East-West:	1039		*East-West:*	925
			SUM:	1647		*SUM:*	1614
	VOLUME/CAPACITY *(V/C)* RATIO:			1.198			1.174
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**1.098**			**1.074**
	LEVEL OF SERVICE (LOS):			**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
21	North-South Street:	Boyle Avenue	East-West Street:	7th Street
	Scenario:	Future Base (2040)		

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		1	NB-- 0	SB--	1
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	249	1	**249**	173	1	173
	Left-Through		0			0	
	Through	478	1	290	717	1	**426**
	Through-Right		1			1	
	Right	102	0	102	134	0	134
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	61	1	61	62	1	**62**
	Left-Through		0			0	
	Through	494	1	**408**	440	1	289
	Through-Right		1			1	
	Right	322	0	322	138	0	138
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	114	1	**114**	333	1	**333**
	Left-Through		0			0	
	Through	235	1	235	625	1	625
	Through-Right		0			0	
	Right	165	1	41	362	1	276
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	64	1	64	14	1	14
	Left-Through		0			0	
	Through	544	0	**614**	323	0	**454**
	Through-Right		1			1	
	Right	70	0	0	131	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	657		*North-South:*	488
			East-West:	728		*East-West:*	787
			SUM:	1385		*SUM:*	1275
VOLUME/CAPACITY *(V/C)* RATIO:				1.007			0.927
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.907**			**0.827**
LEVEL OF SERVICE (LOS):				**E**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
22	North-South Street:	S Alameda Street	East-West Street:	I-10 Eastbound ramps
	Scenario:	Future Base (2040)		

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	3	NB-- 0	SB--	3
		EB-- 3	WB--	0	EB-- 3	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	351	1	**351**	429	1	**429**
	Left-Through		0			0	
	Through	1266	2	633	1340	2	670
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	1	1	1	3	1	3
	Left-Through		0			0	
	Through	1118	2	**559**	1522	2	**761**
	Through-Right		0			0	
	Right	478	1	164	537	1	339
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	314	1	**314**	198	1	**198**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	557	1	206	374	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	1	0	0	3	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	910		*North-South:*	1190
			East-West:	314		*East-West:*	198
			SUM:	1224		*SUM:*	1388
	VOLUME/CAPACITY *(V/C)* RATIO:			0.859			0.974
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.759**			**0.874**
	LEVEL OF SERVICE (LOS):			**C**			**D**

Version: 1i Beta; 8/4/2011

CUMULATIVE PLUS PROJECT (2040) – OPTION 1

CMA WORKSHEETS

Level of Service Worksheet
(Circular 212 Method)

I/S #:
1

PROJECT TITLE: 670 Mesquit
North-South Street: S Central Avenue **East-West Street:** 7th Street
Scenario: Future plus Project (2040) - Option 1

		AM				PM			
No. of Phases					2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
MOVEMENT		**Volume**	**No. of Lanes**	**Lane Volume**		**Volume**	**No. of Lanes**	**Lane Volume**	
NORTHBOUND	Left	61	1	**61**		90	1	90	
	Left-Through		0				0		
	Through	399	1	398		1043	1	**741**	
	Through-Right		1				1		
	Right	397	0	397		438	0	438	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	35	0	35		48	0	**48**	
	Left-Through		1				1		
	Through	899	0	**598**		794	0	581	
	Through-Right		1				1		
	Right	157	0	598		80	0	581	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	55	1	55		130	1	130	
	Left-Through		0				0		
	Through	694	1	**373**		1130	1	**609**	
	Through-Right		1				1		
	Right	51	0	51		88	0	88	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	407	1	**407**		413	1	**413**	
	Left-Through		0				0		
	Through	1129	1	610		913	1	513	
	Through-Right		1				1		
	Right	90	0	90		112	0	112	
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES			*North-South:*	659			*North-South:*	789	
			East-West:	780			*East-West:*	1022	
			SUM:	1439			*SUM:*	1811	
VOLUME/CAPACITY *(V/C)* RATIO:				0.959				1.207	
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.859**				**1.107**	
LEVEL OF SERVICE (LOS):				**D**				**F**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
2

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E Aliso Street/E Commercial Street
Scenario: Future plus Project (2040) - Option 1

	AM			PM		
No. of Phases			3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?	*NB--* 1	*SB--*	0	*NB--* 0	*SB--*	0
	EB-- 0	*WB--*	2	*EB--* 0	*WB--*	2
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1180	2	**590**	1710	2	**855**
	Through-Right		0			0	
	Right	281	1	0	481	1	423
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	221	1	**221**	328	1	**328**
	Left-Through		0			0	
	Through	1628	3	543	1197	3	399
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	87	2	48	398	2	**219**
	Left-Through		0			0	
	Through	41	1	41	72	1	72
	Through-Right		0			0	
	Right	161	1	**161**	71	1	71
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	169	1	169	117	1	117
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	267	1	**267**	252	1	**252**
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	811		*North-South:*	1183
			East-West:	428		*East-West:*	471
			SUM:	1239		*SUM:*	1654
VOLUME/CAPACITY *(V/C)* RATIO:				0.869			1.161
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.769**			**1.061**
LEVEL OF SERVICE (LOS):				C			F

Version: 1i Beta; 8/4/2011

Level of Service Workheet
(Circular 212 Method)

I/S #:
3

PROJECT TITLE: 670 Mesquit
North-South Street: Alameda Street **East-West Street:** Temple Street
Scenario: Future plus Project (2040) - Option 1

		AM			PM		
	No. of Phases			4			4
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	2	EB-- 0	WB--	2
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	180	1	**180**	138	1	138
	Left-Through		0			0	
	Through	1251	2	626	1538	2	**769**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	11	1	11	63	1	**63**
	Left-Through		0			0	
	Through	1486	2	**743**	1143	2	572
	Through-Right		0			0	
	Right	396	1	348	289	1	154
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	96	1	96	270	1	270
	Left-Through		0			0	
	Through	111	1	111	420	1	**420**
	Through-Right		1			1	
	Right	366	0	**276**	487	0	418
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	57	1	**57**	20	1	**20**
	Left-Through		0			0	
	Through	250	1	153	182	1	138
	Through-Right		1			1	
	Right	55	0	55	94	0	94
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	923		*North-South:*	832
			East-West:	333		*East-West:*	440
			SUM:	1256		*SUM:*	1272
	VOLUME/CAPACITY *(V/C)* RATIO:			0.913			0.925
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.813**			**0.825**
	LEVEL OF SERVICE (LOS):			**D**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
4

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E 1st Street
Scenario: Future plus Project (2040) - Option 1

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		3	NB-- 3	SB--	3
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	260	1	**260**	279	1	**279**
	Left-Through		0			0	
	Through	1450	2	725	1479	2	740
	Through-Right		0			0	
	Right	56	1	40	132	1	100
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	64	1	64	101	1	101
	Left-Through		0			0	
	Through	1441	2	**721**	1407	2	**704**
	Through-Right		0			0	
	Right	211	1	81	176	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	130	1	**130**	433	1	**433**
	Left-Through		0			0	
	Through	251	1	251	772	1	772
	Through-Right		0			0	
	Right	193	1	63	360	1	221
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	16	1	16	32	1	32
	Left-Through		0			0	
	Through	772	1	**772**	497	1	**497**
	Through-Right		0			0	
	Right	123	1	91	98	1	48
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	981		*North-South:*	983
			East-West:	902		*East-West:*	930
			SUM:	1883		*SUM:*	1913
VOLUME/CAPACITY *(V/C)* RATIO:				1.321			1.342
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.221**			**1.242**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
5

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E 2nd Street
Scenario: Future plus Project (2040) - Option 1

	AM			PM		
No. of Phases			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	*NB--* 0	*SB--*	0	*NB--* 0	*SB--*	0
	EB-- 0	*WB--*	0	*EB--* 0	*WB--*	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	151	1	151	125	1	125
	Left-Through		0			0	
	Through	1421	1	**778**	1541	1	**844**
	Through-Right		1			1	
	Right	135	0	135	147	0	147
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	338	1	**338**	271	1	**271**
	Left-Through		0			0	
	Through	1225	1	656	1429	1	750
	Through-Right		1			1	
	Right	86	0	86	70	0	70
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	37	1	**37**	91	1	**91**
	Left-Through		0			0	
	Through	206	1	206	263	1	263
	Through-Right		0			0	
	Right	97	1	22	150	1	88
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	136	1	136	75	1	75
	Left-Through		0			0	
	Through	480	0	**611**	250	0	**438**
	Through-Right		1			1	
	Right	131	0	0	188	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	1116		*North-South:*	1115
			East-West:	648		*East-West:*	529
			SUM:	1764		*SUM:*	1644
VOLUME/CAPACITY *(V/C)* RATIO:				1.176			1.096
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.076**			**0.996**
LEVEL OF SERVICE (LOS):				**F**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
6

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 3rd Street/4th Place
Scenario: Future plus Project (2040) - Option 1

			AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	276	1	**276**	386	1	**386**
	Left-Through		0			0	
	Through	1308	2	654	1304	2	652
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1210	2	**605**	1542	2	**771**
	Through-Right		0			0	
	Right	140	1	140	147	1	147
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	144	0	144	165	0	165
	Left-Through		1			1	
	Through	2978	3	**781**	1387	3	**388**
	Through-Right		0			0	
	Right	467	1	467	317	1	317
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	881		*North-South:*	1157
			East-West:	781		*East-West:*	388
			SUM:	1662		*SUM:*	1545
VOLUME/CAPACITY *(V/C)* RATIO:				1.108			1.030
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.008**			**0.930**
LEVEL OF SERVICE (LOS):				**F**			**E**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:
7

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 4th Street
Scenario: Future plus Project (2040) - Option 1

			AM			PM		
No. of Phases				2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1250	1	**656**	1320	1	**728**
	Through-Right		1			1	
	Right	61	0	61	135	0	135
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	125	1	**125**	176	1	**176**
	Left-Through		0			0	
	Through	1323	2	662	1370	2	685
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	224	0	224	313	0	313
	Left-Through		1			1	
	Through	680	2	**301**	2037	2	**783**
	Through-Right		0			0	
	Right	230	1	230	365	1	365
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	781		*North-South:*	904
			East-West:	301		*East-West:*	783
			SUM:	1082		*SUM:*	1687
VOLUME/CAPACITY *(V/C)* RATIO:				0.721			1.125
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.621**			**1.025**
LEVEL OF SERVICE (LOS):				**B**			**F**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
8	North-South Street:	S Alameda Street	East-West Street:	6th Street
	Scenario:	Future plus Project (2040) - Option 1		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	133	1	**133**	180	1	180
	Left-Through		0			0	
	Through	1019	1	553	1291	1	**726**
	Through-Right		1			1	
	Right	87	0	87	161	0	161
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	162	1	162	205	1	**205**
	Left-Through		0			0	
	Through	1289	1	**748**	1261	1	740
	Through-Right		1			1	
	Right	207	0	207	219	0	219
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	150	1	**150**	253	1	253
	Left-Through		0			0	
	Through	535	1	372	1323	1	**756**
	Through-Right		1			1	
	Right	209	0	209	188	0	188
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	200	1	200	118	1	**118**
	Left-Through		0			0	
	Through	1322	1	**758**	607	1	357
	Through-Right		1			1	
	Right	193	0	193	107	0	107
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	881		*North-South:*	931
			East-West:	908		*East-West:*	874
			SUM:	1789		*SUM:*	1805
VOLUME/CAPACITY *(V/C)* RATIO:				1.193			1.203
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.093**			**1.103**
LEVEL OF SERVICE (LOS):				**F**			**F**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:
9

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 7th Street
Scenario: Future plus Project (2040) - Option 1

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		**Volume**	**No. of Lanes**	**Lane Volume**	**Volume**	**No. of Lanes**	**Lane Volume**
NORTHBOUND	Left	120	1	**120**	127	1	127
	Left-Through		0			0	
	Through	843	1	508	1162	1	**661**
	Through-Right		1			1	
	Right	172	0	172	160	0	160
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	319	1	319	244	1	**244**
	Left-Through		0			0	
	Through	1250	1	**820**	1187	1	699
	Through-Right		1			1	
	Right	389	0	389	211	0	211
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	182	1	**182**	318	1	**318**
	Left-Through		0			0	
	Through	813	1	479	1154	1	664
	Through-Right		1			1	
	Right	144	0	144	173	0	173
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	184	1	184	206	1	206
	Left-Through		0			0	
	Through	1202	1	**711**	1114	1	**728**
	Through-Right		1			1	
	Right	220	0	220	341	0	341
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			***North-South:***	940		***North-South:***	905
			East-West:	893		***East-West:***	1046
			SUM:	1833		***SUM:***	1951
VOLUME/CAPACITY *(V/C)* RATIO:				1.286			1.369
***V/C* LESS ATSAC/ATCS ADJUSTMENT:**				**1.186**			**1.269**
LEVEL OF SERVICE (LOS):				**F**			**F**

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Level of Service Workheet
(Circular 212 Method)

I/S #:
10

PROJECT TITLE: 670 Mesquit
North-South Street: Molino Street/Merrick Street **East-West Street:** 4th Street
Scenario: Future plus Project (2040) - Option 1

			AM			PM		
No. of Phases			3			3		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1			1		
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0		
	EB-- 0	WB--	0	EB-- 0	WB--	0		
ATSAC-1 or ATSAC+ATCS-2?			2			2		
Override Capacity			0			0		

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	208	0	208	384	0	384
	Left-Through		0			0	
	Through	123	0	**351**	151	0	**547**
	Through-Right		0			0	
	Right	20	0	0	12	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	24	1	24	87	1	**87**
	Left-Through		0			0	
	Through	63	0	0	139	0	0
	Through-Right		0			0	
	Right	48	1	**48**	68	1	68
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	1	0	**0**	10	0	0
	Left-Through		0			0	
	Through	380	1	370	1861	2	**739**
	Through-Right		1			1	
	Right	360	0	360	356	0	356
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	16	0	0	3	0	**0**
	Left-Through		0			0	
	Through	2780	2	**961**	1125	1	612
	Through-Right		1			1	
	Right	104	0	104	99	0	99
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	399		*North-South:*	634
			East-West:	961		*East-West:*	739
			SUM:	1360		*SUM:*	1373
VOLUME/CAPACITY *(V/C)* RATIO:				0.954			0.964
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.854**			**0.864**
LEVEL OF SERVICE (LOS):				**D**			**D**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
11	North-South Street:	Mateo Street	East-West Street:	6th Street
	Scenario:	Future plus Project (2040) - Option 1		

		AM				PM			
No. of Phases					2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 2	SB--		0	NB-- 2	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
MOVEMENT		Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	143	0	**143**		198	0	198	
	Left-Through		0				0		
	Through	271	0	483		457	0	**872**	
	Through-Right		0				0		
	Right	69	0	0		217	0	0	
	Left-Through-Right		1				1		
	Left-Right		0				0		
SOUTHBOUND	Left	156	0	156		193	0	**193**	
	Left-Through		1				1		
	Through	370	0	**526**		372	0	565	
	Through-Right		0				0		
	Right	156	1	73		235	1	106	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	166	1	**166**		258	1	**258**	
	Left-Through		0				0		
	Through	437	2	219		1340	2	506	
	Through-Right		1				1		
	Right	225	0	225		179	0	179	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	213	1	213		71	1	71	
	Left-Through		0				0		
	Through	1458	1	**851**		491	1	**340**	
	Through-Right		1				1		
	Right	244	0	244		189	0	189	
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES			*North-South:*	669			*North-South:*	1065	
			East-West:	1017			*East-West:*	598	
			SUM:	1686			*SUM:*	1663	
VOLUME/CAPACITY *(V/C)* RATIO:				1.124				1.109	
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.024**				**1.009**	
LEVEL OF SERVICE (LOS):				**F**				**F**	

Version: 1i Beta; 8/4/2011

Level of Service Workheet
(Circular 212 Method)

I/S #:
12

PROJECT TITLE: 670 Mesquit
North-South Street: Mateo Street **East-West Street:** 7th Street
Scenario: Future plus Project (2040) - Option 1

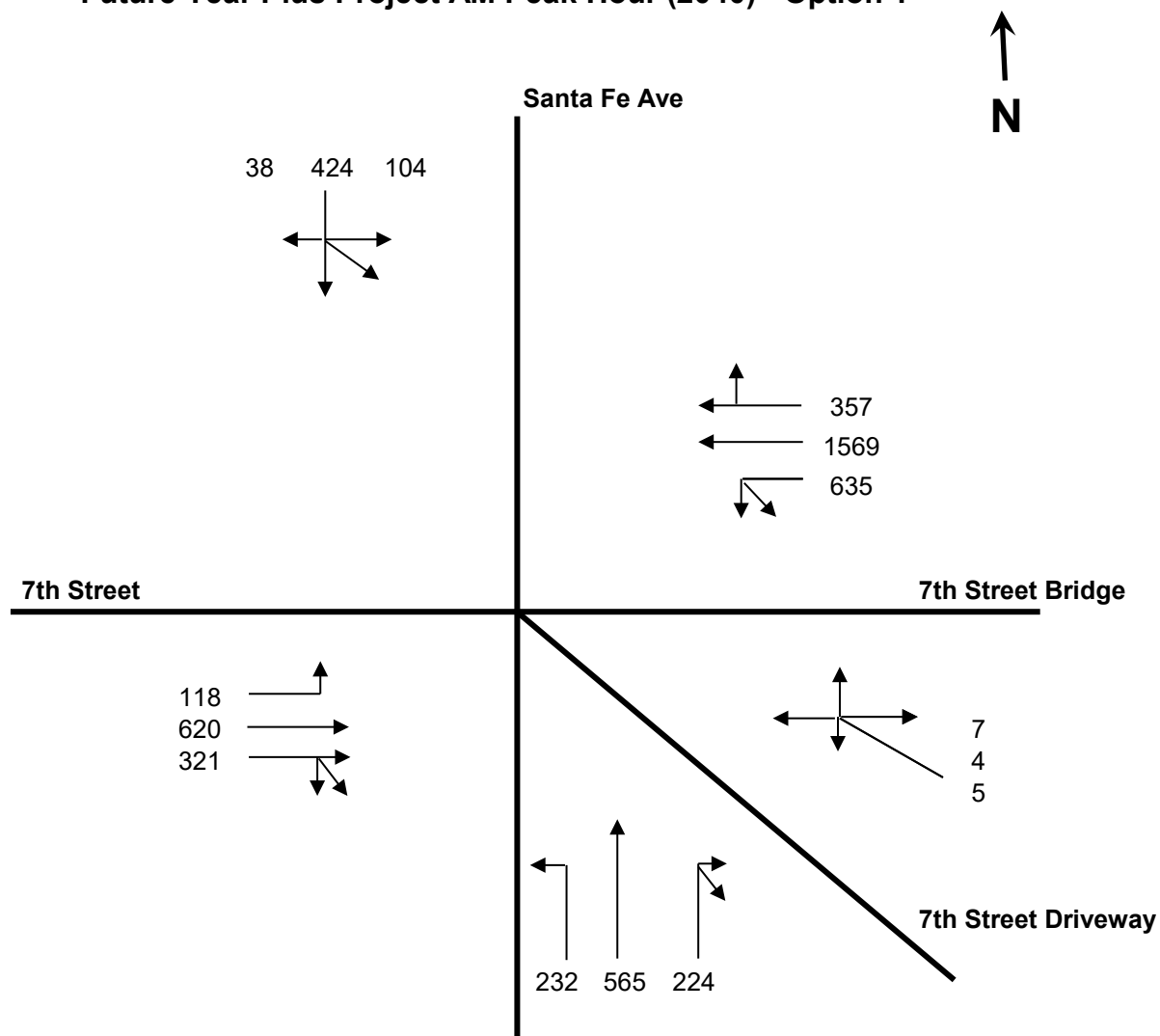
		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	109	0	**109**	203	0	203
	Left-Through		0			0	
	Through	328	0	500	438	0	**769**
	Through-Right		0			0	
	Right	63	0	0	128	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	116	0	116	96	0	**96**
	Left-Through		1			1	
	Through	437	0	**553**	344	0	440
	Through-Right		0			0	
	Right	159	1	65	191	1	68
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	188	1	188	247	1	**247**
	Left-Through		0			0	
	Through	933	1	**540**	1185	1	662
	Through-Right		1			1	
	Right	147	0	147	139	0	139
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	384	1	**384**	166	1	166
	Left-Through		0			0	
	Through	1284	1	689	1244	1	**699**
	Through-Right		1			1	
	Right	94	0	94	154	0	154
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	662		*North-South:*	865
			East-West:	924		*East-West:*	946
			SUM:	1586		*SUM:*	1811
VOLUME/CAPACITY *(V/C)* RATIO:				1.057			1.207
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.957**			**1.107**
LEVEL OF SERVICE (LOS):				**E**			**F**

Version: 1i Beta; 8/4/2011

Intersection 13

Future Year Plus Project AM Peak Hour (2040) - Option 1



NWB 1) $\left\{ \frac{5 + 4 + 7}{1} \right\}$

= 16

EB-WB 2)

$\left\{ \frac{1569 + 357}{2} + \frac{118}{1} \right\}$ or 1081 — $\left\{ \frac{357}{1} + \frac{118}{1} \right\}$ or 475

WBT WBR EBL — WBR EBL

$\left\{ \frac{620 + 321}{2} + \frac{635}{1} \right\}$ or 1106 — $\left\{ \frac{321}{1} + \frac{635}{1} \right\}$ 956

EBT EBR WBL — EBR WBL

= 1106

NB-SB 3)

$\left\{ \frac{104 + 424 + 38}{1} + \frac{232}{1} \right\}$ or 798

SBL SBT SBR NBL

$\left\{ \frac{565}{1} + \frac{104}{1} \right\}$ or 669 — $\left\{ \frac{0}{1} + \frac{104}{1} \right\}$ 104 modified this for NB OVR

NBT SBL — NBR SBL

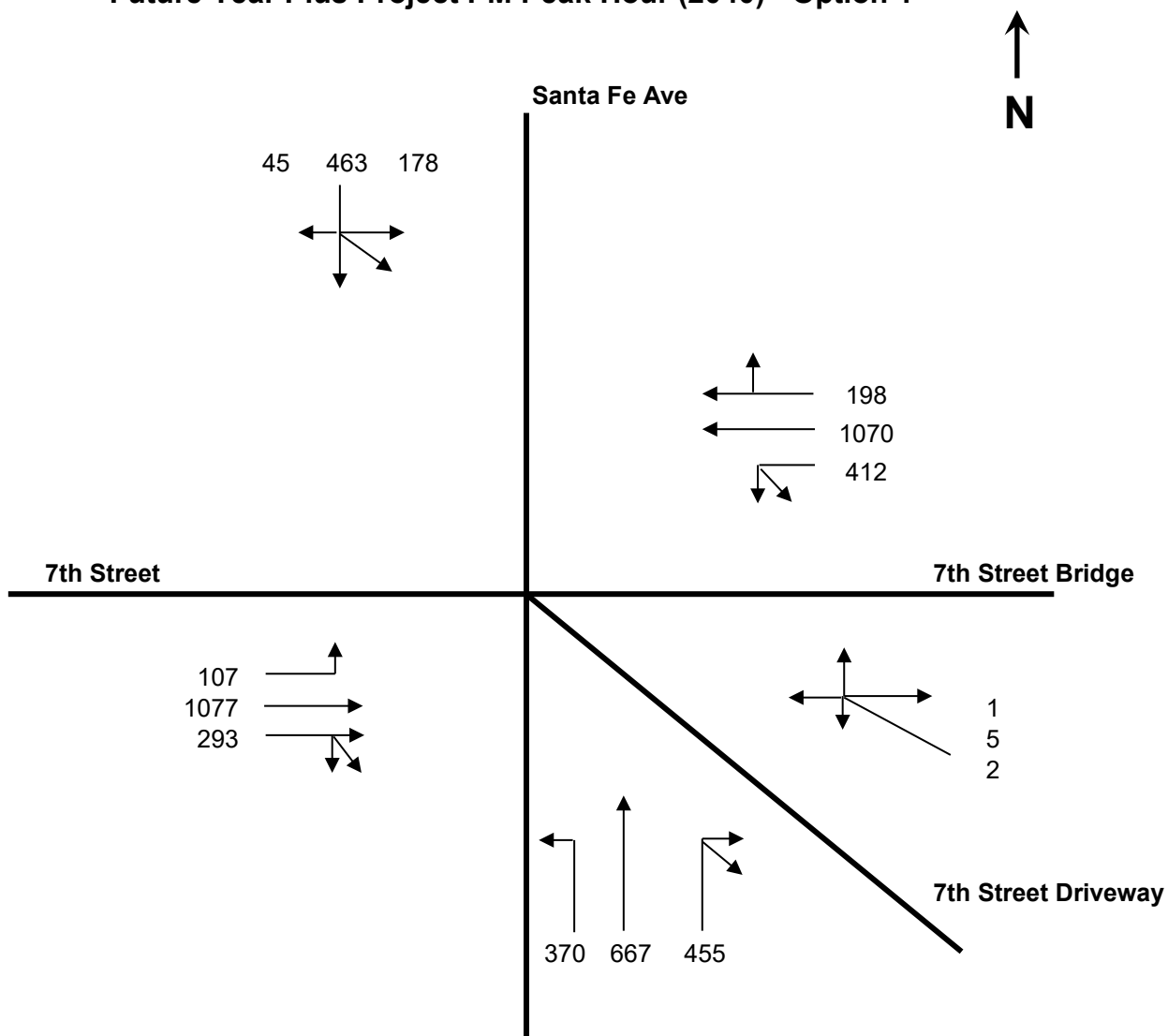
= 798

Critical Volumes = 16 + 1106 + 798 = 1,920

V/C = $\frac{1,920}{1,375}$ — 0.10 = 1.296 LOS F

Intersection 13

Future Year Plus Project PM Peak Hour (2040) - Option 1



NWB 1) $\left\{ \frac{2 + 5 + 1}{1} \right\}$

= **8**

EB-WB 2)

$\left\{ \frac{1070}{2} + \frac{198}{\text{WBR}} + \frac{107}{1\ \text{EBL}} \right\}$ or 741 $\left\{ \frac{198}{1\ \text{WBR}} + \frac{107}{1\ \text{EBL}} \right\}$ or 305

WBT

$\left\{ \frac{1077}{2} + \frac{293}{\text{EBR}} + \frac{412}{1\ \text{WBL}} \right\}$ or 1097 $\left\{ \frac{293}{1\ \text{EBR}} + \frac{412}{1\ \text{WBL}} \right\}$ 705

EBT

= **1097**

NB-SB 3)

$\left\{ \frac{178}{\text{SBL}} + \frac{463}{1\ \text{SBT}} + \frac{45}{\text{SBR}} \right\}$ + $\left\{ \frac{370}{1\ \text{NBL}} \right\}$ or 1056

$\left\{ \frac{667}{1\ \text{NBT}} + \frac{178}{1\ \text{SBL}} \right\}$ or 845 $\left\{ \frac{43}{1\ \text{NBR}} + \frac{178}{1\ \text{SBL}} \right\}$ 221 modified this for NB OVR

= **1056**

Critical Volumes = 8 + 1097 + 1056 = 2,161

V/C = $\frac{2,161}{1,375}$ – 0.10 = 1.472 LOS F

Level of Service Workheet
(Circular 212 Method)

I/S #:
14

PROJECT TITLE: 670 Mesquit
North-South Street: S Santa Fe Avenue **East-West Street:** 8th Street
Scenario: Future plus Project (2040) - Option 1

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	224	0	224	237	0	237
	Left-Through		1			1	
	Through	1042	0	**979**	750	0	**772**
	Through-Right		1			1	
	Right	19	0	979	22	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	20	0	**20**	19	0	**19**
	Left-Through		1			1	
	Through	565	1	343	998	1	537
	Through-Right		0			0	
	Right	405	1	405	338	1	338
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	240	0	240	122	0	122
	Left-Through		1			1	
	Through	8	0	248	19	0	141
	Through-Right		0			0	
	Right	293	1	**293**	393	1	**275**
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	0	**10**	14	0	**14**
	Left-Through		0			0	
	Through	11	0	37	14	0	51
	Through-Right		0			0	
	Right	16	0	0	23	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	999		*North-South:*	791
			East-West:	303		*East-West:*	289
			SUM:	1302		*SUM:*	1080
VOLUME/CAPACITY *(V/C)* RATIO:				0.868			0.720
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.768**			**0.620**
LEVEL OF SERVICE (LOS):				C			B

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
15	North-South Street:	S Santa Fe Avenue	East-West Street:	Porter Street
	Scenario:	Future plus Project (2040) - Option 1		

			AM				PM			
						3				3
		No. of Phases								
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--		0
			EB-- 3	WB--		0	EB-- 3	WB--		0
		ATSAC-1 or ATSAC+ATCS-2?				2				2
		Override Capacity				0				0
	MOVEMENT		Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left	322	1	**322**		442	1	**442**	
		Left-Through		0				0		
		Through	1007	1	517		815	1	422	
		Through-Right		1				1		
		Right	26	0	26		28	0	28	
		Left-Through-Right		0				0		
		Left-Right		0				0		
SOUTHBOUND		Left	19	1	19		16	1	16	
		Left-Through		0				0		
		Through	793	1	**444**		1167	1	**701**	
		Through-Right		1				1		
		Right	94	0	94		234	0	234	
		Left-Through-Right		0				0		
		Left-Right		0				0		
EASTBOUND		Left	240	0	**240**		133	0	**133**	
		Left-Through		1				1		
		Through	29	0	269		20	0	153	
		Through-Right		0				0		
		Right	513	1	191		402	1	0	
		Left-Through-Right		0				0		
		Left-Right		0				0		
WESTBOUND		Left	21	0	21		44	0	44	
		Left-Through		1				1		
		Through	48	0	**69**		89	0	**133**	
		Through-Right		0				0		
		Right	23	1	14		25	1	17	
		Left-Through-Right		0				0		
		Left-Right		0				0		
				North-South:	766			*North-South:*	1143	
		CRITICAL VOLUMES		*East-West:*	309			*East-West:*	266	
				SUM:	1075			*SUM:*	1409	
		VOLUME/CAPACITY *(V/C)* RATIO:			0.754				0.989	
		V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.654**				**0.889**	
		LEVEL OF SERVICE (LOS):			**B**				**D**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
16	North-South Street:	S Santa Fe Avenue	East-West Street:	Olympic Boulevard
	Scenario:	Future plus Project (2040) - Option 1		

			AM			PM		
No. of Phases				4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--		0
	EB-- 3	WB--		0	EB-- 3	WB--		0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	243	1	243	124	1	124
	Left-Through		0			0	
	Through	1104	1	**590**	1093	1	**635**
	Through-Right		1			1	
	Right	75	0	75	176	0	176
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	219	1	**219**	308	1	**308**
	Left-Through		0			0	
	Through	1082	1	550	1180	1	618
	Through-Right		1			1	
	Right	17	0	17	56	0	56
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	36	1	**36**	38	1	38
	Left-Through		0			0	
	Through	417	2	209	1049	2	**525**
	Through-Right		0			0	
	Right	324	1	81	396	1	272
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	194	1	194	96	1	**96**
	Left-Through		0			0	
	Through	1273	1	**743**	938	1	560
	Through-Right		1			1	
	Right	213	0	213	181	0	181
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	809		North-South:	943
			East-West:	779		East-West:	621
			SUM:	1588		SUM:	1564
VOLUME/CAPACITY (V/C) RATIO:				1.155			1.137
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.055**			**1.037**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
17

PROJECT TITLE: 670 Mesquit
North-South Street: S Santa Fe Avenue **East-West Street:** E 15th Street
Scenario: Future plus Project (2040) - Option 1

		AM				PM			
No. of Phases					3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	1	SB--		0	NB--	0	SB--	0
	EB--	0	WB--		0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	106	1	**106**	118	1	**118**
	Left-Through		0			0	
	Through	1291	2	646	1082	2	541
	Through-Right		0			0	
	Right	224	1	0	170	1	153
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	66	1	66	198	1	198
	Left-Through		0			0	
	Through	1380	1	**722**	1445	1	**731**
	Through-Right		1			1	
	Right	64	0	64	17	0	17
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	27	0	**27**	60	0	60
	Left-Through		1			1	
	Through	48	0	108	332	0	**287**
	Through-Right		1			1	
	Right	60	0	0	181	0	287
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	25	1	25	35	1	**35**
	Left-Through		0			0	
	Through	603	1	**603**	84	1	84
	Through-Right		0			0	
	Right	130	1	97	130	1	31
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	828		*North-South:*	849
			East-West:	630		*East-West:*	322
			SUM:	1458		*SUM:*	1171
VOLUME/CAPACITY *(V/C)* RATIO:				1.023			0.822
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.923**			**0.722**
LEVEL OF SERVICE (LOS):				**E**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
18	North-South Street:	S Rio Street	East-West Street:	E 7th Street
	Scenario:	Future plus Project (2040) - Option 1		

	AM						PM					
No. of Phases						2						2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						0						0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--			0	NB--	0	SB--			0
	EB--	0	WB--			0	EB--	0	WB--			0
ATSAC-1 or ATSAC+ATCS-2?						2						2
Override Capacity						0						0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	38	0	**38**	23	0	23
	Left-Through		1			1	
	Through	2	0	40	1	0	24
	Through-Right		0			0	
	Right	67	1	27	67	1	**50**
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	19	0	19	16	0	**16**
	Left-Through		0			0	
	Through	2	0	**34**	0	0	24
	Through-Right		0			0	
	Right	13	0	0	8	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	10	1	**10**	10	1	10
	Left-Through		0			0	
	Through	741	1	371	1510	1	**755**
	Through-Right		1			1	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	80	1	80	35	1	**35**
	Left-Through		0			0	
	Through	2113	1	**1064**	1305	1	654
	Through-Right		1			1	
	Right	14	0	14	2	0	2
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	72		North-South:	66
			East-West:	1074		East-West:	790
			SUM:	1146		SUM:	856
VOLUME/CAPACITY (V/C) RATIO:				0.764			0.571
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.664**			**0.471**
LEVEL OF SERVICE (LOS):				**B**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
19	North-South Street:	S Anderson Street	East-West Street:	E 7th Street
	Scenario:	Future plus Project (2040) - Option 1		

	AM			PM		
No. of Phases			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	14	0	14	0	0	0
	Left-Through		0			0	
	Through	1	0	**19**	0	0	**2**
	Through-Right		0			0	
	Right	4	0	0	2	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	37	0	**37**	100	0	**100**
	Left-Through		1			1	
	Through	2	0	39	0	0	100
	Through-Right		0			0	
	Right	55	1	30	79	1	43
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	51	1	**51**	72	1	**72**
	Left-Through		0			0	
	Through	744	1	376	1501	1	751
	Through-Right		1			1	
	Right	7	0	7	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	1	10	5	1	5
	Left-Through		0			0	
	Through	2139	1	**1256**	1281	1	**691**
	Through-Right		1			1	
	Right	373	0	373	101	0	101
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	56		North-South:	102
			East-West:	1307		East-West:	763
			SUM:	1363		SUM:	865
VOLUME/CAPACITY (V/C) RATIO:				0.909			0.577
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.809**			**0.477**
LEVEL OF SERVICE (LOS):				**D**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
20	North-South Street:	Boyle Avenue	East-West Street:	Whittier Boulevard
	Scenario:	Future plus Project (2040) - Option 1		

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	286	1	**286**	272	1	272
	Left-Through		0			0	
	Through	466	1	290	1000	1	**600**
	Through-Right		1			1	
	Right	114	0	114	199	0	199
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	98	1	98	98	1	**98**
	Left-Through		0			0	
	Through	474	1	**348**	374	1	216
	Through-Right		1			1	
	Right	221	0	221	58	0	58
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	27	1	27	170	1	170
	Left-Through		0			0	
	Through	361	1	**212**	963	1	**537**
	Through-Right		1			1	
	Right	63	0	63	110	0	110
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	185	1	185	54	1	54
	Left-Through		0			0	
	Through	1558	1	**854**	672	1	**420**
	Through-Right		1			1	
	Right	149	0	149	168	0	168
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	634		North-South:	698
			East-West:	1066		East-West:	957
			SUM:	1700		SUM:	1655
VOLUME/CAPACITY (V/C) RATIO:				1.236			1.204
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.136**			**1.104**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
21	North-South Street:	Boyle Avenue	East-West Street:	7th Street
	Scenario:	Future plus Project (2040) - Option 1		

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	1	NB-- 0	SB--	1
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	249	1	**249**	173	1	173
	Left-Through		0			0	
	Through	478	1	290	717	1	**426**
	Through-Right		1			1	
	Right	102	0	102	134	0	134
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	61	1	61	62	1	**62**
	Left-Through		0			0	
	Through	494	1	**427**	440	1	301
	Through-Right		1			1	
	Right	360	0	360	161	0	161
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	119	1	**119**	350	1	**350**
	Left-Through		0			0	
	Through	262	1	262	713	1	713
	Through-Right		0			0	
	Right	165	1	41	362	1	276
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	64	1	64	14	1	14
	Left-Through		0			0	
	Through	594	0	**664**	357	0	**488**
	Through-Right		1			1	
	Right	70	0	0	131	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	676		North-South:	488
			East-West:	783		East-West:	838
			SUM:	1459		SUM:	1326
VOLUME/CAPACITY (V/C) RATIO:				1.061			0.964
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.961**			**0.864**
LEVEL OF SERVICE (LOS):				**E**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
22	North-South Street:	S Alameda Street	East-West Street:	I-10 Eastbound ramps
	Scenario:	Future plus Project (2040) - Option 1		

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	3	NB-- 0	SB--	3
		EB-- 3	WB--	0	EB-- 3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	351	1	**351**	429	1	**429**
	Left-Through		0			0	
	Through	1266	2	633	1340	2	670
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	1	1	1	3	1	3
	Left-Through		0			0	
	Through	1118	2	**559**	1522	2	**761**
	Through-Right		0			0	
	Right	478	1	135	537	1	322
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	343	1	**343**	215	1	**215**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	557	1	206	374	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	1	0	0	3	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	910		*North-South:*	1190
			East-West:	343		*East-West:*	215
			SUM:	1253		*SUM:*	1405
VOLUME/CAPACITY *(V/C)* RATIO:				0.879			0.986
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.779**			**0.886**
LEVEL OF SERVICE (LOS):				C			D

Version: 1i Beta; 8/4/2011

CUMULATIVE PLUS PROJECT (2040) – OPTION 2

CMA WORKSHEETS

Level of Service Workheet
(Circular 212 Method)

I/S #:
1

PROJECT TITLE: 670 Mesquit
North-South Street: S Central Avenue **East-West Street:** 7th Street
Scenario: Future plus Project (2040) - Option 2

		AM				PM			
No. of Phases					2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--			0	NB-- 0	SB--		0
	EB-- 0	WB--			0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	61	1	**61**	90	1	90
	Left-Through		0			0	
	Through	399	1	399	1043	1	**742**
	Through-Right		1			1	
	Right	398	0	398	440	0	440
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	35	0	35	48	0	**48**
	Left-Through		1			1	
	Through	899	0	**598**	794	0	581
	Through-Right		1			1	
	Right	157	0	598	80	0	581
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	55	1	55	130	1	130
	Left-Through		0			0	
	Through	695	1	**373**	1131	1	**610**
	Through-Right		1			1	
	Right	51	0	51	88	0	88
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	408	1	**408**	414	1	**414**
	Left-Through		0			0	
	Through	1130	1	610	915	1	514
	Through-Right		1			1	
	Right	90	0	90	112	0	112
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	659		*North-South:*	790
			East-West:	781		*East-West:*	1024
			SUM:	1440		*SUM:*	1814
VOLUME/CAPACITY *(V/C)* RATIO:				0.960			1.209
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.860**			**1.109**
LEVEL OF SERVICE (LOS):				**D**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
2

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E Aliso Street/E Commercial Street
Scenario: Future plus Project (2040) - Option 2

			AM			PM		
No. of Phases				3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2				2
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	1	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	2	EB--	0	WB--	2
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1182	2	**591**	1711	2	**856**
	Through-Right		0			0	
	Right	281	1	0	481	1	423
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	221	1	**221**	328	1	**328**
	Left-Through		0			0	
	Through	1631	3	544	1198	3	399
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	87	2	48	398	2	**219**
	Left-Through		0			0	
	Through	41	1	41	72	1	72
	Through-Right		0			0	
	Right	161	1	**161**	71	1	71
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	169	1	169	117	1	117
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	267	1	**267**	252	1	**252**
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	812		*North-South:*	1184
			East-West:	428		*East-West:*	471
			SUM:	1240		*SUM:*	1655
VOLUME/CAPACITY *(V/C)* RATIO:				0.870			1.161
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.770**			**1.061**
LEVEL OF SERVICE (LOS):				C			F

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
3

PROJECT TITLE: 670 Mesquit
North-South Street: Alameda Street **East-West Street:** Temple Street
Scenario: Future plus Project (2040) - Option 2

		AM			PM		
	No. of Phases			4			4
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	2	EB-- 0	WB--	2
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	180	1	**180**	138	1	138
	Left-Through		0			0	
	Through	1253	2	627	1538	2	**769**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	11	1	11	63	1	**63**
	Left-Through		0			0	
	Through	1487	2	**744**	1144	2	572
	Through-Right		0			0	
	Right	396	1	348	289	1	154
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	96	1	96	270	1	270
	Left-Through		0			0	
	Through	111	1	111	420	1	**420**
	Through-Right		1			1	
	Right	366	0	**276**	487	0	418
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	57	1	**57**	20	1	**20**
	Left-Through		0			0	
	Through	250	1	153	182	1	139
	Through-Right		1			1	
	Right	56	0	56	95	0	95
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	924		*North-South:*	832
			East-West:	333		*East-West:*	440
			SUM:	1257		*SUM:*	1272
	VOLUME/CAPACITY *(V/C)* RATIO:			0.914			0.925
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.814**			**0.825**
	LEVEL OF SERVICE (LOS):			**D**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
4

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E 1st Street
Scenario: Future plus Project (2040) - Option 2

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		3	NB-- 3	SB--	3
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	260	1	**260**	279	1	**279**
	Left-Through		0			0	
	Through	1452	2	726	1480	2	740
	Through-Right		0			0	
	Right	56	1	40	132	1	100
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	64	1	64	101	1	101
	Left-Through		0			0	
	Through	1443	2	**722**	1409	2	**705**
	Through-Right		0			0	
	Right	211	1	81	176	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	130	1	**130**	433	1	**433**
	Left-Through		0			0	
	Through	251	1	251	772	1	772
	Through-Right		0			0	
	Right	193	1	63	360	1	221
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	16	1	16	32	1	32
	Left-Through		0			0	
	Through	772	1	**772**	497	1	**497**
	Through-Right		0			0	
	Right	123	1	91	98	1	48
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	982		*North-South:*	984
			East-West:	902		*East-West:*	930
			SUM:	1884		*SUM:*	1914
VOLUME/CAPACITY *(V/C)* RATIO:				1.322			1.343
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.222**			**1.243**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
5

PROJECT TITLE: 670 Mesquit
North-South Street: N Alameda Street **East-West Street:** E 2nd Street
Scenario: Future plus Project (2040) - Option 2

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	151	1	151	125	1	125
	Left-Through		0			0	
	Through	1423	1	**779**	1542	1	**845**
	Through-Right		1			1	
	Right	135	0	135	147	0	147
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	338	1	**338**	271	1	**271**
	Left-Through		0			0	
	Through	1226	1	656	1430	1	750
	Through-Right		1			1	
	Right	86	0	86	70	0	70
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	37	1	**37**	91	1	**91**
	Left-Through		0			0	
	Through	206	1	206	263	1	263
	Through-Right		0			0	
	Right	97	1	22	150	1	88
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	136	1	136	75	1	75
	Left-Through		0			0	
	Through	480	0	**611**	250	0	**438**
	Through-Right		1			1	
	Right	131	0	0	188	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	1117		*North-South:*	1116
			East-West:	648		*East-West:*	529
			SUM:	1765		*SUM:*	1645
VOLUME/CAPACITY *(V/C)* RATIO:				1.177			1.097
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.077**			**0.997**
LEVEL OF SERVICE (LOS):				**F**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
6

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 3rd Street/4th Place
Scenario: Future plus Project (2040) - Option 2

			AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	277	1	**277**	387	1	**387**
	Left-Through		0			0	
	Through	1310	2	655	1305	2	653
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1212	2	**606**	1543	2	**772**
	Through-Right		0			0	
	Right	140	1	140	147	1	147
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	144	0	144	165	0	165
	Left-Through		1			1	
	Through	2979	3	**781**	1388	3	**388**
	Through-Right		0			0	
	Right	467	1	467	317	1	317
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	883		*North-South:*	1159
			East-West:	781		*East-West:*	388
			SUM:	1664		*SUM:*	1547
VOLUME/CAPACITY *(V/C)* RATIO:				1.109			1.031
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.009**			**0.931**
LEVEL OF SERVICE (LOS):				**F**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
7

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 4th Street
Scenario: Future plus Project (2040) - Option 2

			AM			PM		
No. of Phases				2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	0	WB--	0	EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1253	1	**657**	1322	1	**729**
	Through-Right		1			1	
	Right	61	0	61	135	0	135
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	125	1	**125**	176	1	**176**
	Left-Through		0			0	
	Through	1325	2	663	1371	2	686
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	224	0	224	313	0	313
	Left-Through		1			1	
	Through	681	2	**302**	2038	2	**784**
	Through-Right		0			0	
	Right	231	1	231	366	1	366
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	782		*North-South:*	905
			East-West:	302		*East-West:*	784
			SUM:	1084		*SUM:*	1689
VOLUME/CAPACITY *(V/C)* RATIO:				0.723			1.126
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.623**			**1.026**
LEVEL OF SERVICE (LOS):				**B**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
8	North-South Street:	S Alameda Street	East-West Street:	6th Street
	Scenario:	Future plus Project (2040) - Option 2		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	133	1	**133**	180	1	180
	Left-Through		0			0	
	Through	1021	1	554	1293	1	**727**
	Through-Right		1			1	
	Right	87	0	87	161	0	161
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	162	1	162	206	1	**206**
	Left-Through		0			0	
	Through	1291	1	**749**	1263	1	741
	Through-Right		1			1	
	Right	207	0	207	219	0	219
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	150	1	**150**	253	1	253
	Left-Through		0			0	
	Through	536	1	373	1324	1	**756**
	Through-Right		1			1	
	Right	209	0	209	188	0	188
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	200	1	200	118	1	**118**
	Left-Through		0			0	
	Through	1323	1	**759**	607	1	357
	Through-Right		1			1	
	Right	194	0	194	107	0	107
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	882		*North-South:*	933
			East-West:	909		*East-West:*	874
			SUM:	1791		*SUM:*	1807
VOLUME/CAPACITY *(V/C)* RATIO:				1.194			1.205
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.094**			**1.105**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:
9

PROJECT TITLE: 670 Mesquit
North-South Street: S Alameda Street **East-West Street:** 7th Street
Scenario: Future plus Project (2040) - Option 2

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		**Volume**	**No. of Lanes**	**Lane Volume**	**Volume**	**No. of Lanes**	**Lane Volume**
NORTHBOUND	Left	120	1	**120**	127	1	127
	Left-Through		0			0	
	Through	843	1	508	1162	1	**661**
	Through-Right		1			1	
	Right	172	0	172	160	0	160
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	321	1	321	246	1	**246**
	Left-Through		0			0	
	Through	1250	1	**820**	1187	1	699
	Through-Right		1			1	
	Right	389	0	389	211	0	211
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	182	1	**182**	318	1	**318**
	Left-Through		0			0	
	Through	815	1	480	1157	1	665
	Through-Right		1			1	
	Right	144	0	144	173	0	173
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	184	1	184	206	1	206
	Left-Through		0			0	
	Through	1206	1	**714**	1116	1	**730**
	Through-Right		1			1	
	Right	222	0	222	343	0	343
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	940		*North-South:*	907
			East-West:	896		*East-West:*	1048
			SUM:	1836		*SUM:*	1955
VOLUME/CAPACITY *(V/C)* RATIO:				1.288			1.372
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.188**			**1.272**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Workheet
(Circular 212 Method)

I/S #:
10

PROJECT TITLE: 670 Mesquit
North-South Street: Molino Street/Merrick Street **East-West Street:** 4th Street
Scenario: Future plus Project (2040) - Option 2

			AM			PM		
					No. of Phases			3
					Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1
			NB-- 0	SB--	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0
			EB-- 0	WB--		EB-- 0	WB--	0
					ATSAC-1 or ATSAC+ATCS-2?			2
					Override Capacity			0
	MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	214	0	214	390	0	390
		Left-Through		0			0	
		Through	123	0	**357**	151	0	**553**
		Through-Right		0			0	
		Right	20	0	0	12	0	0
		Left-Through-Right		1			1	
		Left-Right		0			0	
SOUTHBOUND		Left	24	1	24	87	1	**87**
		Left-Through		0			0	
		Through	63	0	0	139	0	0
		Through-Right		0			0	
		Right	48	1	**48**	68	1	68
		Left-Through-Right		0			0	
		Left-Right		0			0	
EASTBOUND		Left	1	0	**0**	10	0	0
		Left-Through		0			0	
		Through	380	1	373	1861	2	**741**
		Through-Right		1			1	
		Right	366	0	366	362	0	362
		Left-Through-Right		0			0	
		Left-Right		0			0	
WESTBOUND		Left	16	0	0	3	0	**0**
		Left-Through		0			0	
		Through	2780	2	**961**	1125	1	612
		Through-Right		1			1	
		Right	104	0	104	99	0	99
		Left-Through-Right		0			0	
		Left-Right		0			0	
		CRITICAL VOLUMES		*North-South:*	405		*North-South:*	640
				East-West:	961		*East-West:*	741
				SUM:	1366		*SUM:*	1381
		VOLUME/CAPACITY *(V/C)* RATIO:			0.959			0.969
		V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.859**			**0.869**
		LEVEL OF SERVICE (LOS):			**D**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
11	North-South Street:	Mateo Street	East-West Street:	6th Street
	Scenario:	Future plus Project (2040) - Option 2		

					AM				PM			
No. of Phases							2					2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?							0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 2	SB--	0		NB-- 2	SB--	0	
					EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?							2					2
Override Capacity							0					0
MOVEMENT					Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left			147	0	**147**		202	0	202	
		Left-Through				0				0		
		Through			273	0	493		459	0	**881**	
		Through-Right				0				0		
		Right			73	0	0		220	0	0	
		Left-Through-Right				1				1		
		Left-Right				0				0		
SOUTHBOUND		Left			161	0	161		196	0	**196**	
		Left-Through				1				1		
		Through			371	0	**532**		373	0	569	
		Through-Right				0				0		
		Right			156	1	73		235	1	106	
		Left-Through-Right				0				0		
		Left-Right				0				0		
EASTBOUND		Left			166	1	**166**		258	1	**258**	
		Left-Through				0				0		
		Through			442	2	221		1346	2	509	
		Through-Right				1				1		
		Right			228	0	228		181	0	181	
		Left-Through-Right				0				0		
		Left-Right				0				0		
WESTBOUND		Left			216	1	216		74	1	74	
		Left-Through				0				0		
		Through			1458	1	**851**		491	1	**340**	
		Through-Right				1				1		
		Right			244	0	244		189	0	189	
		Left-Through-Right				0				0		
		Left-Right				0				0		
CRITICAL VOLUMES						*North-South:*	679			*North-South:*	1077	
						East-West:	1017			*East-West:*	598	
						SUM:	1696			*SUM:*	1675	
VOLUME/CAPACITY *(V/C)* RATIO:							1.131				1.117	
V/C LESS ATSAC/ATCS ADJUSTMENT:							**1.031**				**1.017**	
LEVEL OF SERVICE (LOS):							**F**				**F**	

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
12	North-South Street:	Mateo Street	East-West Street:	7th Street
	Scenario:	Future plus Project (2040) - Option 2		

			AM				PM			
No. of Phases					2					2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB--	0	SB--	0		NB--	0	SB--	0
		EB--	0	WB--	0		EB--	0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2					2
Override Capacity					0					0
MOVEMENT			Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left		109	0	**109**		203	0	203	
	Left-Through			0				0		
	Through		330	0	502		440	0	**771**	
	Through-Right			0				0		
	Right		63	0	0		128	0	0	
	Left-Through-Right			1				1		
	Left-Right			0				0		
SOUTHBOUND	Left		116	0	116		96	0	**96**	
	Left-Through			1				1		
	Through		439	0	**555**		346	0	442	
	Through-Right			0				0		
	Right		163	1	67		195	1	70	
	Left-Through-Right			0				0		
	Left-Right			0				0		
EASTBOUND	Left		193	1	193		251	1	**251**	
	Left-Through			0				0		
	Through		944	1	**546**		1195	1	667	
	Through-Right			1				1		
	Right		147	0	147		139	0	139	
	Left-Through-Right			0				0		
	Left-Right			0				0		
WESTBOUND	Left		385	1	**385**		168	1	168	
	Left-Through			0				0		
	Through		1296	1	697		1256	1	**707**	
	Through-Right			1				1		
	Right		97	0	97		157	0	157	
	Left-Through-Right			0				0		
	Left-Right			0				0		
CRITICAL VOLUMES				North-South:	664			North-South:	867	
				East-West:	931			East-West:	958	
				SUM:	1595			SUM:	1825	
VOLUME/CAPACITY (V/C) RATIO:					1.063				1.217	
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.963**				**1.117**	
LEVEL OF SERVICE (LOS):					**E**				**F**	

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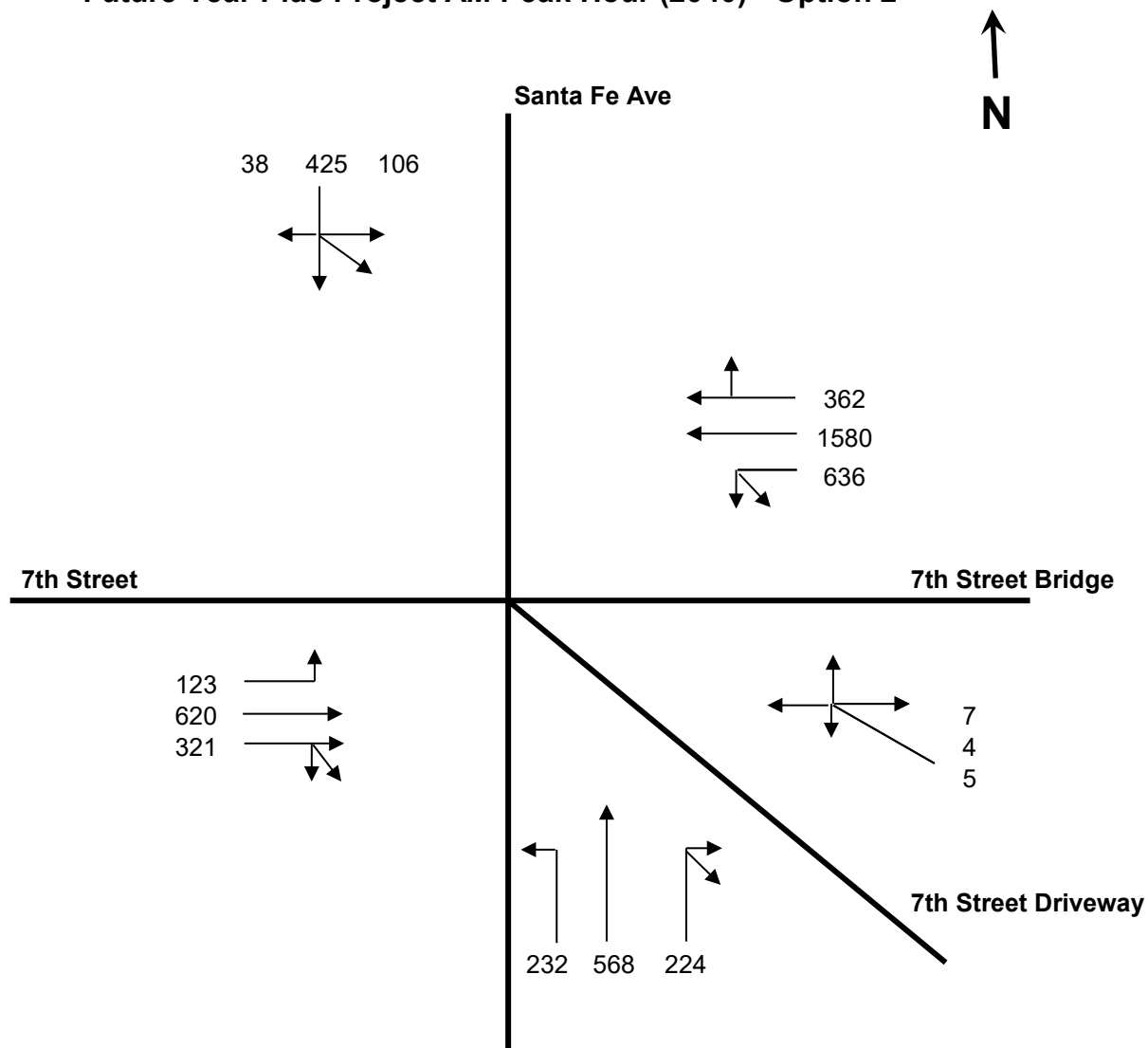
Intersection 13

Future Year Plus Project AM Peak Hour (2040) - Option 2



NWB 1) $\left\{ \frac{5 + 4 + 7}{1} \right\}$

= 16

EB-WB 2)

$\left\{ \frac{1580}{2} + \frac{362}{\text{WBR}} + \frac{123}{1} \right\}$ or 1094 (WBT, WBR, EBL)

$\left\{ \frac{362}{1} + \frac{123}{1} \right\}$ or 485 (WBR, EBL)

$\left\{ \frac{620}{2} + \frac{321}{\text{EBR}} + \frac{636}{1} \right\}$ or 1107 (EBT, EBR, WBL)

$\left\{ \frac{321}{1} + \frac{636}{1} \right\}$ 957 (EBR, WBL)

= 1107

NB-SB 3)

$\left\{ \frac{106}{\text{SBL}} + \frac{425}{1} + \frac{38}{\text{SBR}} \right\} + \left\{ \frac{232}{1} \right\}$ or 801 (NBL)

$\left\{ \frac{568}{1} + \frac{106}{1} \right\}$ or 674 (NBT, SBL)

$\left\{ \frac{0}{1} + \frac{106}{1} \right\}$ 106 (NBR, SBL) modified this for NB OVR

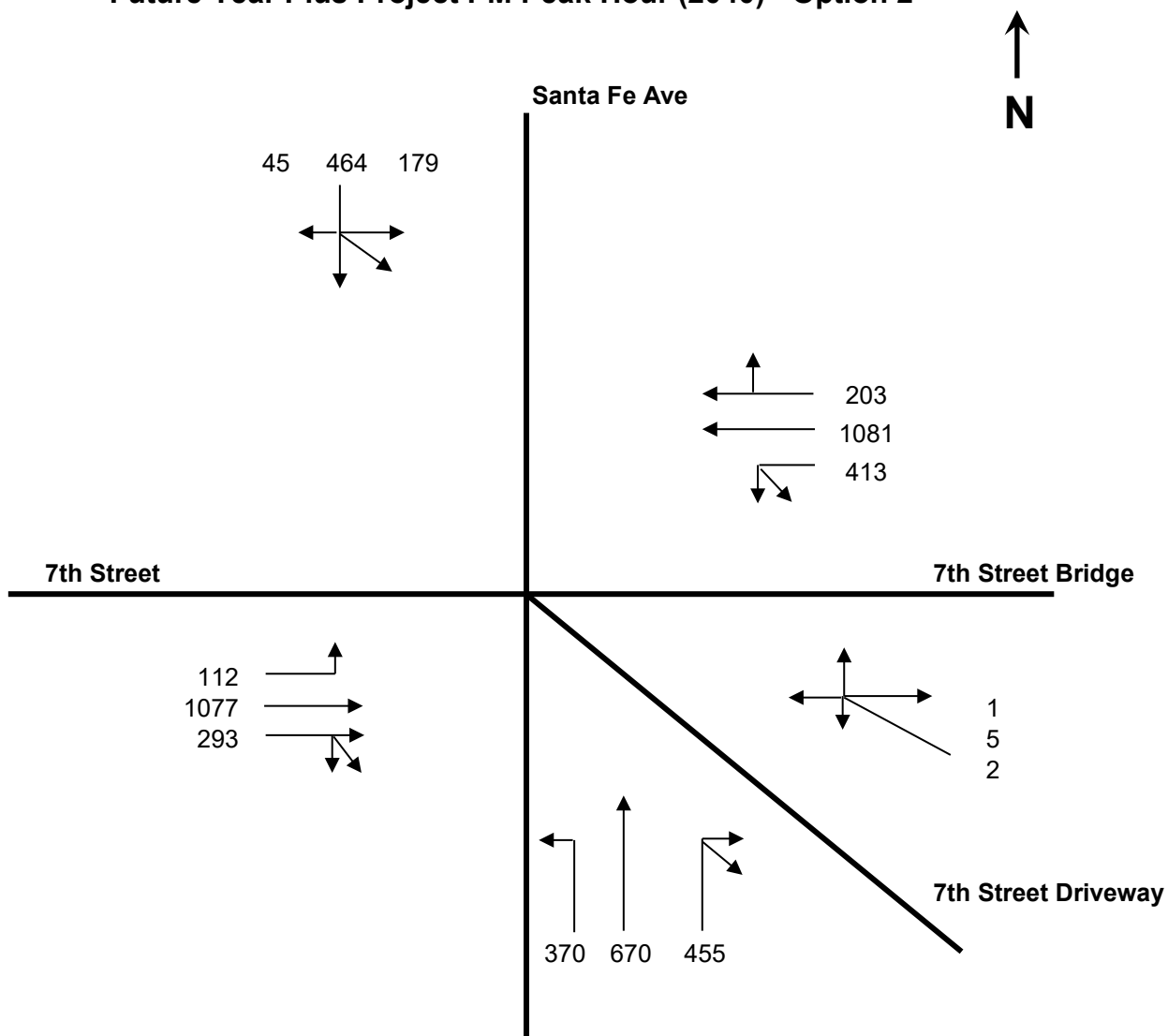
= 801

Critical Volumes = 16 + 1107 + 801 = 1,924

V/C = $\frac{1,924}{1,375}$ – 0.10 = 1.299 LOS F

Intersection 13

Future Year Plus Project PM Peak Hour (2040) - Option 2



NWB 1) $\left\{ \frac{2 + 5 + 1}{1} \right\}$

= **8**

EB-WB 2)

$\left\{ \frac{1081}{2} + \frac{203}{\text{WBR}} + \frac{112}{1} \right\}_{\text{EBL}}$ or 754 $\quad \left\{ \frac{203}{1} + \frac{112}{1} \right\}$ or 315

WBT WBR EBL WBR EBL

$\left\{ \frac{1077}{2} + \frac{293}{\text{EBR}} + \frac{413}{1} \right\}_{\text{WBL}}$ or 1098 $\quad \left\{ \frac{293}{1} + \frac{413}{1} \right\}$ 706

EBT EBR WBL EBR WBL

= **1098**

NB-SB 3)

$\left\{ \frac{179}{\text{SBL}} + \frac{464}{1} + \frac{45}{\text{SBR}} \right\}$ + $\left\{ \frac{370}{1} \right\}_{\text{NBL}}$ or 1058

$\left\{ \frac{670}{1} + \frac{179}{1} \right\}$ or 849 $\quad \left\{ \frac{42}{1} + \frac{179}{1} \right\}$ 221 modified this for NB OVR

NBT SBL NBR SBL

= **1058**

Critical Volumes = 8 + 1098 + 1058 = 2,164

V/C = $\frac{2,164}{1,375}$ – 0.10 = 1.474 LOS F

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
14	North-South Street:	S Santa Fe Avenue	East-West Street:	8th Street
	Scenario:	Future plus Project (2040) - Option 2		

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	224	0	224	237	0	237
	Left-Through		1			1	
	Through	1044	0	**980**	752	0	**774**
	Through-Right		1			1	
	Right	19	0	980	22	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	20	0	**20**	19	0	**19**
	Left-Through		1			1	
	Through	567	1	344	1000	1	538
	Through-Right		0			0	
	Right	406	1	406	338	1	338
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	240	0	240	122	0	122
	Left-Through		1			1	
	Through	8	0	248	19	0	141
	Through-Right		0			0	
	Right	293	1	**293**	393	1	**275**
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	0	**10**	14	0	**14**
	Left-Through		0			0	
	Through	11	0	37	14	0	51
	Through-Right		0			0	
	Right	16	0	0	23	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	1000		North-South:	793
			East-West:	303		East-West:	289
			SUM:	1303		SUM:	1082
	VOLUME/CAPACITY (V/C) RATIO:			0.869			0.721
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.769**			**0.621**
	LEVEL OF SERVICE (LOS):			**C**			**B**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
15	North-South Street:	S Santa Fe Avenue	East-West Street:	Porter Street
	Scenario:	Future plus Project (2040) - Option 2		

			AM				PM			
No. of Phases					3					3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0					0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--		0	NB--	0	SB--		0
	EB--	3	WB--		0	EB--	3	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2					2
Override Capacity					0					0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	322	1	**322**	442	1	**442**
	Left-Through		0			0	
	Through	1010	1	518	817	1	423
	Through-Right		1			1	
	Right	26	0	26	28	0	28
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	19	1	19	16	1	16
	Left-Through		0			0	
	Through	796	1	**445**	1169	1	**702**
	Through-Right		1			1	
	Right	94	0	94	234	0	234
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	240	0	**240**	133	0	**133**
	Left-Through		1			1	
	Through	29	0	269	20	0	153
	Through-Right		0			0	
	Right	513	1	191	402	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	21	0	21	44	0	44
	Left-Through		1			1	
	Through	48	0	**69**	89	0	**133**
	Through-Right		0			0	
	Right	23	1	14	25	1	17
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	767		North-South:	1144
			East-West:	309		East-West:	266
			SUM:	1076		SUM:	1410
VOLUME/CAPACITY (V/C) RATIO:				0.755			0.989
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.655**			**0.889**
LEVEL OF SERVICE (LOS):				**B**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
16	North-South Street:	S Santa Fe Avenue	East-West Street:	Olympic Boulevard
	Scenario:	Future plus Project (2040) - Option 2		

			AM			PM		
No. of Phases				4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	0	NB--	0	SB--	0
	EB--	3	WB--	0	EB--	3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	243	1	243	124	1	124
	Left-Through		0			0	
	Through	1107	1	**591**	1094	1	**635**
	Through-Right		1			1	
	Right	75	0	75	176	0	176
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	219	1	**219**	308	1	**308**
	Left-Through		0			0	
	Through	1085	1	551	1181	1	619
	Through-Right		1			1	
	Right	17	0	17	56	0	56
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	36	1	**36**	38	1	38
	Left-Through		0			0	
	Through	417	2	209	1049	2	**525**
	Through-Right		0			0	
	Right	324	1	81	396	1	272
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	194	1	194	96	1	**96**
	Left-Through		0			0	
	Through	1273	1	**743**	938	1	560
	Through-Right		1			1	
	Right	213	0	213	181	0	181
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	810		North-South:	943
			East-West:	779		East-West:	621
			SUM:	1589		SUM:	1564
VOLUME/CAPACITY (V/C) RATIO:				1.156			1.137
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.056**			**1.037**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
17	North-South Street:	S Santa Fe Avenue	East-West Street:	E 15th Street
	Scenario:	Future plus Project (2040) - Option 2		

			AM			PM		
No. of Phases					3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 1	SB--		0	NB-- 0	SB--	0
		EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?					2			2
Override Capacity					0			0
MOVEMENT			Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left		106	1	**106**	118	1	**118**
	Left-Through			0			0	
	Through		1292	2	646	1084	2	542
	Through-Right			0			0	
	Right		224	1	0	170	1	153
	Left-Through-Right			0			0	
	Left-Right			0			0	
SOUTHBOUND	Left		66	1	66	198	1	198
	Left-Through			0			0	
	Through		1383	1	**724**	1446	1	**732**
	Through-Right			1			1	
	Right		64	0	64	17	0	17
	Left-Through-Right			0			0	
	Left-Right			0			0	
EASTBOUND	Left		27	0	**27**	60	0	60
	Left-Through			1			1	
	Through		48	0	108	332	0	**287**
	Through-Right			1			1	
	Right		60	0	0	181	0	287
	Left-Through-Right			0			0	
	Left-Right			0			0	
WESTBOUND	Left		25	1	25	35	1	**35**
	Left-Through			0			0	
	Through		603	1	**603**	84	1	84
	Through-Right			0			0	
	Right		130	1	97	131	1	32
	Left-Through-Right			0			0	
	Left-Right			0			0	
CRITICAL VOLUMES				North-South:	830		North-South:	850
				East-West:	630		East-West:	322
				SUM:	1460		SUM:	1172
VOLUME/CAPACITY (V/C) RATIO:					1.025			0.822
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.925**			**0.722**
LEVEL OF SERVICE (LOS):					**E**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
18	North-South Street:	S Rio Street	East-West Street:	E 7th Street
	Scenario:	Future plus Project (2040) - Option 2		

	AM						PM					
No. of Phases						2						2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						0						0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--			0	NB--	0	SB--			0
	EB--	0	WB--			0	EB--	0	WB--			0
ATSAC-1 or ATSAC+ATCS-2?						2						2
Override Capacity						0						0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	38	0	**38**	23	0	23
	Left-Through		1			1	
	Through	2	0	40	1	0	24
	Through-Right		0			0	
	Right	67	1	27	67	1	**50**
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	19	0	19	16	0	**16**
	Left-Through		0			0	
	Through	2	0	**34**	0	0	24
	Through-Right		0			0	
	Right	13	0	0	8	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	10	1	**10**	10	1	10
	Left-Through		0			0	
	Through	743	1	372	1512	1	**756**
	Through-Right		1			1	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	80	1	80	35	1	**35**
	Left-Through		0			0	
	Through	2116	1	**1065**	1308	1	655
	Through-Right		1			1	
	Right	14	0	14	2	0	2
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	72		*North-South:*	66
			East-West:	1075		*East-West:*	791
			SUM:	1147		*SUM:*	857
VOLUME/CAPACITY *(V/C)* RATIO:				0.765			0.571
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.665**			**0.471**
LEVEL OF SERVICE (LOS):				**B**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
19	North-South Street:	S Anderson Street	East-West Street:	E 7th Street
	Scenario:	Future plus Project (2040) - Option 2		

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	14	0	14	0	0	0
	Left-Through		0			0	
	Through	1	0	**19**	0	0	**2**
	Through-Right		0			0	
	Right	4	0	0	2	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
SOUTHBOUND	Left	37	0	**37**	100	0	**100**
	Left-Through		1			1	
	Through	2	0	39	0	0	100
	Through-Right		0			0	
	Right	55	1	30	79	1	43
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	51	1	**51**	72	1	**72**
	Left-Through		0			0	
	Through	746	1	377	1503	1	752
	Through-Right		1			1	
	Right	7	0	7	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	10	1	10	5	1	5
	Left-Through		0			0	
	Through	2142	1	**1258**	1284	1	**693**
	Through-Right		1			1	
	Right	373	0	373	101	0	101
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	56		North-South:	102
			East-West:	1309		East-West:	765
			SUM:	1365		SUM:	867
VOLUME/CAPACITY (V/C) RATIO:				0.910			0.578
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.810**			**0.478**
LEVEL OF SERVICE (LOS):				**D**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
20	North-South Street:	Boyle Avenue	East-West Street:	Whittier Boulevard
	Scenario:	Future plus Project (2040) - Option 2		

			AM			PM		
No. of Phases				4				4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2				2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0		NB-- 0	SB--	0
		EB-- 0	WB--	0		EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0
MOVEMENT		Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	286	1	**286**		272	1	272
	Left-Through		0				0	
	Through	466	1	290		1000	1	**600**
	Through-Right		1				1	
	Right	114	0	114		199	0	199
	Left-Through-Right		0				0	
	Left-Right		0				0	
SOUTHBOUND	Left	98	1	98		98	1	**98**
	Left-Through		0				0	
	Through	474	1	**348**		374	1	216
	Through-Right		1				1	
	Right	222	0	222		58	0	58
	Left-Through-Right		0				0	
	Left-Right		0				0	
EASTBOUND	Left	27	1	27		170	1	170
	Left-Through		0				0	
	Through	364	1	**214**		967	1	**539**
	Through-Right		1				1	
	Right	63	0	63		110	0	110
	Left-Through-Right		0				0	
	Left-Right		0				0	
WESTBOUND	Left	185	1	185		54	1	54
	Left-Through		0				0	
	Through	1561	1	**855**		676	1	**422**
	Through-Right		1				1	
	Right	149	0	149		168	0	168
	Left-Through-Right		0				0	
	Left-Right		0				0	
CRITICAL VOLUMES			North-South:	634			North-South:	698
			East-West:	1069			East-West:	961
			SUM:	1703			SUM:	1659
VOLUME/CAPACITY (V/C) RATIO:				1.239				1.207
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.139**				**1.107**
LEVEL OF SERVICE (LOS):				**F**				**F**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
21	North-South Street:	Boyle Avenue	East-West Street:	7th Street
	Scenario:	Future plus Project (2040) - Option 2		

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	1	NB-- 0	SB--	1
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	249	1	**249**	173	1	173
	Left-Through		0			0	
	Through	478	1	290	717	1	**426**
	Through-Right		1			1	
	Right	102	0	102	134	0	134
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	61	1	61	62	1	**62**
	Left-Through		0			0	
	Through	494	1	**427**	440	1	301
	Through-Right		1			1	
	Right	360	0	360	161	0	161
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	119	1	**119**	350	1	**350**
	Left-Through		0			0	
	Through	263	1	263	714	1	714
	Through-Right		0			0	
	Right	165	1	41	362	1	276
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	64	1	64	14	1	14
	Left-Through		0			0	
	Through	597	0	**667**	359	0	**490**
	Through-Right		1			1	
	Right	70	0	0	131	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	676		*North-South:*	488
			East-West:	786		*East-West:*	840
			SUM:	1462		*SUM:*	1328
VOLUME/CAPACITY *(V/C)* RATIO:				1.063			0.966
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.963**			**0.866**
LEVEL OF SERVICE (LOS):				**E**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit		
22	North-South Street:	S Alameda Street	East-West Street:	I-10 Eastbound ramps
	Scenario:	Future plus Project (2040) - Option 2		

			AM			PM		
No. of Phases				3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB-- 3		NB--	0	SB--	3
	EB--	3	WB-- 0		EB--	3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2				2
Override Capacity				0				0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	351	1	**351**	429	1	**429**
	Left-Through		0			0	
	Through	1266	2	633	1340	2	670
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	1	1	1	3	1	3
	Left-Through		0			0	
	Through	1118	2	**559**	1522	2	**761**
	Through-Right		0			0	
	Right	478	1	135	537	1	322
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	343	1	**343**	215	1	**215**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	557	1	206	374	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	1	0	0	3	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	910		North-South:	1190
			East-West:	343		East-West:	215
			SUM:	1253		SUM:	1405
VOLUME/CAPACITY (V/C) RATIO:				0.879			0.986
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.779**			**0.886**
LEVEL OF SERVICE (LOS):				C			D

Version: 1i Beta; 8/4/2011

ALL SCENARIOS

UNSIGNALIZED INTERSECTION ANALYSIS

SYNCHRO WORKSHEETS

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	110	25	123	66	21	253
Future Vol, veh/h	110	25	123	66	21	253
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	27	134	72	23	275

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	491	170	0	0	206	0
Stage 1	170	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	537	874	-	-	1365	-
Stage 1	860	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	526	874	-	-	1365	-
Mov Cap-2 Maneuver	526	-	-	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	720	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	568	1365	-
HCM Lane V/C Ratio	-	-	0.258	0.017	-
HCM Control Delay (s)	-	-	13.5	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1	0.1	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	41	219	16	38	285
Future Vol, veh/h	27	41	219	16	38	285
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	45	238	17	41	310

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	639	247	0	0	255	0
Stage 1	247	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	440	792	-	-	1310	-
Stage 1	794	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	423	792	-	-	1310	-
Mov Cap-2 Maneuver	423	-	-	-	-	-
Stage 1	794	-	-	-	-	-
Stage 2	657	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	588	1310	-
HCM Lane V/C Ratio	-	-	0.126	0.032	-
HCM Control Delay (s)	-	-	12	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	61	301	24	21	252
Future Vol, veh/h	20	61	301	24	21	252
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	66	327	26	23	274

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	660	340	0	0	353	0
Stage 1	340	-	-	-	-	-
Stage 2	320	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	428	702	-	-	1206	-
Stage 1	721	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	419	702	-	-	1206	-
Mov Cap-2 Maneuver	419	-	-	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	720	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	602	1206	-
HCM Lane V/C Ratio	-	-	0.146	0.019	-
HCM Control Delay (s)	-	-	12	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	251.8

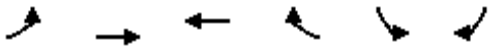
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	266	549	14	282	367
Future Vol, veh/h	15	266	549	14	282	367
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	289	597	15	307	399

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	305	0	1370	161
Stage 1	-	-	-	-	161	-
Stage 2	-	-	-	-	1209	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1256	-	~ 161	884
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	~ 283	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1256	-	~ 84	884
Mov Cap-2 Maneuver	-	-	-	-	~ 84	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	~ 147	-

Approach	EB	WB	NB
HCM Control Delay, s	0	10.2	$ 570.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	84	884	-	-	1256	-
HCM Lane V/C Ratio	3.649	0.451	-	-	0.475	-
HCM Control Delay (s)	$ 1296.3	12.4	-	-	10.4	0
HCM Lane LOS	F	B	-	-	B	A
HCM 95th %tile Q(veh)	31.5	2.4	-	-	2.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	99	49	21	344	570	204
Future Volume (Veh/h)	99	49	21	344	570	204
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	108	53	23	374	620	222
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	397				292	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	397				292	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				2	79
cM capacity (veh/h)	1162				634	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	161	23	374	413	429
Volume Left	108	0	0	413	207
Volume Right	0	0	374	0	222
cSH	1162	1700	1700	634	799
Volume to Capacity	0.09	0.01	0.22	0.65	0.54
Queue Length 95th (ft)	8	0	0	120	81
Control Delay (s)	5.9	0.0	0.0	20.7	14.6
Lane LOS	A			C	B
Approach Delay (s)	5.9	0.0		17.6	
Approach LOS				C	

Intersection Summary			
Average Delay	11.3		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	33	535	177	7
Future Vol, veh/h	0	15	33	535	177	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	36	582	192	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	850	196	200	0	-	0
Stage 1	196	-	-	-	-	-
Stage 2	654	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	331	845	1372	-	-	-
Stage 1	837	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	318	845	1372	-	-	-
Mov Cap-2 Maneuver	318	-	-	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	517	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1372	-	-	845	-	-
HCM Lane V/C Ratio	0.026	-	-	0.019	-	-
HCM Control Delay (s)	7.7	0	0	9.3	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	1	13	1	0	9	0	566	0	7	192	0
Future Vol, veh/h	7	1	13	1	0	9	0	566	0	7	192	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1	14	1	0	10	0	615	0	8	209	0
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	8.8	8.6	17.8	9.5
HCM LOS	A	A	C	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	33%	100%	0%	4%
Vol Thru, %	100%	5%	0%	0%	96%
Vol Right, %	0%	62%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	566	21	1	9	199
LT Vol	0	7	1	0	7
Through Vol	566	1	0	0	192
RT Vol	0	13	0	9	0
Lane Flow Rate	615	23	1	10	216
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.727	0.035	0.002	0.015	0.279
Departure Headway (Hd)	4.256	5.546	6.879	5.659	4.641
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	849	644	519	631	774
Service Time	2.273	3.594	4.631	3.41	2.664
HCM Lane V/C Ratio	0.724	0.036	0.002	0.016	0.279
HCM Control Delay	17.8	8.8	9.6	8.5	9.5
HCM Lane LOS	C	A	A	A	A
HCM 95th-tile Q	6.5	0.1	0	0	1.1

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	2	12	17	5	3	74	564	15	4	191	9
Future Vol, veh/h	2	2	12	17	5	3	74	564	15	4	191	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	2	13	18	5	3	80	613	16	4	208	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1006	1010	213	1010	1007	621	218	0	0	629	0	0
Stage 1	221	221	-	781	781	-	-	-	-	-	-	-
Stage 2	785	789	-	229	226	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	220	240	827	218	241	487	1352	-	-	953	-	-
Stage 1	781	720	-	388	405	-	-	-	-	-	-	-
Stage 2	386	402	-	774	717	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	199	217	827	197	218	487	1352	-	-	953	-	-
Mov Cap-2 Maneuver	199	217	-	197	218	-	-	-	-	-	-	-
Stage 1	710	716	-	353	368	-	-	-	-	-	-	-
Stage 2	343	365	-	756	713	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	24	0.9	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1352	-	-	474	217	953	-	-
HCM Lane V/C Ratio	0.059	-	-	0.037	0.125	0.005	-	-
HCM Control Delay (s)	7.8	0	-	12.9	24	8.8	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.4	0	-	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	28	23	3	1	7
Future Vol, veh/h	8	28	23	3	1	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	30	25	3	1	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	54	1	9	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	53	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	954	1084	1611	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	939	1084	1611	-	-	-
Mov Cap-2 Maneuver	939	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	6.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1611	-	1048	-	-
HCM Lane V/C Ratio	0.016	-	0.037	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	260	144	2	2243	0	0	0	0	14	0	146
Future Vol, veh/h	0	260	144	2	2243	0	0	0	0	14	0	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	283	157	2	2438	0	0	0	0	15	0	159

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	440	0	0		2584	-	1219
Stage 1	-	-	-	-	-	-		2442	-	-
Stage 2	-	-	-	-	-	-		142	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	1116	-	0		21	0	172
Stage 1	0	-	-	-	-	0		51	0	-
Stage 2	0	-	-	-	-	0		870	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	1116	-	-		21	0	172
Mov Cap-2 Maneuver	-	-	-	-	-	-		21	0	-
Stage 1	-	-	-	-	-	-		51	0	-
Stage 2	-	-	-	-	-	-		870	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	125.8
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1116	-	21	172
HCM Lane V/C Ratio	-	-	0.002	-	0.725	0.923
HCM Control Delay (s)	-	-	8.2	-	$ 358.9	103.4
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	2.1	6.9

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	125	207	0	511	951	0
Future Vol, veh/h	125	207	0	511	951	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	225	0	555	1034	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1312	517	-	0	-	0
Stage 1	1034	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	150	503	0	-	-	0
Stage 1	304	-	0	-	-	0
Stage 2	744	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	150	503	-	-	-	-
Mov Cap-2 Maneuver	150	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	744	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	52.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	150	503	-
HCM Lane V/C Ratio	-	0.906	0.447	-
HCM Control Delay (s)	-	109	17.8	-
HCM Lane LOS	-	F	C	-
HCM 95th %tile Q(veh)	-	6.3	2.3	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	20	223	212	37	198
Future Vol, veh/h	27	20	223	212	37	198
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	22	242	230	40	215

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	652	357	0	0	472	0
Stage 1	357	-	-	-	-	-
Stage 2	295	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	433	687	-	-	1090	-
Stage 1	708	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	415	687	-	-	1090	-
Mov Cap-2 Maneuver	415	-	-	-	-	-
Stage 1	708	-	-	-	-	-
Stage 2	723	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	499	1090	-
HCM Lane V/C Ratio	-	-	0.102	0.037	-
HCM Control Delay (s)	-	-	13	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	29	367	24	22	251
Future Vol, veh/h	12	29	367	24	22	251
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	32	399	26	24	273

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	733	412	0	0	425	0
Stage 1	412	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	388	640	-	-	1134	-
Stage 1	669	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	378	640	-	-	1134	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	669	-	-	-	-	-
Stage 2	717	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	532	1134	-
HCM Lane V/C Ratio	-	-	0.084	0.021	-
HCM Control Delay (s)	-	-	12.4	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	28	161	18	29	388
Future Vol, veh/h	13	28	161	18	29	388
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	30	175	20	32	422

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	671	185	0	0	195	0
Stage 1	185	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	422	857	-	-	1378	-
Stage 1	847	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	409	857	-	-	1378	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	599	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	636	1378	-
HCM Lane V/C Ratio	-	-	0.07	0.023	-
HCM Control Delay (s)	-	-	11.1	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	95.4

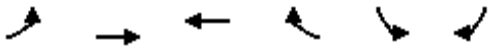
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	9	207	338	37	341	424
Future Vol, veh/h	9	207	338	37	341	424
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	225	367	40	371	461

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	235	0	897	123
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	774	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1332	-	~ 310	928
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	455	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1332	-	~ 223	928
Mov Cap-2 Maneuver	-	-	-	-	~ 223	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	~ 327	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.9	165.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	223	928	-	-	1332	-
HCM Lane V/C Ratio	1.662	0.497	-	-	0.276	-
HCM Control Delay (s)	$ 355.2	12.6	-	-	8.7	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	24.2	2.8	-	-	1.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	173	157	39	532	231	67
Future Volume (Veh/h)	173	157	39	532	231	67
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	188	171	42	578	251	73
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	620				589	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620				589	42
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	80				34	93
cM capacity (veh/h)	960				379	1029

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	359	42	578	167	157
Volume Left	188	0	0	167	84
Volume Right	0	0	578	0	73
cSH	960	1700	1700	379	537
Volume to Capacity	0.20	0.02	0.34	0.44	0.29
Queue Length 95th (ft)	18	0	0	55	30
Control Delay (s)	6.1	0.0	0.0	21.8	14.4
Lane LOS	A			C	B
Approach Delay (s)	6.1	0.0		18.3	
Approach LOS				C	

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	13	17	426	294	8
Future Vol, veh/h	12	13	17	426	294	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	14	18	463	320	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	824	325	329	0	-	0
Stage 1	325	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	343	716	1231	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	336	716	1231	-	-	-
Mov Cap-2 Maneuver	336	-	-	-	-	-
Stage 1	717	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1231	-	336	716	-	-
HCM Lane V/C Ratio	0.015	-	0.039	0.02	-	-
HCM Control Delay (s)	8	0	16.1	10.1	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	1	0	2	0	432	0	2	299	2
Future Vol, veh/h	0	0	0	1	0	2	0	432	0	2	299	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	1	0	2	0	470	0	2	325	2
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	0	8.7	12.3	10.3
HCM LOS	-	A	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	1%
Vol Thru, %	100%	100%	0%	0%	99%
Vol Right, %	0%	0%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	432	0	1	2	303
LT Vol	0	0	1	0	2
Through Vol	432	0	0	0	299
RT Vol	0	0	0	2	2
Lane Flow Rate	470	0	1	2	329
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.546	0	0.002	0.003	0.402
Departure Headway (Hd)	4.184	5.745	6.736	5.519	4.397
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	850	0	533	650	823
Service Time	2.279	3.761	4.452	3.235	2.397
HCM Lane V/C Ratio	0.553	0	0.002	0.003	0.4
HCM Control Delay	12.3	8.8	9.5	8.3	10.3
HCM Lane LOS	B	N	A	A	B
HCM 95th-tile Q	3.4	0	0	0	2

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	3	70	9	3	3	30	418	5	3	283	15
Future Vol, veh/h	18	3	70	9	3	3	30	418	5	3	283	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	3	76	10	3	3	33	454	5	3	308	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	848	847	316	885	853	457	324	0	0	459	0	0
Stage 1	322	322	-	523	523	-	-	-	-	-	-	-
Stage 2	526	525	-	362	330	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	281	299	724	266	296	604	1236	-	-	1102	-	-
Stage 1	690	651	-	537	530	-	-	-	-	-	-	-
Stage 2	535	529	-	657	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	269	287	724	229	284	604	1236	-	-	1102	-	-
Mov Cap-2 Maneuver	269	287	-	229	284	-	-	-	-	-	-	-
Stage 1	665	649	-	518	511	-	-	-	-	-	-	-
Stage 2	510	510	-	583	644	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	19	0.5	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1236	-	-	523	274	1102	-	-
HCM Lane V/C Ratio	0.026	-	-	0.189	0.06	0.003	-	-
HCM Control Delay (s)	8	0	-	13.5	19	8.3	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.2	0	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	6	24	1	1	14
Future Vol, veh/h	4	6	24	1	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	7	26	1	1	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	54	1	16	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	53	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	954	1084	1602	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	939	1084	1602	-	-	-
Mov Cap-2 Maneuver	939	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1602	-	1021	-	-
HCM Lane V/C Ratio	0.016	-	0.011	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1005	139	1	686	0	0	0	0	69	0	90
Future Vol, veh/h	0	1005	139	1	686	0	0	0	0	69	0	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1092	151	1	746	0	0	0	0	75	0	98

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	1243	0	0			1294	-	373
Stage 1	-	-	-	-	-	-			748	-	-
Stage 2	-	-	-	-	-	-			546	-	-
Critical Hdwy	-	-	-	4.14	-	-			6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-			5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-			3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	556	-	0			154	0	624
Stage 1	0	-	-	-	-	0			429	0	-
Stage 2	0	-	-	-	-	0			544	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	556	-	-			154	0	624
Mov Cap-2 Maneuver	-	-	-	-	-	-			154	0	-
Stage 1	-	-	-	-	-	-			429	0	-
Stage 2	-	-	-	-	-	-			542	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	27.9
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	556	-	154	624
HCM Lane V/C Ratio	-	-	0.002	-	0.487	0.157
HCM Control Delay (s)	-	-	11.5	-	48.8	11.8
HCM Lane LOS	-	-	B	-	E	B
HCM 95th %tile Q(veh)	-	-	0	-	2.3	0.6

Intersection	
Int Delay, s/veh	33

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	273	112	0	815	543	0
Future Vol, veh/h	273	112	0	815	543	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	297	122	0	886	590	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1033	295	-	0	-	0
Stage 1	590	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	~ 228	701	0	-	-	0
Stage 1	517	-	0	-	-	0
Stage 2	614	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 228	701	-	-	-	-
Mov Cap-2 Maneuver	~ 228	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	614	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	149.5	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	228	701	-
HCM Lane V/C Ratio	-	1.301	0.174	-
HCM Control Delay (s)	-	206.3	11.2	-
HCM Lane LOS	-	F	B	-
HCM 95th %tile Q(veh)	-	15.7	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	25	468	88	21	569
Future Vol, veh/h	1	25	468	88	21	569
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	27	509	96	23	618

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1221	557	0	0	605	0
Stage 1	557	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	199	530	-	-	973	-
Stage 1	574	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	192	530	-	-	973	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	574	-	-	-	-	-
Stage 2	494	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	496	973	-
HCM Lane V/C Ratio	-	-	0.057	0.023	-
HCM Control Delay (s)	-	-	12.7	8.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	42	655	93	39	601
Future Vol, veh/h	32	42	655	93	39	601
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	46	712	101	42	653

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1500	763	0	0	813	0
Stage 1	763	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	134	404	-	-	814	-
Stage 1	460	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	123	404	-	-	814	-
Mov Cap-2 Maneuver	123	-	-	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	435	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33.9	0	0.6
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	203	814	-
HCM Lane V/C Ratio	-	-	0.396	0.052	-
HCM Control Delay (s)	-	-	33.9	9.7	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	1.8	0.2	-

Intersection	
Int Delay, s/veh	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	94	489	24	210	898
Future Vol, veh/h	20	94	489	24	210	898
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	102	532	26	228	976

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1977	545	0	0	558	0
Stage 1	545	-	-	-	-	-
Stage 2	1432	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	68	538	-	-	1013	-
Stage 1	581	-	-	-	-	-
Stage 2	220	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	35	538	-	-	1013	-
Mov Cap-2 Maneuver	35	-	-	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	112	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	87.8	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	153	1013	-
HCM Lane V/C Ratio	-	-	0.81	0.225	-
HCM Control Delay (s)	-	-	87.8	9.6	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	5.2	0.9	-

Intersection	
Int Delay, s/veh	415.3

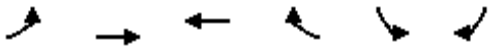
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	442	595	15	281	524
Future Vol, veh/h	23	442	595	15	281	524
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	480	647	16	305	570

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	505	0	1575	265
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	1310	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1060	-	~ 121	774
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	~ 252	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1060	-	~ 46	774
Mov Cap-2 Maneuver	-	-	-	-	~ 46	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	~ 97	-

Approach	EB	WB	NB
HCM Control Delay, s	0	13.2	$ 960
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	46	774	-	-	1060	-
HCM Lane V/C Ratio	6.64	0.736	-	-	0.61	-
HCM Control Delay (s)	$ 2710.2	21.4	-	-	13.6	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	35.6	6.6	-	-	4.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	168	91	20	425	773	253
Future Volume (Veh/h)	168	91	20	425	773	253
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	183	99	22	462	840	275
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	484				487	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	484				487	22
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				0	74
cM capacity (veh/h)	1079				448	1055

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	282	22	462	560	555
Volume Left	183	0	0	560	280
Volume Right	0	0	462	0	275
cSH	1079	1700	1700	448	627
Volume to Capacity	0.17	0.01	0.27	1.25	0.89
Queue Length 95th (ft)	15	0	0	577	266
Control Delay (s)	6.4	0.0	0.0	156.9	39.3
Lane LOS	A			F	E
Approach Delay (s)	6.4	0.0		98.4	
Approach LOS				F	

Intersection Summary				
Average Delay	59.3			
Intersection Capacity Utilization	57.4%	ICU Level of Service		B
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	47	34	702	412	12
Future Vol, veh/h	45	47	34	702	412	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	51	37	763	448	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1292	455	461	0	-	0
Stage 1	455	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	180	605	1100	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	170	605	1100	-	-	-
Mov Cap-2 Maneuver	170	-	-	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	425	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.8	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1100	-	170	605	-	-
HCM Lane V/C Ratio	0.034	-	0.288	0.084	-	-
HCM Control Delay (s)	8.4	0	34.5	11.5	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	0.3	-	-

Intersection	
Intersection Delay, s/veh	41.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	1	13	1	0	9	0	733	0	7	459	0
Future Vol, veh/h	7	1	13	1	0	9	0	733	0	7	459	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1	14	1	0	10	0	797	0	8	499	0
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.9	9.7	57.7	18
HCM LOS	A	A	F	C

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	33%	100%	0%	2%
Vol Thru, %	100%	5%	0%	0%	98%
Vol Right, %	0%	62%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	733	21	1	9	466
LT Vol	0	7	1	0	7
Through Vol	733	1	0	0	459
RT Vol	0	13	0	9	0
Lane Flow Rate	797	23	1	10	507
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.017	0.041	0.002	0.018	0.686
Departure Headway (Hd)	4.595	6.64	8	6.766	4.874
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	789	543	450	532	740
Service Time	2.642	4.64	5.7	4.466	2.931
HCM Lane V/C Ratio	1.01	0.042	0.002	0.019	0.685
HCM Control Delay	57.7	9.9	10.7	9.6	18
HCM Lane LOS	F	A	B	A	C
HCM 95th-tile Q	18	0.1	0	0.1	5.5

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	2	67	17	5	3	79	720	15	4	447	20
Future Vol, veh/h	13	2	67	17	5	3	79	720	15	4	447	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	2	73	18	5	3	86	783	16	4	486	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1472	1476	497	1506	1479	791	508	0	0	799	0	0
Stage 1	505	505	-	963	963	-	-	-	-	-	-	-
Stage 2	967	971	-	543	516	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	105	126	573	99	126	390	1057	-	-	824	-	-
Stage 1	549	540	-	307	334	-	-	-	-	-	-	-
Stage 2	306	331	-	524	534	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	88	107	573	75	107	390	1057	-	-	824	-	-
Mov Cap-2 Maneuver	88	107	-	75	107	-	-	-	-	-	-	-
Stage 1	468	536	-	262	285	-	-	-	-	-	-	-
Stage 2	254	282	-	452	530	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.9	62.3	0.8	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1057	-	-	289	89	824	-	-
HCM Lane V/C Ratio	0.081	-	-	0.308	0.305	0.005	-	-
HCM Control Delay (s)	8.7	0	-	22.9	62.3	9.4	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.3	1.1	0	-	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	28	23	3	1	7
Future Vol, veh/h	8	28	23	3	1	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	30	25	3	1	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	54	1	9	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	53	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	954	1084	1611	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	939	1084	1611	-	-	-
Mov Cap-2 Maneuver	939	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	6.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1611	-	1048	-	-
HCM Lane V/C Ratio	0.016	-	0.037	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	28.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	396	342	2	2059	0	0	0	0	14	0	281
Future Vol, veh/h	0	396	342	2	2059	0	0	0	0	14	0	281
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	430	372	2	2238	0	0	0	0	15	0	305

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	802	0	0		2457	-	1119
Stage 1	-	-	-	-	-	-		2242	-	-
Stage 2	-	-	-	-	-	-		215	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	817	-	0		25	0	~ 201
Stage 1	0	-	-	-	-	0		66	0	-
Stage 2	0	-	-	-	-	0		800	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	817	-	-		25	0	~ 201
Mov Cap-2 Maneuver	-	-	-	-	-	-		25	0	-
Stage 1	-	-	-	-	-	-		66	0	-
Stage 2	-	-	-	-	-	-		800	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	299.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	817	-	25	201
HCM Lane V/C Ratio	-	-	0.003	-	0.609	1.52
HCM Control Delay (s)	-	-	9.4	-	278.2$	300.8
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	1.9	19.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	127	210	0	1210	622	0
Future Vol, veh/h	127	210	0	1210	622	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	138	228	0	1315	676	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1334	338	-	0	-	0
Stage 1	676	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	145	658	0	-	-	0
Stage 1	467	-	0	-	-	0
Stage 2	477	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	145	658	-	-	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	54.5	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	145	658	-
HCM Lane V/C Ratio	-	0.952	0.347	-
HCM Control Delay (s)	-	122.7	13.3	-
HCM Lane LOS	-	F	B	-
HCM 95th %tile Q(veh)	-	6.8	1.5	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	20	702	50	38	689
Future Vol, veh/h	27	20	702	50	38	689
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	22	763	54	41	749

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1621	790	0	0	817	0
Stage 1	790	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	113	390	-	-	811	-
Stage 1	447	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	390	-	-	811	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	447	-	-	-	-	-
Stage 2	391	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	40.9	0	0.5
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	150	811	-
HCM Lane V/C Ratio	-	-	0.341	0.051	-
HCM Control Delay (s)	-	-	40.9	9.7	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	1.4	0.2	-

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	29	809	33	22	826
Future Vol, veh/h	44	29	809	33	22	826
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	32	879	36	24	898

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1843	897	0	0	915	0
Stage 1	897	-	-	-	-	-
Stage 2	946	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	83	339	-	-	745	-
Stage 1	398	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	78	339	-	-	745	-
Mov Cap-2 Maneuver	78	-	-	-	-	-
Stage 1	398	-	-	-	-	-
Stage 2	353	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	92.2	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	112	745	-
HCM Lane V/C Ratio	-	-	0.708	0.032	-
HCM Control Delay (s)	-	-	92.2	10	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	3.8	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	71	600	18	62	615
Future Vol, veh/h	13	71	600	18	62	615
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	77	652	20	67	668

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1464	662	0	0	672	0
Stage 1	662	-	-	-	-	-
Stage 2	802	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	141	462	-	-	919	-
Stage 1	513	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	125	462	-	-	919	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	513	-	-	-	-	-
Stage 2	390	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.3	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	326	919	-
HCM Lane V/C Ratio	-	-	0.28	0.073	-
HCM Control Delay (s)	-	-	20.3	9.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0.2	-

Intersection	
Int Delay, s/veh	438.9

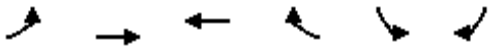
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	347	593	46	302	433
Future Vol, veh/h	22	347	593	46	302	433
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	377	645	50	328	471

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	401	0	1553	213
Stage 1	-	-	-	-	213	-
Stage 2	-	-	-	-	1340	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1158	-	~ 125	827
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	~ 244	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1158	-	~ 53	827
Mov Cap-2 Maneuver	-	-	-	-	~ 53	-
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	~ 104	-

Approach	EB	WB	NB
HCM Control Delay, s	0	11.1	$ 1031.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	53	827	-	-	1158	-
HCM Lane V/C Ratio	6.194	0.569	-	-	0.557	-
HCM Control Delay (s)	$ 2488.4	14.9	-	-	11.9	0
HCM Lane LOS	F	B	-	-	B	A
HCM 95th %tile Q(veh)	37.7	3.7	-	-	3.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	251	109	21	672	474	148
Future Volume (Veh/h)	251	109	21	672	474	148
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	273	118	23	730	515	161
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	753				687	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	753				687	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	68				0	85
cM capacity (veh/h)	857				281	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	391	23	730	343	333
Volume Left	273	0	0	343	172
Volume Right	0	0	730	0	161
cSH	857	1700	1700	281	436
Volume to Capacity	0.32	0.01	0.43	1.22	0.76
Queue Length 95th (ft)	34	0	0	397	161
Control Delay (s)	8.9	0.0	0.0	165.0	35.3
Lane LOS	A			F	E
Approach Delay (s)	8.9	0.0		101.2	
Approach LOS				F	

Intersection Summary			
Average Delay	39.5		
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	13	17	706	489	40
Future Vol, veh/h	21	13	17	706	489	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	14	18	767	532	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1357	554	575	0	-	0
Stage 1	554	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	164	532	998	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	159	532	998	-	-	-
Mov Cap-2 Maneuver	159	-	-	-	-	-
Stage 1	557	-	-	-	-	-
Stage 2	441	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	998	-	159	532	-	-
HCM Lane V/C Ratio	0.019	-	0.144	0.027	-	-
HCM Control Delay (s)	8.7	0	31.4	12	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	34.5
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	1	0	2	0	712	0	2	494	2
Future Vol, veh/h	0	0	0	1	0	2	0	712	0	2	494	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	1	0	2	0	774	0	2	537	2
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	0	9.8	45.8	18.5
HCM LOS	-	A	E	C

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	99%
Vol Right, %	0%	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	712	0	1	2	498
LT Vol	0	0	1	0	2
Through Vol	712	0	0	0	494
RT Vol	0	0	0	2	2
Lane Flow Rate	774	0	1	2	541
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.97	0	0.002	0.004	0.71
Departure Headway (Hd)	4.512	6.787	7.776	6.546	4.723
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	805	0	457	542	763
Service Time	2.539	4.884	5.574	4.343	2.754
HCM Lane V/C Ratio	0.961	0	0.002	0.004	0.709
HCM Control Delay	45.8	9.9	10.6	9.4	18.5
HCM Lane LOS	E	N	B	A	C
HCM 95th-tile Q	15.6	0	0	0	6

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	3	74	9	3	3	12	685	5	3	464	29
Future Vol, veh/h	31	3	74	9	3	3	12	685	5	3	464	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	3	80	10	3	3	13	745	5	3	504	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1303	1302	520	1342	1316	748	536	0	0	750	0	0
Stage 1	526	526	-	774	774	-	-	-	-	-	-	-
Stage 2	777	776	-	568	542	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	138	161	556	129	158	412	1032	-	-	859	-	-
Stage 1	535	529	-	391	408	-	-	-	-	-	-	-
Stage 2	390	407	-	508	520	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	132	157	556	106	154	412	1032	-	-	859	-	-
Mov Cap-2 Maneuver	132	157	-	106	154	-	-	-	-	-	-	-
Stage 1	523	526	-	382	399	-	-	-	-	-	-	-
Stage 2	375	398	-	430	517	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27	35.6	0.1	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1032	-	-	279	134	859	-	-
HCM Lane V/C Ratio	0.013	-	-	0.421	0.122	0.004	-	-
HCM Control Delay (s)	8.5	0	-	27	35.6	9.2	0	-
HCM Lane LOS	A	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2	0.4	0	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	6	24	1	1	14
Future Vol, veh/h	4	6	24	1	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	7	26	1	1	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	54	1	16	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	53	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	954	1084	1602	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	939	1084	1602	-	-	-
Mov Cap-2 Maneuver	939	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1602	-	1021	-	-
HCM Lane V/C Ratio	0.016	-	0.011	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1068	387	1	1043	0	0	0	0	70	0	178
Future Vol, veh/h	0	1068	387	1	1043	0	0	0	0	70	0	178
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1161	421	1	1134	0	0	0	0	76	0	193

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	1582	0	0			1717	-	567
Stage 1	-	-	-	-	-	-			1136	-	-
Stage 2	-	-	-	-	-	-			581	-	-
Critical Hdwy	-	-	-	4.14	-	-			6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-			5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-			3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	412	-	0			81	0	467
Stage 1	0	-	-	-	-	0			268	0	-
Stage 2	0	-	-	-	-	0			522	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	412	-	-			80	0	467
Mov Cap-2 Maneuver	-	-	-	-	-	-			80	0	-
Stage 1	-	-	-	-	-	-			268	0	-
Stage 2	-	-	-	-	-	-			518	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	63.3
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	412	-	80	467
HCM Lane V/C Ratio	-	-	0.003	-	0.951	0.414
HCM Control Delay (s)	-	-	13.8	-	178.2	18.1
HCM Lane LOS	-	-	B	-	F	C
HCM 95th %tile Q(veh)	-	-	0	-	5.1	2

Intersection	
Int Delay, s/veh	32.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	241	114	0	996	570	0
Future Vol, veh/h	241	114	0	996	570	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	262	124	0	1083	620	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1162	310	-	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	~ 188	686	0	-	-	0
Stage 1	499	-	0	-	-	0
Stage 2	547	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 188	686	-	-	-	-
Mov Cap-2 Maneuver	~ 188	-	-	-	-	-
Stage 1	499	-	-	-	-	-
Stage 2	547	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	175.8	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	188	686	-
HCM Lane V/C Ratio	-	1.393	0.181	-
HCM Control Delay (s)	-	253.5	11.4	-
HCM Lane LOS	-	F	B	-
HCM 95th %tile Q(veh)	-	15.6	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	25	497	103	21	626
Future Vol, veh/h	1	25	497	103	21	626
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	27	540	112	23	680

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1322	596	0	0	652	0
Stage 1	596	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	173	504	-	-	935	-
Stage 1	550	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	166	504	-	-	935	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	460	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	467	935	-
HCM Lane V/C Ratio	-	-	0.061	0.024	-
HCM Control Delay (s)	-	-	13.2	8.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	48	79	662	93	39	658
Future Vol, veh/h	48	79	662	93	39	658
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	86	720	101	42	715

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1570	771	0	0	821	0
Stage 1	771	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	122	400	-	-	808	-
Stage 1	456	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	112	400	-	-	808	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	405	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	53.7	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	203	808	-
HCM Lane V/C Ratio	-	-	0.68	0.052	-
HCM Control Delay (s)	-	-	53.7	9.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	4.2	0.2	-

Intersection	
Int Delay, s/veh	3964.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	79	144	507	176	351	898
Future Vol, veh/h	79	144	507	176	351	898
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	157	551	191	382	976

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2387	647	0	0	742	0
Stage 1	647	-	-	-	-	-
Stage 2	1740	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 37	471	-	-	865	-
Stage 1	521	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 1	471	-	-	865	-
Mov Cap-2 Maneuver	~ 1	-	-	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	~ 5	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 38290.2	0	3.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	3	865	-
HCM Lane V/C Ratio	-	-	80.797	0.441	-
HCM Control Delay (s)	-	-	$ 38290.2	12.4	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	32.7	2.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	420.7

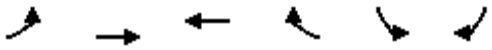
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	447	599	15	281	541
Future Vol, veh/h	23	447	599	15	281	541
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	486	651	16	305	588

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	511	0	1586	268
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	1318	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1054	-	~ 119	771
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	~ 250	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1054	-	~ 45	771
Mov Cap-2 Maneuver	-	-	-	-	~ 45	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	~ 94	-

Approach	EB	WB	NB
HCM Control Delay, s	0	13.4	$ 965.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	45	771	-	-	1054	-
HCM Lane V/C Ratio	6.787	0.763	-	-	0.618	-
HCM Control Delay (s)	$ 2780	23	-	-	13.8	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	35.8	7.3	-	-	4.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	175	91	20	433	810	253
Future Volume (Veh/h)	175	91	20	433	810	253
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	190	99	22	471	880	275
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	493				501	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	493				501	22
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				0	74
cM capacity (veh/h)	1071				436	1055

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	289	22	471	587	568
Volume Left	190	0	0	587	293
Volume Right	0	0	471	0	275
cSH	1071	1700	1700	436	609
Volume to Capacity	0.18	0.01	0.28	1.35	0.93
Queue Length 95th (ft)	16	0	0	676	308
Control Delay (s)	6.6	0.0	0.0	196.6	48.1
Lane LOS	A			F	E
Approach Delay (s)	6.6	0.0		123.5	
Approach LOS				F	

Intersection Summary			
Average Delay	74.6		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	47	87	762	490	12
Future Vol, veh/h	45	47	87	762	490	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	51	95	828	533	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1558	540	546	0	-	0
Stage 1	540	-	-	-	-	-
Stage 2	1018	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	124	542	1023	-	-	-
Stage 1	584	-	-	-	-	-
Stage 2	349	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	103	542	1023	-	-	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	484	-	-	-	-	-
Stage 2	349	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	39.6	0.9	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1023	-	103	542	-	-
HCM Lane V/C Ratio	0.092	-	0.475	0.094	-	-
HCM Control Delay (s)	8.9	0	68.2	12.3	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	2.1	0.3	-	-

Intersection	
Intersection Delay, s/veh	137.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	107	37	31	0	119	0	753	4	65	488	0
Future Vol, veh/h	7	107	37	31	0	119	0	753	4	65	488	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	116	40	34	0	129	0	818	4	71	530	0
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	16.8	14.3	226.5	81.8
HCM LOS	C	B	F	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	5%	100%	0%	12%
Vol Thru, %	99%	71%	0%	0%	88%
Vol Right, %	1%	25%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	757	151	31	119	553
LT Vol	0	7	31	0	65
Through Vol	753	107	0	0	488
RT Vol	4	37	0	119	0
Lane Flow Rate	823	164	34	129	601
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.439	0.357	0.083	0.275	1.056
Departure Headway (Hd)	6.526	8.895	9.857	8.602	7.037
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	568	407	366	420	523
Service Time	4.526	6.895	7.557	6.302	5.037
HCM Lane V/C Ratio	1.449	0.403	0.093	0.307	1.149
HCM Control Delay	226.5	16.8	13.4	14.5	81.8
HCM Lane LOS	F	C	B	B	F
HCM 95th-tile Q	38.1	1.6	0.3	1.1	16.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	356	67	75	136	19	79	732	376	62	451	47
Future Vol, veh/h	13	356	67	75	136	19	79	732	376	62	451	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	387	73	82	148	21	86	796	409	67	490	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1907	2027	516	2053	1848	1001	541	0	0	1205	0	0
Stage 1	650	650	-	1173	1173	-	-	-	-	-	-	-
Stage 2	1257	1377	-	880	675	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	52	~ 58	559	~ 41	~ 75	295	1028	-	-	579	-	-
Stage 1	458	465	-	234	266	-	-	-	-	-	-	-
Stage 2	210	~ 212	-	342	453	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 34	559	-	~ 44	295	1028	-	-	579	-	-
Mov Cap-2 Maneuver	-	~ 34	-	-	~ 44	-	-	-	-	-	-	-
Stage 1	324	387	-	165	188	-	-	-	-	-	-	-
Stage 2	30	~ 150	-	0	377	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.6	1.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1028	-	-	-	-	579	-	-
HCM Lane V/C Ratio	0.084	-	-	-	-	0.116	-	-
HCM Control Delay (s)	8.8	0	-	-	-	12	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0.3	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	49.1
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	670	180	15	61	13
Future Vol, veh/h	101	670	180	15	61	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	728	196	16	66	14
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	62.7	10.2	10.4
HCM LOS	F	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	0%	82%
Vol Thru, %	87%	92%	0%
Vol Right, %	0%	8%	18%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	771	195	74
LT Vol	101	0	61
Through Vol	670	180	0
RT Vol	0	15	13
Lane Flow Rate	838	212	80
Geometry Grp	1	1	1
Degree of Util (X)	1.038	0.296	0.14
Departure Headway (Hd)	4.457	5.02	6.391
Convergence, Y/N	Yes	Yes	Yes
Cap	813	710	565
Service Time	2.501	3.09	4.391
HCM Lane V/C Ratio	1.031	0.299	0.142
HCM Control Delay	62.7	10.2	10.4
HCM Lane LOS	F	B	B
HCM 95th-tile Q	19.6	1.2	0.5

Intersection	
Int Delay, s/veh	44

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	427	348	2	2195	0	0	0	0	14	0	307
Future Vol, veh/h	0	427	348	2	2195	0	0	0	0	14	0	307
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	464	378	2	2386	0	0	0	0	15	0	334

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	842	0	0		2622	-	1193
Stage 1	-	-	-	-	-	-		2390	-	-
Stage 2	-	-	-	-	-	-		232	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	789	-	0		19	0	~ 179
Stage 1	0	-	-	-	-	0		55	0	-
Stage 2	0	-	-	-	-	0		785	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	789	-	-		19	0	~ 179
Mov Cap-2 Maneuver	-	-	-	-	-	-		19	0	-
Stage 1	-	-	-	-	-	-		55	0	-
Stage 2	-	-	-	-	-	-		785	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 451.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	789	-	19	179
HCM Lane V/C Ratio	-	-	0.003	-	0.801	1.864
HCM Control Delay (s)	-	-	9.6	-	$ 414.8	$ 453.4
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	2.2	24.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	20	759	88	38	735
Future Vol, veh/h	27	20	759	88	38	735
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	22	825	96	41	799

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1754	873	0	0	921	0
Stage 1	873	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	94	349	-	-	741	-
Stage 1	409	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	85	349	-	-	741	-
Mov Cap-2 Maneuver	85	-	-	-	-	-
Stage 1	409	-	-	-	-	-
Stage 2	365	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	52.4	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	125	741	-
HCM Lane V/C Ratio	-	-	0.409	0.056	-
HCM Control Delay (s)	-	-	52.4	10.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	1.7	0.2	-

Intersection	
Int Delay, s/veh	25.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	69	104	828	33	22	872
Future Vol, veh/h	69	104	828	33	22	872
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	75	113	900	36	24	948

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1914	918	0	0	936	0
Stage 1	918	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	75	329	-	-	732	-
Stage 1	389	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 70	329	-	-	732	-
Mov Cap-2 Maneuver	~ 70	-	-	-	-	-
Stage 1	389	-	-	-	-	-
Stage 2	332	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	286.1	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	133	732	-
HCM Lane V/C Ratio	-	-	1.414	0.033	-
HCM Control Delay (s)	-	-	286.1	10.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	12.5	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	214.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	151	166	661	126	174	615
Future Vol, veh/h	151	166	661	126	174	615
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	164	180	718	137	189	668

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1833	787	0	0	855	0
Stage 1	787	-	-	-	-	-
Stage 2	1046	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 84	392	-	-	785	-
Stage 1	449	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 52	392	-	-	785	-
Mov Cap-2 Maneuver	~ 52	-	-	-	-	-
Stage 1	449	-	-	-	-	-
Stage 2	209	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	1275.2	0	2.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	95	785	-
HCM Lane V/C Ratio	-	-	3.627	0.241	-
HCM Control Delay (s)	-	-	$ 1275.2	11	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	34.9	0.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	501.3

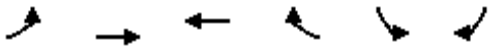
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	371	611	46	302	444
Future Vol, veh/h	22	371	611	46	302	444
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	403	664	50	328	483

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	427	0	1604	226
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	1378	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1132	-	~ 116	813
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	~ 234	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1132	-	~ 46	813
Mov Cap-2 Maneuver	-	-	-	-	~ 46	-
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	~ 93	-

Approach	EB	WB	NB
HCM Control Delay, s	0	11.7	$ 1196.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	46	813	-	-	1132	-
HCM Lane V/C Ratio	7.136	0.594	-	-	0.587	-
HCM Control Delay (s)	$ 2932.7	15.7	-	-	12.6	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	38.5	4	-	-	4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	278	109	21	705	498	148
Future Volume (Veh/h)	278	109	21	705	498	148
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	302	118	23	766	541	161
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	789				745	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	789				745	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	64				0	85
cM capacity (veh/h)	831				243	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	420	23	766	361	341
Volume Left	302	0	0	361	180
Volume Right	0	0	766	0	161
cSH	831	1700	1700	243	381
Volume to Capacity	0.36	0.01	0.45	1.49	0.90
Queue Length 95th (ft)	42	0	0	528	227
Control Delay (s)	9.8	0.0	0.0	276.7	56.9
Lane LOS	A			F	F
Approach Delay (s)	9.8	0.0		169.8	
Approach LOS				F	

Intersection Summary			
Average Delay	64.5		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	13	117	797	569	40
Future Vol, veh/h	21	13	117	797	569	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	14	127	866	618	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1760	640	661	0	-	0
Stage 1	640	-	-	-	-	-
Stage 2	1120	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	93	475	927	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	312	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	68	475	927	-	-	-
Mov Cap-2 Maneuver	68	-	-	-	-	-
Stage 1	386	-	-	-	-	-
Stage 2	312	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	56	1.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	927	-	68	475	-	-
HCM Lane V/C Ratio	0.137	-	0.336	0.03	-	-
HCM Control Delay (s)	9.5	0	82.7	12.8	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.5	-	1.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	149.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	89	20	38	0	194	0	738	5	59	530	2
Future Vol, veh/h	0	89	20	38	0	194	0	738	5	59	530	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	97	22	41	0	211	0	802	5	64	576	2
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	16.3	17	235	118.3
HCM LOS	C	C	F	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	10%
Vol Thru, %	99%	82%	0%	0%	90%
Vol Right, %	1%	18%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	743	109	38	194	591
LT Vol	0	0	38	0	59
Through Vol	738	89	0	0	530
RT Vol	5	20	0	194	2
Lane Flow Rate	808	118	41	211	642
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.456	0.272	0.1	0.438	1.162
Departure Headway (Hd)	6.848	9.697	9.79	8.535	7.256
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	541	373	368	426	507
Service Time	4.848	7.697	7.49	6.235	5.256
HCM Lane V/C Ratio	1.494	0.316	0.111	0.495	1.266
HCM Control Delay	235	16.3	13.6	17.7	118.3
HCM Lane LOS	F	C	B	C	F
HCM 95th-tile Q	37.6	1.1	0.3	2.2	20.6

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	301	74	188	276	20	12	704	254	67	467	62
Future Vol, veh/h	31	301	74	188	276	20	12	704	254	67	467	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	327	80	204	300	22	13	765	276	73	508	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1778	1755	542	1820	1650	903	575	0	0	1041	0	0
Stage 1	688	688	-	929	929	-	-	-	-	-	-	-
Stage 2	1090	1067	-	891	721	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	64	~ 85	540	~ 60	~ 99	336	998	-	-	668	-	-
Stage 1	436	447	-	321	346	-	-	-	-	-	-	-
Stage 2	261	~ 299	-	337	432	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 69	540	-	~ 80	336	998	-	-	668	-	-
Mov Cap-2 Maneuver	-	~ 69	-	-	~ 80	-	-	-	-	-	-	-
Stage 1	422	375	-	310	335	-	-	-	-	-	-	-
Stage 2	~ 25	~ 289	-	~ 31	362	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.1	1.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	998	-	-	-	-	668	-	-
HCM Lane V/C Ratio	0.013	-	-	-	-	0.109	-	-
HCM Control Delay (s)	8.7	0	-	-	-	11	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	24.2
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	500	432	30	52	21
Future Vol, veh/h	101	500	432	30	52	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	543	470	33	57	23
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	30.8	17.8	10.6
HCM LOS	D	C	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	0%	71%
Vol Thru, %	83%	94%	0%
Vol Right, %	0%	6%	29%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	601	462	73
LT Vol	101	0	52
Through Vol	500	432	0
RT Vol	0	30	21
Lane Flow Rate	653	502	79
Geometry Grp	1	1	1
Degree of Util (X)	0.867	0.679	0.144
Departure Headway (Hd)	4.778	4.866	6.521
Convergence, Y/N	Yes	Yes	Yes
Cap	751	733	553
Service Time	2.859	2.954	4.521
HCM Lane V/C Ratio	0.87	0.685	0.143
HCM Control Delay	30.8	17.8	10.6
HCM Lane LOS	D	C	B
HCM 95th-tile Q	10.5	5.4	0.5

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1172	414	1	1131	0	0	0	0	70	0	194
Future Vol, veh/h	0	1172	414	1	1131	0	0	0	0	70	0	194
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1274	450	1	1229	0	0	0	0	76	0	211

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	1724	0	0		1868	-	615
Stage 1	-	-	-	-	-	-		1231	-	-
Stage 2	-	-	-	-	-	-		637	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	363	-	0		~ 64	0	434
Stage 1	0	-	-	-	-	0		239	0	-
Stage 2	0	-	-	-	-	0		489	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	363	-	-		~ 63	0	434
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 63	0	-
Stage 1	-	-	-	-	-	-		239	0	-
Stage 2	-	-	-	-	-	-		485	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	92.6
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	363	-	63	434
HCM Lane V/C Ratio	-	-	0.003	-	1.208	0.486
HCM Control Delay (s)	-	-	14.9	-	291.2	20.9
HCM Lane LOS	-	-	B	-	F	C
HCM 95th %tile Q(veh)	-	-	0	-	6.2	2.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	25	502	104	21	631
Future Vol, veh/h	1	25	502	104	21	631
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	27	546	113	23	686

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1335	603	0	0	659	0
Stage 1	603	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	169	499	-	-	929	-
Stage 1	546	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	162	499	-	-	929	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	546	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	462	929	-
HCM Lane V/C Ratio	-	-	0.061	0.025	-
HCM Control Delay (s)	-	-	13.3	9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	49	84	664	93	39	663
Future Vol, veh/h	49	84	664	93	39	663
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	91	722	101	42	721

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1578	773	0	0	823	0
Stage 1	773	-	-	-	-	-
Stage 2	805	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	120	399	-	-	807	-
Stage 1	455	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	110	399	-	-	807	-
Mov Cap-2 Maneuver	110	-	-	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	402	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	57.4	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	203	807	-
HCM Lane V/C Ratio	-	-	0.712	0.053	-
HCM Control Delay (s)	-	-	57.4	9.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	4.6	0.2	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	87	153	510	183	362	898
Future Volume (Veh/h)	87	153	510	183	362	898
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	95	166	554	199	393	976
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2416	654			753	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2416	654			753	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	64			54	
cM capacity (veh/h)	19	467			857	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	261	753	1369
Volume Left	95	0	393
Volume Right	166	199	0
cSH	50	1700	857
Volume to Capacity	5.24	0.44	0.46
Queue Length 95th (ft)	Err	0	61
Control Delay (s)	Err	0.0	12.7
Lane LOS	F		B
Approach Delay (s)	Err	0.0	12.7
Approach LOS	F		

Intersection Summary			
Average Delay	1102.5		
Intersection Capacity Utilization	129.5%	ICU Level of Service	H
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	420.5

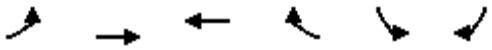
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	448	599	15	281	541
Future Vol, veh/h	23	448	599	15	281	541
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	487	651	16	305	588

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	512	0	1587	269
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	1318	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1053	-	~ 119	770
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	~ 250	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1053	-	~ 45	770
Mov Cap-2 Maneuver	-	-	-	-	~ 45	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	~ 94	-

Approach	EB	WB	NB
HCM Control Delay, s	0	13.5	$ 965.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	45	770	-	-	1053	-
HCM Lane V/C Ratio	6.787	0.764	-	-	0.618	-
HCM Control Delay (s)	$ 2780	23.1	-	-	13.8	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	35.8	7.3	-	-	4.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	175	91	20	433	811	253
Future Volume (Veh/h)	175	91	20	433	811	253
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	190	99	22	471	882	275
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	493				501	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	493				501	22
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				0	74
cM capacity (veh/h)	1071				436	1055

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	289	22	471	588	569
Volume Left	190	0	0	588	294
Volume Right	0	0	471	0	275
cSH	1071	1700	1700	436	608
Volume to Capacity	0.18	0.01	0.28	1.35	0.94
Queue Length 95th (ft)	16	0	0	679	309
Control Delay (s)	6.6	0.0	0.0	197.9	48.4
Lane LOS	A			F	E
Approach Delay (s)	6.6	0.0		124.4	
Approach LOS				F	

Intersection Summary			
Average Delay	75.2		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	47	93	777	504	12
Future Vol, veh/h	45	47	93	777	504	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	51	101	845	548	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1602	555	561	0	-	0
Stage 1	555	-	-	-	-	-
Stage 2	1047	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	116	531	1010	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	94	531	1010	-	-	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	338	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45	1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1010	-	94	531	-	-
HCM Lane V/C Ratio	0.1	-	0.52	0.096	-	-
HCM Control Delay (s)	9	0	79	12.5	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	2.3	0.3	-	-

Intersection	
Intersection Delay, s/veh	152.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	116	37	34	0	132	0	761	5	73	494	0
Future Vol, veh/h	7	116	37	34	0	132	0	761	5	73	494	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	126	40	37	0	143	0	827	5	79	537	0
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	17.8	15.1	249.6	99.9
HCM LOS	C	C	F	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	4%	100%	0%	13%
Vol Thru, %	99%	72%	0%	0%	87%
Vol Right, %	1%	23%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	766	160	34	132	567
LT Vol	0	7	34	0	73
Through Vol	761	116	0	0	494
RT Vol	5	37	0	132	0
Lane Flow Rate	833	174	37	143	616
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.491	0.383	0.091	0.307	1.109
Departure Headway (Hd)	6.749	9.2	10.077	8.821	7.28
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	550	393	358	410	505
Service Time	4.749	7.2	7.777	6.521	5.28
HCM Lane V/C Ratio	1.515	0.443	0.103	0.349	1.22
HCM Control Delay	249.6	17.8	13.8	15.4	99.9
HCM Lane LOS	F	C	B	C	F
HCM 95th-tile Q	40.2	1.8	0.3	1.3	18.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	381	67	77	155	24	79	736	385	68	452	48
Future Vol, veh/h	13	381	67	77	155	24	79	736	385	68	452	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	414	73	84	168	26	86	800	418	74	491	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1943	2055	517	2090	1872	1009	543	0	0	1218	0	0
Stage 1	665	665	-	1181	1181	-	-	-	-	-	-	-
Stage 2	1278	1390	-	909	691	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	49	~ 55	558	~ 38	~ 72	292	1026	-	-	572	-	-
Stage 1	449	458	-	232	264	-	-	-	-	-	-	-
Stage 2	204	~ 209	-	329	446	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 31	558	-	~ 41	292	1026	-	-	572	-	-
Mov Cap-2 Maneuver	-	~ 31	-	-	~ 41	-	-	-	-	-	-	-
Stage 1	313	~ 372	-	162	184	-	-	-	-	-	-	-
Stage 2	~ 11	~ 146	-	-	363	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.6	1.5
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1026	-	-	-	-	572	-	-
HCM Lane V/C Ratio	0.084	-	-	-	-	0.129	-	-
HCM Control Delay (s)	8.8	0	-	-	-	12.2	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0.3	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	64.2
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	704	205	17	66	13
Future Vol, veh/h	106	704	205	17	66	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	765	223	18	72	14
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	84	10.8	10.7
HCM LOS	F	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	0%	84%
Vol Thru, %	87%	92%	0%
Vol Right, %	0%	8%	16%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	810	222	79
LT Vol	106	0	66
Through Vol	704	205	0
RT Vol	0	17	13
Lane Flow Rate	880	241	86
Geometry Grp	1	1	1
Degree of Util (X)	1.104	0.335	0.15
Departure Headway (Hd)	4.516	5.173	6.562
Convergence, Y/N	Yes	Yes	Yes
Cap	801	700	550
Service Time	2.557	3.173	4.562
HCM Lane V/C Ratio	1.099	0.344	0.156
HCM Control Delay	84	10.8	10.7
HCM Lane LOS	F	B	B
HCM 95th-tile Q	23.9	1.5	0.5

Intersection	
Int Delay, s/veh	44

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	429	348	2	2198	0	0	0	0	14	0	307
Future Vol, veh/h	0	429	348	2	2198	0	0	0	0	14	0	307
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	466	378	2	2389	0	0	0	0	15	0	334

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	844	0	0		2626	-	1195
Stage 1	-	-	-	-	-	-		2393	-	-
Stage 2	-	-	-	-	-	-		233	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	788	-	0		19	0	~ 179
Stage 1	0	-	-	-	-	0		55	0	-
Stage 2	0	-	-	-	-	0		784	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	788	-	-		19	0	~ 179
Mov Cap-2 Maneuver	-	-	-	-	-	-		19	0	-
Stage 1	-	-	-	-	-	-		55	0	-
Stage 2	-	-	-	-	-	-		784	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 451.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	788	-	19	179
HCM Lane V/C Ratio	-	-	0.003	-	0.801	1.864
HCM Control Delay (s)	-	-	9.6	-	$ 414.8	$ 453.4
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	2.2	24.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	20	764	89	38	740
Future Vol, veh/h	27	20	764	89	38	740
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	22	830	97	41	804

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1765	879	0	0	927	0
Stage 1	879	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	92	347	-	-	737	-
Stage 1	406	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	83	347	-	-	737	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	362	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	53.6	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	123	737	-
HCM Lane V/C Ratio	-	-	0.415	0.056	-
HCM Control Delay (s)	-	-	53.6	10.2	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	1.8	0.2	-

Intersection	
Int Delay, s/veh	28.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	109	830	33	22	877
Future Vol, veh/h	70	109	830	33	22	877
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	118	902	36	24	953

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1921	920	0	0	938	0
Stage 1	920	-	-	-	-	-
Stage 2	1001	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 74	328	-	-	730	-
Stage 1	388	-	-	-	-	-
Stage 2	355	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 69	328	-	-	730	-
Mov Cap-2 Maneuver	~ 69	-	-	-	-	-
Stage 1	388	-	-	-	-	-
Stage 2	330	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 305.5	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	133	730	-
HCM Lane V/C Ratio	-	-	1.463	0.033	-
HCM Control Delay (s)	-	-	$ 305.5	10.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	13.2	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	263.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	158	175	664	132	185	615
Future Vol, veh/h	158	175	664	132	185	615
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	172	190	722	143	201	668

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1864	794	0	0	865	0
Stage 1	794	-	-	-	-	-
Stage 2	1070	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 80	388	-	-	778	-
Stage 1	445	-	-	-	-	-
Stage 2	329	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 47	388	-	-	778	-
Mov Cap-2 Maneuver	~ 47	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	194	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 1521.1	0	2.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	87	778	-
HCM Lane V/C Ratio	-	-	4.16	0.258	-
HCM Control Delay (s)	-	-	$ 1521.1	11.2	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	37.9	1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	501.3

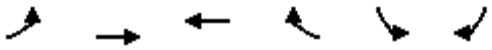
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	371	611	46	302	444
Future Vol, veh/h	22	371	611	46	302	444
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	403	664	50	328	483

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	427	0	1604	226
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	1378	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1132	-	~ 116	813
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	~ 234	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1132	-	~ 46	813
Mov Cap-2 Maneuver	-	-	-	-	~ 46	-
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	~ 93	-

Approach	EB	WB	NB
HCM Control Delay, s	0	11.7	$ 1196.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	46	813	-	-	1132	-
HCM Lane V/C Ratio	7.136	0.594	-	-	0.587	-
HCM Control Delay (s)	$ 2932.7	15.7	-	-	12.6	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	38.5	4	-	-	4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	278	109	21	705	498	148
Future Volume (Veh/h)	278	109	21	705	498	148
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	302	118	23	766	541	161
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	789				745	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	789				745	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	64				0	85
cM capacity (veh/h)	831				243	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	420	23	766	361	341
Volume Left	302	0	0	361	180
Volume Right	0	0	766	0	161
cSH	831	1700	1700	243	381
Volume to Capacity	0.36	0.01	0.45	1.49	0.90
Queue Length 95th (ft)	42	0	0	528	227
Control Delay (s)	9.8	0.0	0.0	276.7	56.9
Lane LOS	A			F	F
Approach Delay (s)	9.8	0.0		169.8	
Approach LOS				F	

Intersection Summary			
Average Delay	64.5		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	13	123	812	583	40
Future Vol, veh/h	21	13	123	812	583	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	14	134	883	634	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1807	656	677	0	-	0
Stage 1	656	-	-	-	-	-
Stage 2	1151	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	87	465	915	-	-	-
Stage 1	516	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	62	465	915	-	-	-
Mov Cap-2 Maneuver	62	-	-	-	-	-
Stage 1	368	-	-	-	-	-
Stage 2	301	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	62.8	1.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	915	-	62	465	-	-
HCM Lane V/C Ratio	0.146	-	0.368	0.03	-	-
HCM Control Delay (s)	9.6	0	93.6	13	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.5	-	1.4	0.1	-	-

Intersection	
Intersection Delay, s/veh	164.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	97	20	41	0	206	0	746	6	67	536	2
Future Vol, veh/h	0	97	20	41	0	206	0	746	6	67	536	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	105	22	45	0	224	0	811	7	73	583	2
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	17.2	18.1	256.7	139.1
HCM LOS	C	C	F	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	11%
Vol Thru, %	99%	83%	0%	0%	89%
Vol Right, %	1%	17%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	752	117	41	206	605
LT Vol	0	0	41	0	67
Through Vol	746	97	0	0	536
RT Vol	6	20	0	206	2
Lane Flow Rate	817	127	45	224	658
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.505	0.296	0.108	0.469	1.215
Departure Headway (Hd)	7.067	10.02	9.991	8.734	7.486
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	523	361	361	416	493
Service Time	5.067	8.02	7.691	6.434	5.486
HCM Lane V/C Ratio	1.562	0.352	0.125	0.538	1.335
HCM Control Delay	256.7	17.2	13.9	18.9	139.1
HCM Lane LOS	F	C	B	C	F
HCM 95th-tile Q	39.4	1.2	0.4	2.4	22.6

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	31	325	74	190	293	24	12	708	263	72	468	64
Future Vol, veh/h	31	325	74	190	293	24	12	708	263	72	468	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	353	80	207	318	26	13	770	286	78	509	70

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1811	1782	544	1856	1674	913	579	0	0	1056	0	0
Stage 1	700	700	-	939	939	-	-	-	-	-	-	-
Stage 2	1111	1082	-	917	735	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	61	~ 82	539	~ 56	~ 95	331	995	-	-	659	-	-
Stage 1	430	441	-	317	343	-	-	-	-	-	-	-
Stage 2	254	~ 294	-	326	425	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 65	539	-	~ 76	331	995	-	-	659	-	-
Mov Cap-2 Maneuver	-	~ 65	-	-	~ 76	-	-	-	-	-	-	-
Stage 1	415	363	-	306	331	-	-	-	-	-	-	-
Stage 2	~ 9	~ 284	-	~ 6	350	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.1	1.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	995	-	-	-	-	659	-	-
HCM Lane V/C Ratio	0.013	-	-	-	-	0.119	-	-
HCM Control Delay (s)	8.7	0	-	-	-	11.2	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	31.1
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	533	456	31	57	22
Future Vol, veh/h	106	533	456	31	57	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	579	496	34	62	24
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	41.1	21.2	11
HCM LOS	E	C	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	0%	72%
Vol Thru, %	83%	94%	0%
Vol Right, %	0%	6%	28%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	639	487	79
LT Vol	106	0	57
Through Vol	533	456	0
RT Vol	0	31	22
Lane Flow Rate	695	529	86
Geometry Grp	1	1	1
Degree of Util (X)	0.934	0.743	0.16
Departure Headway (Hd)	4.953	5.053	6.693
Convergence, Y/N	Yes	Yes	Yes
Cap	736	720	538
Service Time	2.953	3.053	4.712
HCM Lane V/C Ratio	0.944	0.735	0.16
HCM Control Delay	41.1	21.2	11
HCM Lane LOS	E	C	B
HCM 95th-tile Q	13.2	6.7	0.6

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1173	414	1	1133	0	0	0	0	70	0	195
Future Vol, veh/h	0	1173	414	1	1133	0	0	0	0	70	0	195
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1275	450	1	1232	0	0	0	0	76	0	212

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	1725	0	0			1872	-	616
Stage 1	-	-	-	-	-	-			1234	-	-
Stage 2	-	-	-	-	-	-			638	-	-
Critical Hdwy	-	-	-	4.14	-	-			6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-			5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-			3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	362	-	0			~ 64	0	433
Stage 1	0	-	-	-	-	0			238	0	-
Stage 2	0	-	-	-	-	0			488	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	362	-	-			~ 63	0	433
Mov Cap-2 Maneuver	-	-	-	-	-	-			~ 63	0	-
Stage 1	-	-	-	-	-	-			238	0	-
Stage 2	-	-	-	-	-	-			484	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	92.4
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	362	-	63	433
HCM Lane V/C Ratio	-	-	0.003	-	1.208	0.49
HCM Control Delay (s)	-	-	15	-	291.2	21
HCM Lane LOS	-	-	B	-	F	C
HCM 95th %tile Q(veh)	-	-	0	-	6.2	2.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	26	472	90	22	576
Future Vol, veh/h	1	26	472	90	22	576
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	28	513	98	24	626

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1236	562	0	0	611	0
Stage 1	562	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	195	526	-	-	968	-
Stage 1	571	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	188	526	-	-	968	-
Mov Cap-2 Maneuver	188	-	-	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	493	968	-
HCM Lane V/C Ratio	-	-	0.06	0.025	-
HCM Control Delay (s)	-	-	12.8	8.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	43	664	94	40	607
Future Vol, veh/h	33	43	664	94	40	607
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	47	722	102	43	660

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1519	773	0	0	824	0
Stage 1	773	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	131	399	-	-	806	-
Stage 1	455	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	120	399	-	-	806	-
Mov Cap-2 Maneuver	120	-	-	-	-	-
Stage 1	455	-	-	-	-	-
Stage 2	430	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	35.4	0	0.6
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	199	806	-
HCM Lane V/C Ratio	-	-	0.415	0.054	-
HCM Control Delay (s)	-	-	35.4	9.7	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	1.9	0.2	-

Intersection	
Int Delay, s/veh	9.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	96	496	25	214	916
Future Vol, veh/h	21	96	496	25	214	916
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	104	539	27	233	996

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2015	553	0	0	566	0
Stage 1	553	-	-	-	-	-
Stage 2	1462	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	64	533	-	-	1006	-
Stage 1	576	-	-	-	-	-
Stage 2	213	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	31	533	-	-	1006	-
Mov Cap-2 Maneuver	31	-	-	-	-	-
Stage 1	576	-	-	-	-	-
Stage 2	103	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	123.4	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	136	1006	-
HCM Lane V/C Ratio	-	-	0.935	0.231	-
HCM Control Delay (s)	-	-	123.4	9.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	6.4	0.9	-

Intersection	
Int Delay, s/veh	470.5

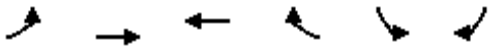
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	453	609	16	287	533
Future Vol, veh/h	24	453	609	16	287	533
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	492	662	17	312	579

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	518	0	1613	272
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	1341	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1048	-	~ 115	767
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	~ 244	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1048	-	~ 42	767
Mov Cap-2 Maneuver	-	-	-	-	~ 42	-
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	~ 88	-

Approach	EB	WB	NB
HCM Control Delay, s	0	13.8	$ 1092.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	42	767	-	-	1048	-
HCM Lane V/C Ratio	7.428	0.755	-	-	0.632	-
HCM Control Delay (s)	$ 3079	22.7	-	-	14.1	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	36.9	7.1	-	-	4.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	172	94	21	434	789	258
Future Volume (Veh/h)	172	94	21	434	789	258
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	187	102	23	472	858	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	495				499	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	495				499	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				0	73
cM capacity (veh/h)	1069				438	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	289	23	472	572	566
Volume Left	187	0	0	572	286
Volume Right	0	0	472	0	280
cSH	1069	1700	1700	438	616
Volume to Capacity	0.17	0.01	0.28	1.31	0.92
Queue Length 95th (ft)	16	0	0	631	294
Control Delay (s)	6.5	0.0	0.0	179.7	45.0
Lane LOS	A			F	E
Approach Delay (s)	6.5	0.0		112.7	
Approach LOS				F	

Intersection Summary				
Average Delay	67.7			
Intersection Capacity Utilization	58.4%	ICU Level of Service		B
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	48	34	717	417	12
Future Vol, veh/h	45	48	34	717	417	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	52	37	779	453	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1313	460	466	0	-	0
Stage 1	460	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	175	601	1095	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	165	601	1095	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	418	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.3	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1095	-	165	601	-	-
HCM Lane V/C Ratio	0.034	-	0.296	0.087	-	-
HCM Control Delay (s)	8.4	0	35.8	11.6	-	-
HCM Lane LOS	A	A	E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	0.3	-	-

Intersection	
Intersection Delay, s/veh	46
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	1	14	1	0	9	0	749	0	7	465	0
Future Vol, veh/h	7	1	14	1	0	9	0	749	0	7	465	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1	15	1	0	10	0	814	0	8	505	0
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10	9.7	64.8	18.6
HCM LOS	A	A	F	C

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	32%	100%	0%	1%
Vol Thru, %	100%	5%	0%	0%	99%
Vol Right, %	0%	64%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	749	22	1	9	472
LT Vol	0	7	1	0	7
Through Vol	749	1	0	0	465
RT Vol	0	14	0	9	0
Lane Flow Rate	814	24	1	10	513
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.042	0.043	0.002	0.018	0.698
Departure Headway (Hd)	4.608	6.679	8.058	6.823	4.899
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	782	539	447	528	734
Service Time	2.657	4.679	5.758	4.523	2.957
HCM Lane V/C Ratio	1.041	0.045	0.002	0.019	0.699
HCM Control Delay	64.8	10	10.8	9.6	18.6
HCM Lane LOS	F	A	B	A	C
HCM 95th-tile Q	19.5	0.1	0	0.1	5.7

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	2	69	18	5	3	81	736	16	4	453	20
Future Vol, veh/h	13	2	69	18	5	3	81	736	16	4	453	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	2	75	20	5	3	88	800	17	4	492	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1500	1504	503	1535	1507	809	514	0	0	817	0	0
Stage 1	511	511	-	985	985	-	-	-	-	-	-	-
Stage 2	989	993	-	550	522	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	100	121	569	95	121	380	1052	-	-	811	-	-
Stage 1	545	537	-	299	326	-	-	-	-	-	-	-
Stage 2	297	323	-	519	531	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	84	102	569	71	102	380	1052	-	-	811	-	-
Mov Cap-2 Maneuver	84	102	-	71	102	-	-	-	-	-	-	-
Stage 1	461	533	-	253	276	-	-	-	-	-	-	-
Stage 2	244	273	-	446	527	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.6	68.2	0.8	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1052	-	-	284	84	811	-	-
HCM Lane V/C Ratio	0.084	-	-	0.321	0.336	0.005	-	-
HCM Control Delay (s)	8.7	0	-	23.6	68.2	9.5	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.3	1.3	0	-	-

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	29	24	3	1	7
Future Vol, veh/h	8	29	24	3	1	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	32	26	3	1	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	56	1	9	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	55	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	952	1084	1611	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	937	1084	1611	-	-	-
Mov Cap-2 Maneuver	937	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	968	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	6.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1611	-	1048	-	-
HCM Lane V/C Ratio	0.016	-	0.038	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	32.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	402	346	2	2104	0	0	0	0	15	0	285
Future Vol, veh/h	0	402	346	2	2104	0	0	0	0	15	0	285
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	437	376	2	2287	0	0	0	0	16	0	310

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	813	0	0	2510	-	1144
Stage 1	-	-	-	-	-	-	2291	-	-
Stage 2	-	-	-	-	-	-	219	-	-
Critical Hdwy	-	-	-	4.14	-	-	6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	810	-	0	23	0	~ 193
Stage 1	0	-	-	-	-	0	62	0	-
Stage 2	0	-	-	-	-	0	796	0	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	810	-	-	23	0	~ 193
Mov Cap-2 Maneuver	-	-	-	-	-	-	23	0	-
Stage 1	-	-	-	-	-	-	62	0	-
Stage 2	-	-	-	-	-	-	796	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 338.2
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	810	-	23	193
HCM Lane V/C Ratio	-	-	0.003	-	0.709	1.605
HCM Control Delay (s)	-	-	9.5	-	$ 328.9	$ 338.7
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	2.1	20.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	131	216	0	1242	639	0
Future Vol, veh/h	131	216	0	1242	639	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	142	235	0	1350	695	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1370	348	-	0	-	0
Stage 1	695	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	~ 137	648	0	-	-	0
Stage 1	456	-	0	-	-	0
Stage 2	467	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 137	648	-	-	-	-
Mov Cap-2 Maneuver	~ 137	-	-	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	65.6	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	137	648	-
HCM Lane V/C Ratio	-	1.039	0.362	-
HCM Control Delay (s)	-	151.3	13.7	-
HCM Lane LOS	-	F	B	-
HCM 95th %tile Q(veh)	-	7.7	1.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	21	709	50	39	697
Future Vol, veh/h	28	21	709	50	39	697
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	23	771	54	42	758

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1640	798	0	0	825	0
Stage 1	798	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	110	386	-	-	805	-
Stage 1	443	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	100	386	-	-	805	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	443	-	-	-	-	-
Stage 2	385	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	42.8	0	0.5
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	147	805	-
HCM Lane V/C Ratio	-	-	0.362	0.053	-
HCM Control Delay (s)	-	-	42.8	9.7	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.2	-

Intersection	
Int Delay, s/veh	4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	30	816	34	23	837
Future Vol, veh/h	45	30	816	34	23	837
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	33	887	37	25	910

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1866	906	0	0	924	0
Stage 1	906	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	80	334	-	-	739	-
Stage 1	394	-	-	-	-	-
Stage 2	372	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	75	334	-	-	739	-
Mov Cap-2 Maneuver	75	-	-	-	-	-
Stage 1	394	-	-	-	-	-
Stage 2	347	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	101	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	109	739	-
HCM Lane V/C Ratio	-	-	0.748	0.034	-
HCM Control Delay (s)	-	-	101	10	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	4.1	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	71	607	19	63	625
Future Vol, veh/h	14	71	607	19	63	625
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	77	660	21	68	679

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1486	671	0	0	681	0
Stage 1	671	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	137	456	-	-	912	-
Stage 1	508	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	121	456	-	-	912	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	508	-	-	-	-	-
Stage 2	383	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.2	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	313	912	-
HCM Lane V/C Ratio	-	-	0.295	0.075	-
HCM Control Delay (s)	-	-	21.2	9.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.2	-

Intersection	
Int Delay, s/veh	490.1

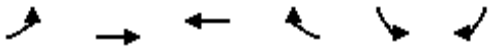
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	354	605	47	308	443
Future Vol, veh/h	23	354	605	47	308	443
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	385	658	51	335	482

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	410	0	1585	218
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	1367	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1149	-	~ 119	822
Stage 1	-	-	-	-	818	-
Stage 2	-	-	-	-	~ 237	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1149	-	~ 49	822
Mov Cap-2 Maneuver	-	-	-	-	~ 49	-
Stage 1	-	-	-	-	818	-
Stage 2	-	-	-	-	~ 97	-

Approach	EB	WB	NB
HCM Control Delay, s	0	11.4	$ 1151.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	49	822	-	-	1149	-
HCM Lane V/C Ratio	6.832	0.586	-	-	0.572	-
HCM Control Delay (s)	$ 2786.4	15.4	-	-	12.2	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	38.9	3.9	-	-	3.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	257	112	22	685	480	150
Future Volume (Veh/h)	257	112	22	685	480	150
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	279	122	24	745	522	163
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	769				704	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	769				704	24
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	67				0	85
cM capacity (veh/h)	845				270	1052

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	401	24	745	348	337
Volume Left	279	0	0	348	174
Volume Right	0	0	745	0	163
cSH	845	1700	1700	270	422
Volume to Capacity	0.33	0.01	0.44	1.29	0.80
Queue Length 95th (ft)	36	0	0	432	178
Control Delay (s)	9.1	0.0	0.0	192.4	39.8
Lane LOS	A			F	E
Approach Delay (s)	9.1	0.0		117.3	
Approach LOS				F	

Intersection Summary			
Average Delay	45.3		
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	14	18	718	497	40
Future Vol, veh/h	22	14	18	718	497	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	15	20	780	540	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1382	562	583	0	-	0
Stage 1	562	-	-	-	-	-
Stage 2	820	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	159	526	991	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	433	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	153	526	991	-	-	-
Mov Cap-2 Maneuver	153	-	-	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	433	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.7	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	991	-	153	526	-	-
HCM Lane V/C Ratio	0.02	-	0.156	0.029	-	-
HCM Control Delay (s)	8.7	0	32.8	12	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	37.3
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	1	0	2	0	724	0	2	502	2
Future Vol, veh/h	0	0	0	1	0	2	0	724	0	2	502	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	1	0	2	0	787	0	2	546	2
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	0	9.8	50.1	19.2
HCM LOS	-	A	F	C

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	99%
Vol Right, %	0%	0%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	724	0	1	2	506
LT Vol	0	0	1	0	2
Through Vol	724	0	0	0	502
RT Vol	0	0	0	2	2
Lane Flow Rate	787	0	1	2	550
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.989	0	0.002	0.004	0.724
Departure Headway (Hd)	4.523	6.93	7.92	6.589	4.738
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	803	0	455	538	765
Service Time	2.55	4.93	5.62	4.388	2.77
HCM Lane V/C Ratio	0.98	0	0.002	0.004	0.719
HCM Control Delay	50.1	9.9	10.6	9.4	19.2
HCM Lane LOS	F	N	B	A	C
HCM 95th-tile Q	16.6	0	0	0	6.3

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	3	76	9	3	3	12	696	5	3	471	30
Future Vol, veh/h	32	3	76	9	3	3	12	696	5	3	471	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	3	83	10	3	3	13	757	5	3	512	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1324	1323	529	1364	1337	760	545	0	0	762	0	0
Stage 1	535	535	-	786	786	-	-	-	-	-	-	-
Stage 2	789	788	-	578	551	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	133	156	550	125	153	406	1024	-	-	850	-	-
Stage 1	529	524	-	385	403	-	-	-	-	-	-	-
Stage 2	384	402	-	501	515	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	127	152	550	102	149	406	1024	-	-	850	-	-
Mov Cap-2 Maneuver	127	152	-	102	149	-	-	-	-	-	-	-
Stage 1	517	521	-	377	394	-	-	-	-	-	-	-
Stage 2	369	393	-	421	512	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.5	36.6	0.1	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1024	-	-	271	130	850	-	-
HCM Lane V/C Ratio	0.013	-	-	0.445	0.125	0.004	-	-
HCM Control Delay (s)	8.6	0	-	28.5	36.6	9.3	0	-
HCM Lane LOS	A	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.2	0.4	0	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	6	25	1	1	15
Future Vol, veh/h	4	6	25	1	1	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	7	27	1	1	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	56	1	17	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	55	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	952	1084	1600	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	936	1084	1600	-	-	-
Mov Cap-2 Maneuver	936	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	968	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1600	-	1020	-	-
HCM Lane V/C Ratio	0.017	-	0.011	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1088	391	1	1059	0	0	0	0	72	0	181
Future Vol, veh/h	0	1088	391	1	1059	0	0	0	0	72	0	181
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1183	425	1	1151	0	0	0	0	78	0	197

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	1608	0	0		1745	-	576
Stage 1	-	-	-	-	-	-		1153	-	-
Stage 2	-	-	-	-	-	-		592	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	402	-	0		~ 77	0	460
Stage 1	0	-	-	-	-	0		263	0	-
Stage 2	0	-	-	-	-	0		516	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	402	-	-		~ 76	0	460
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 76	0	-
Stage 1	-	-	-	-	-	-		263	0	-
Stage 2	-	-	-	-	-	-		512	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	72.3
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	402	-	76	460
HCM Lane V/C Ratio	-	-	0.003	-	1.03	0.428
HCM Control Delay (s)	-	-	14	-	207.4	18.5
HCM Lane LOS	-	-	B	-	F	C
HCM 95th %tile Q(veh)	-	-	0	-	5.6	2.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	37.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	247	117	0	1021	586	0
Future Vol, veh/h	247	117	0	1021	586	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	268	127	0	1110	637	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1192	319	-	0	-	0
Stage 1	637	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	~ 180	677	0	-	-	0
Stage 1	489	-	0	-	-	0
Stage 2	539	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 180	677	-	-	-	-
Mov Cap-2 Maneuver	~ 180	-	-	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	539	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	204.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	180	677	-
HCM Lane V/C Ratio	-	1.492	0.188	-
HCM Control Delay (s)	-	295.8	11.5	-
HCM Lane LOS	-	F	B	-
HCM 95th %tile Q(veh)	-	17	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	26	501	105	22	633
Future Vol, veh/h	1	26	501	105	22	633
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	28	545	114	24	688

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1338	602	0	0	659	0
Stage 1	602	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	169	500	-	-	929	-
Stage 1	547	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	162	500	-	-	929	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	547	-	-	-	-	-
Stage 2	454	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	464	929	-
HCM Lane V/C Ratio	-	-	0.063	0.026	-
HCM Control Delay (s)	-	-	13.3	9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	49	80	671	94	40	664
Future Vol, veh/h	49	80	671	94	40	664
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	87	729	102	43	722

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1588	780	0	0	831	0
Stage 1	780	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	119	395	-	-	801	-
Stage 1	452	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	108	395	-	-	801	-
Mov Cap-2 Maneuver	108	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	399	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	58.7	0	0.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	197	801	-
HCM Lane V/C Ratio	-	-	0.712	0.054	-
HCM Control Delay (s)	-	-	58.7	9.8	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	4.5	0.2	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	80	146	514	177	355	916
Future Volume (Veh/h)	80	146	514	177	355	916
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	87	159	559	192	386	996
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2423	655			751	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2423	655			751	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	66			55	
cM capacity (veh/h)	20	466			858	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	246	751	1382
Volume Left	87	0	386
Volume Right	159	192	0
cSH	51	1700	858
Volume to Capacity	4.79	0.44	0.45
Queue Length 95th (ft)	Err	0	59
Control Delay (s)	Err	0.0	12.6
Lane LOS	F		B
Approach Delay (s)	Err	0.0	12.6
Approach LOS	F		

Intersection Summary			
Average Delay	1041.2		
Intersection Capacity Utilization	129.1%	ICU Level of Service	H
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	490.9

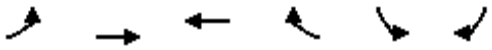
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	458	613	16	287	550
Future Vol, veh/h	24	458	613	16	287	550
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	498	666	17	312	598

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	524	0	1624	275
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	1349	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1043	-	~ 113	764
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	~ 242	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1043	-	~ 40	764
Mov Cap-2 Maneuver	-	-	-	-	~ 40	-
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	~ 86	-

Approach	EB	WB	NB
HCM Control Delay, s	0	14	$ 1132
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	40	764	-	-	1043	-
HCM Lane V/C Ratio	7.799	0.782	-	-	0.639	-
HCM Control Delay (s)	$ 3254.5	24.4	-	-	14.3	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	37.1	7.8	-	-	4.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	179	94	21	442	826	258
Future Volume (Veh/h)	179	94	21	442	826	258
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	195	102	23	480	898	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	503				515	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	503				515	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				0	73
cM capacity (veh/h)	1061				424	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	297	23	480	599	579
Volume Left	195	0	0	599	299
Volume Right	0	0	480	0	280
cSH	1061	1700	1700	424	597
Volume to Capacity	0.18	0.01	0.28	1.41	0.97
Queue Length 95th (ft)	17	0	0	736	343
Control Delay (s)	6.6	0.0	0.0	224.0	56.3
Lane LOS	A			F	F
Approach Delay (s)	6.6	0.0		141.5	
Approach LOS				F	

Intersection Summary				
Average Delay	85.3			
Intersection Capacity Utilization	59.9%	ICU Level of Service		B
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	48	87	777	495	12
Future Vol, veh/h	45	48	87	777	495	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	52	95	845	538	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1580	545	551	0	-	0
Stage 1	545	-	-	-	-	-
Stage 2	1035	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	120	538	1019	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	99	538	1019	-	-	-
Mov Cap-2 Maneuver	99	-	-	-	-	-
Stage 1	479	-	-	-	-	-
Stage 2	342	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	41.5	0.9	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1019	-	99	538	-	-
HCM Lane V/C Ratio	0.093	-	0.494	0.097	-	-
HCM Control Delay (s)	8.9	0	72.6	12.4	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	2.2	0.3	-	-

Intersection	
Intersection Delay, s/veh	146.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	107	38	31	0	119	0	769	4	65	494	0
Future Vol, veh/h	7	107	38	31	0	119	0	769	4	65	494	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	116	41	34	0	129	0	836	4	71	537	0
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	16.9	14.4	240.7	86
HCM LOS	C	B	F	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	5%	100%	0%	12%
Vol Thru, %	99%	70%	0%	0%	88%
Vol Right, %	1%	25%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	773	152	31	119	559
LT Vol	0	7	31	0	65
Through Vol	769	107	0	0	494
RT Vol	4	38	0	119	0
Lane Flow Rate	840	165	34	129	608
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.472	0.359	0.083	0.275	1.069
Departure Headway (Hd)	6.547	8.969	9.931	8.675	7.084
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	563	403	363	416	516
Service Time	4.547	6.969	7.631	6.375	5.084
HCM Lane V/C Ratio	1.492	0.409	0.094	0.31	1.178
HCM Control Delay	240.7	16.9	13.5	14.6	86
HCM Lane LOS	F	C	B	B	F
HCM 95th-tile Q	40	1.6	0.3	1.1	16.6

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	356	69	76	136	19	81	748	377	62	457	47
Future Vol, veh/h	13	356	69	76	136	19	81	748	377	62	457	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	387	75	83	148	21	88	813	410	67	497	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1936	2056	523	2082	1876	1018	548	0	0	1223	0	0
Stage 1	657	657	-	1194	1194	-	-	-	-	-	-	-
Stage 2	1279	1399	-	888	682	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	50	~ 55	554	~ 39	~ 72	288	1021	-	-	570	-	-
Stage 1	454	462	-	228	260	-	-	-	-	-	-	-
Stage 2	204	~ 207	-	338	450	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 31	554	-	~ 41	288	1021	-	-	570	-	-
Mov Cap-2 Maneuver	-	~ 31	-	-	~ 41	-	-	-	-	-	-	-
Stage 1	312	~ 383	-	157	179	-	-	-	-	-	-	-
Stage 2	23	~ 142	-	-	374	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.6	1.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1021	-	-	-	-	570	-	-
HCM Lane V/C Ratio	0.086	-	-	-	-	0.118	-	-
HCM Control Delay (s)	8.9	0	-	-	-	12.2	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0.3	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	49.1
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	670	180	15	61	13
Future Vol, veh/h	101	670	180	15	61	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	728	196	16	66	14
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	62.7	10.2	10.4
HCM LOS	F	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	0%	82%
Vol Thru, %	87%	92%	0%
Vol Right, %	0%	8%	18%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	771	195	74
LT Vol	101	0	61
Through Vol	670	180	0
RT Vol	0	15	13
Lane Flow Rate	838	212	80
Geometry Grp	1	1	1
Degree of Util (X)	1.038	0.296	0.14
Departure Headway (Hd)	4.457	5.02	6.391
Convergence, Y/N	Yes	Yes	Yes
Cap	813	710	565
Service Time	2.501	3.09	4.391
HCM Lane V/C Ratio	1.031	0.299	0.142
HCM Control Delay	62.7	10.2	10.4
HCM Lane LOS	F	B	B
HCM 95th-tile Q	19.6	1.2	0.5

Intersection	
Int Delay, s/veh	48.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	433	352	2	2240	0	0	0	0	15	0	311
Future Vol, veh/h	0	433	352	2	2240	0	0	0	0	15	0	311
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	471	383	2	2435	0	0	0	0	16	0	338

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	854	0	0		2675	-	1218
Stage 1	-	-	-	-	-	-		2439	-	-
Stage 2	-	-	-	-	-	-		236	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	781	-	0		18	0	~ 172
Stage 1	0	-	-	-	-	0		51	0	-
Stage 2	0	-	-	-	-	0		781	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	781	-	-		18	0	~ 172
Mov Cap-2 Maneuver	-	-	-	-	-	-		18	0	-
Stage 1	-	-	-	-	-	-		51	0	-
Stage 2	-	-	-	-	-	-		781	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 498.1
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	781	-	18	172
HCM Lane V/C Ratio	-	-	0.003	-	0.906	1.965
HCM Control Delay (s)	-	-	9.6	-	$ 470.1	$ 499.4
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	2.4	25.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	21	766	88	39	743
Future Vol, veh/h	28	21	766	88	39	743
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	23	833	96	42	808

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1773	881	0	0	929	0
Stage 1	881	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	91	346	-	-	736	-
Stage 1	405	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	82	346	-	-	736	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	358	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	55.6	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	122	736	-
HCM Lane V/C Ratio	-	-	0.437	0.058	-
HCM Control Delay (s)	-	-	55.6	10.2	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	1.9	0.2	-

Intersection	
Int Delay, s/veh	28.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	105	835	34	23	883
Future Vol, veh/h	70	105	835	34	23	883
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	114	908	37	25	960

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1937	927	0	0	945	0
Stage 1	927	-	-	-	-	-
Stage 2	1010	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 72	325	-	-	726	-
Stage 1	385	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 67	325	-	-	726	-
Mov Cap-2 Maneuver	~ 67	-	-	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	326	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 317.9	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	128	726	-
HCM Lane V/C Ratio	-	-	1.486	0.034	-
HCM Control Delay (s)	-	-	$ 317.9	10.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	13.2	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	229.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	152	166	668	127	175	625
Future Vol, veh/h	152	166	668	127	175	625
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	180	726	138	190	679

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1854	795	0	0	864	0
Stage 1	795	-	-	-	-	-
Stage 2	1059	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 81	388	-	-	779	-
Stage 1	445	-	-	-	-	-
Stage 2	333	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 49	388	-	-	779	-
Mov Cap-2 Maneuver	~ 49	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	202	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 1375.2	0	2.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	90	779	-
HCM Lane V/C Ratio	-	-	3.841	0.244	-
HCM Control Delay (s)	-	-	$ 1375.2	11.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	35.6	1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	566.7

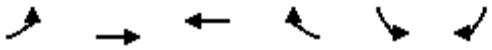
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	378	623	47	308	454
Future Vol, veh/h	23	378	623	47	308	454
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	411	677	51	335	493

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	436	0	1636	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	1405	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1124	-	~ 111	808
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	~ 227	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1124	-	~ 42	808
Mov Cap-2 Maneuver	-	-	-	-	~ 42	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	~ 86	-

Approach	EB	WB	NB
HCM Control Delay, s	0	12	$ 1352.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	42	808	-	-	1124	-
HCM Lane V/C Ratio	7.971	0.611	-	-	0.602	-
HCM Control Delay (s)	$ 3322.8	16.2	-	-	12.9	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	39.8	4.2	-	-	4.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	284	112	22	718	504	150
Future Volume (Veh/h)	284	112	22	718	504	150
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	309	122	24	780	548	163
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	804				764	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	804				764	24
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	62				0	85
cM capacity (veh/h)	820				232	1052

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	431	24	780	365	346
Volume Left	309	0	0	365	183
Volume Right	0	0	780	0	163
cSH	820	1700	1700	232	367
Volume to Capacity	0.38	0.01	0.46	1.58	0.94
Queue Length 95th (ft)	44	0	0	568	254
Control Delay (s)	10.0	0.0	0.0	317.1	67.8
Lane LOS	A			F	F
Approach Delay (s)	10.0	0.0		195.9	
Approach LOS				F	

Intersection Summary			
Average Delay	73.8		
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	14	118	809	577	40
Future Vol, veh/h	22	14	118	809	577	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	15	128	879	627	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1784	649	670	0	-	0
Stage 1	649	-	-	-	-	-
Stage 2	1135	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	90	470	920	-	-	-
Stage 1	520	-	-	-	-	-
Stage 2	307	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	66	470	920	-	-	-
Mov Cap-2 Maneuver	66	-	-	-	-	-
Stage 1	379	-	-	-	-	-
Stage 2	307	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	58.7	1.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	920	-	66	470	-	-
HCM Lane V/C Ratio	0.139	-	0.362	0.032	-	-
HCM Control Delay (s)	9.5	0	87.8	12.9	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.5	-	1.4	0.1	-	-

Intersection	
Intersection Delay, s/veh	156.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	89	20	38	0	194	0	750	5	59	538	2
Future Vol, veh/h	0	89	20	38	0	194	0	750	5	59	538	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	97	22	41	0	211	0	815	5	64	585	2
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	16.4	17.1	245.3	124.3
HCM LOS	C	C	F	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	10%
Vol Thru, %	99%	82%	0%	0%	90%
Vol Right, %	1%	18%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	755	109	38	194	599
LT Vol	0	0	38	0	59
Through Vol	750	89	0	0	538
RT Vol	5	20	0	194	2
Lane Flow Rate	821	118	41	211	651
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.48	0.272	0.1	0.439	1.178
Departure Headway (Hd)	6.871	9.776	9.844	8.588	7.289
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	533	370	366	422	501
Service Time	4.871	7.776	7.544	6.288	5.289
HCM Lane V/C Ratio	1.54	0.319	0.112	0.5	1.299
HCM Control Delay	245.3	16.4	13.6	17.8	124.3
HCM Lane LOS	F	C	B	C	F
HCM 95th-tile Q	38.9	1.1	0.3	2.2	21.3

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	301	76	188	276	20	12	715	254	67	474	63
Future Vol, veh/h	32	301	76	188	276	20	12	715	254	67	474	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	327	83	204	300	22	13	777	276	73	515	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1797	1774	549	1841	1670	915	583	0	0	1053	0	0
Stage 1	695	695	-	941	941	-	-	-	-	-	-	-
Stage 2	1102	1079	-	900	729	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	62	~ 83	535	~ 58	~ 96	331	991	-	-	661	-	-
Stage 1	433	444	-	316	342	-	-	-	-	-	-	-
Stage 2	257	~ 295	-	333	428	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 67	535	-	~ 77	331	991	-	-	661	-	-
Mov Cap-2 Maneuver	-	~ 67	-	-	~ 77	-	-	-	-	-	-	-
Stage 1	418	371	-	305	330	-	-	-	-	-	-	-
Stage 2	~ 21	~ 285	-	~ 28	357	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.1	1.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	991	-	-	-	-	661	-	-
HCM Lane V/C Ratio	0.013	-	-	-	-	0.11	-	-
HCM Control Delay (s)	8.7	0	-	-	-	11.1	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	24.3
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	500	432	30	52	22
Future Vol, veh/h	101	500	432	30	52	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	543	470	33	57	24
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	30.9	17.8	10.6
HCM LOS	D	C	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	0%	70%
Vol Thru, %	83%	94%	0%
Vol Right, %	0%	6%	30%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	601	462	74
LT Vol	101	0	52
Through Vol	500	432	0
RT Vol	0	30	22
Lane Flow Rate	653	502	80
Geometry Grp	1	1	1
Degree of Util (X)	0.868	0.679	0.146
Departure Headway (Hd)	4.782	4.87	6.515
Convergence, Y/N	Yes	Yes	Yes
Cap	751	733	553
Service Time	2.864	2.959	4.515
HCM Lane V/C Ratio	0.87	0.685	0.145
HCM Control Delay	30.9	17.8	10.6
HCM Lane LOS	D	C	B
HCM 95th-tile Q	10.6	5.4	0.5

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1192	418	1	1147	0	0	0	0	72	0	197
Future Vol, veh/h	0	1192	418	1	1147	0	0	0	0	72	0	197
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1296	454	1	1247	0	0	0	0	78	0	214

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	1750	0	0		1897	-	624
Stage 1	-	-	-	-	-	-		1249	-	-
Stage 2	-	-	-	-	-	-		648	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	354	-	0		~ 61	0	428
Stage 1	0	-	-	-	-	0		234	0	-
Stage 2	0	-	-	-	-	0		483	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	354	-	-		~ 60	0	428
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 60	0	-
Stage 1	-	-	-	-	-	-		234	0	-
Stage 2	-	-	-	-	-	-		479	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	104.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	354	-	60	428
HCM Lane V/C Ratio	-	-	0.003	-	1.304	0.5
HCM Control Delay (s)	-	-	15.2	-	$ 333.2	21.5
HCM Lane LOS	-	-	C	-	F	C
HCM 95th %tile Q(veh)	-	-	0	-	6.7	2.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	26	506	106	22	638
Future Vol, veh/h	1	26	506	106	22	638
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	28	550	115	24	693

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1349	608	0	0	665	0
Stage 1	608	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	166	496	-	-	924	-
Stage 1	543	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	159	496	-	-	924	-
Mov Cap-2 Maneuver	159	-	-	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	460	924	-
HCM Lane V/C Ratio	-	-	0.064	0.026	-
HCM Control Delay (s)	-	-	13.4	9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	85	673	94	40	669
Future Vol, veh/h	50	85	673	94	40	669
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	92	732	102	43	727

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1596	783	0	0	834	0
Stage 1	783	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	117	394	-	-	799	-
Stage 1	450	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	106	394	-	-	799	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	450	-	-	-	-	-
Stage 2	397	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	63.7	0	0.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	196	799	-
HCM Lane V/C Ratio	-	-	0.749	0.054	-
HCM Control Delay (s)	-	-	63.7	9.8	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	5	0.2	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	88	155	517	184	366	916
Future Volume (Veh/h)	88	155	517	184	366	916
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	96	168	562	200	398	996
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2454	662			762	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2454	662			762	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	64			53	
cM capacity (veh/h)	18	462			850	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	264	762	1394
Volume Left	96	0	398
Volume Right	168	200	0
cSH	46	1700	850
Volume to Capacity	5.68	0.45	0.47
Queue Length 95th (ft)	Err	0	63
Control Delay (s)	Err	0.0	12.9
Lane LOS	F		B
Approach Delay (s)	Err	0.0	12.9
Approach LOS	F		

Intersection Summary			
Average Delay	1098.2		
Intersection Capacity Utilization	131.3%	ICU Level of Service	H
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	490.7

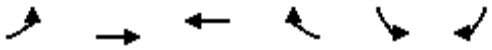
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	459	613	16	287	550
Future Vol, veh/h	24	459	613	16	287	550
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	499	666	17	312	598

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	525	0	1625	276
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	1349	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1042	-	~ 113	763
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	~ 242	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1042	-	~ 40	763
Mov Cap-2 Maneuver	-	-	-	-	~ 40	-
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	~ 86	-

Approach	EB	WB	NB
HCM Control Delay, s	0	14	$ 1132
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	40	763	-	-	1042	-
HCM Lane V/C Ratio	7.799	0.784	-	-	0.639	-
HCM Control Delay (s)	$ 3254.5	24.5	-	-	14.4	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	37.1	7.9	-	-	4.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	179	94	21	442	827	258
Future Volume (Veh/h)	179	94	21	442	827	258
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	195	102	23	480	899	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	503				515	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	503				515	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				0	73
cM capacity (veh/h)	1061				424	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	297	23	480	599	580
Volume Left	195	0	0	599	300
Volume Right	0	0	480	0	280
cSH	1061	1700	1700	424	596
Volume to Capacity	0.18	0.01	0.28	1.41	0.97
Queue Length 95th (ft)	17	0	0	737	343
Control Delay (s)	6.6	0.0	0.0	224.6	56.5
Lane LOS	A			F	F
Approach Delay (s)	6.6	0.0		142.0	
Approach LOS				F	

Intersection Summary				
Average Delay	85.6			
Intersection Capacity Utilization	59.9%	ICU Level of Service		B
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	48	93	792	509	12
Future Vol, veh/h	45	48	93	792	509	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	52	101	861	553	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1623	560	566	0	-	0
Stage 1	560	-	-	-	-	-
Stage 2	1063	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	113	528	1006	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	91	528	1006	-	-	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	332	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	46.8	0.9	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1006	-	91	528	-	-
HCM Lane V/C Ratio	0.1	-	0.538	0.099	-	-
HCM Control Delay (s)	9	0	83.3	12.6	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	2.4	0.3	-	-

Intersection	
Intersection Delay, s/veh	161.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	116	38	34	0	132	0	777	5	73	500	0
Future Vol, veh/h	7	116	38	34	0	132	0	777	5	73	500	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	126	41	37	0	143	0	845	5	79	543	0
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	18	15.2	264.3	104.6
HCM LOS	C	C	F	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	4%	100%	0%	13%
Vol Thru, %	99%	72%	0%	0%	87%
Vol Right, %	1%	24%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	782	161	34	132	573
LT Vol	0	7	34	0	73
Through Vol	777	116	0	0	500
RT Vol	5	38	0	132	0
Lane Flow Rate	850	175	37	143	623
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.525	0.386	0.092	0.307	1.122
Departure Headway (Hd)	6.776	9.28	10.156	8.898	7.336
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	544	390	355	406	498
Service Time	4.776	7.28	7.856	6.598	5.336
HCM Lane V/C Ratio	1.563	0.449	0.104	0.352	1.251
HCM Control Delay	264.3	18	13.9	15.5	104.6
HCM Lane LOS	F	C	B	C	F
HCM 95th-tile Q	42.1	1.8	0.3	1.3	18.6

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	381	69	78	155	24	81	752	386	68	458	48
Future Vol, veh/h	13	381	69	78	155	24	81	752	386	68	458	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	414	75	85	168	26	88	817	420	74	498	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1972	2085	524	2120	1901	1027	550	0	0	1237	0	0
Stage 1	672	672	-	1203	1203	-	-	-	-	-	-	-
Stage 2	1300	1413	-	917	698	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	47	~ 53	553	~ 37	~ 69	285	1020	-	-	563	-	-
Stage 1	445	454	-	225	257	-	-	-	-	-	-	-
Stage 2	198	~ 204	-	326	442	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 29	553	-	~ 38	285	1020	-	-	563	-	-
Mov Cap-2 Maneuver	-	~ 29	-	-	~ 38	-	-	-	-	-	-	-
Stage 1	301	~ 367	-	152	174	-	-	-	-	-	-	-
Stage 2	~ 4	~ 138	-	-	358	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.6	1.5
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1020	-	-	-	-	563	-	-
HCM Lane V/C Ratio	0.086	-	-	-	-	0.131	-	-
HCM Control Delay (s)	8.9	0	-	-	-	12.4	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0.3	-	-	-	-	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	64.2
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	704	205	17	66	13
Future Vol, veh/h	106	704	205	17	66	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	765	223	18	72	14
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	84	10.8	10.7
HCM LOS	F	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	0%	84%
Vol Thru, %	87%	92%	0%
Vol Right, %	0%	8%	16%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	810	222	79
LT Vol	106	0	66
Through Vol	704	205	0
RT Vol	0	17	13
Lane Flow Rate	880	241	86
Geometry Grp	1	1	1
Degree of Util (X)	1.104	0.335	0.15
Departure Headway (Hd)	4.516	5.173	6.562
Convergence, Y/N	Yes	Yes	Yes
Cap	801	700	550
Service Time	2.557	3.173	4.562
HCM Lane V/C Ratio	1.099	0.344	0.156
HCM Control Delay	84	10.8	10.7
HCM Lane LOS	F	B	B
HCM 95th-tile Q	23.9	1.5	0.5

Intersection	
Int Delay, s/veh	48.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	435	352	2	2243	0	0	0	0	15	0	311
Future Vol, veh/h	0	435	352	2	2243	0	0	0	0	15	0	311
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	473	383	2	2438	0	0	0	0	16	0	338

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	856	0	0		2679	-	1219
Stage 1	-	-	-	-	-	-		2442	-	-
Stage 2	-	-	-	-	-	-		237	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	780	-	0		18	0	~ 172
Stage 1	0	-	-	-	-	0		51	0	-
Stage 2	0	-	-	-	-	0		780	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	780	-	-		18	0	~ 172
Mov Cap-2 Maneuver	-	-	-	-	-	-		18	0	-
Stage 1	-	-	-	-	-	-		51	0	-
Stage 2	-	-	-	-	-	-		780	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 498.1
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	780	-	18	172
HCM Lane V/C Ratio	-	-	0.003	-	0.906	1.965
HCM Control Delay (s)	-	-	9.6	-	$ 470.1	$ 499.4
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	2.4	25.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	21	771	89	39	748
Future Vol, veh/h	28	21	771	89	39	748
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	23	838	97	42	813

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1784	887	0	0	935	0
Stage 1	887	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	90	343	-	-	732	-
Stage 1	402	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	81	343	-	-	732	-
Mov Cap-2 Maneuver	81	-	-	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	356	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	57	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	120	732	-
HCM Lane V/C Ratio	-	-	0.444	0.058	-
HCM Control Delay (s)	-	-	57	10.2	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	1.9	0.2	-

Intersection	
Int Delay, s/veh	31.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	71	110	837	34	23	888
Future Vol, veh/h	71	110	837	34	23	888
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	120	910	37	25	965

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1944	929	0	0	947	0
Stage 1	929	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 71	324	-	-	725	-
Stage 1	385	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 66	324	-	-	725	-
Mov Cap-2 Maneuver	~ 66	-	-	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	324	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 338.5	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	128	725	-
HCM Lane V/C Ratio	-	-	1.537	0.034	-
HCM Control Delay (s)	-	-	$ 338.5	10.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	13.9	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	274.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	159	175	671	133	186	625
Future Vol, veh/h	159	175	671	133	186	625
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	173	190	729	145	202	679

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1885	802	0	0	874	0
Stage 1	802	-	-	-	-	-
Stage 2	1083	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	~ 78	384	-	-	772	-
Stage 1	441	-	-	-	-	-
Stage 2	325	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 45	384	-	-	772	-
Mov Cap-2 Maneuver	~ 45	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	189	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 1596.6	0	2.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	84	772	-
HCM Lane V/C Ratio	-	-	4.322	0.262	-
HCM Control Delay (s)	-	-	$ 1596.6	11.3	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	38.4	1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	566.7

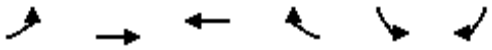
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	378	623	47	308	454
Future Vol, veh/h	23	378	623	47	308	454
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	125
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	411	677	51	335	493

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	436	0	1636	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	1405	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1124	-	~ 111	808
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	~ 227	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1124	-	~ 42	808
Mov Cap-2 Maneuver	-	-	-	-	~ 42	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	~ 86	-

Approach	EB	WB	NB
HCM Control Delay, s	0	12	$ 1352.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	42	808	-	-	1124	-
HCM Lane V/C Ratio	7.971	0.611	-	-	0.602	-
HCM Control Delay (s)	$ 3322.8	16.2	-	-	12.9	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	39.8	4.2	-	-	4.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	284	112	22	718	504	150
Future Volume (Veh/h)	284	112	22	718	504	150
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	309	122	24	780	548	163
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	804				764	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	804				764	24
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	62				0	85
cM capacity (veh/h)	820				232	1052

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	431	24	780	365	346
Volume Left	309	0	0	365	183
Volume Right	0	0	780	0	163
cSH	820	1700	1700	232	367
Volume to Capacity	0.38	0.01	0.46	1.58	0.94
Queue Length 95th (ft)	44	0	0	568	254
Control Delay (s)	10.0	0.0	0.0	317.1	67.8
Lane LOS	A			F	F
Approach Delay (s)	10.0	0.0		195.9	
Approach LOS				F	

Intersection Summary			
Average Delay	73.8		
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	14	124	824	591	40
Future Vol, veh/h	22	14	124	824	591	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	15	135	896	642	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1830	664	685	0	-	0
Stage 1	664	-	-	-	-	-
Stage 2	1166	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	84	461	908	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	59	461	908	-	-	-
Mov Cap-2 Maneuver	59	-	-	-	-	-
Stage 1	360	-	-	-	-	-
Stage 2	296	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	67.8	1.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	908	-	59	461	-	-
HCM Lane V/C Ratio	0.148	-	0.405	0.033	-	-
HCM Control Delay (s)	9.7	0	102.6	13.1	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.5	-	1.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	172.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	97	20	41	0	206	0	758	6	67	544	2
Future Vol, veh/h	0	97	20	41	0	206	0	758	6	67	544	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	105	22	45	0	224	0	824	7	73	591	2
Number of Lanes	0	1	0	1	0	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	17.3	18.2	267.6	145.7
HCM LOS	C	C	F	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	11%
Vol Thru, %	99%	83%	0%	0%	89%
Vol Right, %	1%	17%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	764	117	41	206	613
LT Vol	0	0	41	0	67
Through Vol	758	97	0	0	544
RT Vol	6	20	0	206	2
Lane Flow Rate	830	127	45	224	666
Geometry Grp	2	5	7	7	2
Degree of Util (X)	1.53	0.296	0.108	0.469	1.232
Departure Headway (Hd)	7.09	10.101	10.047	8.789	7.519
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	523	359	359	412	486
Service Time	5.09	8.101	7.747	6.489	5.519
HCM Lane V/C Ratio	1.587	0.354	0.125	0.544	1.37
HCM Control Delay	267.6	17.3	14	19	145.7
HCM Lane LOS	F	C	B	C	F
HCM 95th-tile Q	40.8	1.2	0.4	2.4	23.4

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	32	325	76	190	293	24	12	719	263	72	475	65
Future Vol, veh/h	32	325	76	190	293	24	12	719	263	72	475	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	353	83	207	318	26	13	782	286	78	516	71

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1831	1802	552	1877	1694	925	587	0	0	1068	0	0
Stage 1	708	708	-	951	951	-	-	-	-	-	-	-
Stage 2	1123	1094	-	926	743	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	59	~ 80	533	~ 55	~ 93	326	988	-	-	653	-	-
Stage 1	426	438	-	312	338	-	-	-	-	-	-	-
Stage 2	250	~ 290	-	322	422	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 63	533	-	~ 74	326	988	-	-	653	-	-
Mov Cap-2 Maneuver	-	~ 63	-	-	~ 74	-	-	-	-	-	-	-
Stage 1	411	360	-	301	326	-	-	-	-	-	-	-
Stage 2	~ 5	~ 280	-	~ 4	346	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.1	1.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	988	-	-	-	-	653	-	-
HCM Lane V/C Ratio	0.013	-	-	-	-	0.12	-	-
HCM Control Delay (s)	8.7	0	-	-	-	11.3	0	-
HCM Lane LOS	A	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	31.2
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	533	456	31	57	23
Future Vol, veh/h	106	533	456	31	57	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	579	496	34	62	25
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	41.3	21.2	11
HCM LOS	E	C	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	0%	71%
Vol Thru, %	83%	94%	0%
Vol Right, %	0%	6%	29%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	639	487	80
LT Vol	106	0	57
Through Vol	533	456	0
RT Vol	0	31	23
Lane Flow Rate	695	529	87
Geometry Grp	1	1	1
Degree of Util (X)	0.935	0.744	0.162
Departure Headway (Hd)	4.958	5.058	6.687
Convergence, Y/N	Yes	Yes	Yes
Cap	736	720	538
Service Time	2.958	3.058	4.708
HCM Lane V/C Ratio	0.944	0.735	0.162
HCM Control Delay	41.3	21.2	11
HCM Lane LOS	E	C	B
HCM 95th-tile Q	13.3	6.7	0.6

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1193	418	1	1149	0	0	0	0	72	0	198
Future Vol, veh/h	0	1193	418	1	1149	0	0	0	0	72	0	198
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1297	454	1	1249	0	0	0	0	78	0	215

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	1751	0	0		1900	-	625
Stage 1	-	-	-	-	-	-		1251	-	-
Stage 2	-	-	-	-	-	-		649	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	354	-	0		~ 61	0	428
Stage 1	0	-	-	-	-	0		233	0	-
Stage 2	0	-	-	-	-	0		482	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	354	-	-		~ 60	0	428
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 60	0	-
Stage 1	-	-	-	-	-	-		233	0	-
Stage 2	-	-	-	-	-	-		478	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	104.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	354	-	60	428
HCM Lane V/C Ratio	-	-	0.003	-	1.304	0.503
HCM Control Delay (s)	-	-	15.2	-	$ 333.2	21.6
HCM Lane LOS	-	-	C	-	F	C
HCM 95th %tile Q(veh)	-	-	0	-	6.7	2.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Appendix H: Project Internalization

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:		**Organization:**	
Project Location:	670 Mesquit	**Performed By:**	
Scenario Description:	Option 1	**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				701	603	98
Retail				379	223	156
Restaurant				765	420	345
Cinema/Entertainment				0		
Residential				84	17	67
Hotel				111	65	46
All Other Land Uses[2]				165	109	56
Total				2205	1437	768

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.10			1.10		
Retail	1.70			1.70		
Restaurant	1.70			1.70		
Cinema/Entertainment						
Residential	1.40			1.40		
Hotel	1.53			1.53		
All Other Land Uses[2]	1.00			1.00		

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		30	68	0	0	0
Retail	27		34	0	0	0
Restaurant	93	30		0	1	4
Cinema/Entertainment	0	0	0		0	0
Residential	2	1	19	0		0
Hotel	20	10	6	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	3,168	1,988	1,180
Internal Capture Percentage	22%	17%	29%
External Vehicle-Trips[3]	1,715	1,187	528
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	21%	91%
Retail	19%	23%
Restaurant	18%	22%
Cinema/Entertainment	N/A	N/A
Residential	4%	23%
Hotel	4%	51%

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:		**Organization:**	
Project Location:	670 Mesquit	**Performed By:**	
Scenario Description:	Option 1	**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				792	135	657
Retail				973	495	478
Restaurant				1023	645	378
Cinema/Entertainment				0		
Residential				94	63	31
Hotel				142	72	70
All Other Land Uses[2]				216	102	114
Total				3240	1512	1728

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.10			1.10		
Retail	1.70			1.70		
Restaurant	1.70			1.70		
Cinema/Entertainment						
Residential	1.40			1.40		
Hotel	1.53			1.53		
All Other Land Uses[2]	1.00			1.00		

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		145	145		290	
Retail						
Restaurant					290	
Cinema/Entertainment						
Residential		290	290			
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		67	22	0	4	0
Retail	16		236	0	40	19
Restaurant	19	264		0	14	45
Cinema/Entertainment	0	0	0		0	0
Residential	2	18	9	0		1
Hotel	0	17	55	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	4,831	2,388	2,443
Internal Capture Percentage	35%	36%	35%
External Vehicle-Trips[3]	2,181	990	1,191
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	25%	13%
Retail	43%	38%
Restaurant	29%	53%
Cinema/Entertainment	N/A	N/A
Residential	66%	70%
Hotel	59%	67%

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:		**Organization:**	
Project Location:	670 Mesquit	**Performed By:**	
Scenario Description:	Option 2	**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				701	603	98
Retail				379	223	156
Restaurant				765	420	345
Cinema/Entertainment				0		
Residential				84	17	67
Hotel				111	65	46
All Other Land Uses[2]				173	113	60
Total				2213	1441	772

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.10			1.10		
Retail	1.70			1.70		
Restaurant	1.70			1.70		
Cinema/Entertainment						
Residential	1.40			1.40		
Hotel	1.53			1.53		
All Other Land Uses[2]	1.00			1.00		

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		30	68	0	0	0
Retail	27		34	0	0	0
Restaurant	93	30		0	1	4
Cinema/Entertainment	0	0	0		0	0
Residential	2	1	19	0		0
Hotel	20	10	6	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	3,176	1,992	1,184
Internal Capture Percentage	22%	17%	29%
External Vehicle-Trips[3]	1,723	1,191	532
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	21%	91%
Retail	19%	23%
Restaurant	18%	22%
Cinema/Entertainment	N/A	N/A
Residential	4%	23%
Hotel	4%	51%

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:		**Organization:**	
Project Location:	670 Mesquit	**Performed By:**	
Scenario Description:	Option 2	**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				792	135	657
Retail				973	495	478
Restaurant				1023	645	378
Cinema/Entertainment				0		
Residential				94	63	31
Hotel				142	72	70
All Other Land Uses[2]				221	105	116
Total				3245	1515	1730

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.10			1.10		
Retail	1.70			1.70		
Restaurant	1.70			1.70		
Cinema/Entertainment						
Residential	1.40			1.40		
Hotel	1.53			1.53		
All Other Land Uses[2]	1.00			1.00		

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		145	145		290	
Retail						
Restaurant					290	
Cinema/Entertainment						
Residential		290	290			
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		67	22	0	4	0
Retail	16		236	0	40	19
Restaurant	19	264		0	14	45
Cinema/Entertainment	0	0	0		0	0
Residential	2	18	9	0		1
Hotel	0	17	55	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	4,836	2,391	2,445
Internal Capture Percentage	35%	35%	35%
External Vehicle-Trips[3]	2,186	993	1,193
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	25%	13%
Retail	43%	38%
Restaurant	29%	53%
Cinema/Entertainment	N/A	N/A
Residential	66%	70%
Hotel	59%	67%

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Appendix I:
Detailed Project Trip Generation

TABLE 1A
PROPOSED PROJECT OPTION 1 TRIP GENERATION
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a] AM Peak Hour Rate	AM In%	AM Out%	PM Peak Hour Rate	PM In%	PM Out%	Estimated Trip Generation AM Peak Hour Trips In	AM Out	AM Total	PM Peak Hour Trips In	PM Out	PM Total
PROPOSED PROJECT														
Creative Office	710	944.055 ksf	[b]	86%	14%	[b]	17%	83%	603	98	701	135	657	792
Internal Capture [c]				*21%*	*91%*		*25%*	*13%*	(129)	(89)	(218)	(34)	(85)	(119)
Transit, Bike, Ped Adjustment [d]														
Net External Office (before TNC adjustment)									474	9	483	101	572	673
Added TNC - from transit			*2.5%*			*2.5%*			12	12	24	17	17	34
Added TNC - from vehicles			*2.5%*			*2.5%*			0	12	12	14	3	17
TNCs already in vehicle trip generation									12	0	12	3	14	17
Total TNC									24	24	48	34	34	68
Non-TNC									462	9	471	98	558	656
Total Vehicle									486	33	519	132	592	724
Quality Restaurant	931	44.788 ksf	0.73	50%	50%	7.8	67%	33%	17	16	33	234	115	349
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(3)	(3)	(6)	(69)	(61)	(130)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(4)	(3)	(7)	(41)	(14)	(55)
Net Driveway Trips (before TNC adjustment)									10	10	20	124	40	164
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	1	3	4
TNCs already in vehicle trip generation									0	0	0	3	1	4
Total TNC									1	1	2	8	8	16
Non-TNC (before pass-by adjustment)									10	10	20	121	39	160
Total Vehicle									11	11	22	129	47	176
Pass-by adjustment [e]			*10%*			*10%*			(1)	(1)	(2)	(12)	(3)	(15)
Non-TNC									9	9	18	109	36	145
High-Turnover Restaurant	932	44.788 ksf	9.94	55%	45%	9.77	62%	38%	245	200	445	272	166	438
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(44)	(44)	(88)	(80)	(88)	(168)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(50)	(39)	(89)	(48)	(20)	(68)
Net Driveway Trips (before TNC adjustment)									151	117	268	144	58	202
Added TNC - from transit			*2.5%*			*2.5%*			7	7	14	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			3	4	7	1	4	5
TNCs already in vehicle trip generation									4	3	7	4	1	5
Total TNC									14	14	28	10	10	20
Non-TNC (before pass-by adjustment)									147	114	261	140	57	197
Total Vehicle									161	128	289	150	67	217
Pass-by adjustment [e]			*20%*			*20%*			(29)	(22)	(51)	(28)	(11)	(39)
Non-TNC									118	92	210	112	46	158
Hotel	310	236 rooms	0.47	59%	41%	0.6	51%	49%	65	46	111	72	70	142
Internal Capture [c]				*4%*	*51%*		*59%*	*67%*	(3)	(24)	(27)	(43)	(47)	(90)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(16)	(6)	(22)	(7)	(6)	(13)
Net External Hotel (before TNC adjustment)									46	16	62	22	17	39
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			0	1	1	0	1	1
TNCs already in vehicle trip generation									1	0	1	1	0	1
Total TNC									3	3	6	2	2	4
Non-TNC									45	16	61	21	17	38
Total Vehicle									48	19	67	23	19	42
Residential*	222	258 DU	0.23	12%	88%	0.30	70%	30%	7	52	59	54	23	77
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(12)	(12)	(36)	(16)	(52)
Transit, Bike, Ped Adjustment [d]														
Net External Residential (before TNC adjustment)									7	40	47	18	7	25
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			1	0	1	0	0	0
TNCs already in vehicle trip generation									0	1	1	0	0	0
Total TNC									2	2	4	1	1	2
Non-TNC									7	39	46	18	7	25
Total Vehicle									9	41	50	19	8	27
Affordable Housing	*[f]*	50 DU	0.5	*40%*	*60%*	0.34	55%	45%	10	15	25	9	8	17
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(4)	(4)	(6)	(6)	(12)
Net External Affordable Housing									10	11	21	3	2	5
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									1	1	2	0	0	0
Non-TNC									10	11	21	3	2	5
Total Vehicle									11	12	23	3	2	5
Studio, Event, Gallery [g]	495	93.617 ksf	1.76	66%	34%	2.31	47%	53%	109	56	165	102	114	216
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(27)	(14)	(41)	(26)	(29)	(55)
Net External Gallery (before TNC adjustment)									82	42	124	76	85	161
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	2	2	4
TNCs already in vehicle trip generation									2	1	3	2	2	4
Total TNC									6	6	12	8	8	16
Non-TNC									80	41	121	74	83	157
Total Vehicle									86	47	133	82	91	173
Gym (Health / Fitness Club)	492	62.148 ksf	1.31	51%	49%	3.45	57%	43%	41	40	81	122	92	214
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(8)	(9)	(17)	(53)	(35)	(88)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(8)	(8)	(16)	(17)	(14)	(31)
Net Driveway Trips (before TNC adjustment)									25	23	48	52	43	95
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	2	2	4
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	1	1	2
TNCs already in vehicle trip generation									1	1	2	1	1	2
Total TNC									3	3	6	4	4	8
Non-TNC (before pass-by adjustment)									24	22	46	51	42	93
Total Vehicle									27	25	52	55	46	101
Pass-by adjustment [e]			*20%*			*20%*			(4)	(4)	(8)	(10)	(8)	(18)
Non-TNC									20	18	38	41	34	75

TABLE 1A
PROPOSED PROJECT OPTION 1 TRIP GENERATION
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a] AM Peak Hour Rate	AM In%	AM Out%	PM Peak Hour Rate	PM In%	PM Out%	Estimated Trip Generation AM Peak Hour Trips In	AM Out	AM Total	PM Peak Hour Trips In	PM Out	PM Total
Grocery	850	28.054 ksf	3.82	60%	40%	[h]	51%	49%	64	43	107	154	148	302
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(12)	(10)	(22)	(67)	(57)	(124)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(13)	(8)	(21)	(22)	(23)	(45)
Net Driveway Trips (before TNC adjustment)									39	25	64	65	68	133
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	2	2	4
TNCs already in vehicle trip generation									1	1	2	2	2	4
Total TNC									4	4	8	7	7	14
Non-TNC (before pass-by adjustment)									38	24	62	63	66	129
Total Vehicle									42	28	70	70	73	143
Pass-by adjustment [e]			*40%*			*40%*			(15)	(9)	(24)	(25)	(26)	(51)
Non-TNC									23	15	38	38	40	78
General Retail	820	79.240 ksf	[i]	62%	38%	[i]	48%	52%	118	73	191	219	238	457
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(22)	(17)	(39)	(95)	(91)	(186)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(24)	(14)	(38)	(31)	(37)	(68)
Net Driveway Trips (before TNC adjustment)									72	42	114	93	110	203
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	3	2	5
TNCs already in vehicle trip generation									2	1	3	2	3	5
Total TNC									6	6	12	10	10	20
Non-TNC (before pass-by adjustment)									70	41	111	91	107	198
Total Vehicle									76	47	123	101	117	218
Pass-by adjustment [e]			*40%*			*40%*			(28)	(16)	(44)	(36)	(42)	(78)
Non-TNC									42	25	67	55	65	120
Food Hall	[j]	28.858 ksf	9.94	55%	45%	8.19	59%	41%	158	129	287	139	97	236
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(28)	(28)	(56)	(41)	(52)	(93)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(33)	(25)	(58)	(25)	(11)	(36)
Net Driveway Trips (before TNC adjustment)									97	76	173	73	34	107
Added TNC - from transit			*2.5%*			*2.5%*			4	4	8	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			2	2	4	1	2	3
TNCs already in vehicle trip generation									2	2	4	2	1	3
Total TNC									8	8	16	6	6	12
Non-TNC (before pass-by adjustment)									95	74	169	71	33	104
Total Vehicle									103	82	185	77	39	116
Pass-by adjustment [e]			*15%*			*15%*			(14)	(11)	(25)	(10)	(4)	(14)
Non-TNC									81	63	144	61	29	90
Farmers' Market	[k]	500 persons	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0
Internal Capture [c]									0	0	0	0	0	0
Transit, Bike, Ped Adjustment [d]									0	0	0	0	0	0
Net External Farmers' Market (before TNC adjustment)									0	0	0	0	0	0
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									0	0	0	0	0	0
Total Vehicle									0	0	0	0	0	0
TOTAL PROJECT DRIVEWAY TRIPS									988	401	1,389	751	1,011	1,762
NET EXTERNAL VEHICLE TRIPS									969	410	1,379	720	1,007	1,727
EXISTING USE CREDIT														
Warehousing	150	205.4 ksf	0.17	77%	23%	0.19	27%	73%	27	8	35	11	28	39
Total Existing Use Credit									27	8	35	11	28	39
NET INCREMENTAL EXTERNAL TRIPS									942	402	1,344	709	979	1,688

Notes:

The proliferation of shared mobility transportation network companies (TNCs), such as Lyft and Uber, in recent years is important to consider in a project of this size. In order to account for TNCs, it was assumed that TNCs would account for 5% of the vehicle trips generated by each land use. Available empirical evidence indicates that TNC trips replace both transit/bike/walk trips and private vehicle trips. Therefore, 2.5% of the TNC trips were considered to replace transit trips, which results in an additional vehicle trip in and out of the site that would not have been considered in the basic trip generation rates. The 2.5% of TNC trips attributed to the replacement of private vehicles result in an additional vehicle trip added only to the opposite movement of the vehicle trip already considered in the basic trip generation rates. TNC vehicles will have a loading/unloading zone at the front of the project site and were not included in the total project driveway trips, but were included in the net external vehicle trips (which do not include pass-by vehicles).

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] ITE office trip generation equations used rather than linear trip generation rate:
AM Peak Hour: Ln(T) = 0.72 * A + 21.64, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)
PM Peak Hour: Ln(T) = 0.83 * A + 7.99, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)

[c] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by Multi-Use Trip Generation Methodology described in ITE Trip Generation Handbook, 9th Edition. Internalization percentages are derived from NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, Transportation Research Board, 2011.

[d] The transit credit is based on LADOT's *Transportation Impact Study Guidelines,* December 2016. The guidelines state that up to 15% transit credit may be taken for projects within 1/4 mile of a Rapid bus line. In addition to the 15% transit credit, a 10% walking/biking credit was applied to land uses due to the walkable nature of the area (only 5% walking/biking credit was taken for office land use). For Dense Multi-Use Urban location rates, a transit credit was not explicitly added since the effects of transit are assumed to be implicit in the rates.

[e] The pass-by credit is based on Attachment F of LADOT's *Transportation Impact Study Guidelines,* December 2016.

[f] Trip rates for affordable housing taken from LADOT's *Transportation Impact Study Guidelines,* December 2016.

[g] Trip generation rates for recreation center used for Studio, Event, Gallery.

[h] ITE grocery trip generation equation used rather than linear trip generation rate for PM peak period only:
PM Peak Hour: Ln(T) = 0.75 * A + 3.21, where T = trips, A = area in ksf

[i] ITE retail trip generation equations used rather than linear trip generation rate:
AM Peak Hour: Ln(T) = 0.50 * A + 151.78, where T = trips, A = area in ksf
PM Peak Hour: T=0.74 * Ln(A) + 2.89, where T = trips, A = area in ksf

[j] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place, and retail.

[k] Weekly farmers market from 11am-2pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle. A larger monthly farmers' market is planned, but is not be part of the weekday traffic analysis because it is proposed for weekends only.

TABLE 1B
PROPOSED PROJECT OPTION 2 TRIP GENERATION
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]						Estimated Trip Generation					
			AM Peak Hour			PM Peak Hour			AM Peak Hour Trips			PM Peak Hour Trips		
			Rate	In%	Out%	Rate	In%	Out%	In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Creative Office	710	944.055 ksf	[b]	86%	14%	[b]	17%	83%	603	98	701	135	657	792
Internal Capture [c]				*21%*	*91%*		*25%*	*13%*	(129)	(89)	(218)	(34)	(85)	(119)
Transit, Bike, Ped Adjustment [d]														
Net External Office (before TNC adjustment)									474	9	483	101	572	673
Added TNC - from transit			*2.5%*			*2.5%*			12	12	24	17	17	34
Added TNC - from vehicles			*2.5%*			*2.5%*			0	12	12	14	3	17
TNCs already in vehicle trip generation									12	0	12	3	14	17
Total TNC									24	24	48	34	34	68
Non-TNC									462	9	471	98	558	656
Total Vehicle									486	33	519	132	592	724
Quality Restaurant	931	44.788 ksf	0.73	50%	50%	7.8	67%	33%	17	16	33	234	115	349
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(3)	(3)	(6)	(69)	(61)	(130)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(4)	(3)	(7)	(41)	(14)	(55)
Net Driveway Trips (before TNC adjustment)									10	10	20	124	40	164
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	1	3	4
TNCs already in vehicle trip generation									0	0	0	3	1	4
Total TNC									1	1	2	8	8	16
Non-TNC (before pass-by adjustment)									10	10	20	121	39	160
Total Vehicle									11	11	22	129	47	176
Pass-by adjustment [e]			*10%*			*10%*			(1)	(1)	(2)	(12)	(3)	(15)
Non-TNC									9	9	18	109	36	145
High-Turnover Restaurant	932	44.788 ksf	9.94	55%	45%	9.77	62%	38%	245	200	445	272	166	438
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(44)	(44)	(88)	(80)	(88)	(168)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(50)	(39)	(89)	(48)	(20)	(68)
Net Driveway Trips (before TNC adjustment)									151	117	268	144	58	202
Added TNC - from transit			*2.5%*			*2.5%*			7	7	14	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			3	4	7	1	4	5
TNCs already in vehicle trip generation									4	3	7	4	1	5
Total TNC									14	14	28	10	10	20
Non-TNC (before pass-by adjustment)									147	114	261	140	57	197
Total Vehicle									161	128	289	150	67	217
Pass-by adjustment [e]			*20%*			*20%*			(29)	(22)	(51)	(28)	(11)	(39)
Non-TNC									118	92	210	112	46	158
Hotel	310	236 rooms	0.47	59%	41%	0.6	51%	49%	65	46	111	72	70	142
Internal Capture [c]				*4%*	*51%*		*59%*	*67%*	(3)	(24)	(27)	(43)	(47)	(90)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(16)	(6)	(22)	(7)	(6)	(13)
Net External Hotel (before TNC adjustment)									46	16	62	22	17	39
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			0	1	1	0	1	1
TNCs already in vehicle trip generation									1	0	1	1	0	1
Total TNC									3	3	6	2	2	4
Non-TNC									45	16	61	21	17	38
Total Vehicle									48	19	67	23	19	42
Residential*	222	258 DU	0.23	12%	88%	0.30	70%	30%	7	52	59	54	23	77
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(12)	(12)	(36)	(16)	(52)
Transit, Bike, Ped Adjustment [d]														
Net External Residential (before TNC adjustment)									7	40	47	18	7	25
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			1	0	1	0	0	0
TNCs already in vehicle trip generation									0	1	1	0	0	0
Total TNC									2	2	4	1	1	2
Non-TNC									7	39	46	18	7	25
Total Vehicle									9	41	50	19	8	27
Affordable Housing	*[f]*	50 DU	0.5	*40%*	*60%*	0.34	55%	45%	10	15	25	9	8	17
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(4)	(4)	(6)	(6)	(12)
Net External Affordable Housing									10	11	21	3	2	5
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									1	1	2	0	0	0
Non-TNC									10	11	21	3	2	5
Total Vehicle									11	12	23	3	2	5
Studio, Event, Gallery [g]	495	93.617 ksf	1.76	66%	34%	2.31	47%	53%	109	56	165	102	114	216
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(27)	(14)	(41)	(26)	(29)	(55)
Net External Gallery (before TNC adjustment)									82	42	124	76	85	161
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	2	2	4
TNCs already in vehicle trip generation									2	1	3	2	2	4
Total TNC									6	6	12	8	8	16
Non-TNC									80	41	121	74	83	157
Total Vehicle									86	47	133	82	91	173
Gym (Health / Fitness Club)	492	62.148 ksf	1.31	51%	49%	3.45	57%	43%	41	40	81	122	92	214
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(8)	(9)	(17)	(53)	(35)	(88)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(8)	(8)	(16)	(17)	(14)	(31)
Net Driveway Trips (before TNC adjustment)									25	23	48	52	43	95
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	2	2	4
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	1	1	2
TNCs already in vehicle trip generation									1	1	2	1	1	2
Total TNC									3	3	6	4	4	8
Non-TNC (before pass-by adjustment)									24	22	46	51	42	93
Total Vehicle									27	25	52	55	46	101
Pass-by adjustment [e]			*20%*			*20%*			(4)	(4)	(8)	(10)	(8)	(18)
Non-TNC									20	18	38	41	34	75
Grocery	850	28.054 ksf	3.82	60%	40%	[h]	51%	49%	64	43	107	154	148	302
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(12)	(10)	(22)	(67)	(57)	(124)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(13)	(8)	(21)	(22)	(23)	(45)
Net Driveway Trips (before TNC adjustment)									39	25	64	65	68	133
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	2	2	4
TNCs already in vehicle trip generation									1	1	2	2	2	4
Total TNC									4	4	8	7	7	14
Non-TNC (before pass-by adjustment)									38	24	62	63	66	129
Total Vehicle									42	28	70	70	73	143
Pass-by adjustment [e]			*40%*			*40%*			(15)	(9)	(24)	(25)	(26)	(51)
Non-TNC									23	15	38	38	40	78
General Retail	820	79.240 ksf	[i]	62%	38%	[i]	48%	52%	118	73	191	219	238	457
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(22)	(17)	(39)	(95)	(91)	(186)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(24)	(14)	(38)	(31)	(37)	(68)
Net Driveway Trips (before TNC adjustment)									72	42	114	93	110	203
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	3	2	5
TNCs already in vehicle trip generation									2	1	3	2	3	5
Total TNC									6	6	12	10	10	20
Non-TNC (before pass-by adjustment)									70	41	111	91	107	198
Total Vehicle									76	47	123	101	117	218
Pass-by adjustment [e]			*40%*			*40%*			(28)	(16)	(44)	(36)	(42)	(78)
Non-TNC									42	25	67	55	65	120

TABLE 1B
PROPOSED PROJECT OPTION 2 TRIP GENERATION
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]						Estimated Trip Generation					
			AM Peak Hour			PM Peak Hour			AM Peak Hour Trips			PM Peak Hour Trips		
			Rate	In%	Out%	Rate	In%	Out%	In	Out	Total	In	Out	Total
Food Hall	[j]	28.858 ksf	9.94	55%	45%	8.19	59%	41%	158	129	287	139	97	236
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(28)	(28)	(56)	(41)	(52)	(93)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(33)	(25)	(58)	(25)	(11)	(36)
Net Driveway Trips (before TNC adjustment)									97	76	173	73	34	107
Added TNC - from transit			*2.5%*			*2.5%*			4	4	8	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			2	2	4	1	2	3
TNCs already in vehicle trip generation									2	2	4	2	1	3
Total TNC									8	8	16	6	6	12
Non-TNC (before pass-by adjustment)									95	74	169	71	33	104
Total Vehicle									103	82	185	77	39	116
Pass-by adjustment [e]			*15%*			*15%*			(14)	(11)	(25)	(10)	(4)	(14)
Non-TNC									81	63	144	61	29	90
Deck	[k]	3.030 acres	2.6	50%	50%	1.8	50%	50%	4	4	8	3	2	5
Net External Deck (before TNC adjustment)									4	4	8	3	2	5
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									4	4	8	3	2	5
Total Vehicle									4	4	8	3	2	5
Farmers' Market	[l]	500 persons	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0
Internal Capture [c]									0	0	0	0	0	0
Transit, Bike, Ped Adjustment [d]									0	0	0	0	0	0
Net External Farmers' Market (before TNC adjustment)									0	0	0	0	0	0
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									0	0	0	0	0	0
Total Vehicle									0	0	0	0	0	0
Group Exercise Classes	[m]	280 persons	1.0	50%	50%	1.0	50%	50%	140	140	280	140	140	280
Internal Capture [c]				50%	50%		50%	50%	(70)	(70)	(140)	(70)	(70)	(140)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(18)	(18)	(36)	(18)	(18)	(36)
Net External Exercise Classes (before TNC adjustment)									52	52	104	52	52	104
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	1	1	2
TNCs already in vehicle trip generation									1	1	2	1	1	2
Total TNC									5	5	10	5	5	10
Non-TNC									51	51	102	51	51	102
Total Vehicle									56	56	112	56	56	112
Busking	[n]	20 persons	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0
Internal Capture [c]									0	0	0	0	0	0
Transit, Bike, Ped Adjustment [d]									0	0	0	0	0	0
Net External Busking (before TNC adjustment)									0	0	0	0	0	0
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									0	0	0	0	0	0
Total Vehicle									0	0	0	0	0	0
TOTAL PROJECT DRIVEWAY TRIPS									1,043	456	1,499	805	1,064	1,869
NET EXTERNAL VEHICLE TRIPS									1,029	470	1,499	779	1,065	1,844
EXISTING USE CREDIT														
Warehousing	150	205.4 ksf	0.17	77%	23%	0.19	27%	73%	27	8	35	11	28	39
Total Existing Use Credit									27	8	35	11	28	39
NET INCREMENTAL EXTERNAL TRIPS									1,002	462	1,464	768	1,037	1,805

Notes:

The proliferation of shared mobility transportation network companies (TNCs), such as Lyft and Uber, in recent years is important to consider in a project of this size. In order to account for TNCs, it was assumed that TNCs would account for 5% of the vehicle trips generated by each land use. Available empirical evidence indicates that TNC trips replace both transit/bike/walk trips and private vehicle trips. Therefore, 2.5% of the TNC trips were considered to replace transit trips, which results in an additional vehicle trip in and out of the site that would not have been considered in the basic trip generation rates. The 2.5% of TNC trips attributed to the replacement of private vehicles result in an additional vehicle trip added only to the opposite movement of the vehicle trip already considered in the basic trip generation rates. TNC vehicles will have a loading/unloading zone at the front of the project site and were not included in the total project driveway trips, but were included in the net external vehicle trips (which do not include pass-by vehicles).

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] ITE office trip generation equations used rather than linear trip generation rate:
AM Peak Hour: Ln(T) = 0.72 * A + 21.64, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)
PM Peak Hour: Ln(T) = 0.83 * A + 7.99, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)

[c] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by Multi-Use Trip Generation Methodology described in ITE Trip Generation Handbook, 9th Edition. Internalization percentages are derived from NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, Transportation Research Board, 2011.

[d] The transit credit is based on LADOT's *Transportation Impact Study Guidelines,* December 2016. The guidelines state that up to 15% transit credit may be taken for projects within 1/4 mile of a Rapid bus line. In addition to the 15% transit credit, a 10% walking/biking credit was applied to land uses due to the walkable nature of the area (only 5% walking/biking credit was taken for office land use). For Dense Multi-Use Urban location rates, a transit credit was not explicitly added since the effects of transit are assumed to be implicit in the rates.

[e] The pass-by credit is based on Attachment F of LADOT's *Transportation Impact Study Guidelines,* December 2016.

[f] Trip rates for affordable housing taken from LADOT's *Transportation Impact Study Guidelines,* December 2016.

[g] Trip generation rates for recreation center used for Studio, Event, Gallery.

[h] ITE grocery trip generation equation used rather than linear trip generation rate for PM peak period only:
PM Peak Hour: Ln(T) = 0.75 * A + 3.21, where T = trips, A = area in ksf

[i] ITE retail trip generation equations used rather than linear trip generation rate:
AM Peak Hour: Ln(T) = 0.50 * A + 151.78, where T = trips, A = area in ksf
PM Peak Hour: T=0.74 * Ln(A) + 2.89, where T = trips, A = area in ksf

[j] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place, and retail.

[k] Regional Park (Developed) rate from San Diego Association of Governments, *(Not So) Brief Guide of Vehicular Traffic Generation Rates* for the San Diego Region, April 2002.

[l] Weekly farmers market from 11am-2pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle. A larger monthly farmers' market is planned, but is not be part of the weekday traffic analysis because it is proposed for weekends only.

[m] Group exercise classes are proposed 3-4 times a week, from 7am-9am & 4pm-7pm. Assumes an average vehicle occupancy of 1 person per vehicle and that a class will begin and end (generating both inbound and outbound trips) during the AM and PM peak hours.

[n] Busking is proposed to occur six times a month from 12pm-2pm & 7pm-9pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle.

TABLE 1A
PROPOSED PROJECT TRIP GENERATION - WITH TDM ADJUSTMENT
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]						Estimated Trip Generation					
			AM Peak Hour			PM Peak Hour			AM Peak Hour Trips			PM Peak Hour Trips		
			Rate	In%	Out%	Rate	In%	Out%	In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Creative Office	710	944.055 ksf	[b]	86%	14%	[b]	17%	83%	603	98	701	135	657	792
Internal Capture [c]				*21%*	*91%*		*25%*	*13%*	(129)	(89)	(218)	(34)	(85)	(119)
Transit, Bike, Ped Adjustment [d]														
TDM Adjustment [l]			*18%*			*18%*			(85)	(1)	(86)	(18)	(102)	(120)
Net External Office (before TNC adjustment)									389	8	397	83	470	553
Added TNC - from transit			*2.5%*			*2.5%*			10	10	20	14	14	28
Added TNC - from vehicles			*2.5%*			*2.5%*			0	10	10	12	2	14
TNCs already in vehicle trip generation									10	0	10	2	12	14
Total TNC									20	20	40	28	28	56
Non-TNC									379	8	387	81	458	539
Total Vehicle									399	28	427	109	486	595
Quality Restaurant	931	44.788 ksf	0.73	50%	50%	7.8	67%	33%	17	16	33	234	115	349
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(3)	(3)	(6)	(69)	(61)	(130)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(4)	(3)	(7)	(41)	(14)	(55)
Net Driveway Trips (before TNC adjustment)									10	10	20	124	40	164
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	1	3	4
TNCs already in vehicle trip generation									0	0	0	3	1	4
Total TNC									1	1	2	8	8	16
Non-TNC (before pass-by adjustment)									10	10	20	121	39	160
Total Vehicle									11	11	22	129	47	176
Pass-by adjustment [e]			*10%*			*10%*			(1)	(1)	(2)	(12)	(3)	(15)
Non-TNC									9	9	18	109	36	145
High-Turnover Restaurant	932	44.788 ksf	9.94	55%	45%	9.77	62%	38%	245	200	445	272	166	438
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(44)	(44)	(88)	(80)	(88)	(168)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(50)	(39)	(89)	(48)	(20)	(68)
Net Driveway Trips (before TNC adjustment)									151	117	268	144	58	202
Added TNC - from transit			*2.5%*			*2.5%*			7	7	14	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			3	4	7	1	4	5
TNCs already in vehicle trip generation									4	3	7	4	1	5
Total TNC									14	14	28	10	10	20
Non-TNC (before pass-by adjustment)									147	114	261	140	57	197
Total Vehicle									161	128	289	150	67	217
Pass-by adjustment [e]			*20%*			*20%*			(29)	(22)	(51)	(28)	(11)	(39)
Non-TNC									118	92	210	112	46	158
Hotel	310	236 rooms	0.47	59%	41%	0.6	51%	49%	65	46	111	72	70	142
Internal Capture [c]				*4%*	*51%*		*59%*	*67%*	(3)	(24)	(27)	(43)	(47)	(90)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(16)	(6)	(22)	(7)	(6)	(13)
Net External Hotel (before TNC adjustment)									46	16	62	22	17	39
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			0	1	1	0	1	1
TNCs already in vehicle trip generation									1	0	1	1	0	1
Total TNC									3	3	6	2	2	4
Non-TNC									45	16	61	21	17	38
Total Vehicle									48	19	67	23	19	42
Residential*	222	258 DU	0.23	12%	88%	0.30	70%	30%	7	52	59	54	23	77
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(12)	(12)	(36)	(16)	(52)
Transit, Bike, Ped Adjustment [d]														
TDM Adjustment [l]			*18%*			*18%*			(1)	(7)	(8)	(3)	(1)	(4)
Net External Residential (before TNC adjustment)									6	33	39	15	6	21
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			1	0	1	0	0	0
TNCs already in vehicle trip generation									0	1	1	0	0	0
Total TNC									2	2	4	1	1	2
Non-TNC									6	32	38	15	6	21
Total Vehicle									8	34	42	16	7	23
Affordable Housing	*[f]*	50 DU	0.5	*40%*	*60%*	0.34	55%	45%	10	15	25	9	8	17
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(4)	(4)	(6)	(6)	(12)
TDM Adjustment [l]			*18%*			*18%*			(2)	(2)	(4)	(1)	0	(1)
Net External Affordable Housing									8	9	17	2	2	4
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									8	9	17	2	2	4
Total Vehicle									8	9	17	2	2	4
Studio, Event, Gallery [g]	495	93.617 ksf	1.76	66%	34%	2.31	47%	53%	109	56	165	102	114	216
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(27)	(14)	(41)	(26)	(29)	(55)
Net External Gallery (before TNC adjustment)									82	42	124	76	85	161
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	2	2	4
TNCs already in vehicle trip generation									2	1	3	2	2	4
Total TNC									6	6	12	8	8	16
Non-TNC									80	41	121	74	83	157
Total Vehicle									86	47	133	82	91	173
Gym (Health / Fitness Club)	492	62.148 ksf	1.31	51%	49%	3.45	57%	43%	41	40	81	122	92	214
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(8)	(9)	(17)	(53)	(35)	(88)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(8)	(8)	(16)	(17)	(14)	(31)
Net Driveway Trips (before TNC adjustment)									25	23	48	52	43	95
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	2	2	4
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	1	1	2
TNCs already in vehicle trip generation									1	1	2	1	1	2
Total TNC									3	3	6	4	4	8
Non-TNC (before pass-by adjustment)									24	22	46	51	42	93
Total Vehicle									27	25	52	55	46	101
Pass-by adjustment [e]			*20%*			*20%*			(4)	(4)	(8)	(10)	(8)	(18)
Non-TNC									20	18	38	41	34	75

TABLE 1A
PROPOSED PROJECT TRIP GENERATION - WITH TDM ADJUSTMENT
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]						Estimated Trip Generation					
			AM Peak Hour			PM Peak Hour			AM Peak Hour Trips			PM Peak Hour Trips		
			Rate	In%	Out%	Rate	In%	Out%	In	Out	Total	In	Out	Total
Grocery	850	28.054 ksf	3.82	60%	40%	[h]	51%	49%	64	43	107	154	148	302
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(12)	(10)	(22)	(67)	(57)	(124)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(13)	(8)	(21)	(22)	(23)	(45)
Net Driveway Trips (before TNC adjustment)									39	25	64	65	68	133
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	2	2	4
TNCs already in vehicle trip generation									1	1	2	2	2	4
Total TNC									4	4	8	7	7	14
Non-TNC (before pass-by adjustment)									38	24	62	63	66	129
Total Vehicle									42	28	70	70	73	143
Pass-by adjustment [e]			*40%*			*40%*			(15)	(9)	(24)	(25)	(26)	(51)
Non-TNC									23	15	38	38	40	78
General Retail	820	79.240 ksf	[i]	62%	38%	[i]	48%	52%	118	73	191	219	238	457
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(22)	(17)	(39)	(95)	(91)	(186)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(24)	(14)	(38)	(31)	(37)	(68)
Net Driveway Trips (before TNC adjustment)									72	42	114	93	110	203
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	3	2	5
TNCs already in vehicle trip generation									2	1	3	2	3	5
Total TNC									6	6	12	10	10	20
Non-TNC (before pass-by adjustment)									70	41	111	91	107	198
Total Vehicle									76	47	123	101	117	218
Pass-by adjustment [e]			*40%*			*40%*			(28)	(16)	(44)	(36)	(42)	(78)
Non-TNC									42	25	67	55	65	120
Food Hall	[j]	28.858 ksf	9.94	55%	45%	8.19	59%	41%	158	129	287	139	97	236
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(28)	(28)	(56)	(41)	(52)	(93)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(33)	(25)	(58)	(25)	(11)	(36)
Net Driveway Trips (before TNC adjustment)									97	76	173	73	34	107
Added TNC - from transit			*2.5%*			*2.5%*			4	4	8	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			2	2	4	1	2	3
TNCs already in vehicle trip generation									2	2	4	2	1	3
Total TNC									8	8	16	6	6	12
Non-TNC (before pass-by adjustment)									95	74	169	71	33	104
Total Vehicle									103	82	185	77	39	116
Pass-by adjustment [e]			*15%*			*15%*			(14)	(11)	(25)	(10)	(4)	(14)
Non-TNC									81	63	144	61	29	90
Farmers' Market	[k]	500 persons	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0
Internal Capture [c]									0	0	0	0	0	0
Transit, Bike, Ped Adjustment [d]									0	0	0	0	0	0
Net External Farmers' Market (before TNC adjustment)									0	0	0	0	0	0
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									0	0	0	0	0	0
Total Vehicle									0	0	0	0	0	0
TOTAL PROJECT DRIVEWAY TRIPS									902	391	1,293	730	910	1,640
NET EXTERNAL VEHICLE TRIPS									878	395	1,273	693	900	1,593
EXISTING USE CREDIT														
Warehousing	150	205.4 ksf	0.17	77%	23%	0.19	27%	73%	27	8	35	11	28	39
Total Existing Use Credit									27	8	35	11	28	39
NET INCREMENTAL EXTERNAL TRIPS									851	387	1,238	682	872	1,554

Notes:

The proliferation of shared mobility transportation network companies (TNCs), such as Lyft and Uber, in recent years is important to consider in a project of this size. In order to account for TNCs, it was assumed that TNCs would account for 5% of the vehicle trips generated by each land use. Available empirical evidence indicates that TNC trips replace both transit/bike/walk trips and private vehicle trips. Therefore, 2.5% of the TNC trips were considered to replace transit trips, which results in an additional vehicle trip in and out of the site that would not have been considered in the basic trip generation rates. The 2.5% of TNC trips attributed to the replacement of private vehicles result in an additional vehicle trip added only to the opposite movement of the vehicle trip already considered in the basic trip generation rates. TNC vehicles will have a loading/unloading zone at the front of the project site and were not included in the total project driveway trips, but were included in the net external vehicle trips (which do not include pass-by vehicles).

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] ITE office trip generation equations used rather than linear trip generation rate:

AM Peak Hour: Ln(T) = 0.72 * A + 21.64, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)

PM Peak Hour: Ln(T) = 0.83 * A + 7.99, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)

[c] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by Multi-Use Trip Generation Methodology described in ITE Trip Generation Handbook, 9th Edition. Internalization percentages are derived from NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, Transportation Research Board, 2011.

[d] The transit credit is based on LADOT's *Transportation Impact Study Guidelines,* December 2016. The guidelines state that up to 15% transit credit may be taken for projects within 1/4 mile of a Rapid bus line. In addition to the 15% transit credit, a 10% walking/biking credit was applied to land uses due to the walkable nature of the area (only 5% walking/biking credit was taken for office land use). For Dense Multi-Use Urban location rates, a transit credit was not explicitly added since the effects of transit are assumed to be implicit in the rates.

[e] The pass-by credit is based on Attachment F of LADOT's *Transportation Impact Study Guidelines,* December 2016.

[f] Trip rates for affordable housing taken from LADOT's *Transportation Impact Study Guidelines,* December 2016.

[g] Trip generation rates for recreation center used for Studio, Event, Gallery.

[h] ITE grocery trip generation equation used rather than linear trip generation rate for PM peak period only:

PM Peak Hour: Ln(T) = 0.75 * A + 3.21, where T = trips, A = area in ksf

[i] ITE retail trip generation equations used rather than linear trip generation rate:

AM Peak Hour: Ln(T) = 0.50 * A + 151.78, where T = trips, A = area in ksf

PM Peak Hour: T=0.74 * Ln(A) + 2.89, where T = trips, A = area in ksf

[j] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place, and retail.

[k] Weekly farmers market from 11am-2pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle. A larger monthly farmers' market is planned, but is not be part of the weekday traffic analysis because it is proposed for weekends only.

[l] TDM reduction as estimated by LADOT VMT Calculator

TABLE 1B
PROPOSED PROJECT WITH THE DECK CONCEPT TRIP GENERATION - WITH TDM ADJUSTMENT
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a] AM Peak Hour Rate	AM In%	AM Out%	PM Peak Hour Rate	PM In%	PM Out%	Estimated Trip Generation AM Peak Hour Trips In	AM Out	AM Total	PM Peak Hour Trips In	PM Out	PM Total
PROPOSED PROJECT														
Creative Office	710	944.055 ksf	[b]	86%	14%	[b]	17%	83%	603	98	701	135	657	792
Internal Capture [c]				*21%*	*91%*		*25%*	*13%*	(129)	(89)	(218)	(34)	(85)	(119)
Transit, Bike, Ped Adjustment [d]														
TDM Adjustment [o]			*18%*			*18%*			(85)	(1)	(86)	(18)	(102)	(120)
Net External Office (before TNC adjustment)									389	8	397	83	470	553
Added TNC - from transit			*2.5%*			*2.5%*			10	10	20	14	14	28
Added TNC - from vehicles			*2.5%*			*2.5%*			0	10	10	12	2	14
TNCs already in vehicle trip generation									10	0	10	2	12	14
Total TNC									20	20	40	28	28	56
Non-TNC									379	8	387	81	458	539
Total Vehicle									399	28	427	109	486	595
Quality Restaurant	931	44.788 ksf	0.73	50%	50%	7.8	67%	33%	17	16	33	234	115	349
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(3)	(3)	(6)	(69)	(61)	(130)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(4)	(3)	(7)	(41)	(14)	(55)
Net Driveway Trips (before TNC adjustment)									10	10	20	124	40	164
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	1	3	4
TNCs already in vehicle trip generation									0	0	0	3	1	4
Total TNC									1	1	2	8	8	16
Non-TNC (before pass-by adjustment)									10	10	20	121	39	160
Total Vehicle									11	11	22	129	47	176
Pass-by adjustment [e]			*10%*			*10%*			(1)	(1)	(2)	(12)	(3)	(15)
Non-TNC									9	9	18	109	36	145
High-Turnover Restaurant	932	44.788 ksf	9.94	55%	45%	9.77	62%	38%	245	200	445	272	166	438
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(44)	(44)	(88)	(80)	(88)	(168)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(50)	(39)	(89)	(48)	(20)	(68)
Net Driveway Trips (before TNC adjustment)									151	117	268	144	58	202
Added TNC - from transit			*2.5%*			*2.5%*			7	7	14	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			3	4	7	1	4	5
TNCs already in vehicle trip generation									4	3	7	4	1	5
Total TNC									14	14	28	10	10	20
Non-TNC (before pass-by adjustment)									147	114	261	140	57	197
Total Vehicle									161	128	289	150	67	217
Pass-by adjustment [e]			*20%*			*20%*			(29)	(22)	(51)	(28)	(11)	(39)
Non-TNC									118	92	210	112	46	158
Hotel	310	236 rooms	0.47	59%	41%	0.6	51%	49%	65	46	111	72	70	142
Internal Capture [c]				*4%*	*51%*		*59%*	*67%*	(3)	(24)	(27)	(43)	(47)	(90)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(16)	(6)	(22)	(7)	(6)	(13)
Net External Hotel (before TNC adjustment)									46	16	62	22	17	39
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			0	1	1	0	1	1
TNCs already in vehicle trip generation									1	0	1	1	0	1
Total TNC									3	3	6	2	2	4
Non-TNC									45	16	61	21	17	38
Total Vehicle									48	19	67	23	19	42
Residential*	222	258 DU	0.23	12%	88%	0.30	70%	30%	7	52	59	54	23	77
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(12)	(12)	(36)	(16)	(52)
Transit, Bike, Ped Adjustment [d]														
TDM Adjustment [o]			*18%*			*18%*			(1)	(7)	(8)	(3)	(1)	(4)
Net External Residential (before TNC adjustment)									6	33	39	15	6	21
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	1	1	2
Added TNC - from vehicles			*2.5%*			*2.5%*			1	0	1	0	0	0
TNCs already in vehicle trip generation									0	1	1	0	0	0
Total TNC									2	2	4	1	1	2
Non-TNC									6	32	38	15	6	21
Total Vehicle									8	34	42	16	7	23
Affordable Housing	*[f]*	50 DU	0.5	*40%*	*60%*	0.34	55%	45%	10	15	25	9	8	17
Internal Capture [c]				*4%*	*23%*		*66%*	*70%*	0	(4)	(4)	(6)	(6)	(12)
TDM Adjustment [o]			*18%*			*18%*			(2)	(2)	(4)	(1)	0	(1)
Net External Affordable Housing									8	9	17	2	2	4
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									8	9	17	2	2	4
Total Vehicle									8	9	17	2	2	4
Studio, Event, Gallery [g]	495	93.617 ksf	1.76	66%	34%	2.31	47%	53%	109	56	165	102	114	216
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(27)	(14)	(41)	(26)	(29)	(55)
Net External Gallery (before TNC adjustment)									82	42	124	76	85	161
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	4	4	8
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	2	2	4
TNCs already in vehicle trip generation									2	1	3	2	2	4
Total TNC									6	6	12	8	8	16
Non-TNC									80	41	121	74	83	157
Total Vehicle									86	47	133	82	91	173
Gym (Health / Fitness Club)	492	62.148 ksf	1.31	51%	49%	3.45	57%	43%	41	40	81	122	92	214
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(8)	(9)	(17)	(53)	(35)	(88)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(8)	(8)	(16)	(17)	(14)	(31)
Net Driveway Trips (before TNC adjustment)									25	23	48	52	43	95
Added TNC - from transit			*2.5%*			*2.5%*			1	1	2	2	2	4
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	1	1	2
TNCs already in vehicle trip generation									1	1	2	1	1	2
Total TNC									3	3	6	4	4	8
Non-TNC (before pass-by adjustment)									24	22	46	51	42	93
Total Vehicle									27	25	52	55	46	101
Pass-by adjustment [e]			*20%*			*20%*			(4)	(4)	(8)	(10)	(8)	(18)
Non-TNC									20	18	38	41	34	75
Grocery	850	28.054 ksf	3.82	60%	40%	[h]	51%	49%	64	43	107	154	148	302
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(12)	(10)	(22)	(67)	(57)	(124)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(13)	(8)	(21)	(22)	(23)	(45)
Net Driveway Trips (before TNC adjustment)									39	25	64	65	68	133
Added TNC - from transit			*2.5%*			*2.5%*			2	2	4	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	2	2	4
TNCs already in vehicle trip generation									1	1	2	2	2	4
Total TNC									4	4	8	7	7	14
Non-TNC (before pass-by adjustment)									38	24	62	63	66	129
Total Vehicle									42	28	70	70	73	143
Pass-by adjustment [e]			*40%*			*40%*			(15)	(9)	(24)	(25)	(26)	(51)
Non-TNC									23	15	38	38	40	78
General Retail	820	79.240 ksf	[i]	62%	38%	[i]	48%	52%	118	73	191	219	238	457
Internal Capture [c]				*19%*	*23%*		*43%*	*38%*	(22)	(17)	(39)	(95)	(91)	(186)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(24)	(14)	(38)	(31)	(37)	(68)
Net Driveway Trips (before TNC adjustment)									72	42	114	93	110	203
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	5	5	10
Added TNC - from vehicles			*2.5%*			*2.5%*			1	2	3	3	2	5
TNCs already in vehicle trip generation									2	1	3	2	3	5
Total TNC									6	6	12	10	10	20
Non-TNC (before pass-by adjustment)									70	41	111	91	107	198
Total Vehicle									76	47	123	101	117	218
Pass-by adjustment [e]			*40%*			*40%*			(28)	(16)	(44)	(36)	(42)	(78)
Non-TNC									42	25	67	55	65	120

TABLE 1B
PROPOSED PROJECT WITH THE DECK CONCEPT TRIP GENERATION - WITH TDM ADJUSTMENT
670 MESQUIT PROJECT

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a] AM Peak Hour Rate	AM In%	AM Out%	PM Peak Hour Rate	PM In%	PM Out%	Estimated Trip Generation AM Peak Hour Trips In	AM Out	AM Total	PM Peak Hour Trips In	PM Out	PM Total
Food Hall	[j]	28.858 ksf	9.94	55%	45%	8.19	59%	41%	158	129	287	139	97	236
Internal Capture [c]				*18%*	*22%*		*29%*	*53%*	(28)	(28)	(56)	(41)	(52)	(93)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(33)	(25)	(58)	(25)	(11)	(36)
Net Driveway Trips (before TNC adjustment)									97	76	173	73	34	107
Added TNC - from transit			*2.5%*			*2.5%*			4	4	8	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			2	2	4	1	2	3
TNCs already in vehicle trip generation									2	2	4	2	1	3
Total TNC									8	8	16	6	6	12
Non-TNC (before pass-by adjustment)									95	74	169	71	33	104
Total Vehicle									103	82	185	77	39	116
Pass-by adjustment [e]			*15%*			*15%*			(14)	(11)	(25)	(10)	(4)	(14)
Non-TNC									81	63	144	61	29	90
Deck	[k]	3.030 acres	2.6	50%	50%	1.8	50%	50%	4	4	8	3	2	5
Net External Deck (before TNC adjustment)									4	4	8	3	2	5
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									4	4	8	3	2	5
Total Vehicle									4	4	8	3	2	5
Farmers' Market	[l]	500 persons	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0
Internal Capture [c]									0	0	0	0	0	0
Transit, Bike, Ped Adjustment [d]									0	0	0	0	0	0
Net External Farmers' Market (before TNC adjustment)									0	0	0	0	0	0
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									0	0	0	0	0	0
Total Vehicle									0	0	0	0	0	0
Group Exercise Classes	[m]	280 persons	1.0	50%	50%	1.0	50%	50%	140	140	280	140	140	280
Internal Capture [c]				50%	50%		50%	50%	(70)	(70)	(140)	(70)	(70)	(140)
Transit, Bike, Ped Adjustment [d]			*25%*			*25%*			(18)	(18)	(36)	(18)	(18)	(36)
Net External Exercise Classes (before TNC adjustment)									52	52	104	52	52	104
Added TNC - from transit			*2.5%*			*2.5%*			3	3	6	3	3	6
Added TNC - from vehicles			*2.5%*			*2.5%*			1	1	2	1	1	2
TNCs already in vehicle trip generation									1	1	2	1	1	2
Total TNC									5	5	10	5	5	10
Non-TNC									51	51	102	51	51	102
Total Vehicle									56	56	112	56	56	112
Busking	[n]	20 persons	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0
Internal Capture [c]									0	0	0	0	0	0
Transit, Bike, Ped Adjustment [d]									0	0	0	0	0	0
Net External Busking (before TNC adjustment)									0	0	0	0	0	0
Added TNC - from transit			*2.5%*			*2.5%*			0	0	0	0	0	0
Added TNC - from vehicles			*2.5%*			*2.5%*			0	0	0	0	0	0
TNCs already in vehicle trip generation									0	0	0	0	0	0
Total TNC									0	0	0	0	0	0
Non-TNC									0	0	0	0	0	0
Total Vehicle									0	0	0	0	0	0
TOTAL PROJECT DRIVEWAY TRIPS									957	446	1,403	784	963	1,747
NET EXTERNAL VEHICLE TRIPS									938	455	1,393	752	958	1,710
EXISTING USE CREDIT														
Warehousing	150	205.4 ksf	0.17	77%	23%	0.19	27%	73%	27	8	35	11	28	39
Total Existing Use Credit									27	8	35	11	28	39
NET INCREMENTAL EXTERNAL TRIPS									911	447	1,358	741	930	1,671

Notes:

The proliferation of shared mobility transportation network companies (TNCs), such as Lyft and Uber, in recent years is important to consider in a project of this size. In order to account for TNCs, it was assumed that TNCs would account for 5% of the vehicle trips generated by each land use. Available empirical evidence indicates that TNC trips replace both transit/bike/walk trips and private vehicle trips. Therefore, 2.5% of the TNC trips were considered to replace transit trips, which results in an additional vehicle trip in and out of the site that would not have been considered in the basic trip generation rates. The 2.5% of TNC trips attributed to the replacement of private vehicles result in an additional vehicle trip added only to the opposite movement of the vehicle trip already considered in the basic trip generation rates. TNC vehicles will have a loading/unloading zone at the front of the project site and were not included in the total project driveway trips, but were included in the net external vehicle trips (which do not include pass-by vehicles).

* Local data collected at high-rise residential sites was approved by LADOT to use for AM and PM peak period trip rates.

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 10th Edition* , 2017.

[b] ITE office trip generation equations used rather than linear trip generation rate:
AM Peak Hour: Ln(T) = 0.72 * A + 21.64, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)
PM Peak Hour: Ln(T) = 0.83 * A + 7.99, where T = trips, A = area in ksf (Dense Multi-Use Urban equation used)

[c] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by Multi-Use Trip Generation Methodology described in ITE Trip Generation Handbook, 9th Edition. Internalization percentages are derived from NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, Transportation Research Board, 2011.

[d] The transit credit is based on LADOT's *Transportation Impact Study Guidelines,* December 2016. The guidelines state that up to 15% transit credit may be taken for projects within 1/4 mile of a Rapid bus line. In addition to the 15% transit credit, a 10% walking/biking credit was applied to land uses due to the walkable nature of the area (only 5% walking/biking credit was taken for office land use). For Dense Multi-Use Urban location rates, a transit credit was not explicitly added since the effects of transit are assumed to be implicit in the rates.

[e] The pass-by credit is based on Attachment F of LADOT's *Transportation Impact Study Guidelines,* December 2016.

[f] Trip rates for affordable housing taken from LADOT's *Transportation Impact Study Guidelines,* December 2016.

[g] Trip generation rates for recreation center used for Studio, Event, Gallery.

[h] ITE grocery trip generation equation used rather than linear trip generation rate for PM peak period only:
PM Peak Hour: Ln(T) = 0.75 * A + 3.21, where T = trips, A = area in ksf

[i] ITE retail trip generation equations used rather than linear trip generation rate:
AM Peak Hour: Ln(T) = 0.50 * A + 151.78, where T = trips, A = area in ksf
PM Peak Hour: T=0.74 * Ln(A) + 2.89, where T = trips, A = area in ksf

[j] Trip generation rates for the food hall element were developed by blending the ITE rates for quality restaurant, high-turnover restaurant, drinking place, and retail.

[k] Regional Park (Developed) rate from San Diego Association of Governments, *(Not So) Brief Guide of Vehicular Traffic Generation Rates* for the San Diego Region, April 2002.

[l] Weekly farmers market from 11am-2pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle. A larger monthly farmers' market is planned, but is not be part of the weekday traffic analysis because it is proposed for weekends only.

[m] Group exercise classes are proposed 3-4 times a week, from 7am-9am & 4pm-7pm. Assumes an average vehicle occupancy of 1 person per vehicle and that a class will begin and end (generating both inbound and outbound trips) during the AM and PM peak hours.

[n] Busking is proposed to occur six times a month from 12pm-2pm & 7pm-9pm, no peak hour trips generated. Assumes an average vehicle occupancy of 2 person per vehicle.

[o] TDM reduction as estimated by LADOT VMT Calculator

Appendix J: Driveway LOS

Intersection	
Intersection Delay, s/veh	49.1
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	670	180	15	61	13
Future Vol, veh/h	101	670	180	15	61	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	728	196	16	66	14
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	62.7	10.2	10.4
HCM LOS	F	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	0%	82%
Vol Thru, %	87%	92%	0%
Vol Right, %	0%	8%	18%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	771	195	74
LT Vol	101	0	61
Through Vol	670	180	0
RT Vol	0	15	13
Lane Flow Rate	838	212	80
Geometry Grp	1	1	1
Degree of Util (X)	1.038	0.296	0.14
Departure Headway (Hd)	4.457	5.02	6.391
Convergence, Y/N	Yes	Yes	Yes
Cap	813	710	565
Service Time	2.501	3.09	4.391
HCM Lane V/C Ratio	1.031	0.299	0.142
HCM Control Delay	62.7	10.2	10.4
HCM Lane LOS	F	B	B
HCM 95th-tile Q	19.6	1.2	0.5

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	61	84	34	104	70
Future Vol, veh/h	0	61	84	34	104	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	66	91	37	113	76

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	412	110	0	0	128	0
Stage 1	110	-	-	-	-	-
Stage 2	302	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	596	943	-	-	1458	-
Stage 1	915	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	548	943	-	-	1458	-
Mov Cap-2 Maneuver	548	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	4.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	943	1458	-
HCM Lane V/C Ratio	-	-	0.07	0.078	-
HCM Control Delay (s)	-	-	9.1	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.3	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	940	2519	0	0	34
Future Vol, veh/h	0	940	2519	0	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1022	2738	0	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1369
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	136
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	136
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	41.1
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	136
HCM Lane V/C Ratio	-	-	0.272
HCM Control Delay (s)	-	-	41.1
HCM Lane LOS	-	-	E
HCM 95th %tile Q(veh)	-	-	1

Intersection	
Intersection Delay, s/veh	24.2
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	500	432	30	52	21
Future Vol, veh/h	101	500	432	30	52	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	543	470	33	57	23
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	30.8	17.8	10.6
HCM LOS	D	C	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	0%	71%
Vol Thru, %	83%	94%	0%
Vol Right, %	0%	6%	29%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	601	462	73
LT Vol	101	0	52
Through Vol	500	432	0
RT Vol	0	30	21
Lane Flow Rate	653	502	79
Geometry Grp	1	1	1
Degree of Util (X)	0.867	0.679	0.144
Departure Headway (Hd)	4.778	4.866	6.521
Convergence, Y/N	Yes	Yes	Yes
Cap	751	733	553
Service Time	2.859	2.954	4.521
HCM Lane V/C Ratio	0.87	0.685	0.143
HCM Control Delay	30.8	17.8	10.6
HCM Lane LOS	D	C	B
HCM 95th-tile Q	10.5	5.4	0.5

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	119	108	23	95	56
Future Vol, veh/h	0	119	108	23	95	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	129	117	25	103	61

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	397	130	0	0	142	0
Stage 1	130	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	608	920	-	-	1441	-
Stage 1	896	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	563	920	-	-	1441	-
Mov Cap-2 Maneuver	563	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	720	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	4.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	920	1441	-
HCM Lane V/C Ratio	-	-	0.141	0.072	-
HCM Control Delay (s)	-	-	9.6	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1699	1636	0	0	102
Future Vol, veh/h	0	1699	1636	0	0	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1847	1778	0	0	111

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	889
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	286
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	286
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	25.3
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	286
HCM Lane V/C Ratio	-	-	0.388
HCM Control Delay (s)	-	-	25.3
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	1.8

Intersection	
Intersection Delay, s/veh	64.2
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	704	205	17	66	13
Future Vol, veh/h	106	704	205	17	66	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	765	223	18	72	14
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	84	10.8	10.7
HCM LOS	F	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	0%	84%
Vol Thru, %	87%	92%	0%
Vol Right, %	0%	8%	16%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	810	222	79
LT Vol	106	0	66
Through Vol	704	205	0
RT Vol	0	17	13
Lane Flow Rate	880	241	86
Geometry Grp	1	1	1
Degree of Util (X)	1.104	0.335	0.15
Departure Headway (Hd)	4.516	5.173	6.562
Convergence, Y/N	Yes	Yes	Yes
Cap	801	700	550
Service Time	2.557	3.173	4.562
HCM Lane V/C Ratio	1.099	0.344	0.156
HCM Control Delay	84	10.8	10.7
HCM Lane LOS	F	B	B
HCM 95th-tile Q	23.9	1.5	0.5

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	72	90	35	116	76
Future Vol, veh/h	0	72	90	35	116	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	78	98	38	126	83

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	452	117	0	0	136	0
Stage 1	117	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	565	935	-	-	1448	-
Stage 1	908	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	514	935	-	-	1448	-
Mov Cap-2 Maneuver	514	-	-	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	659	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	4.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	935	1448	-
HCM Lane V/C Ratio	-	-	0.084	0.087	-
HCM Control Delay (s)	-	-	9.2	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.3	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	941	2531	0	0	39
Future Vol, veh/h	0	941	2531	0	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1023	2751	0	0	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1376
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	135
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	135
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	43.4
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	135
HCM Lane V/C Ratio	-	-	0.314
HCM Control Delay (s)	-	-	43.4
HCM Lane LOS	-	-	E
HCM 95th %tile Q(veh)	-	-	1.2

Intersection	
Intersection Delay, s/veh	31.1
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	533	456	31	57	22
Future Vol, veh/h	106	533	456	31	57	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	579	496	34	62	24
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	41.1	21.2	11
HCM LOS	E	C	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	0%	72%
Vol Thru, %	83%	94%	0%
Vol Right, %	0%	6%	28%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	639	487	79
LT Vol	106	0	57
Through Vol	533	456	0
RT Vol	0	31	22
Lane Flow Rate	695	529	86
Geometry Grp	1	1	1
Degree of Util (X)	0.934	0.743	0.16
Departure Headway (Hd)	4.953	5.053	6.693
Convergence, Y/N	Yes	Yes	Yes
Cap	736	720	538
Service Time	2.953	3.053	4.712
HCM Lane V/C Ratio	0.944	0.735	0.16
HCM Control Delay	41.1	21.2	11
HCM Lane LOS	E	C	B
HCM 95th-tile Q	13.2	6.7	0.6

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	129	113	24	107	61
Future Vol, veh/h	0	129	113	24	107	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	140	123	26	116	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	434	136	0	0	149	0
Stage 1	136	-	-	-	-	-
Stage 2	298	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	579	913	-	-	1432	-
Stage 1	890	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	530	913	-	-	1432	-
Mov Cap-2 Maneuver	530	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	690	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	4.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	913	1432	-
HCM Lane V/C Ratio	-	-	0.154	0.081	-
HCM Control Delay (s)	-	-	9.7	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.3	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1700	1647	0	0	106
Future Vol, veh/h	0	1700	1647	0	0	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1848	1790	0	0	115

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	895
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	284
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	284
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	26.1
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	284
HCM Lane V/C Ratio	-	-	0.406
HCM Control Delay (s)	-	-	26.1
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	1.9

Intersection	
Intersection Delay, s/veh	49.1
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	670	180	15	61	13
Future Vol, veh/h	101	670	180	15	61	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	728	196	16	66	14
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	62.7	10.2	10.4
HCM LOS	F	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	0%	82%
Vol Thru, %	87%	92%	0%
Vol Right, %	0%	8%	18%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	771	195	74
LT Vol	101	0	61
Through Vol	670	180	0
RT Vol	0	15	13
Lane Flow Rate	838	212	80
Geometry Grp	1	1	1
Degree of Util (X)	1.038	0.296	0.14
Departure Headway (Hd)	4.457	5.02	6.391
Convergence, Y/N	Yes	Yes	Yes
Cap	813	710	565
Service Time	2.501	3.09	4.391
HCM Lane V/C Ratio	1.031	0.299	0.142
HCM Control Delay	62.7	10.2	10.4
HCM Lane LOS	F	B	B
HCM 95th-tile Q	19.6	1.2	0.5

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	61	84	34	104	70
Future Vol, veh/h	0	61	84	34	104	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	66	91	37	113	76

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	412	110	0	0	128	0
Stage 1	110	-	-	-	-	-
Stage 2	302	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	596	943	-	-	1458	-
Stage 1	915	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	548	943	-	-	1458	-
Mov Cap-2 Maneuver	548	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	4.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	943	1458	-
HCM Lane V/C Ratio	-	-	0.07	0.078	-
HCM Control Delay (s)	-	-	9.1	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.3	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	955	2566	0	0	34
Future Vol, veh/h	0	955	2566	0	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1038	2789	0	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1395
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	131
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	131
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	42.9
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	131
HCM Lane V/C Ratio	-	-	0.282
HCM Control Delay (s)	-	-	42.9
HCM Lane LOS	-	-	E
HCM 95th %tile Q(veh)	-	-	1.1

Intersection	
Intersection Delay, s/veh	24.3
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	500	432	30	52	22
Future Vol, veh/h	101	500	432	30	52	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	543	470	33	57	24
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	30.9	17.8	10.6
HCM LOS	D	C	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	0%	70%
Vol Thru, %	83%	94%	0%
Vol Right, %	0%	6%	30%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	601	462	74
LT Vol	101	0	52
Through Vol	500	432	0
RT Vol	0	30	22
Lane Flow Rate	653	502	80
Geometry Grp	1	1	1
Degree of Util (X)	0.868	0.679	0.146
Departure Headway (Hd)	4.782	4.87	6.515
Convergence, Y/N	Yes	Yes	Yes
Cap	751	733	553
Service Time	2.864	2.959	4.515
HCM Lane V/C Ratio	0.87	0.685	0.145
HCM Control Delay	30.9	17.8	10.6
HCM Lane LOS	D	C	B
HCM 95th-tile Q	10.6	5.4	0.5

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	119	108	23	95	56
Future Vol, veh/h	0	119	108	23	95	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	129	117	25	103	61

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	397	130	0	0	142	0
Stage 1	130	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	608	920	-	-	1441	-
Stage 1	896	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	563	920	-	-	1441	-
Mov Cap-2 Maneuver	563	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	720	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	4.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	920	1441	-
HCM Lane V/C Ratio	-	-	0.141	0.072	-
HCM Control Delay (s)	-	-	9.6	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1727	1657	0	0	102
Future Vol, veh/h	0	1727	1657	0	0	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1877	1801	0	0	111

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	901
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	281
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	281
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	25.9
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	281
HCM Lane V/C Ratio	-	-	0.395
HCM Control Delay (s)	-	-	25.9
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	1.8

Intersection	
Intersection Delay, s/veh	64.2
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	704	205	17	66	13
Future Vol, veh/h	106	704	205	17	66	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	765	223	18	72	14
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	84	10.8	10.7
HCM LOS	F	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	0%	84%
Vol Thru, %	87%	92%	0%
Vol Right, %	0%	8%	16%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	810	222	79
LT Vol	106	0	66
Through Vol	704	205	0
RT Vol	0	17	13
Lane Flow Rate	880	241	86
Geometry Grp	1	1	1
Degree of Util (X)	1.104	0.335	0.15
Departure Headway (Hd)	4.516	5.173	6.562
Convergence, Y/N	Yes	Yes	Yes
Cap	801	700	550
Service Time	2.557	3.173	4.562
HCM Lane V/C Ratio	1.099	0.344	0.156
HCM Control Delay	84	10.8	10.7
HCM Lane LOS	F	B	B
HCM 95th-tile Q	23.9	1.5	0.5

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	72	90	35	116	76
Future Vol, veh/h	0	72	90	35	116	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	78	98	38	126	83

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	452	117	0	0	136	0
Stage 1	117	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	565	935	-	-	1448	-
Stage 1	908	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	514	935	-	-	1448	-
Mov Cap-2 Maneuver	514	-	-	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	659	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	4.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	935	1448	-
HCM Lane V/C Ratio	-	-	0.084	0.087	-
HCM Control Delay (s)	-	-	9.2	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.3	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	956	2578	0	0	39
Future Vol, veh/h	0	956	2578	0	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1039	2802	0	0	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1401
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	130
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	130
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	45.5
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	130
HCM Lane V/C Ratio	-	-	0.326
HCM Control Delay (s)	-	-	45.5
HCM Lane LOS	-	-	E
HCM 95th %tile Q(veh)	-	-	1.3

Intersection	
Intersection Delay, s/veh	31.2
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	533	456	31	57	23
Future Vol, veh/h	106	533	456	31	57	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	115	579	496	34	62	25
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	41.3	21.2	11
HCM LOS	E	C	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	0%	71%
Vol Thru, %	83%	94%	0%
Vol Right, %	0%	6%	29%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	639	487	80
LT Vol	106	0	57
Through Vol	533	456	0
RT Vol	0	31	23
Lane Flow Rate	695	529	87
Geometry Grp	1	1	1
Degree of Util (X)	0.935	0.744	0.162
Departure Headway (Hd)	4.958	5.058	6.687
Convergence, Y/N	Yes	Yes	Yes
Cap	736	720	538
Service Time	2.958	3.058	4.708
HCM Lane V/C Ratio	0.944	0.735	0.162
HCM Control Delay	41.3	21.2	11
HCM Lane LOS	E	C	B
HCM 95th-tile Q	13.3	6.7	0.6

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	129	113	24	107	61
Future Vol, veh/h	0	129	113	24	107	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	140	123	26	116	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	434	136	0	0	149	0
Stage 1	136	-	-	-	-	-
Stage 2	298	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	579	913	-	-	1432	-
Stage 1	890	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	530	913	-	-	1432	-
Mov Cap-2 Maneuver	530	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	690	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	4.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	913	1432	-
HCM Lane V/C Ratio	-	-	0.154	0.081	-
HCM Control Delay (s)	-	-	9.7	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.3	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1728	1668	0	0	106
Future Vol, veh/h	0	1728	1668	0	0	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1878	1813	0	0	115

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	907
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	279
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	279
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	26.7
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	279
HCM Lane V/C Ratio	-	-	0.413
HCM Control Delay (s)	-	-	26.7
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	1.9

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit				
1	North-South Street:	Driveway	East-West Street:	7th Street		
	Scenario:	CP				
	Count Date:	4/11/2018	Analyst:	Fehr & Peers	Date:	5/1/2020

	AM			PM		
No. of Phases			2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	*NB--* 0	*SB--*	0	*NB--* 0	*SB--*	0
	EB-- 0	*WB--*	0	*EB--* 0	*WB--*	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	37	1	37	100	1	100
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	82	1	**82**	240	1	**240**
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	940	2	470	1699	2	**850**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	2437	1	**1282**	1396	1	744
	Through-Right		1			1	
	Right	127	0	127	92	0	92
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	82		*North-South:*	240
			East-West:	1282		*East-West:*	850
			SUM:	1364		*SUM:*	1090
VOLUME/CAPACITY *(V/C)* RATIO:				0.909			0.727
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.809**			**0.627**
LEVEL OF SERVICE (LOS):				**D**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit			
1	North-South Street:	Driveway	East-West Street:	7th Street	
	Scenario:	CP - Opt 2			
	Count Date:	4/11/2018	Analyst:	Fehr & Peers	Date: 5/1/2020

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	40	1	40	103	1	103
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	94	1	**94**	251	1	**251**
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	941	2	471	1700	2	**850**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	2437	1	**1284**	1396	1	746
	Through-Right		1			1	
	Right	131	0	131	95	0	95
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	94		*North-South:*	251
			East-West:	1284		*East-West:*	850
			SUM:	1378		*SUM:*	1101
VOLUME/CAPACITY *(V/C)* RATIO:				0.919			0.734
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.819**			**0.634**
LEVEL OF SERVICE (LOS):				**D**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit			
1	North-South Street:	Driveway	East-West Street:	7th Street	
	Scenario:	CP 2040 - Opt 2			
	Count Date:	4/11/2018	Analyst: Fehr & Peers	Date:	5/1/2020

		AM				PM			
No. of Phases					2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
MOVEMENT		Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	0	0	**0**		0	0	**0**	
	Left-Through		0				0		
	Through	0	0	0		0	0	0	
	Through-Right		0				0		
	Right	0	0	0		0	0	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	40	1	40		103	1	103	
	Left-Through		0				0		
	Through	0	0	0		0	0	0	
	Through-Right		0				0		
	Right	94	1	**94**		251	1	**251**	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	0	0	**0**		0	0	0	
	Left-Through		0				0		
	Through	956	2	478		1728	2	**864**	
	Through-Right		0				0		
	Right	0	0	0		0	0	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	0	0	0		0	0	**0**	
	Left-Through		0				0		
	Through	2484	1	**1308**		1417	1	756	
	Through-Right		1				1		
	Right	131	0	131		95	0	95	
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES			North-South:	94			North-South:	251	
			East-West:	1308			East-West:	864	
			SUM:	1402			SUM:	1115	
VOLUME/CAPACITY (V/C) RATIO:				0.935				0.743	
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.835**				**0.643**	
LEVEL OF SERVICE (LOS):				D				B	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	670 Mesquit				
1	North-South Street:	Driveway	East-West Street:	7th Street		
	Scenario:	CP 2040				
	Count Date:	4/11/2018	Analyst:	Fehr & Peers	Date:	5/1/2020

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	37	1	37	100	1	100
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	82	1	**82**	240	1	**240**
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	955	2	478	1727	2	**864**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	2484	1	**1306**	1417	1	755
	Through-Right		1			1	
	Right	127	0	127	92	0	92
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	82		North-South:	240
			East-West:	1306		East-West:	864
			SUM:	1388		SUM:	1104
VOLUME/CAPACITY (V/C) RATIO:				0.925			0.736
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.825**			**0.636**
LEVEL OF SERVICE (LOS):				**D**			**B**

Version: 1i Beta; 8/4/2011

Appendix K:
Ramp Queueing Results

Lane Group	EBL	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	334	590	2	371	1345	1	1189	508
v/c Ratio	0.67	0.60	no cap	0.61	0.61	0.01	1.20	0.48
Control Delay	35.4	12.0		26.7	13.6	31.0	134.4	6.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	12.0	Error	26.7	13.6	31.0	134.4	6.2
Queue Length 50th (ft)	171	175	0	124	232	0	~459	64
Queue Length 95th (ft)	227	186	0	243	384	5	#697	132
Internal Link Dist (ft)			36		352		336	
Turn Bay Length (ft)	350					50		
Base Capacity (vph)	684	1153	1	622	2193	81	987	1056
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.51	2.00	0.60	0.61	0.01	1.20	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

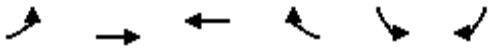
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	213	396	3	454	1425	3	1617	571
v/c Ratio	0.53	0.47	0.02	0.84	0.60	0.04	1.23	0.52
Control Delay	34.2	13.3	0.0	41.3	11.2	29.3	141.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	13.3	0.0	41.3	11.2	29.3	141.4	8.2
Queue Length 50th (ft)	112	128	0	187	200	1	~620	106
Queue Length 95th (ft)	149	116	0	#356	396	10	#951	206
Internal Link Dist (ft)			36		352		336	
Turn Bay Length (ft)	350					50		
Base Capacity (vph)	627	1039	145	621	2376	80	1310	1092
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.38	0.02	0.73	0.60	0.04	1.23	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

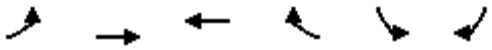
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	168	91	20	425	773	253
Future Volume (Veh/h)	168	91	20	425	773	253
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	183	99	22	462	840	275
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	484				487	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	484				487	22
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				0	74
cM capacity (veh/h)	1079				448	1055

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	282	22	462	560	555
Volume Left	183	0	0	560	280
Volume Right	0	0	462	0	275
cSH	1079	1700	1700	448	627
Volume to Capacity	0.17	0.01	0.27	1.25	0.89
Queue Length 95th (ft)	15	0	0	577	266
Control Delay (s)	6.4	0.0	0.0	156.9	39.3
Lane LOS	A			F	E
Approach Delay (s)	6.4	0.0		98.4	
Approach LOS				F	

Intersection Summary				
Average Delay	59.3			
Intersection Capacity Utilization	57.4%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	251	109	21	672	474	148
Future Volume (Veh/h)	251	109	21	672	474	148
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	273	118	23	730	515	161
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	753				687	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	753				687	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	68				0	85
cM capacity (veh/h)	857				281	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	391	23	730	343	333
Volume Left	273	0	0	343	172
Volume Right	0	0	730	0	161
cSH	857	1700	1700	281	436
Volume to Capacity	0.32	0.01	0.43	1.22	0.76
Queue Length 95th (ft)	34	0	0	397	161
Control Delay (s)	8.9	0.0	0.0	165.0	35.3
Lane LOS	A			F	E
Approach Delay (s)	8.9	0.0		101.2	
Approach LOS				F	

Intersection Summary			
Average Delay	39.5		
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	28.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	396	342	2	2059	0	0	0	0	14	0	281
Future Vol, veh/h	0	396	342	2	2059	0	0	0	0	14	0	281
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	430	372	2	2238	0	0	0	0	15	0	305

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	802	0	0		2457	-	1119
Stage 1	-	-	-	-	-	-		2242	-	-
Stage 2	-	-	-	-	-	-		215	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	817	-	0		25	0	~ 201
Stage 1	0	-	-	-	-	0		66	0	-
Stage 2	0	-	-	-	-	0		800	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	817	-	-		25	0	~ 201
Mov Cap-2 Maneuver	-	-	-	-	-	-		25	0	-
Stage 1	-	-	-	-	-	-		66	0	-
Stage 2	-	-	-	-	-	-		800	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	299.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	817	-	25	201
HCM Lane V/C Ratio	-	-	0.003	-	0.609	1.52
HCM Control Delay (s)	-	-	9.4	-	278.2$	300.8
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	1.9	19.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1068	387	1	1043	0	0	0	0	70	0	178
Future Vol, veh/h	0	1068	387	1	1043	0	0	0	0	70	0	178
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1161	421	1	1134	0	0	0	0	76	0	193

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	1582	0	0			1717	-	567
Stage 1	-	-	-	-	-	-			1136	-	-
Stage 2	-	-	-	-	-	-			581	-	-
Critical Hdwy	-	-	-	4.14	-	-			6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-			5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-			3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	412	-	0			81	0	467
Stage 1	0	-	-	-	-	0			268	0	-
Stage 2	0	-	-	-	-	0			522	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	412	-	-			80	0	467
Mov Cap-2 Maneuver	-	-	-	-	-	-			80	0	-
Stage 1	-	-	-	-	-	-			268	0	-
Stage 2	-	-	-	-	-	-			518	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	63.3
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	412	-	80	467
HCM Lane V/C Ratio	-	-	0.003	-	0.951	0.414
HCM Control Delay (s)	-	-	13.8	-	178.2	18.1
HCM Lane LOS	-	-	B	-	F	C
HCM 95th %tile Q(veh)	-	-	0	-	5.1	2

Lane Group	EBL	EBR	WBT	NBL	NBT	SBL	SBR
Lane Group Flow (vph)	365	590	2	371	1345	1	1189	508
v/c Ratio	0.70	0.58	no cap	0.61	0.63	0.01	1.27	0.48
Control Delay	35.5	11.2		26.9	14.5	32.0	160.7	6.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	11.2	Error	26.9	14.5	32.0	160.7	6.2
Queue Length 50th (ft)	186	165	0	125	244	0	~477	63
Queue Length 95th (ft)	248	178	0	243	391	5	#706	131
Internal Link Dist (ft)			36		352		336	
Turn Bay Length (ft)	350					50		
Base Capacity (vph)	684	1153	1	622	2142	80	938	1068
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.51	2.00	0.60	0.63	0.01	1.27	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

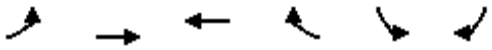
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	232	396	3	454	1425	3	1617	571
v/c Ratio	0.56	0.46	0.02	0.84	0.60	0.04	1.25	0.52
Control Delay	35.2	13.1	0.0	41.1	11.4	29.3	146.8	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	13.1	0.0	41.1	11.4	29.3	146.8	8.2
Queue Length 50th (ft)	123	128	0	186	200	1	~620	105
Queue Length 95th (ft)	162	116	0	#355	396	10	#951	205
Internal Link Dist (ft)			36		352		336	
Turn Bay Length (ft)	350					50		
Base Capacity (vph)	627	1039	145	621	2363	81	1296	1092
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.38	0.02	0.73	0.60	0.04	1.25	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

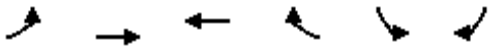
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	175	91	20	433	811	253
Future Volume (Veh/h)	175	91	20	433	811	253
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	190	99	22	471	882	275
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	493				501	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	493				501	22
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				0	74
cM capacity (veh/h)	1071				436	1055

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	289	22	471	588	569
Volume Left	190	0	0	588	294
Volume Right	0	0	471	0	275
cSH	1071	1700	1700	436	608
Volume to Capacity	0.18	0.01	0.28	1.35	0.94
Queue Length 95th (ft)	16	0	0	679	309
Control Delay (s)	6.6	0.0	0.0	197.9	48.4
Lane LOS	A			F	E
Approach Delay (s)	6.6	0.0		124.4	
Approach LOS				F	

Intersection Summary			
Average Delay	75.2		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	278	109	21	705	498	148
Future Volume (Veh/h)	278	109	21	705	498	148
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	302	118	23	766	541	161
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	789				745	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	789				745	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	64				0	85
cM capacity (veh/h)	831				243	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	420	23	766	361	341
Volume Left	302	0	0	361	180
Volume Right	0	0	766	0	161
cSH	831	1700	1700	243	381
Volume to Capacity	0.36	0.01	0.45	1.49	0.90
Queue Length 95th (ft)	42	0	0	528	227
Control Delay (s)	9.8	0.0	0.0	276.7	56.9
Lane LOS	A			F	F
Approach Delay (s)	9.8	0.0		169.8	
Approach LOS				F	

Intersection Summary			
Average Delay	64.5		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	44

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	429	348	2	2198	0	0	0	0	14	0	307
Future Vol, veh/h	0	429	348	2	2198	0	0	0	0	14	0	307
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	466	378	2	2389	0	0	0	0	15	0	334

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	844	0	0		2626	-	1195
Stage 1	-	-	-	-	-	-		2393	-	-
Stage 2	-	-	-	-	-	-		233	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	788	-	0		19	0	~ 179
Stage 1	0	-	-	-	-	0		55	0	-
Stage 2	0	-	-	-	-	0		784	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	788	-	-		19	0	~ 179
Mov Cap-2 Maneuver	-	-	-	-	-	-		19	0	-
Stage 1	-	-	-	-	-	-		55	0	-
Stage 2	-	-	-	-	-	-		784	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 451.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	788	-	19	179
HCM Lane V/C Ratio	-	-	0.003	-	0.801	1.864
HCM Control Delay (s)	-	-	9.6	-	$ 414.8	$ 453.4
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	2.2	24.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1173	414	1	1133	0	0	0	0	70	0	195
Future Vol, veh/h	0	1173	414	1	1133	0	0	0	0	70	0	195
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1275	450	1	1232	0	0	0	0	76	0	212

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	1725	0	0			1872	-	616
Stage 1	-	-	-	-	-	-			1234	-	-
Stage 2	-	-	-	-	-	-			638	-	-
Critical Hdwy	-	-	-	4.14	-	-			6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-			5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-			3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	362	-	0			~ 64	0	433
Stage 1	0	-	-	-	-	0			238	0	-
Stage 2	0	-	-	-	-	0			488	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	362	-	-			~ 63	0	433
Mov Cap-2 Maneuver	-	-	-	-	-	-			~ 63	0	-
Stage 1	-	-	-	-	-	-			238	0	-
Stage 2	-	-	-	-	-	-			484	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	92.4
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	362	-	63	433
HCM Lane V/C Ratio	-	-	0.003	-	1.208	0.49
HCM Control Delay (s)	-	-	15	-	291.2	21
HCM Lane LOS	-	-	B	-	F	C
HCM 95th %tile Q(veh)	-	-	0	-	6.2	2.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	341	605	2	382	1376	1	1215	520
v/c Ratio	0.68	0.60	no cap	0.62	0.63	0.01	1.26	0.49
Control Delay	35.2	12.0		27.3	14.2	31.0	156.2	6.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	12.0	Error	27.3	14.2	31.0	156.2	6.7
Queue Length 50th (ft)	175	180	0	130	243	0	~480	72
Queue Length 95th (ft)	229	186	0	254	406	5	#723	144
Internal Link Dist (ft)			36		352		336	
Turn Bay Length (ft)	350					50		
Base Capacity (vph)	684	1153	1	622	2178	80	966	1060
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.52	2.00	0.61	0.63	0.01	1.26	0.49

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

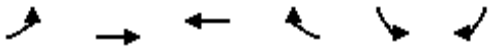
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	215	407	3	466	1457	3	1654	584
v/c Ratio	0.52	0.47	0.02	0.85	0.62	0.04	1.30	0.54
Control Delay	33.4	12.8	0.0	42.0	11.8	30.0	170.2	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	12.8	0.0	42.0	11.8	30.0	170.2	8.7
Queue Length 50th (ft)	111	127	0	195	217	1	~665	117
Queue Length 95th (ft)	150	121	0	#370	411	10	#975	220
Internal Link Dist (ft)			36		352		336	
Turn Bay Length (ft)	350					50		
Base Capacity (vph)	627	1044	145	621	2353	80	1270	1083
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.39	0.02	0.75	0.62	0.04	1.30	0.54

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

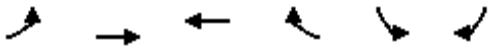
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	172	94	21	434	789	258
Future Volume (Veh/h)	172	94	21	434	789	258
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	187	102	23	472	858	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	495				499	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	495				499	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				0	73
cM capacity (veh/h)	1069				438	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	289	23	472	572	566
Volume Left	187	0	0	572	286
Volume Right	0	0	472	0	280
cSH	1069	1700	1700	438	616
Volume to Capacity	0.17	0.01	0.28	1.31	0.92
Queue Length 95th (ft)	16	0	0	631	294
Control Delay (s)	6.5	0.0	0.0	179.7	45.0
Lane LOS	A			F	E
Approach Delay (s)	6.5	0.0		112.7	
Approach LOS				F	

Intersection Summary				
Average Delay	67.7			
Intersection Capacity Utilization	58.4%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	257	112	22	685	480	150
Future Volume (Veh/h)	257	112	22	685	480	150
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	279	122	24	745	522	163
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	769				704	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	769				704	24
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	67				0	85
cM capacity (veh/h)	845				270	1052

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	401	24	745	348	337
Volume Left	279	0	0	348	174
Volume Right	0	0	745	0	163
cSH	845	1700	1700	270	422
Volume to Capacity	0.33	0.01	0.44	1.29	0.80
Queue Length 95th (ft)	36	0	0	432	178
Control Delay (s)	9.1	0.0	0.0	192.4	39.8
Lane LOS	A			F	E
Approach Delay (s)	9.1	0.0		117.3	
Approach LOS				F	

Intersection Summary			
Average Delay	45.3		
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	32.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	402	346	2	2104	0	0	0	0	15	0	285
Future Vol, veh/h	0	402	346	2	2104	0	0	0	0	15	0	285
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	437	376	2	2287	0	0	0	0	16	0	310

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	813	0	0	2510	-	1144
Stage 1	-	-	-	-	-	-	2291	-	-
Stage 2	-	-	-	-	-	-	219	-	-
Critical Hdwy	-	-	-	4.14	-	-	6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	810	-	0	23	0	~ 193
Stage 1	0	-	-	-	-	0	62	0	-
Stage 2	0	-	-	-	-	0	796	0	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	810	-	-	23	0	~ 193
Mov Cap-2 Maneuver	-	-	-	-	-	-	23	0	-
Stage 1	-	-	-	-	-	-	62	0	-
Stage 2	-	-	-	-	-	-	796	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 338.2
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	810	-	23	193
HCM Lane V/C Ratio	-	-	0.003	-	0.709	1.605
HCM Control Delay (s)	-	-	9.5	-	$ 328.9	$ 338.7
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	2.1	20.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1088	391	1	1059	0	0	0	0	72	0	181
Future Vol, veh/h	0	1088	391	1	1059	0	0	0	0	72	0	181
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1183	425	1	1151	0	0	0	0	78	0	197

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	1608	0	0		1745	-	576
Stage 1	-	-	-	-	-	-		1153	-	-
Stage 2	-	-	-	-	-	-		592	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	402	-	0		~ 77	0	460
Stage 1	0	-	-	-	-	0		263	0	-
Stage 2	0	-	-	-	-	0		516	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	402	-	-		~ 76	0	460
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 76	0	-
Stage 1	-	-	-	-	-	-		263	0	-
Stage 2	-	-	-	-	-	-		512	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	72.3
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	402	-	76	460
HCM Lane V/C Ratio	-	-	0.003	-	1.03	0.428
HCM Control Delay (s)	-	-	14	-	207.4	18.5
HCM Lane LOS	-	-	B	-	F	C
HCM 95th %tile Q(veh)	-	-	0	-	5.6	2.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	WBT	NBL	NBT	SBL	SBR
Lane Group Flow (vph)	373	605	2	382	1376	1	1215	520
v/c Ratio	0.71	0.59	no cap	0.63	0.65	0.01	1.32	0.49
Control Delay	35.3	11.1		27.5	15.1	32.0	185.2	6.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	11.1	Error	27.5	15.1	32.0	185.2	6.7
Queue Length 50th (ft)	190	170	0	131	256	0	~500	71
Queue Length 95th (ft)	254	186	0	252	406	5	#723	143
Internal Link Dist (ft)			36		352		336	
Turn Bay Length (ft)	350					50		
Base Capacity (vph)	684	1153	1	621	2125	80	917	1059
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.52	2.00	0.62	0.65	0.01	1.32	0.49

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	234	407	3	466	1457	3	1654	584
v/c Ratio	0.55	0.46	0.02	0.85	0.63	0.04	1.33	0.54
Control Delay	33.8	12.5	0.0	42.1	12.2	30.0	180.5	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	12.5	0.0	42.1	12.2	30.0	180.5	8.7
Queue Length 50th (ft)	120	123	0	196	226	1	~678	117
Queue Length 95th (ft)	163	121	0	#369	411	10	#975	220
Internal Link Dist (ft)			36		352		336	
Turn Bay Length (ft)	350					50		
Base Capacity (vph)	627	1044	145	621	2330	80	1248	1083
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.39	0.02	0.75	0.63	0.04	1.33	0.54

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	48.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	435	352	2	2243	0	0	0	0	15	0	311
Future Vol, veh/h	0	435	352	2	2243	0	0	0	0	15	0	311
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	473	383	2	2438	0	0	0	0	16	0	338

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	856	0	0		2679	-	1219
Stage 1	-	-	-	-	-	-		2442	-	-
Stage 2	-	-	-	-	-	-		237	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	780	-	0		18	0	~ 172
Stage 1	0	-	-	-	-	0		51	0	-
Stage 2	0	-	-	-	-	0		780	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	780	-	-		18	0	~ 172
Mov Cap-2 Maneuver	-	-	-	-	-	-		18	0	-
Stage 1	-	-	-	-	-	-		51	0	-
Stage 2	-	-	-	-	-	-		780	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 498.1
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	780	-	18	172
HCM Lane V/C Ratio	-	-	0.003	-	0.906	1.965
HCM Control Delay (s)	-	-	9.6	-	$ 470.1	$ 499.4
HCM Lane LOS	-	-	A	-	F	F
HCM 95th %tile Q(veh)	-	-	0	-	2.4	25.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	9.3

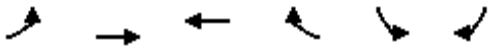
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1193	418	1	1149	0	0	0	0	72	0	198
Future Vol, veh/h	0	1193	418	1	1149	0	0	0	0	72	0	198
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1297	454	1	1249	0	0	0	0	78	0	215

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	1751	0	0		1900	-	625
Stage 1	-	-	-	-	-	-		1251	-	-
Stage 2	-	-	-	-	-	-		649	-	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	-	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	-	3.32
Pot Cap-1 Maneuver	0	-	-	354	-	0		~ 61	0	428
Stage 1	0	-	-	-	-	0		233	0	-
Stage 2	0	-	-	-	-	0		482	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	354	-	-		~ 60	0	428
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 60	0	-
Stage 1	-	-	-	-	-	-		233	0	-
Stage 2	-	-	-	-	-	-		478	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	104.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	354	-	60	428
HCM Lane V/C Ratio	-	-	0.003	-	1.304	0.503
HCM Control Delay (s)	-	-	15.2	-	$ 333.2	21.6
HCM Lane LOS	-	-	C	-	F	C
HCM 95th %tile Q(veh)	-	-	0	-	6.7	2.8

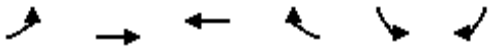
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	179	94	21	442	827	258
Future Volume (Veh/h)	179	94	21	442	827	258
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	195	102	23	480	899	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	503				515	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	503				515	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				0	73
cM capacity (veh/h)	1061				424	1054

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	297	23	480	599	580
Volume Left	195	0	0	599	300
Volume Right	0	0	480	0	280
cSH	1061	1700	1700	424	596
Volume to Capacity	0.18	0.01	0.28	1.41	0.97
Queue Length 95th (ft)	17	0	0	737	343
Control Delay (s)	6.6	0.0	0.0	224.6	56.5
Lane LOS	A			F	F
Approach Delay (s)	6.6	0.0		142.0	
Approach LOS				F	

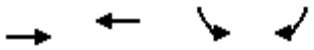
Intersection Summary				
Average Delay	85.6			
Intersection Capacity Utilization	59.9%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	284	112	22	718	504	150
Future Volume (Veh/h)	284	112	22	718	504	150
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	309	122	24	780	548	163
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	804				764	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	804				764	24
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	62				0	85
cM capacity (veh/h)	820				232	1052

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	431	24	780	365	346
Volume Left	309	0	0	365	183
Volume Right	0	0	780	0	163
cSH	820	1700	1700	232	367
Volume to Capacity	0.38	0.01	0.46	1.58	0.94
Queue Length 95th (ft)	44	0	0	568	254
Control Delay (s)	10.0	0.0	0.0	317.1	67.8
Lane LOS	A			F	F
Approach Delay (s)	10.0	0.0		195.9	
Approach LOS				F	

Intersection Summary			
Average Delay	73.8		
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

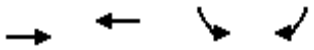


Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	844	2391	15	334
v/c Ratio	0.37	1.07	0.04	1.03
Control Delay	2.8	56.5	20.3	84.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.8	56.5	20.3	84.4
Queue Length 50th (ft)	28	~523	5	~118
Queue Length 95th (ft)	48	#655	18	#266
Internal Link Dist (ft)	258	273		
Turn Bay Length (ft)			100	
Base Capacity (vph)	2302	2225	339	325
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	1.07	0.04	1.03

Intersection Summary

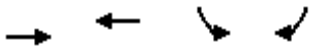
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1725	1233	76	212
v/c Ratio	0.71	0.53	0.28	0.66
Control Delay	7.4	5.8	24.1	23.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.4	5.8	24.1	23.9
Queue Length 50th (ft)	143	93	24	40
Queue Length 95th (ft)	235	145	55	97
Internal Link Dist (ft)	258	273		
Turn Bay Length (ft)			100	
Base Capacity (vph)	2417	2347	339	376
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.53	0.22	0.56

Intersection Summary

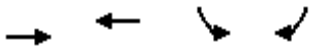


Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	856	2440	16	338
v/c Ratio	0.37	1.10	0.05	1.04
Control Delay	2.9	65.3	20.3	87.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.9	65.3	20.3	87.8
Queue Length 50th (ft)	29	~543	5	~128
Queue Length 95th (ft)	48	#675	18	#270
Internal Link Dist (ft)	258	273		
Turn Bay Length (ft)			100	
Base Capacity (vph)	2304	2225	339	325
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	1.10	0.05	1.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1751	1250	78	215
v/c Ratio	0.73	0.53	0.28	0.67
Control Delay	7.7	5.9	24.1	24.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.7	5.9	24.1	24.7
Queue Length 50th (ft)	151	96	25	42
Queue Length 95th (ft)	243	148	56	100
Internal Link Dist (ft)	258	273		
Turn Bay Length (ft)			100	
Base Capacity (vph)	2412	2343	339	374
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.73	0.53	0.23	0.57

Intersection Summary

Appendix L:
Signal Warrant
Analysis Sheets

7TH STREET DRIVEWAY
SIGNAL WARRANTS

FEHR PEERS

Major Street	7th Street
Minor Street	Project Driveway

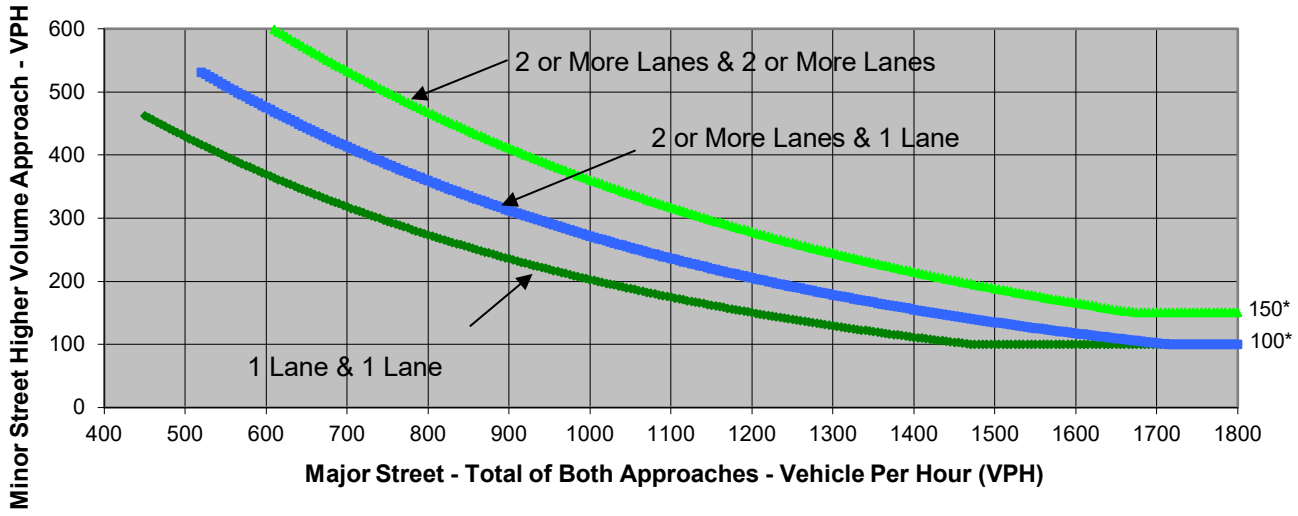
Project	670 Mesquit
Scenario	CP AM 2026 - Opt 1
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	36	0	0
Through	0	0	939	2,427
Right	0	81	0	115
Total	0	117	939	2,542

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th Street	Project Driveway	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**3,481**	**117**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP AM 2026 - Opt 1
Peak Hour	AM

Major Street	7th Street
Minor Street	Project Driveway

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	36	0	0
Through	0	0	939	2,427
Right	0	81	0	115
Total	0	117	939	2,542

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	790.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	117

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP AM 2026 - Opt 1	**25.7**	**117**	**3,598**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	7th Street
Minor Street	Project Driveway

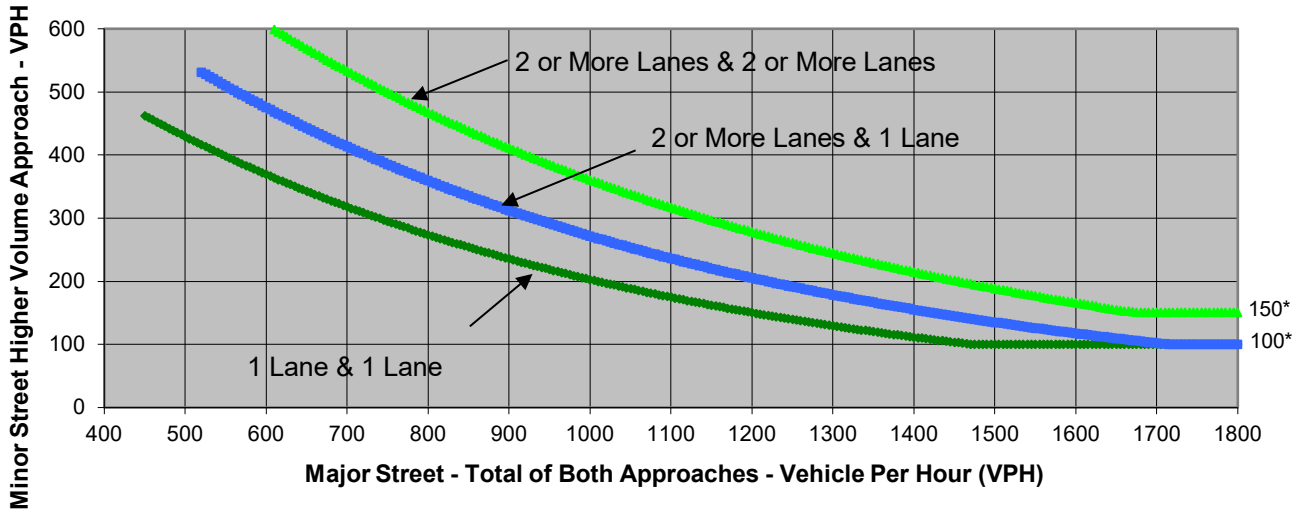
Project	670 Mesquit
Scenario	CP PM 2026 - Opt 1
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	89	0	0
Through	0	0	1,689	1,386
Right	0	216	0	88
Total	0	305	1,689	1,474

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th Street	Project Driveway	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**3,163**	**305**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	7th Street
Scenario	CP PM 2026 - Opt 1
Minor Street	Project Driveway
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	89	0	0
Through	0	0	1,689	1,386
Right	0	216	0	88
Total	0	305	1,689	1,474

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	790.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	305

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP PM 2026 - Opt 1	**67**	**305**	**3,468**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	7th Street
Minor Street	Project Driveway

Project	670 Mesquit
Scenario	CP AM 2026 - Opt 2
Peak Hour	AM

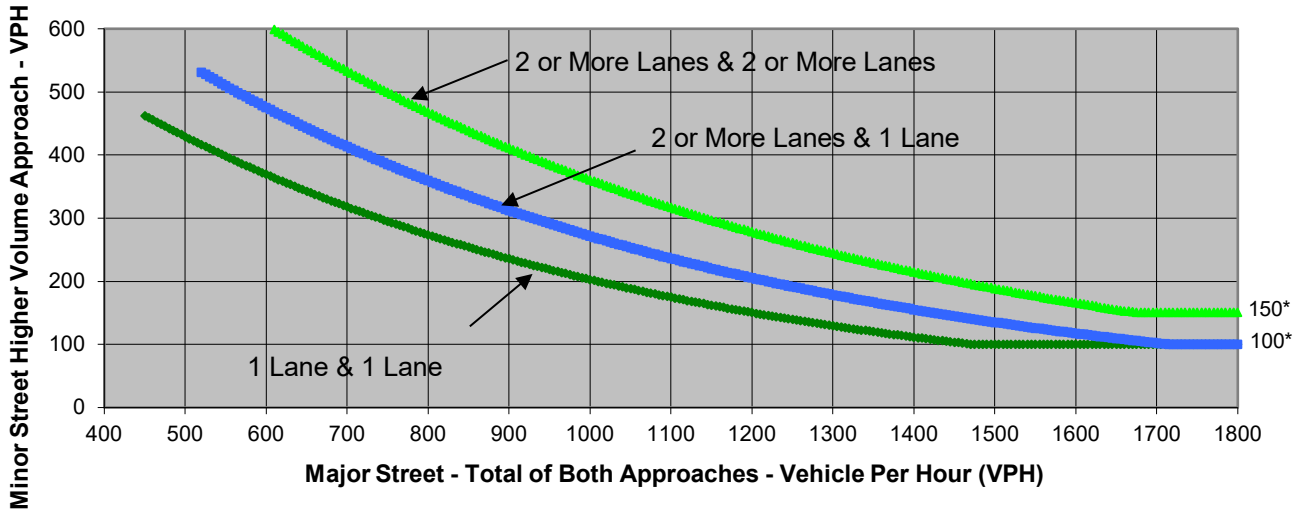
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	38	0	0
Through	0	0	940	2,427
Right	0	92	0	119
Total	0	130	940	2,546

Major Street Direction

	North/South
x	East/West

Warrant 3B, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th Street	Project Driveway	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**3,486**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP AM 2026 - Opt 2
Peak Hour	AM

Major Street	7th Street
Minor Street	Project Driveway

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	38	0	0
Through	0	0	940	2,427
Right	0	92	0	119
Total	0	130	940	2,546

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	790.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	130

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP AM 2026 - Opt 2	**28.5**	**130**	**3,616**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	7th Street
Minor Street	Project Driveway

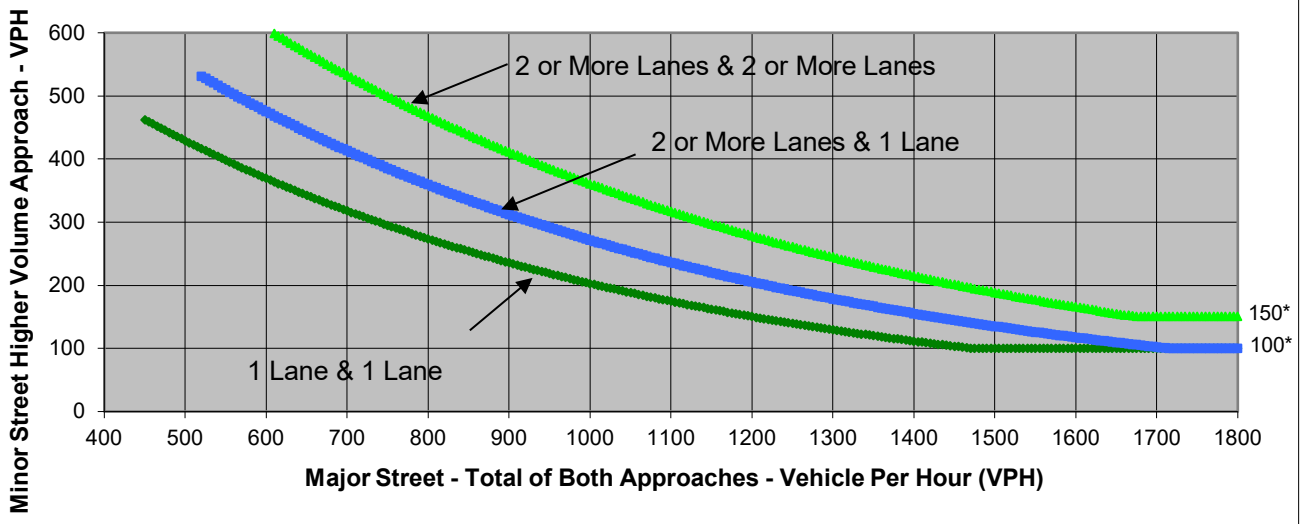
Project	670 Mesquit
Scenario	CP PM 2026 - Opt 2
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	92	0	0
Through	0	0	1,690	1,386
Right	0	226	0	92
Total	0	318	1,690	1,478

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th Street	Project Driveway	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**3,168**	**318**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	7th Street	Project	670 Mesquit
Minor Street	Project Driveway	Scenario	CP PM 2026 - Opt 2
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	92	0	0
Through	0	0	1,690	1,386
Right	0	226	0	92
Total	0	318	1,690	1,478

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	790.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	318

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP PM 2026 - Opt 2	**69.8**	**318**	**3,486**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	7th Street
Minor Street	Project Driveway

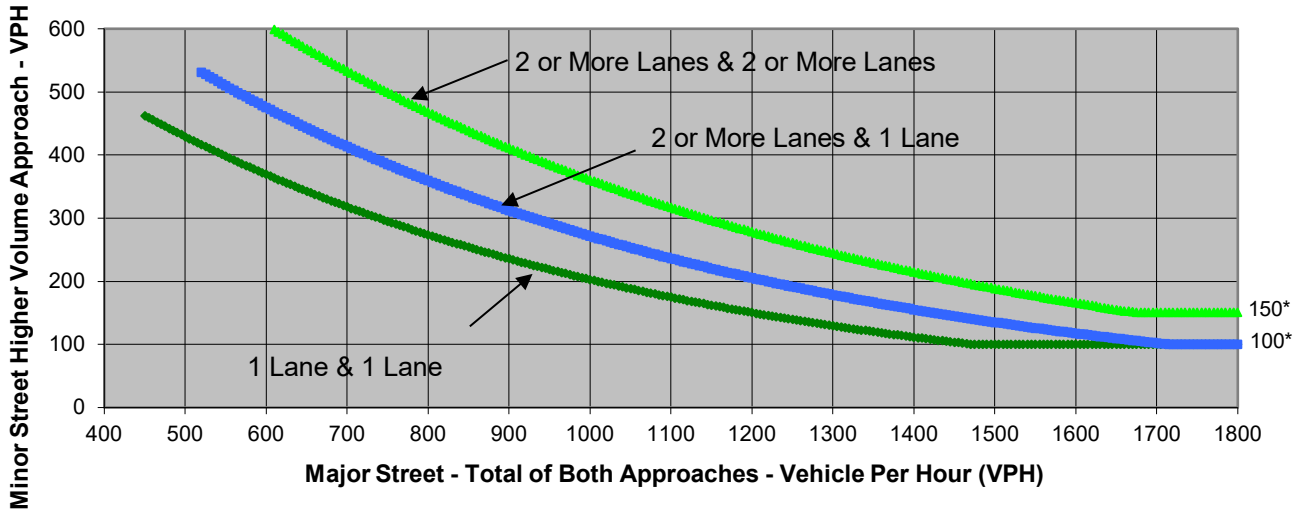
Project	670 Mesquit
Scenario	CP AM 2040 - Opt 1
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	36	0	0
Through	0	0	954	2,474
Right	0	81	0	115
Total	0	117	954	2,589

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th Street	Project Driveway	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**3,543**	**117**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP AM 2040 - Opt 1
Peak Hour	AM

Major Street	7th Street
Minor Street	Project Driveway

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	36	0	0
Through	0	0	954	2,474
Right	0	81	0	115
Total	0	117	954	2,589

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	790.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	117

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP AM 2040 - Opt 1	**25.7**	**117**	**3,660**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	7th Street
Minor Street	Project Driveway

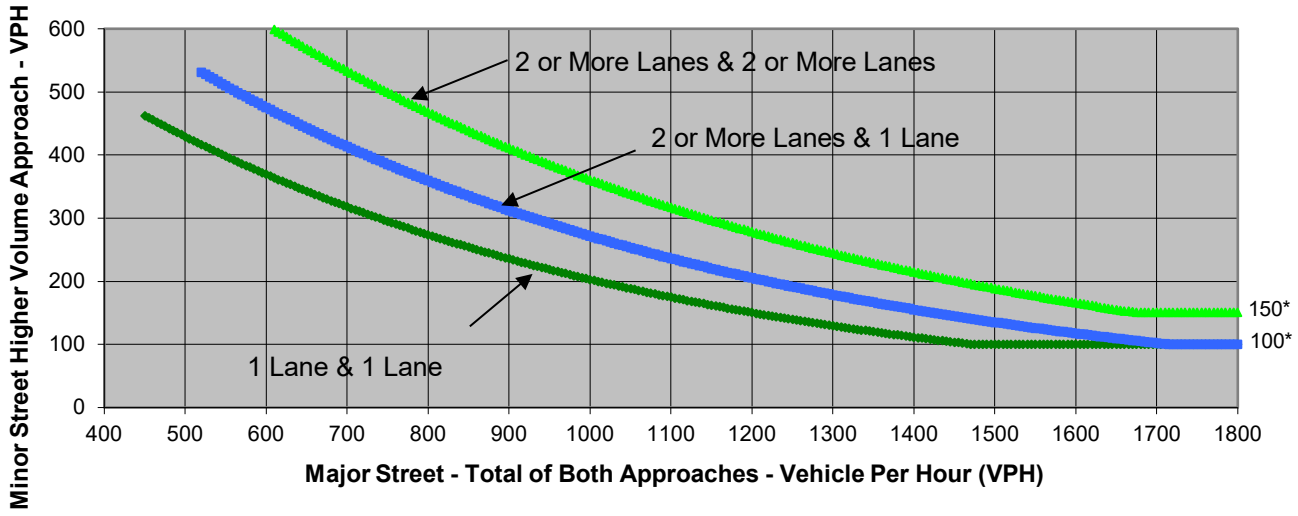
Project	670 Mesquit
Scenario	CP PM 2040 - Opt 1
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	89	0	0
Through	0	0	1,717	1,407
Right	0	216	0	88
Total	0	305	1,717	1,495

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th Street	Project Driveway	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**3,212**	**305**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP PM 2040 - Opt 1
Peak Hour	AM

Major Street	7th Street
Minor Street	Project Driveway

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	89	0	0
Through	0	0	1,717	1,407
Right	0	216	0	88
Total	0	305	1,717	1,495

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	790.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	305

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP PM 2040 - Opt 1	**67**	**305**	**3,517**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	7th Street
Minor Street	Project Driveway

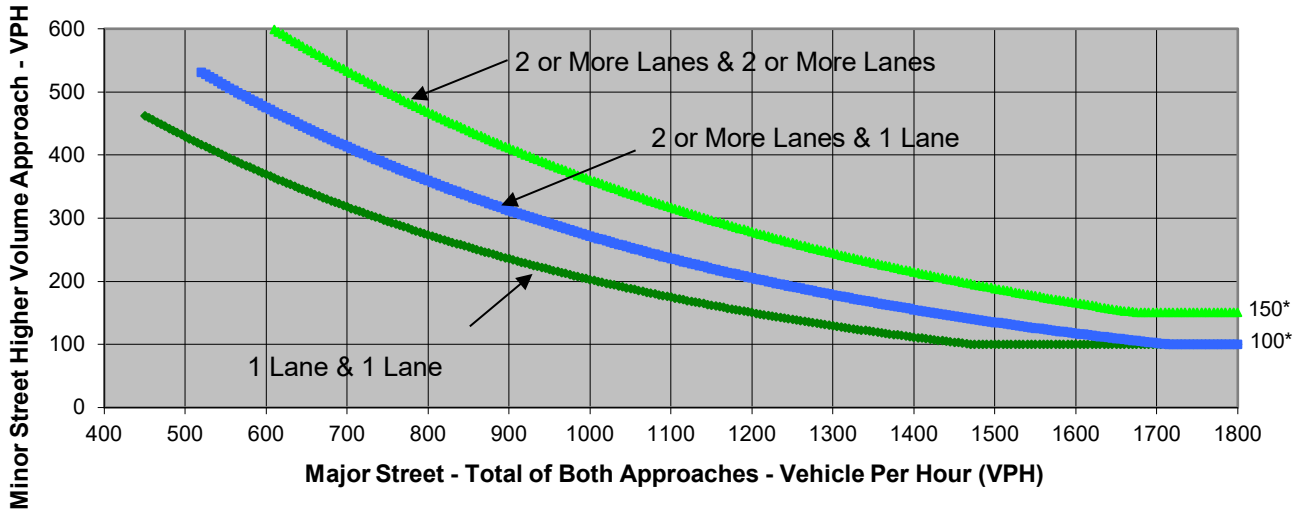
Project	670 Mesquit
Scenario	CP AM 2040 - Opt 2
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	38	0	0
Through	0	0	955	2,474
Right	0	92	0	119
Total	0	130	955	2,593

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th Street	Project Driveway	
Number of Approach Lanes	**2**	**2**	**NO**
Traffic Volume (VPH) *	**3,548**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP AM 2040 - Opt 2
Peak Hour	AM

Major Street	7th Street
Minor Street	Project Driveway

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	38	0	0
Through	0	0	955	2,474
Right	0	92	0	119
Total	0	130	955	2,593

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	790.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	130

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP AM 2040 - Opt 2	**28.5**	**130**	**3,678**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	7th Street
Minor Street	Project Driveway

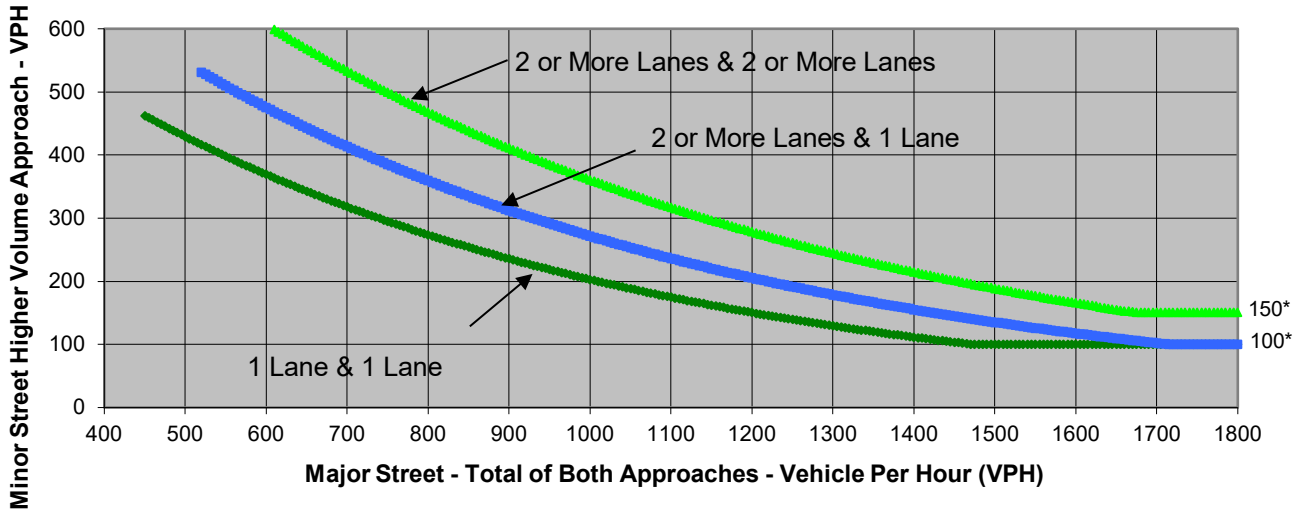
Project	670 Mesquit
Scenario	CP PM 2040 - Opt 2
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	92	0	0
Through	0	0	1,718	1,407
Right	0	226	0	92
Total	0	318	1,718	1,499

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th Street	Project Driveway	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**3,217**	**318**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	7th Street	Project	670 Mesquit
Minor Street	Project Driveway	Scenario	CP PM 2040 - Opt 2
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	92	0	0
Through	0	0	1,718	1,407
Right	0	226	0	92
Total	0	318	1,718	1,499

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	790.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	318

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP PM 2040 - Opt 2	**69.8**	**318**	**3,535**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

EXISTING CONDITIONS

SIGNAL WARRANT WORKSHEETS

FEHR PEERS

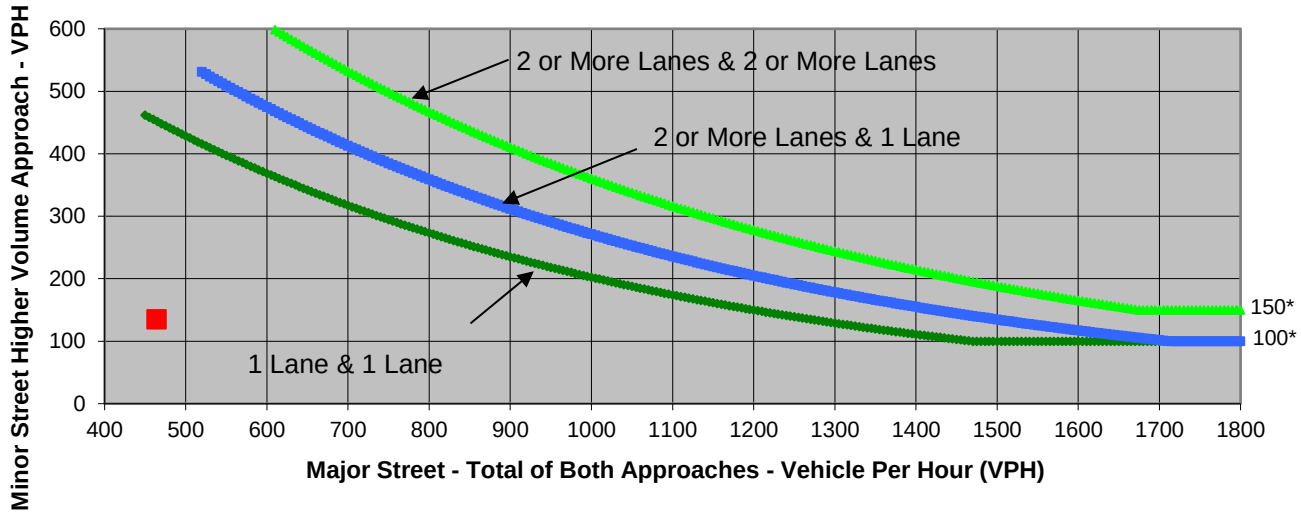
Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	21	0	110
Through	123	253	0	0
Right	66	0	0	25
Total	190	274	0	135

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**464**	**135**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	EX AM
Peak Hour	AM

Major Street	Mateo St
Minor Street	4th Pl

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	21	0	110
Through	123	253	0	0
Right	66	0	0	25
Total	190	274	0	135

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	135

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX AM	**0.5**	**135**	**599**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

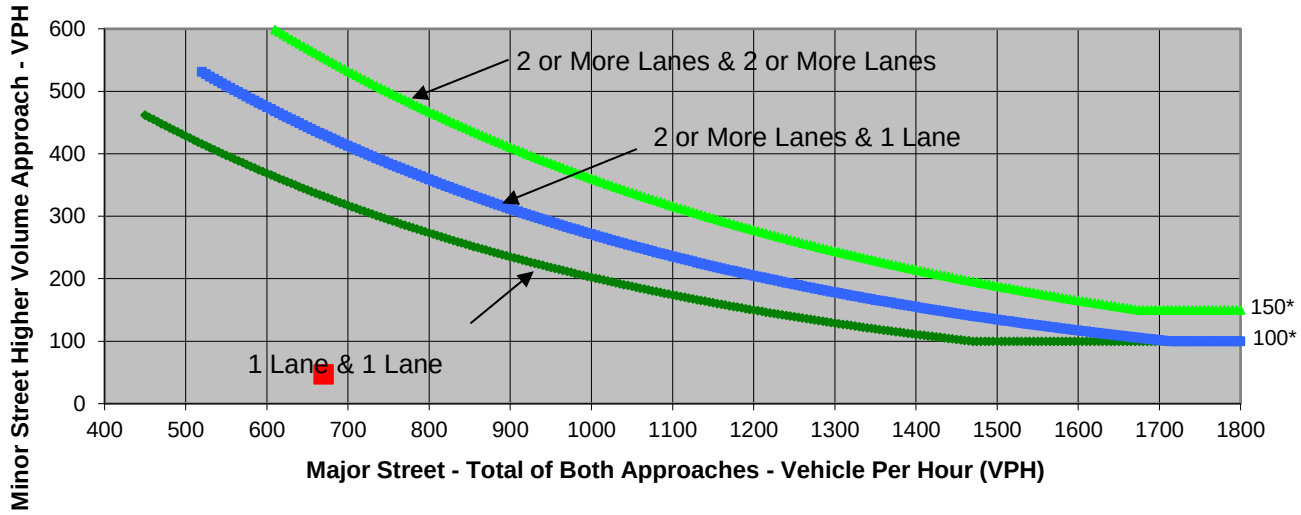
Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	37	0	27
Through	223	198	0	0
Right	212	0	0	20
Total	435	235	0	47

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**670**	**47**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	37	0	27
Through	223	198	0	0
Right	212	0	0	20
Total	435	235	0	47

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	47

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX PM	**0.2**	**47**	**717**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

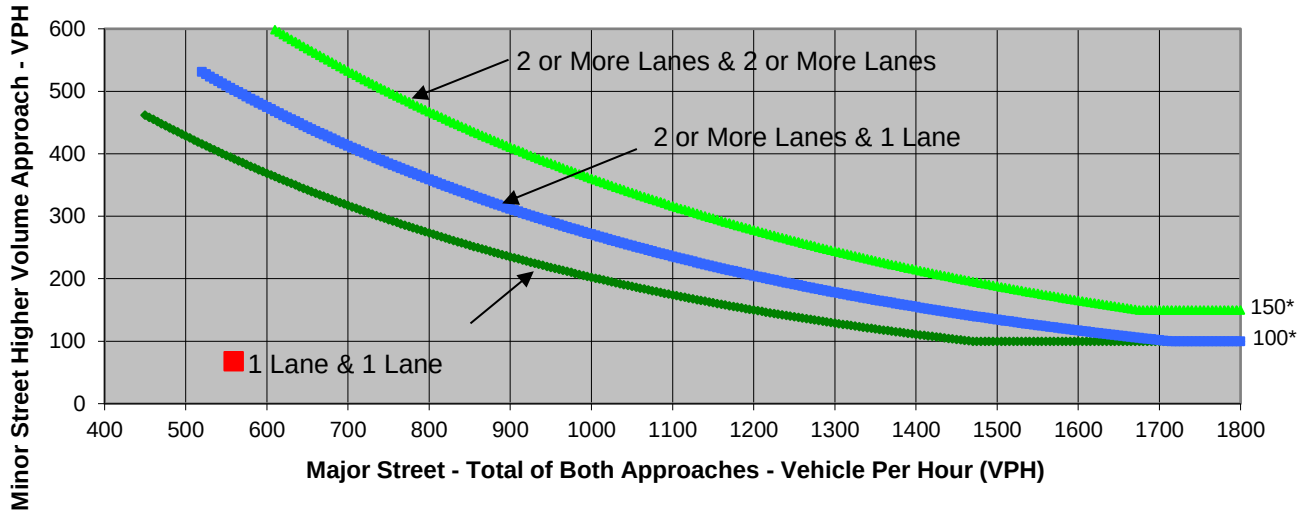
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	38	0	27
Through	219	285	0	0
Right	16	0	0	41
Total	236	323	0	68

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**559**	**68**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	EX AM
Peak Hour	AM

Major Street	Mateo St
Minor Street	Willow St

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	38	0	27
Through	219	285	0	0
Right	16	0	0	41
Total	236	323	0	68

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12
Approach with Worst Case Delay	WB
Total Vehicles on Approach	68

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX AM	**0.2**	**68**	**627**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

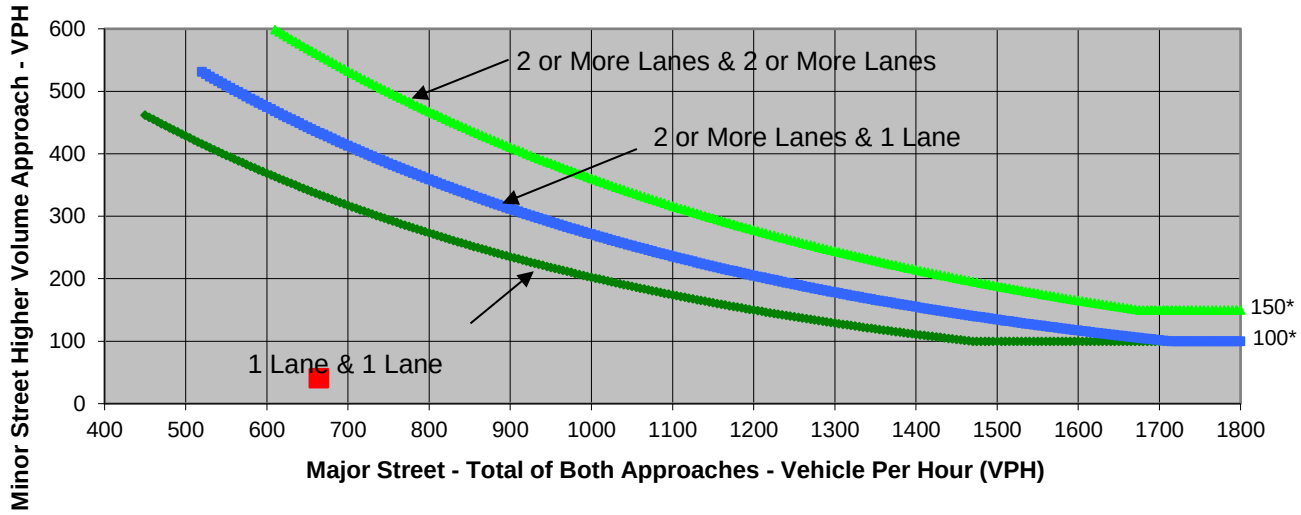
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	22	0	12
Through	367	251	0	0
Right	24	0	0	29
Total	391	273	0	41

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**664**	**41**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St
Minor Street	Willow St

Project	670 Mesquit
Scenario	EX PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	22	0	12
Through	367	251	0	0
Right	24	0	0	29
Total	391	273	0	41

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	41

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX PM	**0.1**	**41**	**705**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

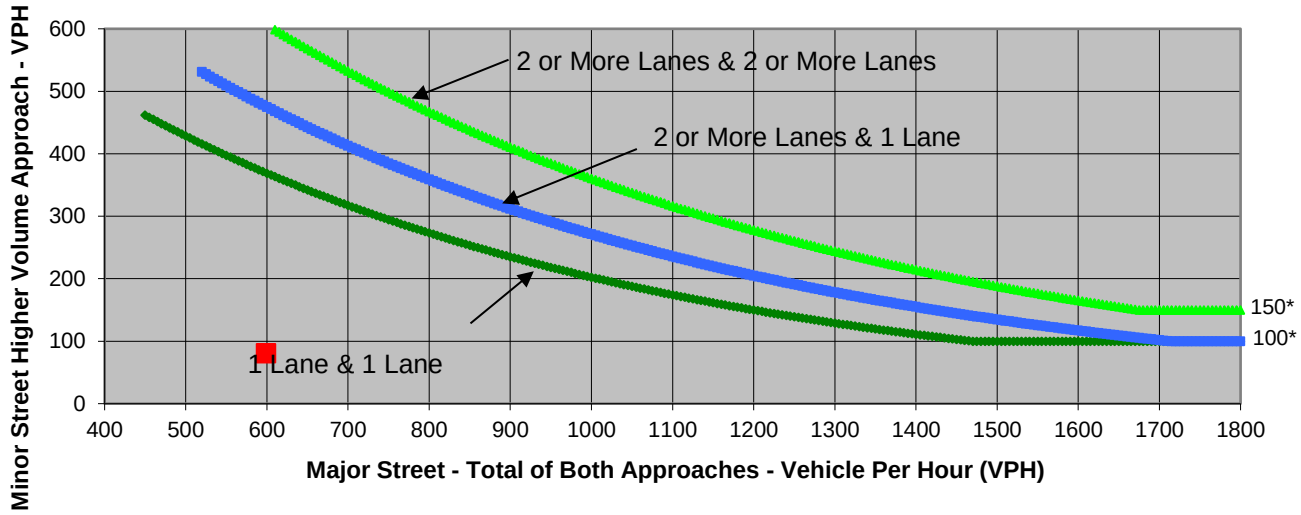
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	21	6	20
Through	301	252	0	0
Right	24	1	3	61
Total	325	274	9	81

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**599**	**81**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	21	6	20
Through	301	252	0	0
Right	24	1	3	61
Total	325	274	9	81

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12
Approach with Worst Case Delay	WB
Total Vehicles on Approach	81

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX AM	**0.3**	**81**	**689**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

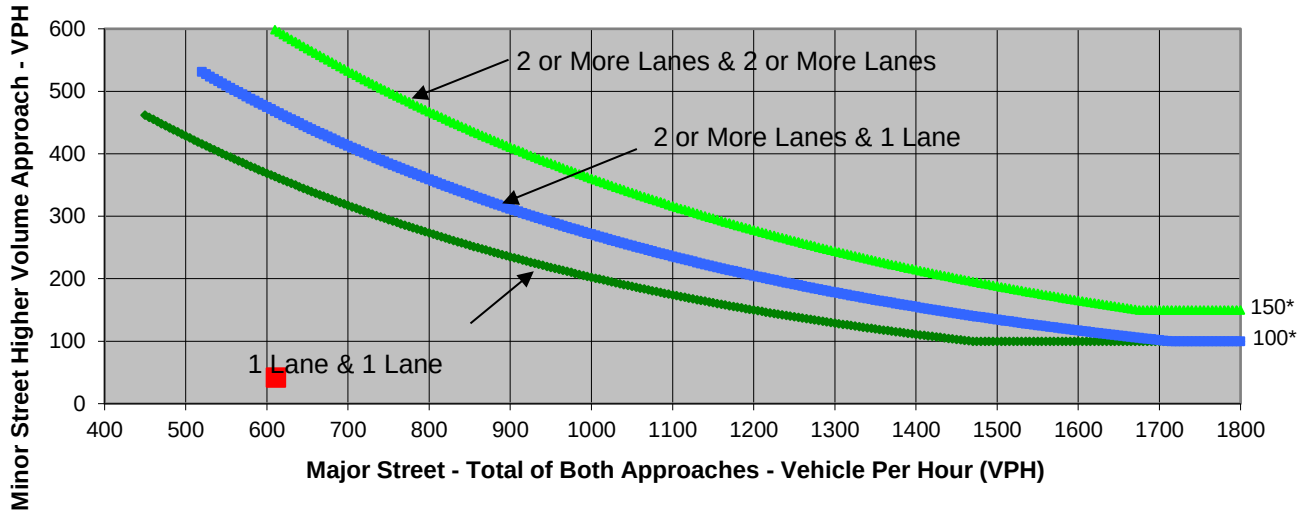
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	29	2	13
Through	161	388	1	1
Right	18	7	3	28
Total	187	424	6	42

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**611**	**42**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	29	2	13
Through	161	388	1	1
Right	18	7	3	28
Total	187	424	6	42

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	42

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX PM	**0.1**	**42**	**659**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	E 8th St
Minor Street	I-10 Westbound ramps

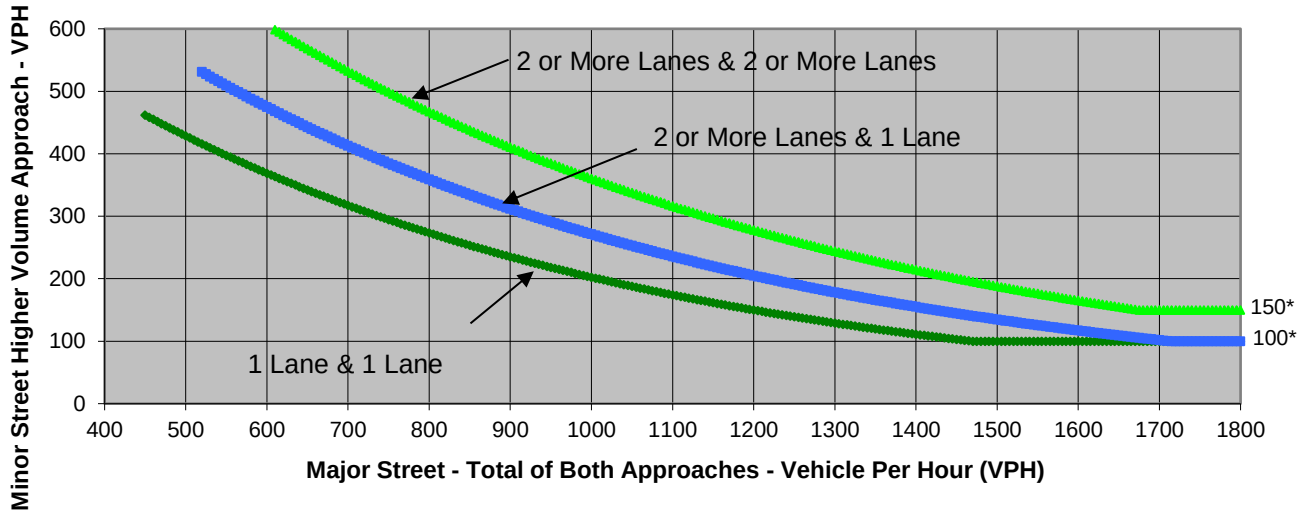
Project	670 Mesquit
Scenario	EX AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	282	0	0	549
Through	0	0	15	14
Right	367	0	266	0
Total	649	0	281	563

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**844**	**649**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	282	0	0	549
Through	0	0	15	14
Right	367	0	266	0
Total	649	0	281	563

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	570.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	563

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX AM	**89.2**	**649**	**1,493**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

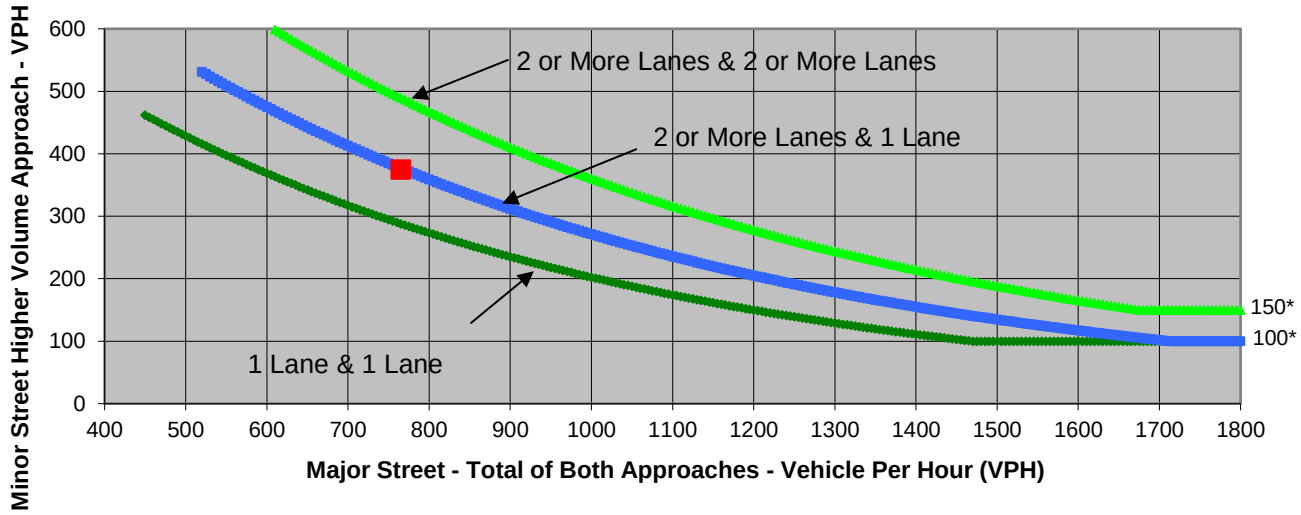
Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	341	0	0	338
Through	0	0	9	37
Right	424	0	207	0
Total	765	0	216	375

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**765**	**375**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	341	0	0	338
Through	0	0	9	37
Right	424	0	207	0
Total	765	0	216	375

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	165.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	375

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX PM	**17.2**	**375**	**1,356**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

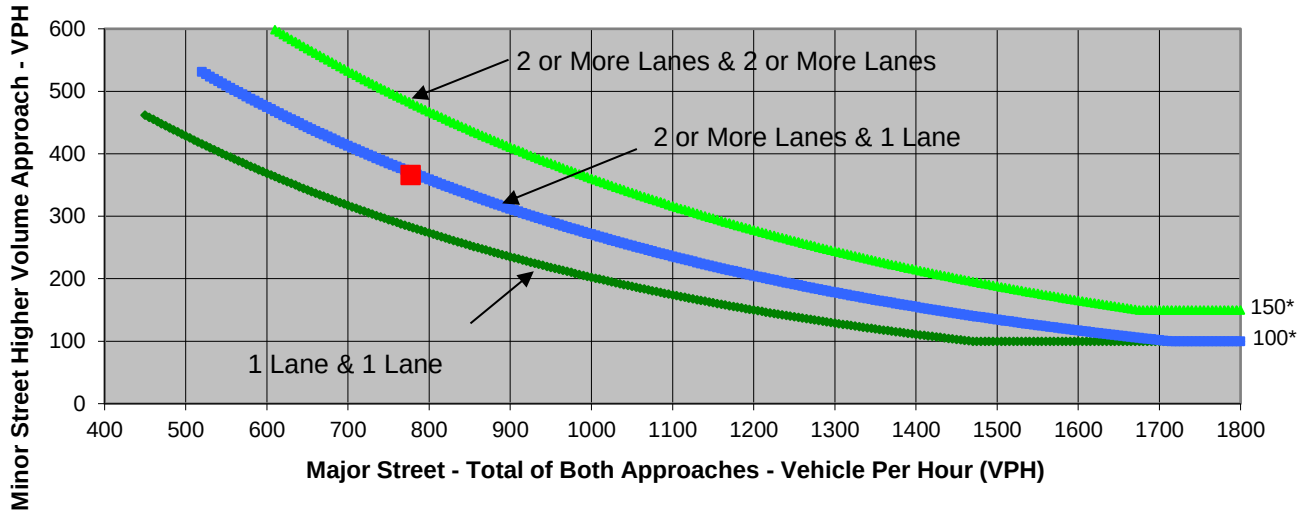
Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	570	99	1
Through	0	1	49	21
Right	0	204	0	344
Total	2	775	148	366

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**777**	**366**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	570	99	1
Through	0	1	49	21
Right	0	204	0	344
Total	2	775	148	366

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	366

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX AM	**1.8**	**366**	**1,291**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

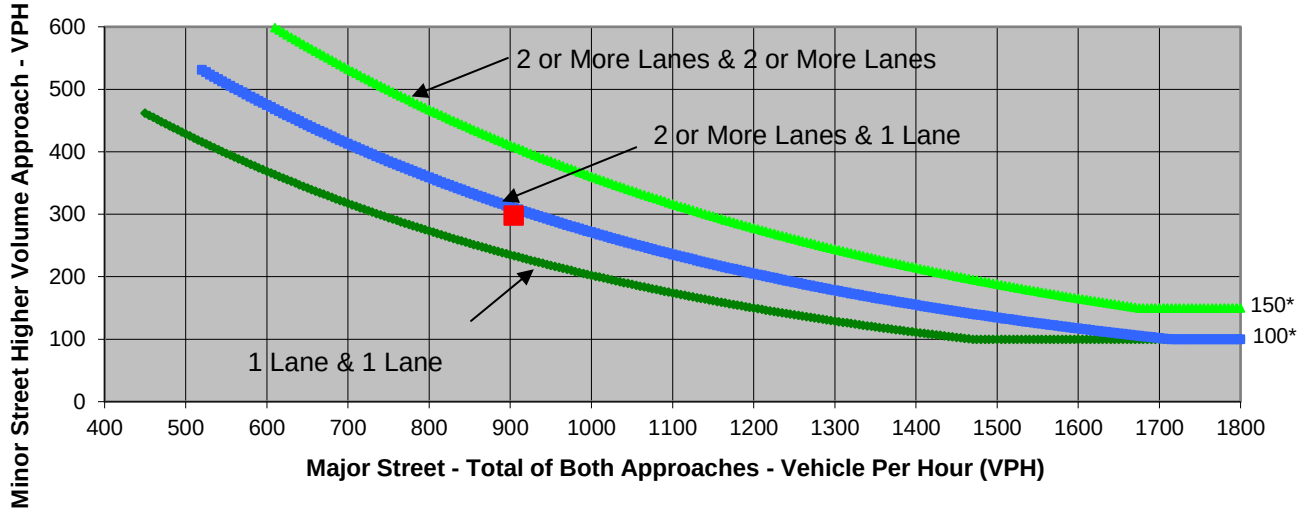
Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	231	173	1
Through	0	0	157	39
Right	5	67	2	532
Total	5	298	332	572

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**NO**
Traffic Volume (VPH) *	**904**	**298**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	231	173	1
Through	0	0	157	39
Right	5	67	2	532
Total	5	298	332	572

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	18.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	572

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX PM	**2.9**	**298**	**1,207**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

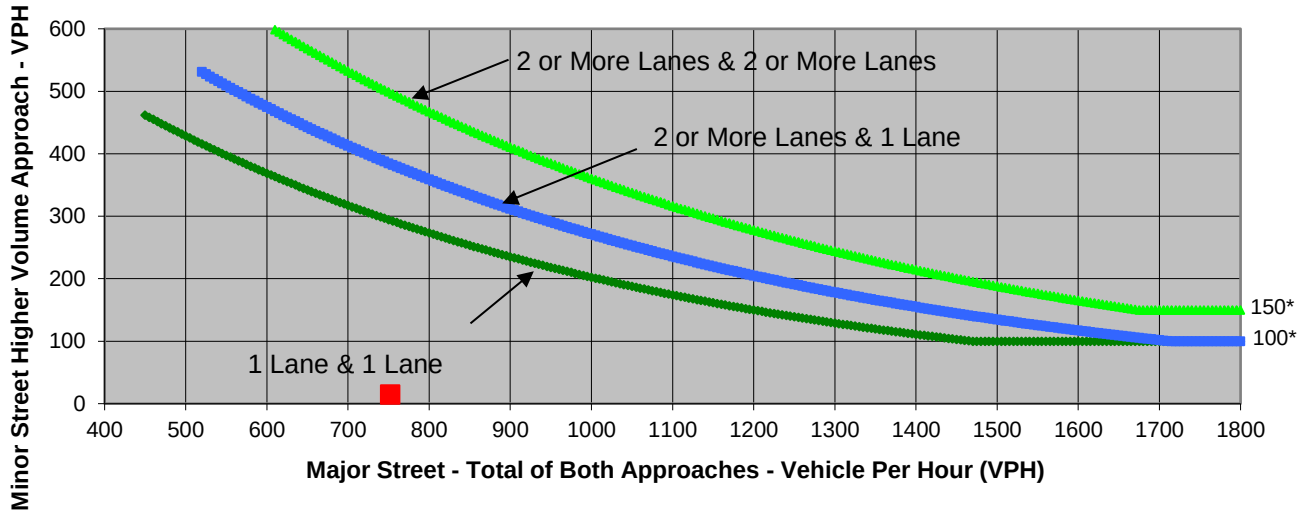
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	33	0	0	0
Through	535	177	0	0
Right	0	7	15	0
Total	568	184	15	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**752**	**15**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	33	0	0	0
Through	535	177	0	0
Right	0	7	15	0
Total	568	184	15	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	9.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX AM	**0**	**15**	**767**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

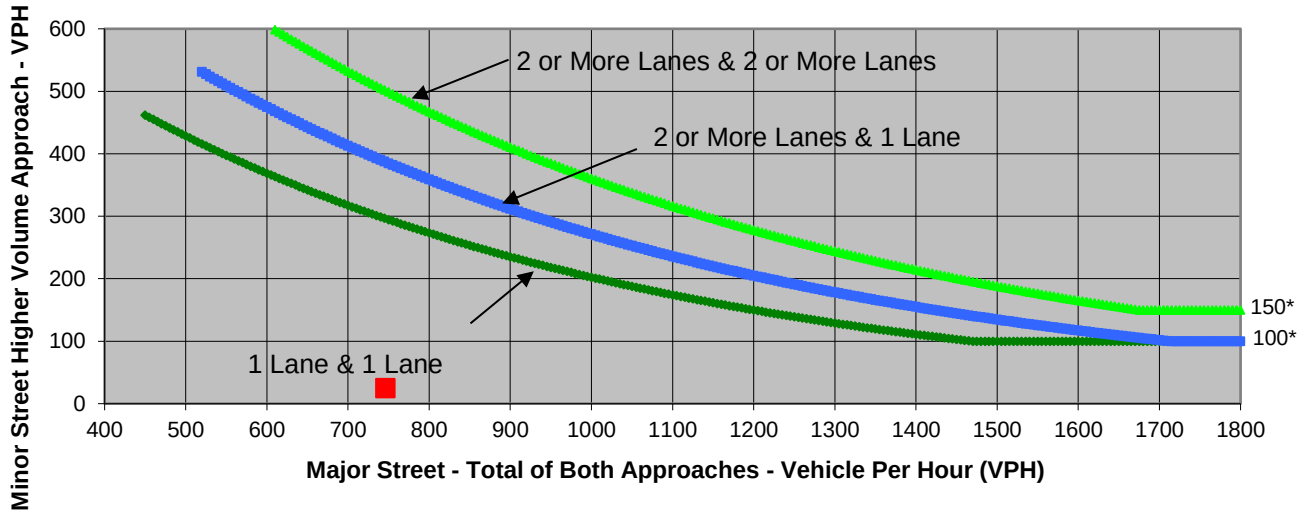
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	17	1	12	0
Through	426	294	0	0
Right	0	8	13	0
Total	443	303	25	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**746**	**25**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	17	1	12	0
Through	426	294	0	0
Right	0	8	13	0
Total	443	303	25	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX PM	**0**	**25**	**771**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Mesquit St

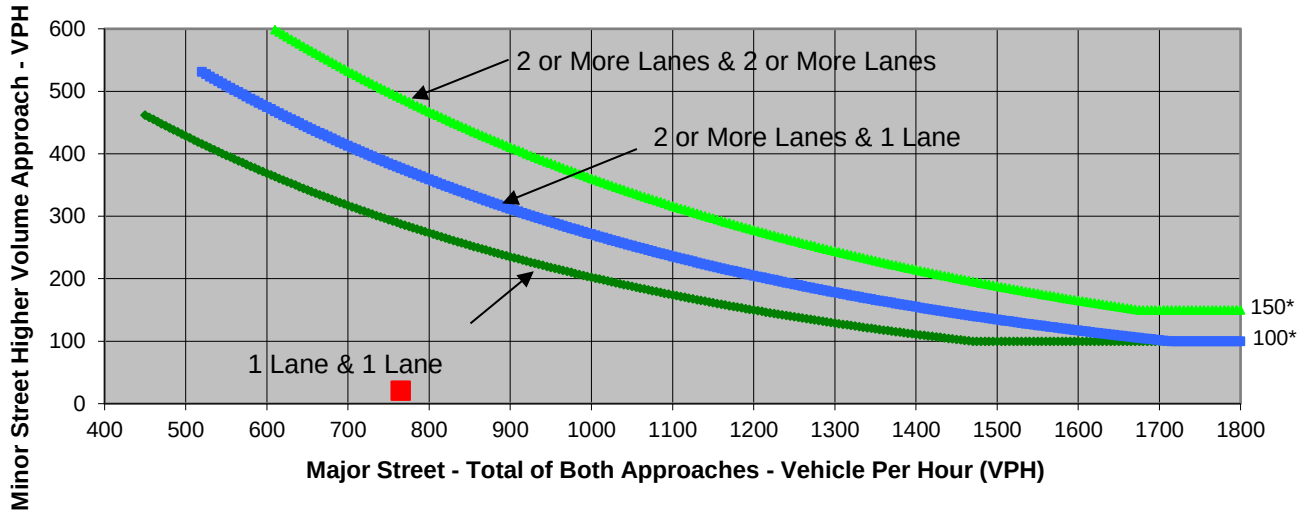
Project	670 Mesquit
Scenario	EX AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	7	7	1
Through	566	192	1	0
Right	0	0	13	9
Total	566	199	21	10

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**765**	**21**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	7	7	1
Through	566	192	1	0
Right	0	0	13	9
Total	566	199	21	10

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	15.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	10

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX AM	**0**	**21**	**796**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Mesquit St

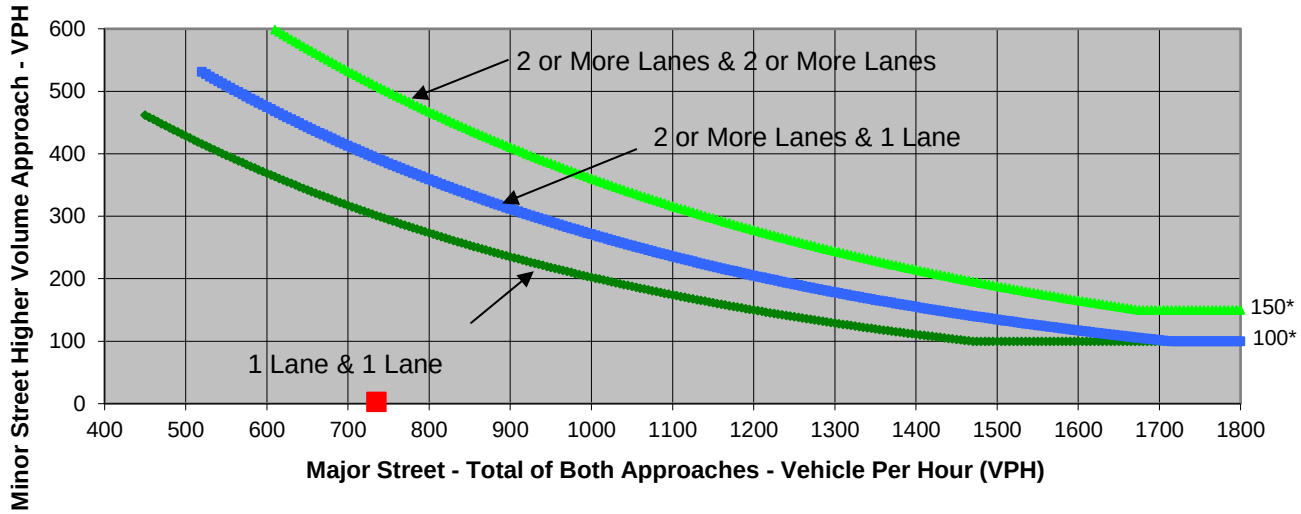
Project	670 Mesquit
Scenario	EX PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	0	1
Through	432	299	0	0
Right	0	2	0	2
Total	432	303	0	3

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**735**	**3**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	0	1
Through	432	299	0	0
Right	0	2	0	2
Total	432	303	0	3

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	11.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	3

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX PM	**0**	**3**	**738**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

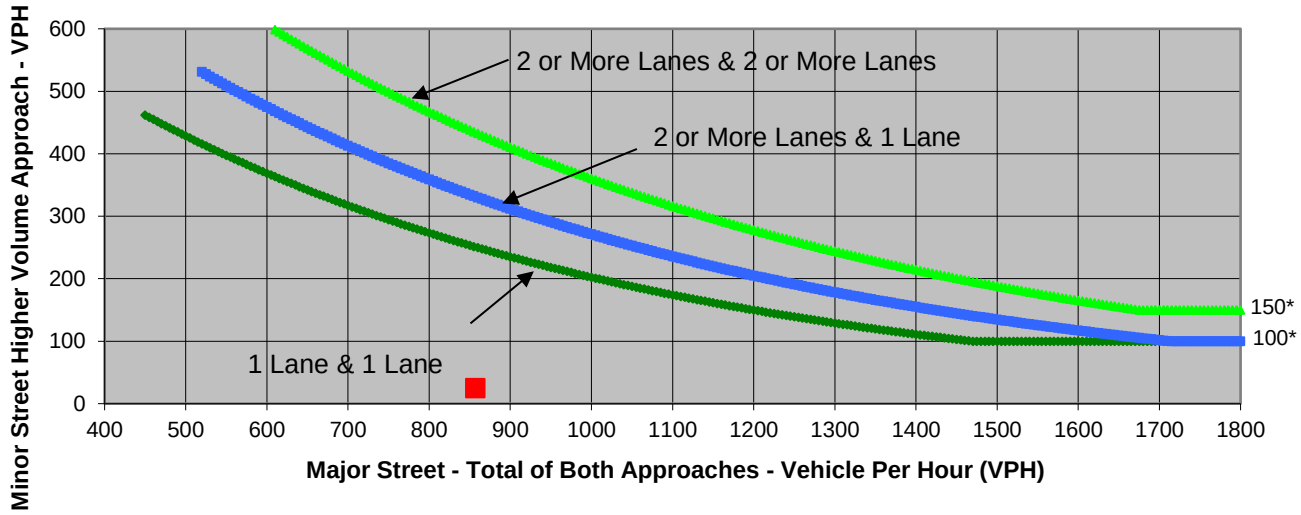
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	74	4	2	17
Through	564	191	2	5
Right	15	9	12	3
Total	653	204	16	25

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**857**	**25**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	74	4	2	17
Through	564	191	2	5
Right	15	9	12	3
Total	653	204	16	25

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	24.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	25

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX AM	**0.2**	**25**	**898**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

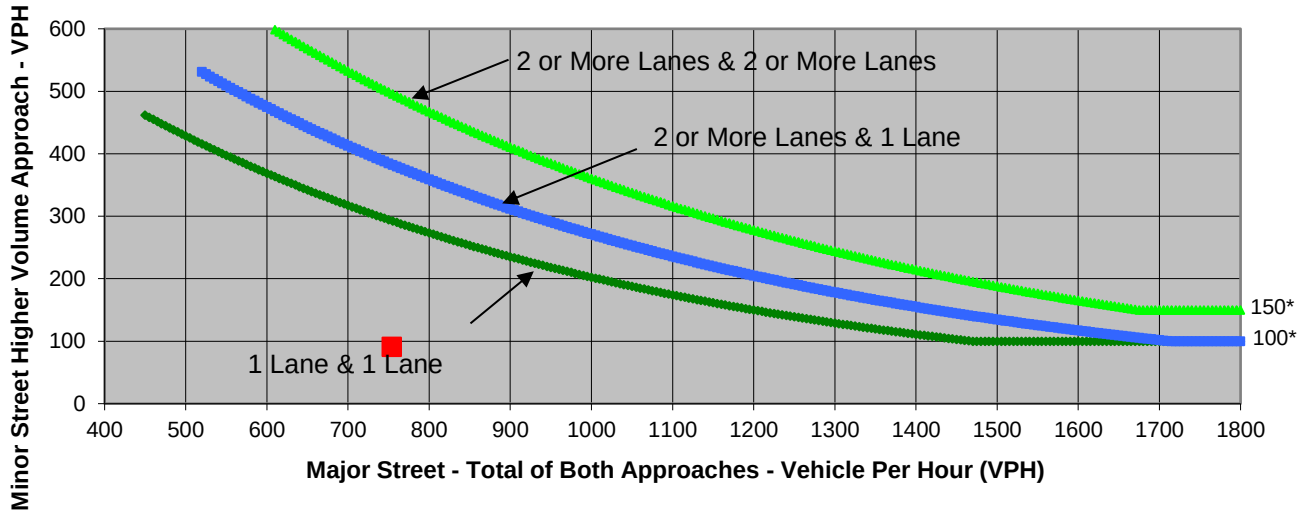
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	30	3	18	9
Through	418	283	3	3
Right	5	15	70	3
Total	453	301	91	15

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**754**	**91**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	30	3	18	9
Through	418	283	3	3
Right	5	15	70	3
Total	453	301	91	15

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	19
Approach with Worst Case Delay	WB
Total Vehicles on Approach	15

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX PM	**0.1**	**91**	**860**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mesquit St
Minor Street	Jesse St

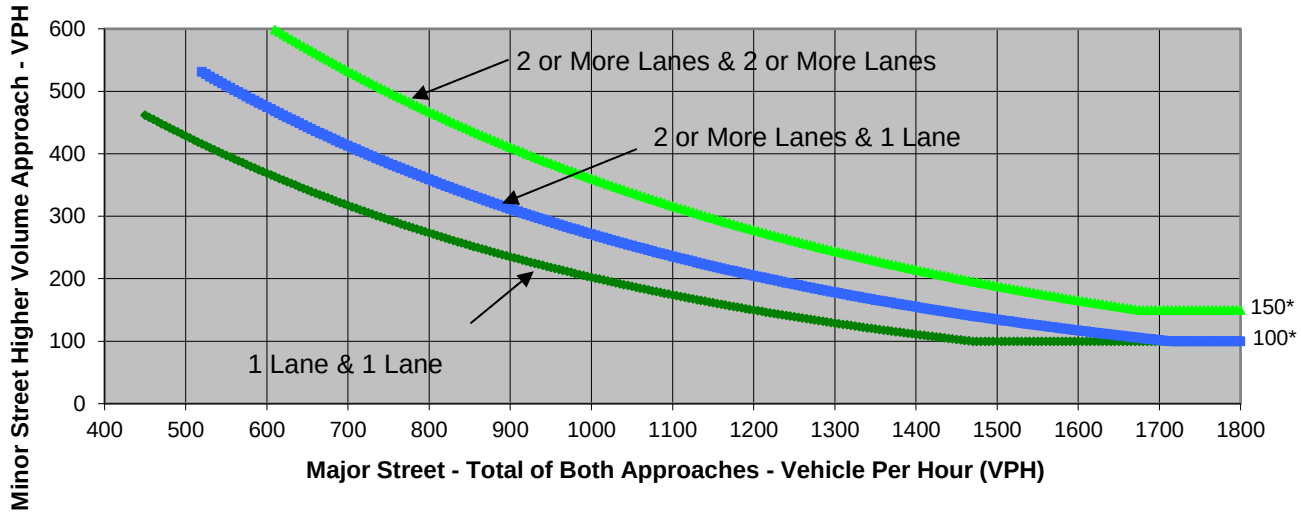
Project	670 Mesquit
Scenario	EX AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	23	0	8	0
Through	3	1	0	0
Right	0	7	28	0
Total	26	8	36	0

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**36**	**26**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mesquit St
Minor Street	Jesse St

Project	670 Mesquit
Scenario	EX AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	23	0	8	0
Through	3	1	0	0
Right	0	7	28	0
Total	26	8	36	0

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX AM	**0**	**26**	**70**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

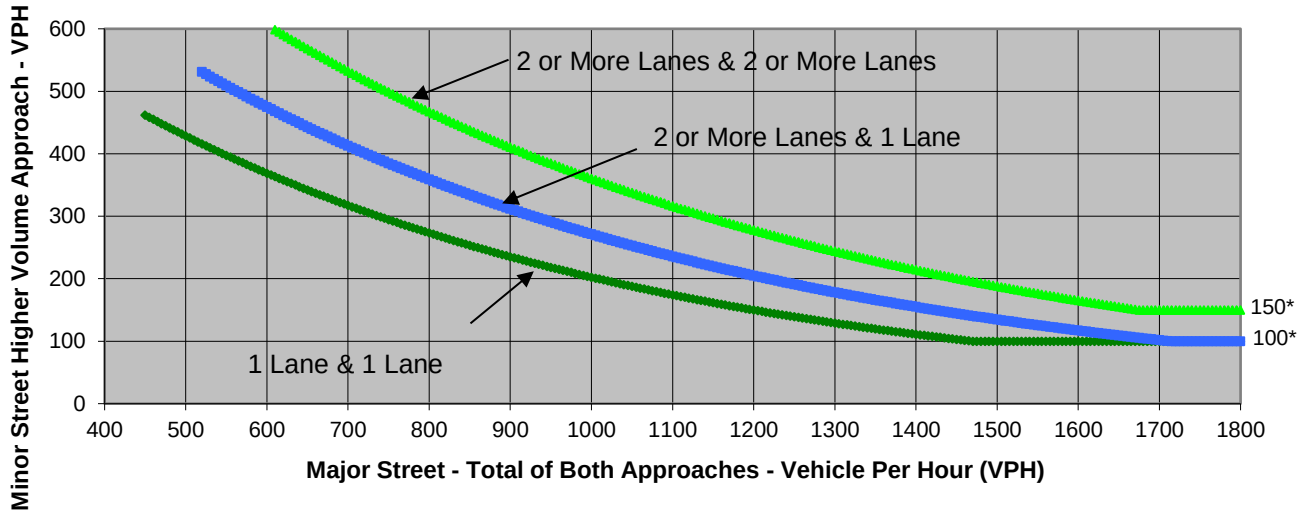
Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	0	4	0
Through	1	0	0	0
Right	0	14	6	0
Total	25	14	10	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**39**	**10**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	0	4	0
Through	1	0	0	0
Right	0	14	6	0
Total	25	14	10	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX PM	**0**	**10**	**49**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

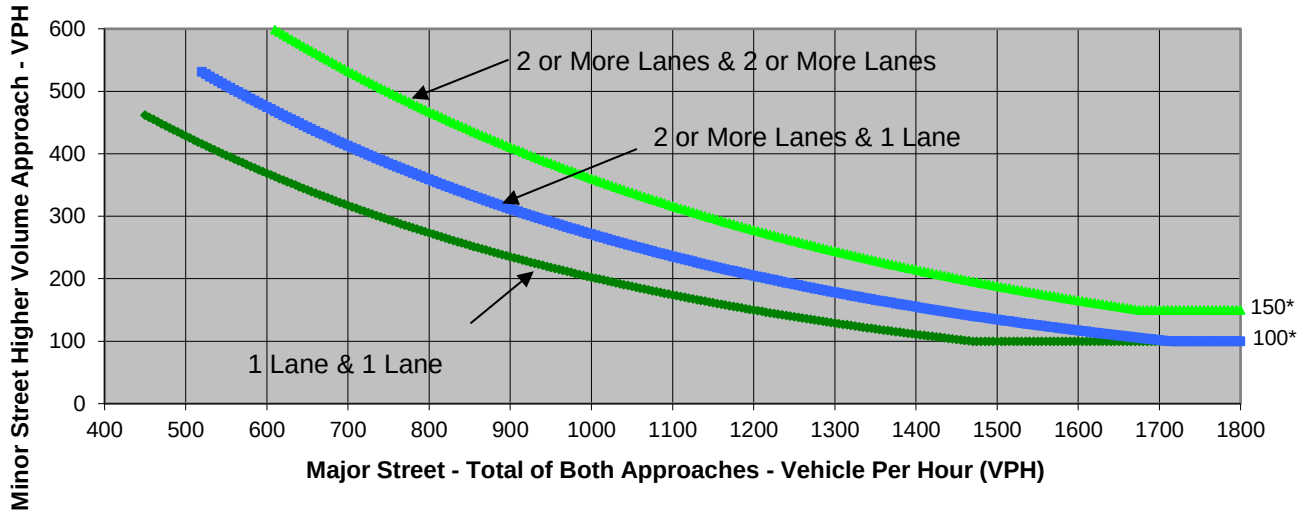
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	0	2
Through	0	0	260	2,243
Right	0	146	144	0
Total	0	160	404	2,245

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,649**	**160**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	EX AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	0	2
Through	0	0	260	2,243
Right	0	146	144	0
Total	0	160	404	2,245

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	125.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	2,245

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX AM	**78.5**	**160**	**2,809**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	7th St
Minor Street	US-101 Southbound ramps

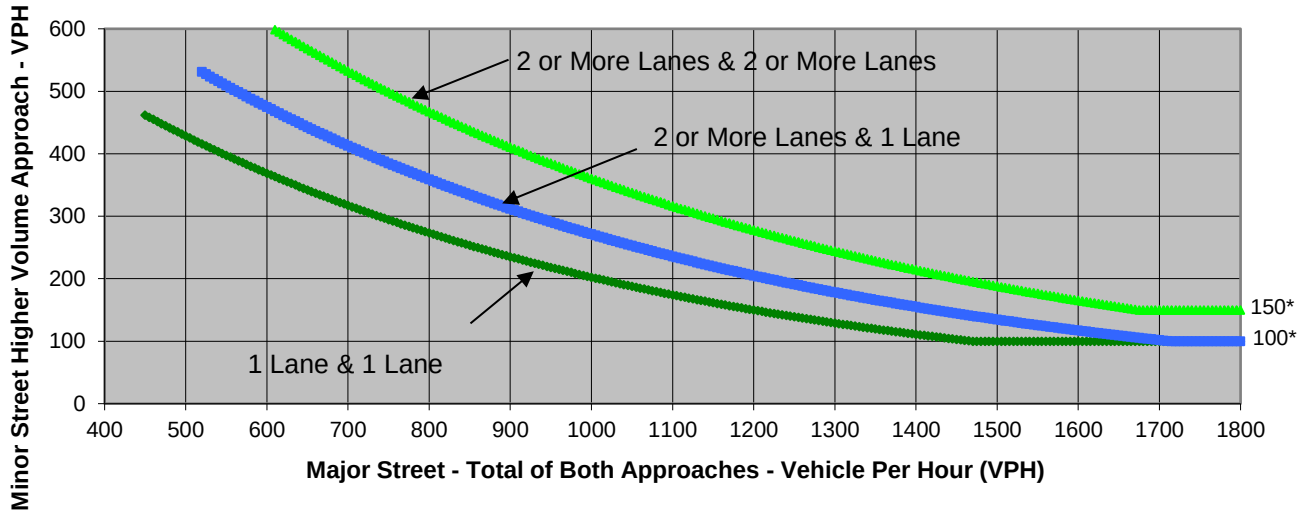
Project	670 Mesquit
Scenario	EX PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	69	0	1
Through	0	0	1,005	686
Right	0	90	139	0
Total	0	159	1,144	687

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**1,831**	**159**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	EX PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	69	0	1
Through	0	0	1,005	686
Right	0	90	139	0
Total	0	159	1,144	687

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	27.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	687

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
EX PM	**5.3**	**159**	**1,990**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

CUMULATIVE BASE (2026)

SIGNAL WARRANT WORKSHEETS

FEHR PEERS

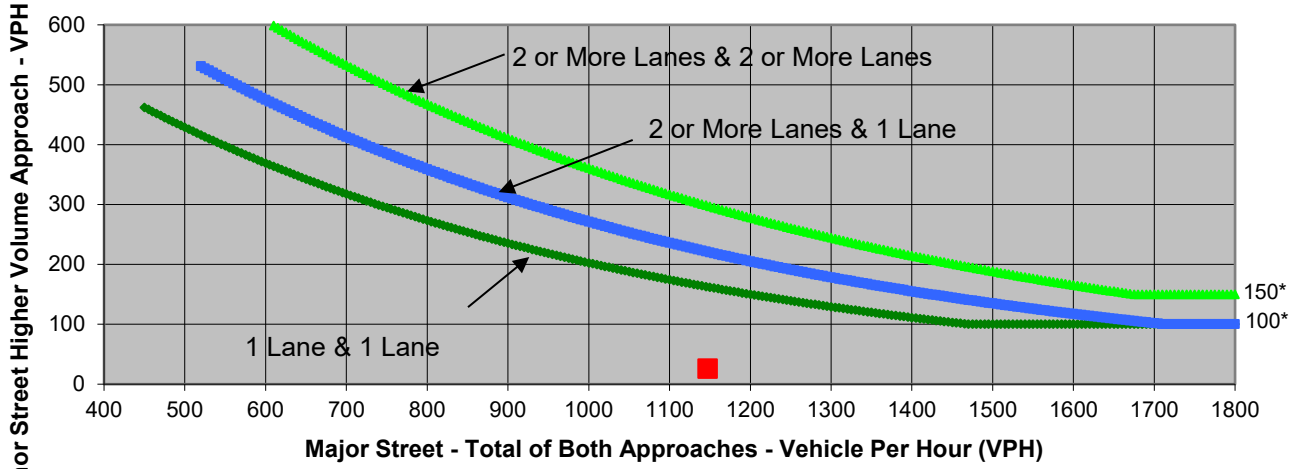
Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	21	0	1
Through	468	569	0	0
Right	88	0	0	25
Total	557	590	0	26

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,147**	**26**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	21	0	1
Through	468	569	0	0
Right	88	0	0	25
Total	557	590	0	26

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	26

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 AM	**0.1**	**26**	**1,173**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

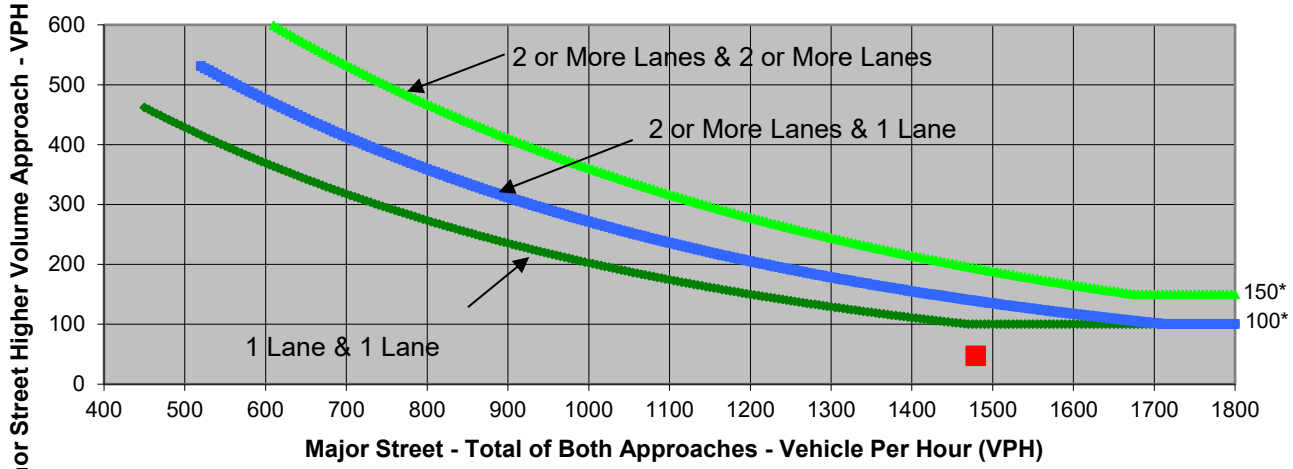
Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	38	0	27
Through	702	689	0	0
Right	50	0	0	20
Total	752	727	0	47

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,479**	**47**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	38	0	27
Through	702	689	0	0
Right	50	0	0	20
Total	752	727	0	47

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	40.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	47

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 PM	**0.5**	**47**	**1,526**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

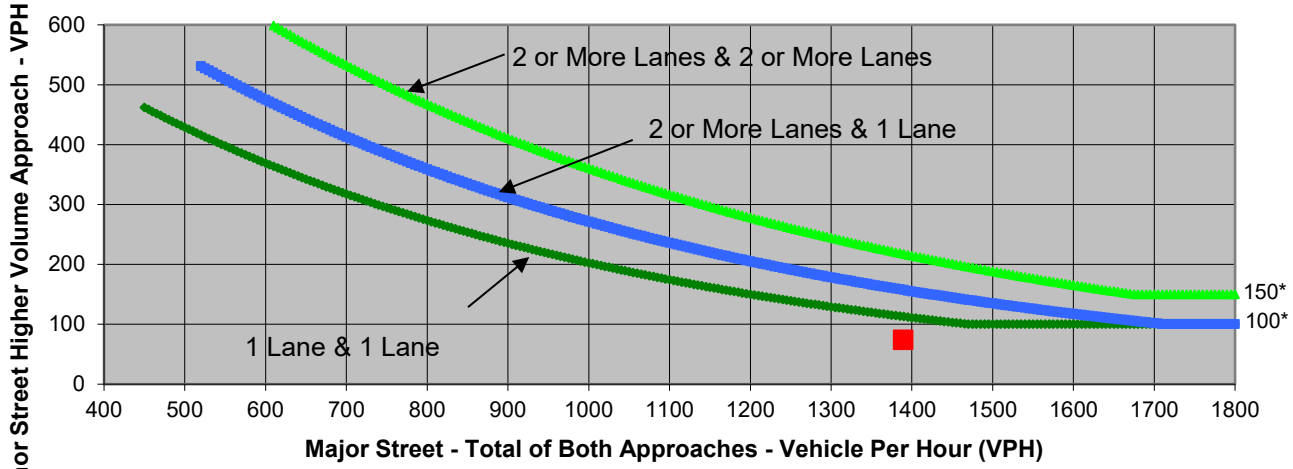
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	39	0	32
Through	655	601	0	0
Right	93	0	0	42
Total	749	640	0	74

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,389**	**74**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	39	0	32
Through	655	601	0	0
Right	93	0	0	42
Total	749	640	0	74

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	33.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	74

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 AM	**0.7**	**74**	**1,463**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

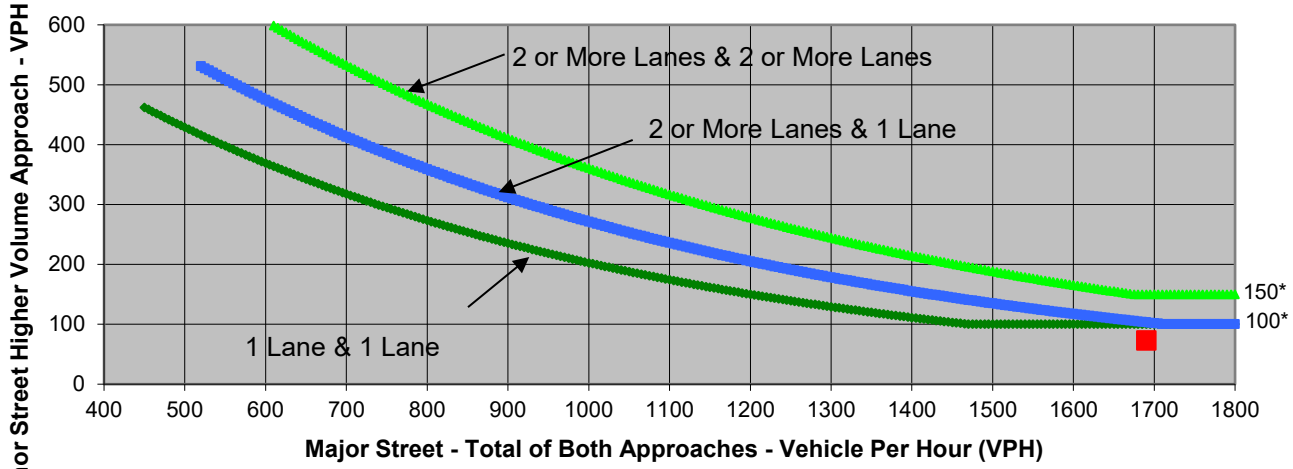
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	22	0	44
Through	809	826	0	0
Right	33	0	0	29
Total	842	848	0	73

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,690**	**73**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	22	0	44
Through	809	826	0	0
Right	33	0	0	29
Total	842	848	0	73

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	93.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	73

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 PM	**1.9**	**73**	**1,763**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

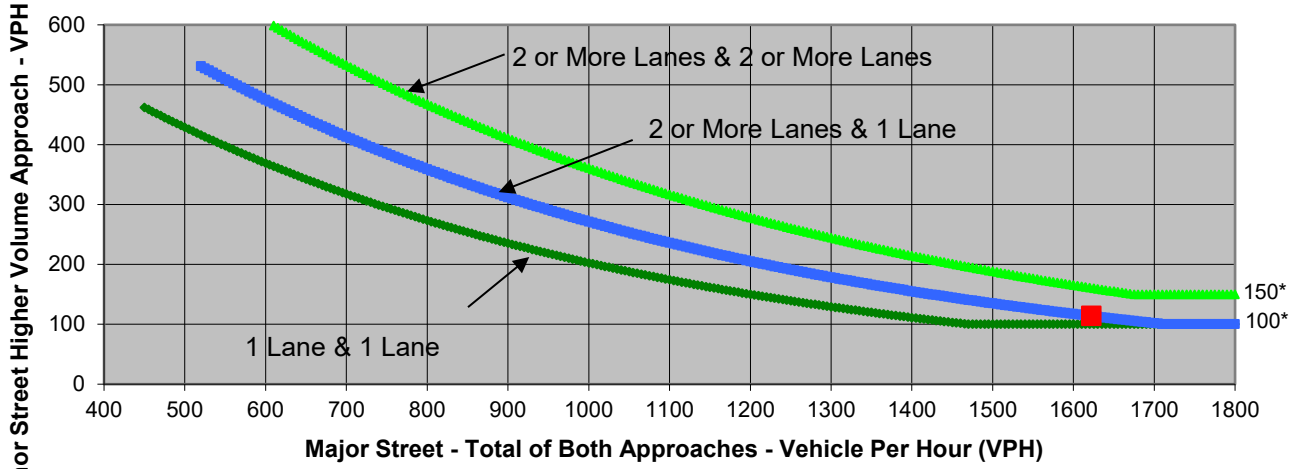
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	210	6	20
Through	489	898	0	0
Right	24	1	3	94
Total	513	1,109	9	114

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,622**	**114**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	210	6	20
Through	489	898	0	0
Right	24	1	3	94
Total	513	1,109	9	114

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	46.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	114

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 AM	**1.5**	**114**	**1,745**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

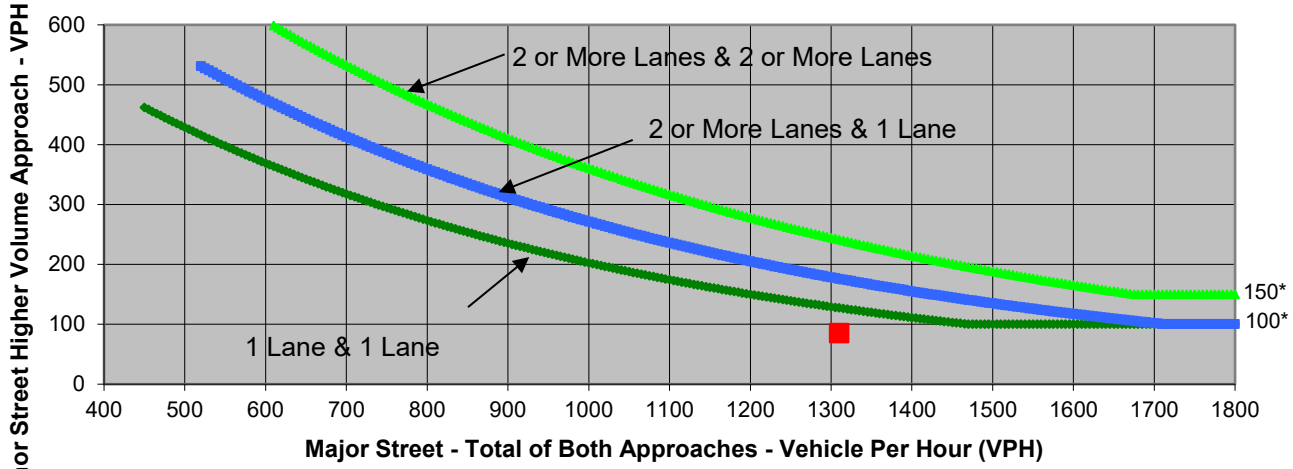
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	62	2	13
Through	600	615	1	1
Right	18	7	3	71
Total	626	684	6	85

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,310**	**85**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	62	2	13
Through	600	615	1	1
Right	18	7	3	71
Total	626	684	6	85

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	19.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	85

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 PM	**0.5**	**85**	**1,401**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

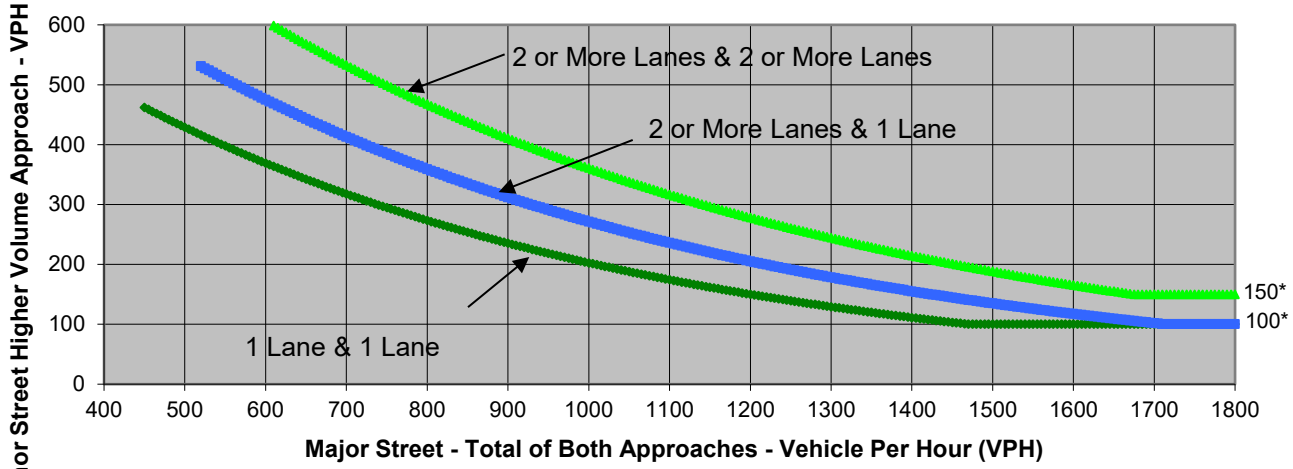
Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	281	0	0	595
Through	0	0	23	15
Right	524	0	442	0
Total	805	0	465	610

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,075**	**805**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	281	0	0	595
Through	0	0	23	15
Right	524	0	442	0
Total	805	0	465	610

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	965.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	610

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 AM	**163.7**	**805**	**1,880**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

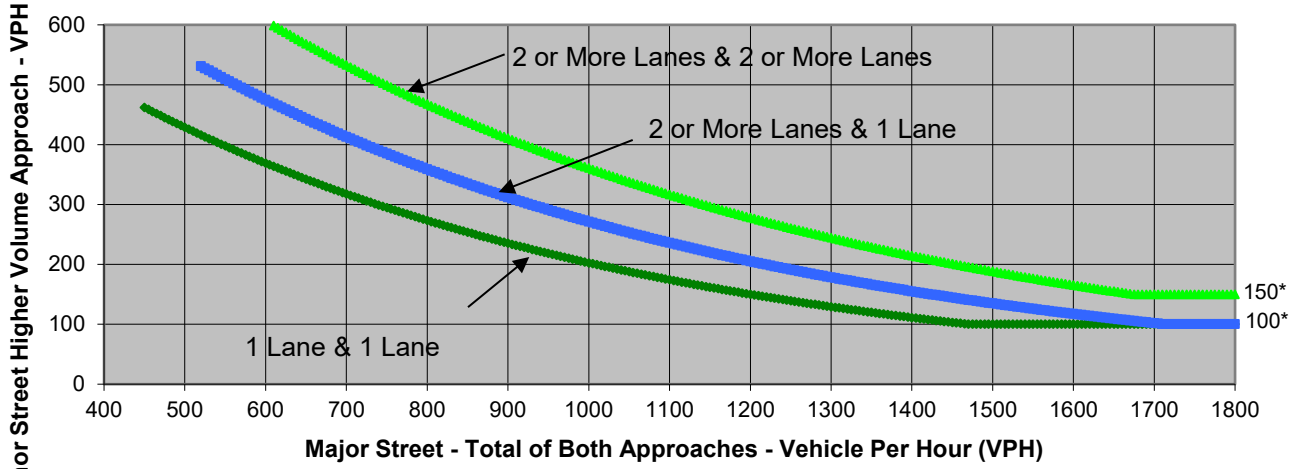
Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	241	0
Through	996	570	0	0
Right	0	0	114	0
Total	996	570	355	0

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**355**	**996**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	0	241	0
Through	996	570	0	0
Right	0	0	114	0
Total	996	570	355	0

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1031.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 PM	**0**	**996**	**1,921**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

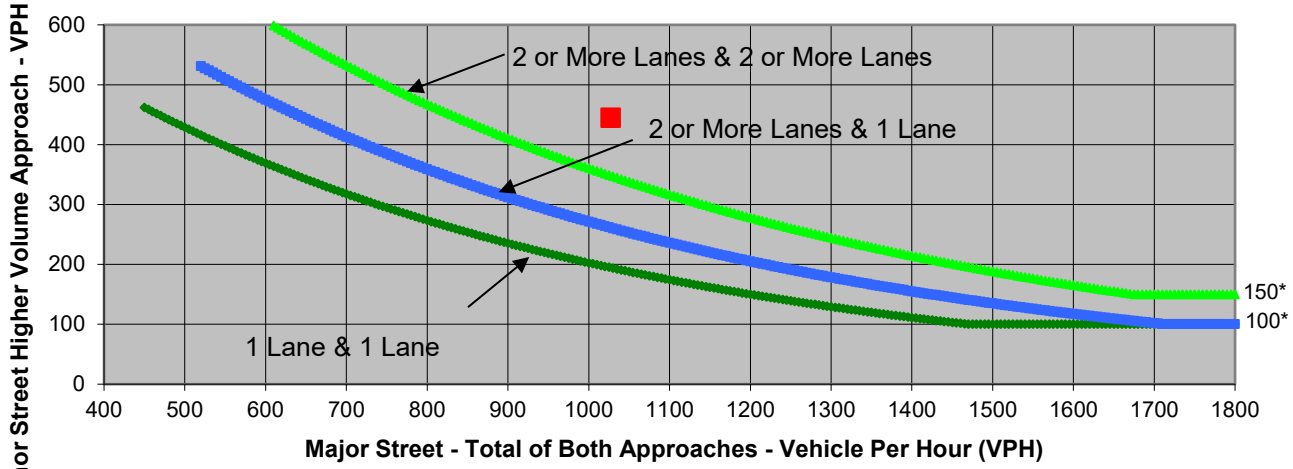
Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	773	168	0
Through	0	0	91	20
Right	1	253	3	425
Total	1	1,026	262	445

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,027**	**445**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	773	168	0
Through	0	0	91	20
Right	1	253	3	425
Total	1	1,026	262	445

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	99.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	445

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 AM	**12.2**	**445**	**1,734**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

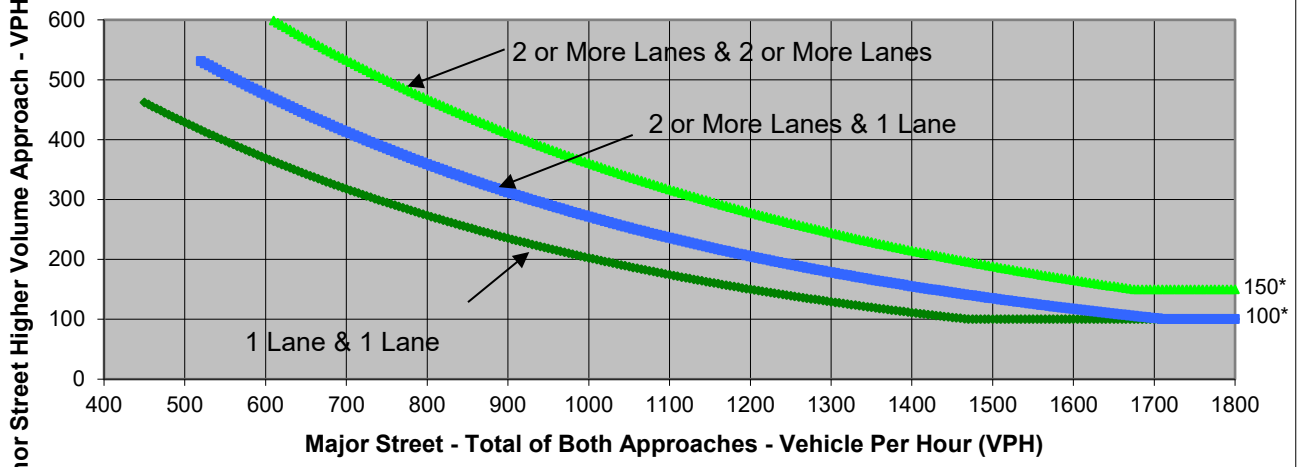
Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	127	61	263	19
Through	1,460	1,075	409	178
Right	0	281	476	74
Total	1,587	1,417	1,148	271

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,419**	**1,587**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	127	61	263	19
Through	1,460	1,075	409	178
Right	0	281	476	74
Total	1,587	1,417	1,148	271

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	103.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	271

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 PM	**7.8**	**1,587**	**4,423**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

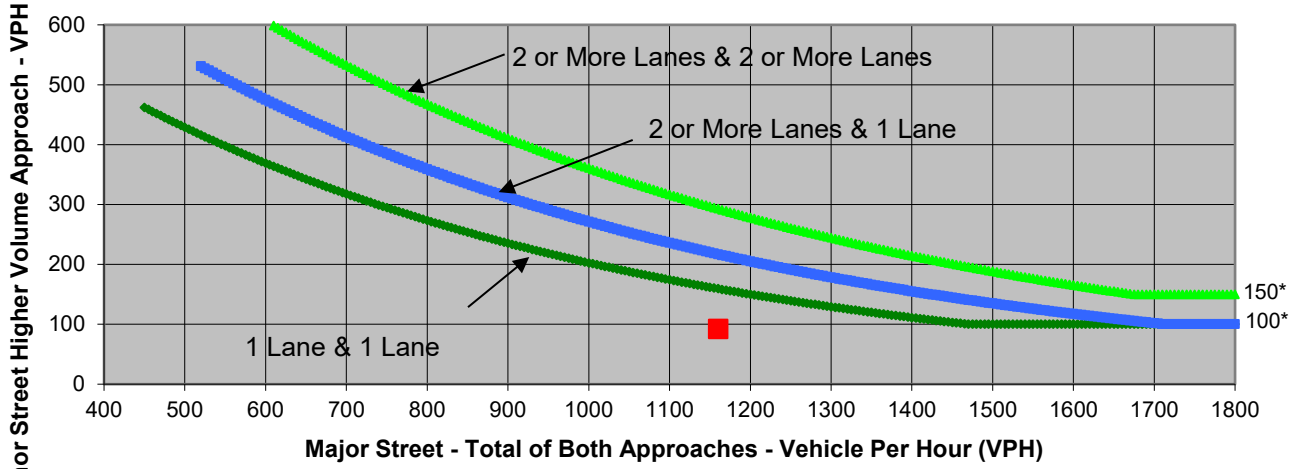
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	34	0	45	0
Through	702	412	0	0
Right	0	12	47	0
Total	736	424	92	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,160**	**92**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	34	0	45	0
Through	702	412	0	0
Right	0	12	47	0
Total	736	424	92	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	22.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 AM	**0**	**92**	**1,252**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

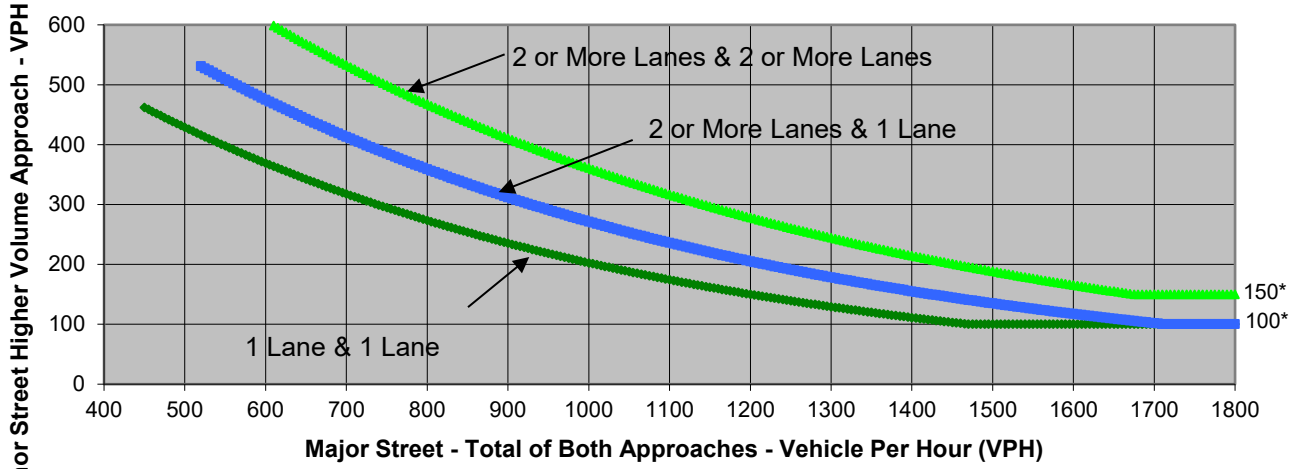
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	474	251	0
Through	3	0	109	21
Right	0	148	4	672
Total	5	622	364	693

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**627**	**693**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	474	251	0
Through	3	0	109	21
Right	0	148	4	672
Total	5	622	364	693

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	23.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	693

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 PM	**4.6**	**693**	**1,684**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

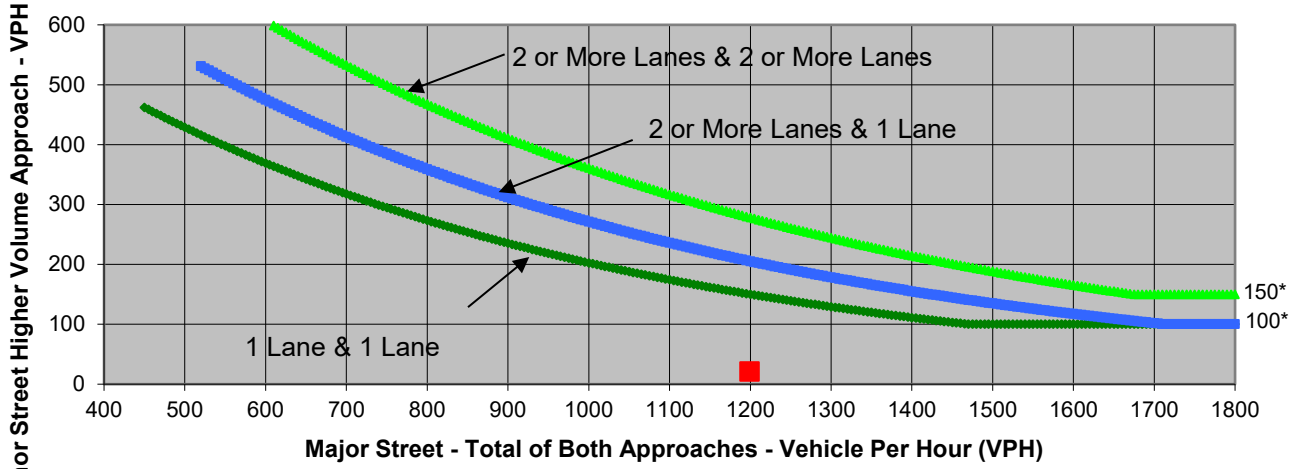
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	7	7	1
Through	733	459	1	0
Right	0	0	13	9
Total	733	466	21	10

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,199**	**21**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	7	7	1
Through	733	459	1	0
Right	0	0	13	9
Total	733	466	21	10

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	41.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	10

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 AM	**0.1**	**21**	**1,230**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

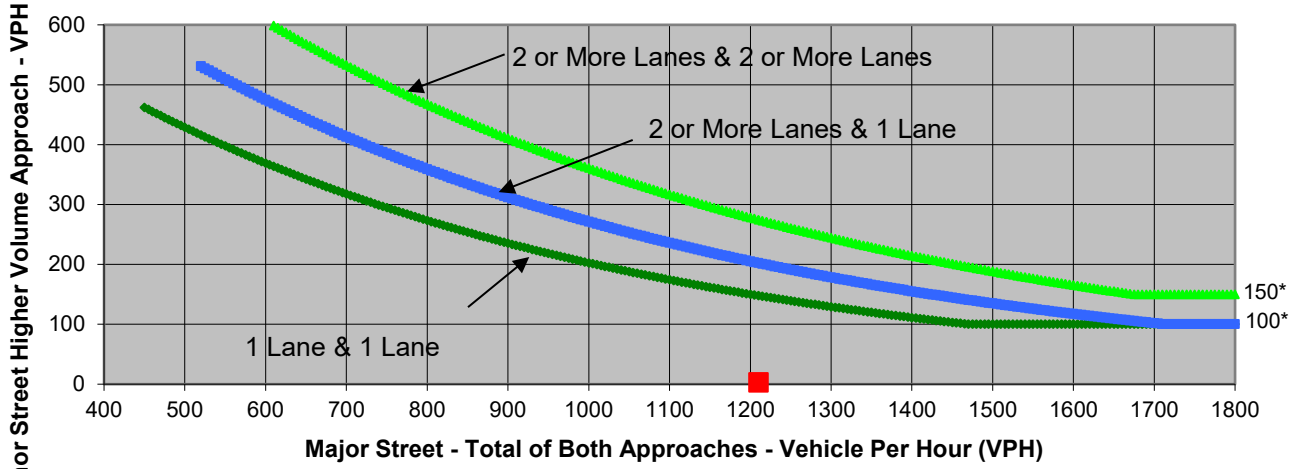
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	0	1
Through	712	494	0	0
Right	0	2	0	2
Total	712	498	0	3

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,210**	**3**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	0	1
Through	712	494	0	0
Right	0	2	0	2
Total	712	498	0	3

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	34.7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	3

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 PM	**0**	**3**	**1,213**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

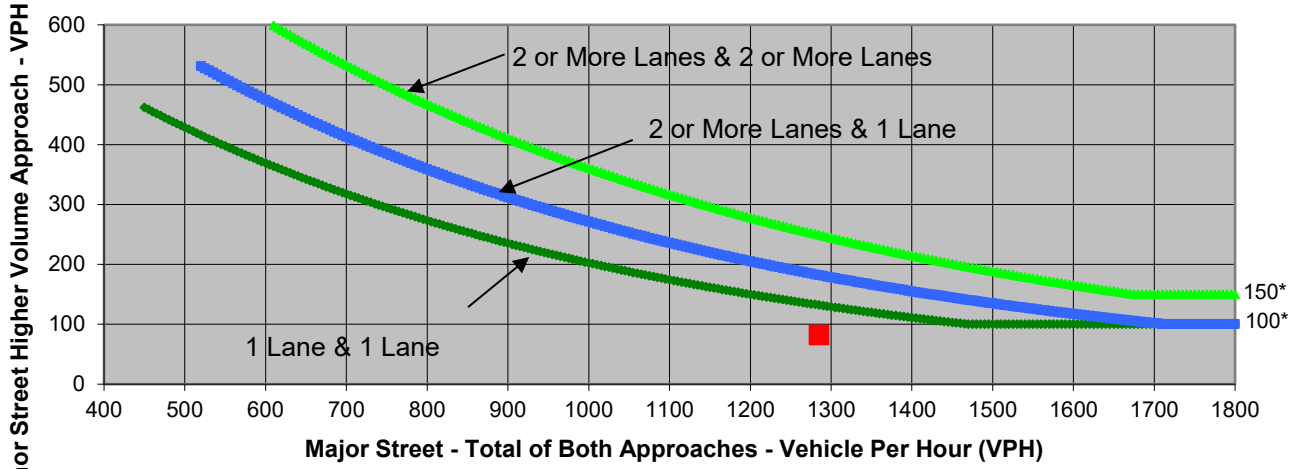
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	79	4	13	17
Through	720	447	2	5
Right	15	20	67	3
Total	814	471	82	25

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,285**	**82**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	79	4	13	17
Through	720	447	2	5
Right	15	20	67	3
Total	814	471	82	25

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	62.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	25

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 AM	**0.4**	**82**	**1,392**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

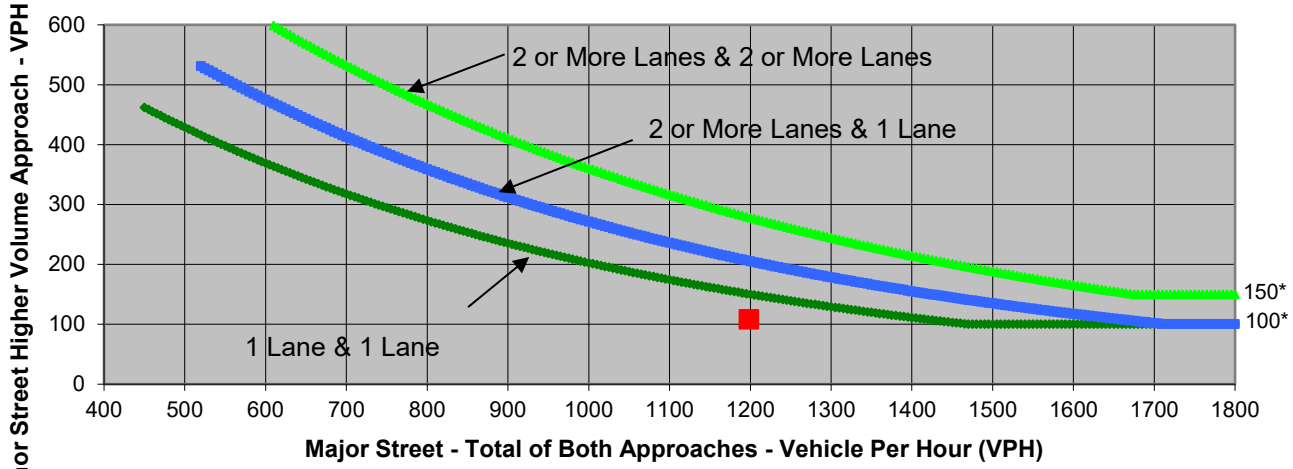
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	3	31	9
Through	685	464	3	3
Right	5	29	74	3
Total	702	496	108	15

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,198**	**108**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	3	31	9
Through	685	464	3	3
Right	5	29	74	3
Total	702	496	108	15

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	35.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	15

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 PM	**0.1**	**108**	**1,321**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

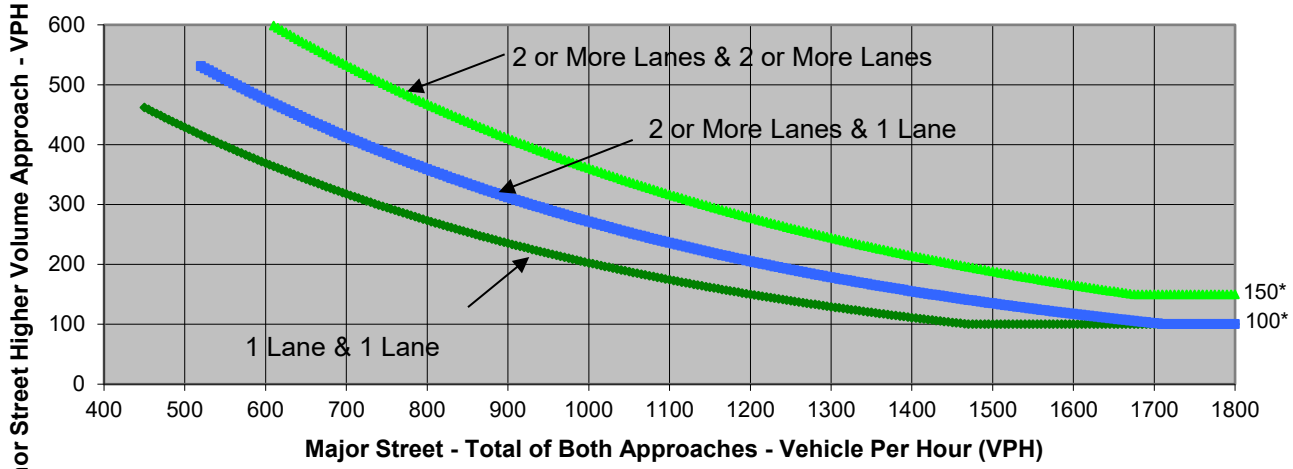
Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	23	0	8	0
Through	3	1	0	0
Right	0	7	28	0
Total	26	8	36	0

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**36**	**26**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	23	0	8	0
Through	3	1	0	0
Right	0	7	28	0
Total	26	8	36	0

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 AM	**0**	**26**	**70**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

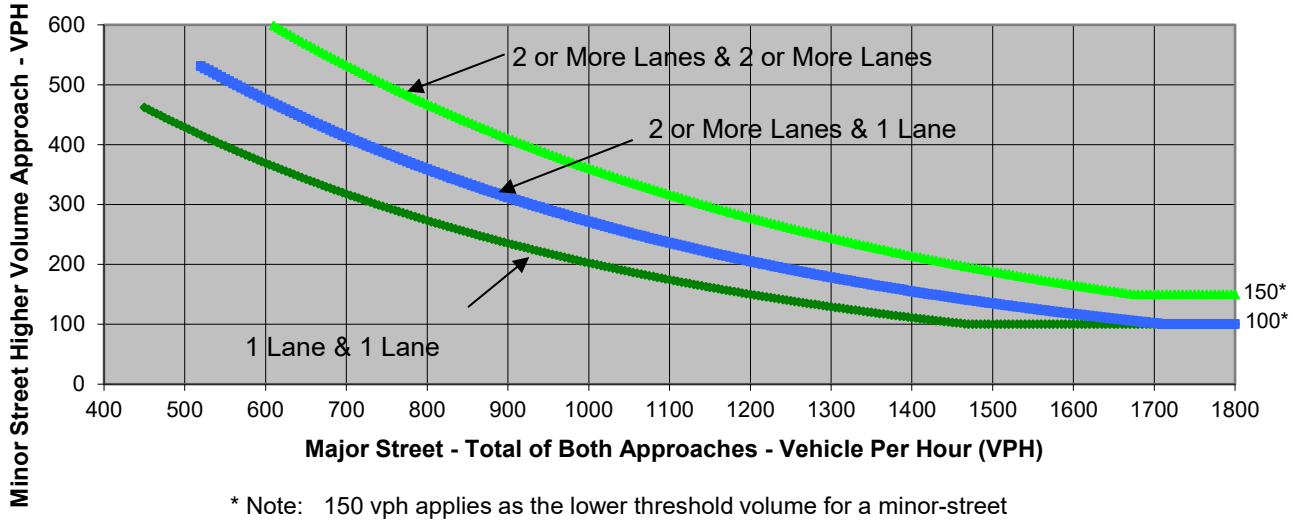
Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	0	4	0
Through	1	0	0	0
Right	0	14	6	0
Total	25	14	10	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**39**	**10**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	0	4	0
Through	1	0	0	0
Right	0	14	6	0
Total	25	14	10	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 PM	**0**	**10**	**49**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

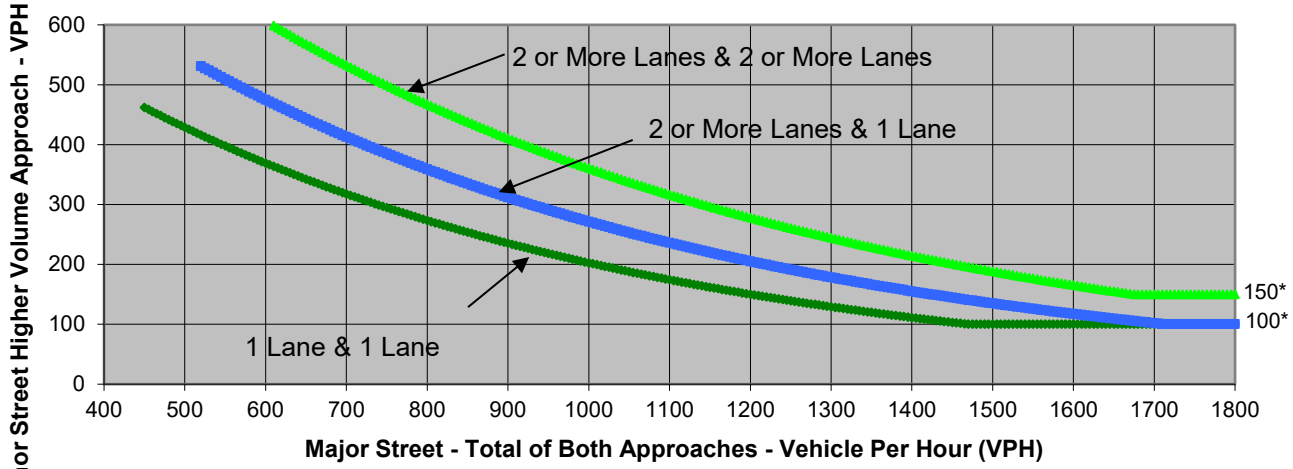
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	0	2
Through	0	0	396	2,059
Right	0	281	342	0
Total	0	295	738	2,061

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,799**	**295**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CB 2026 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	0	2
Through	0	0	396	2,059
Right	0	281	342	0
Total	0	295	738	2,061

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	305.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	2,061

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 AM	**174.7**	**295**	**3,094**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

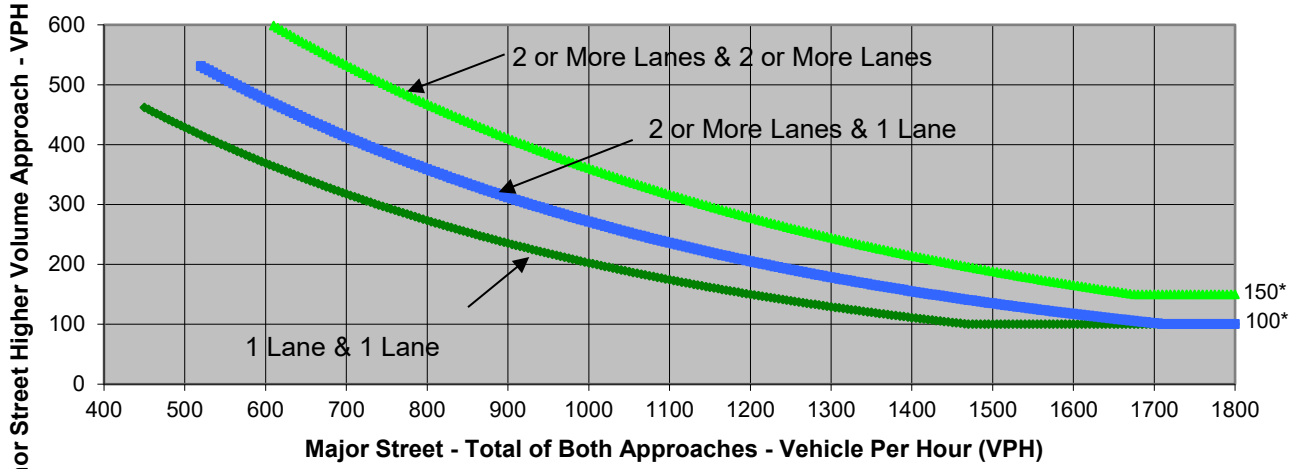
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	70	0	1
Through	0	0	1,068	1,043
Right	0	178	387	0
Total	0	248	1,455	1,044

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,499**	**248**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CB 2026 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	70	0	1
Through	0	0	1,068	1,043
Right	0	178	387	0
Total	0	248	1,455	1,044

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	63.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	1,044

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2026 PM	**18.3**	**248**	**2,747**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

CUMULATIVE PLUS PROJECT (2026) – OPTION 1

SIGNAL WARRANT WORKSHEETS

FEHR PEERS

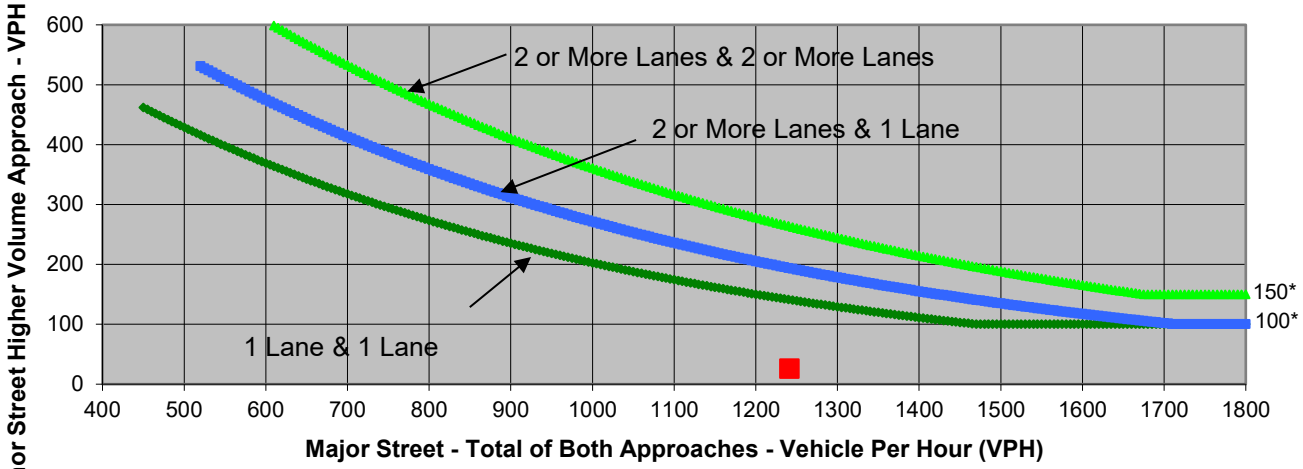
Project	670 Mesquit
Scenario	CP 2026 - Opt1 AM
Peak Hour	AM
Major Street	Mateo St
Minor Street	4th Pl

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	21	0	1
Through	496	621	0	0
Right	102	0	0	25
Total	599	642	0	26

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,241**	**26**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CP 2026 - Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	21	0	1
Through	496	621	0	0
Right	102	0	0	25
Total	599	642	0	26

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	26

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 AM	**0.1**	**26**	**1,267**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

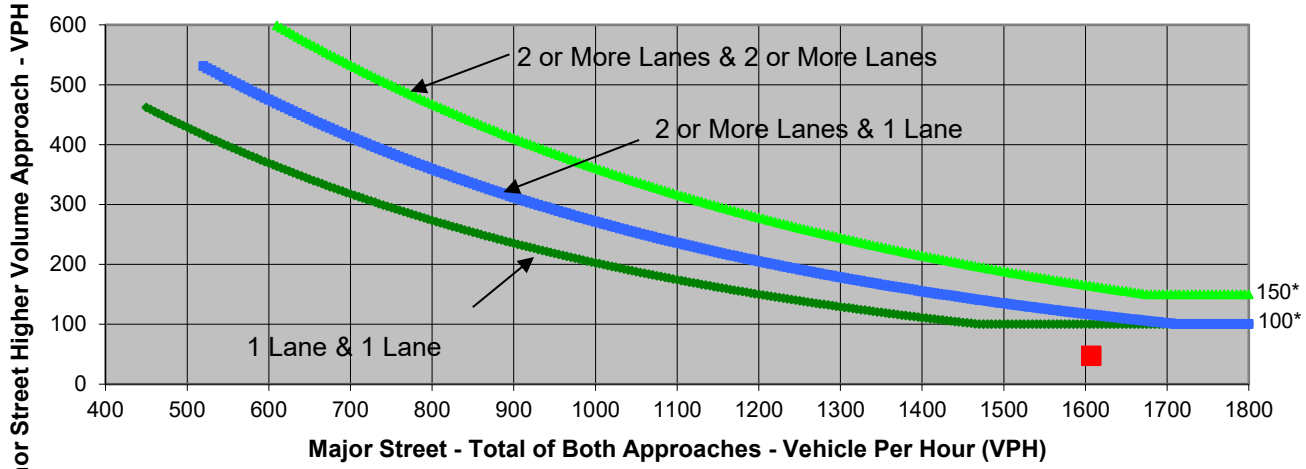
Project	670 Mesquit
Scenario	CP 2026 - Opt1 PM
Peak Hour	PM
Major Street	Mateo St
Minor Street	4th Pl

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	38	0	27
Through	753	733	0	0
Right	83	0	0	20
Total	836	771	0	47

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,607**	**47**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2026 - Opt1 PM
Minor Street	4th Pl
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	38	0	27
Through	753	733	0	0
Right	83	0	0	20
Total	836	771	0	47

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	53.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	47

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 PM	**0.7**	**47**	**1,654**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mateo St
Minor Street	Willow St

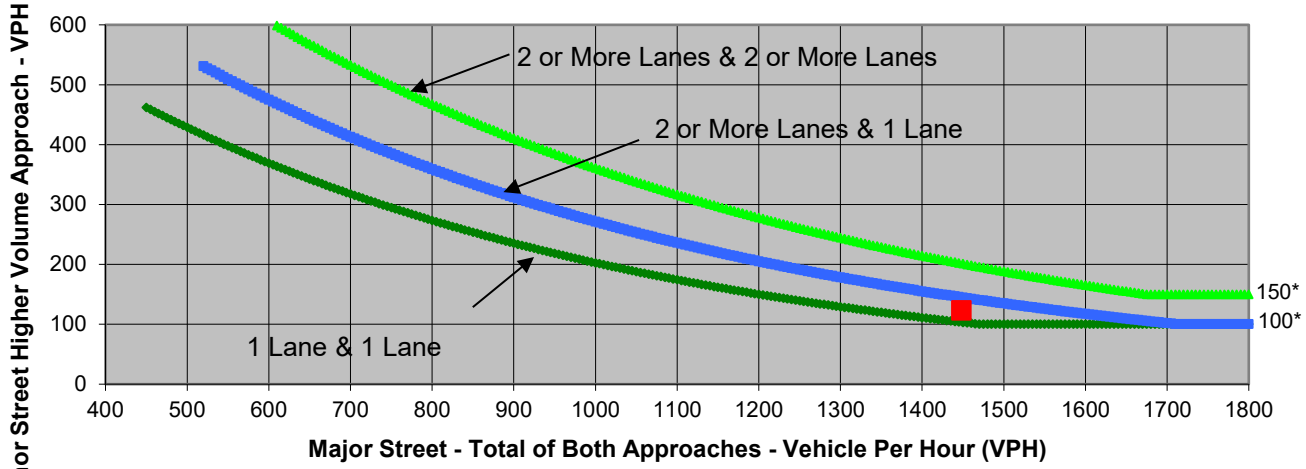
Project	670 Mesquit
Scenario	CP 2026 - Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	39	0	46
Through	662	653	0	0
Right	93	0	0	77
Total	756	692	0	123

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,448**	**123**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2026 - Opt1 AM
Minor Street	Willow St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	39	0	46
Through	662	653	0	0
Right	93	0	0	77
Total	756	692	0	123

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	47.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	123

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 AM	**1.6**	**123**	**1,571**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mateo St
Minor Street	Willow St

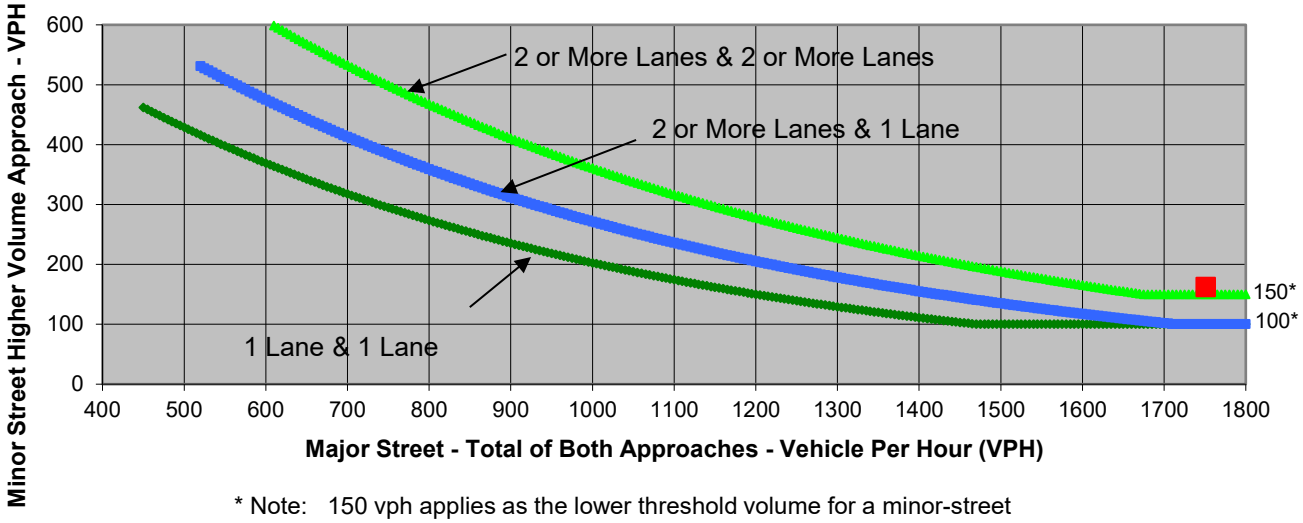
Project	670 Mesquit
Scenario	CP 2026 - Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	22	0	66
Through	826	870	0	0
Right	33	0	0	96
Total	859	892	0	162

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,751**	**162**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2026 - Opt1 PM
Minor Street	Willow St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	22	0	66
Through	826	870	0	0
Right	33	0	0	96
Total	859	892	0	162

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	241.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	162

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 PM	**10.9**	**162**	**1,913**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

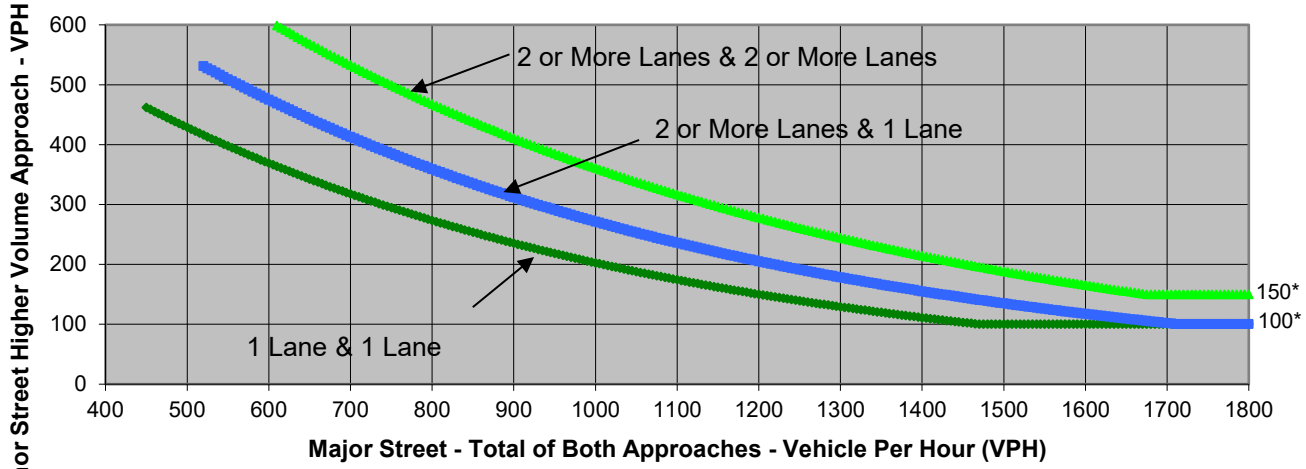
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2026 - Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	339	6	76
Through	507	898	0	0
Right	161	1	3	142
Total	668	1,238	9	218

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,906**	**218**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2026 - Opt1 AM
Minor Street	Jesse St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	339	6	76
Through	507	898	0	0
Right	161	1	3	142
Total	668	1,238	9	218

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	218

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 AM	**102.9**	**218**	**2,133**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2026 - Opt1 PM
Peak Hour	PM

Major Street	Mateo St
Minor Street	Jesse St

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	170	2	136
Through	654	615	1	1
Right	122	7	3	157
Total	784	792	6	294

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	294

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 PM	**138.8**	**294**	**1,876**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

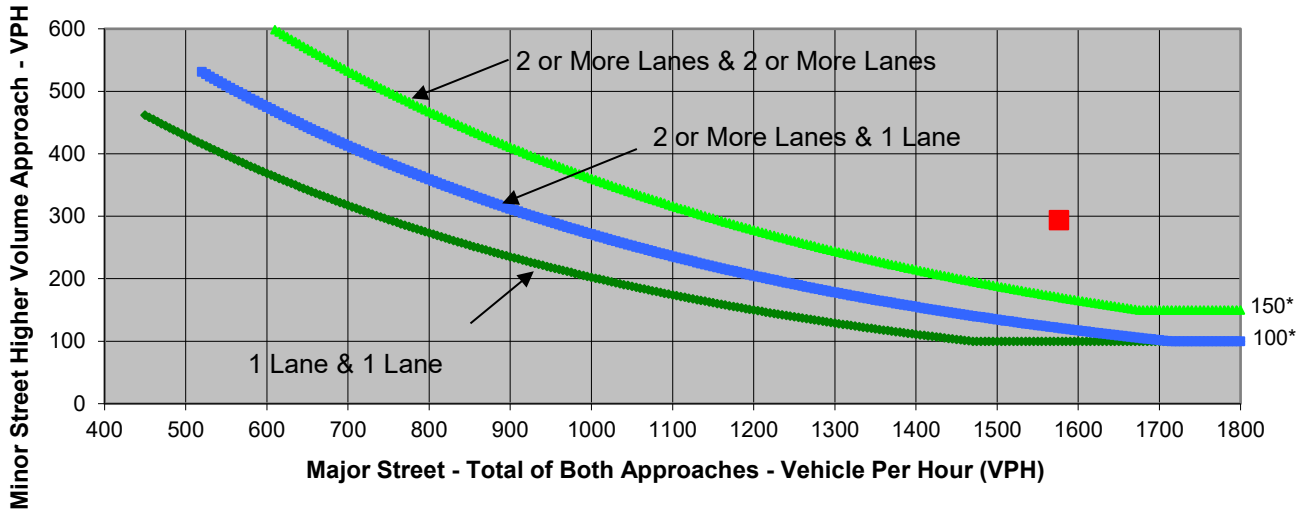
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2026 - Opt1 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	170	2	136
Through	654	615	1	1
Right	122	7	3	157
Total	784	792	6	294

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,576**	**294**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St
Minor Street	I-10 Westbound ramps

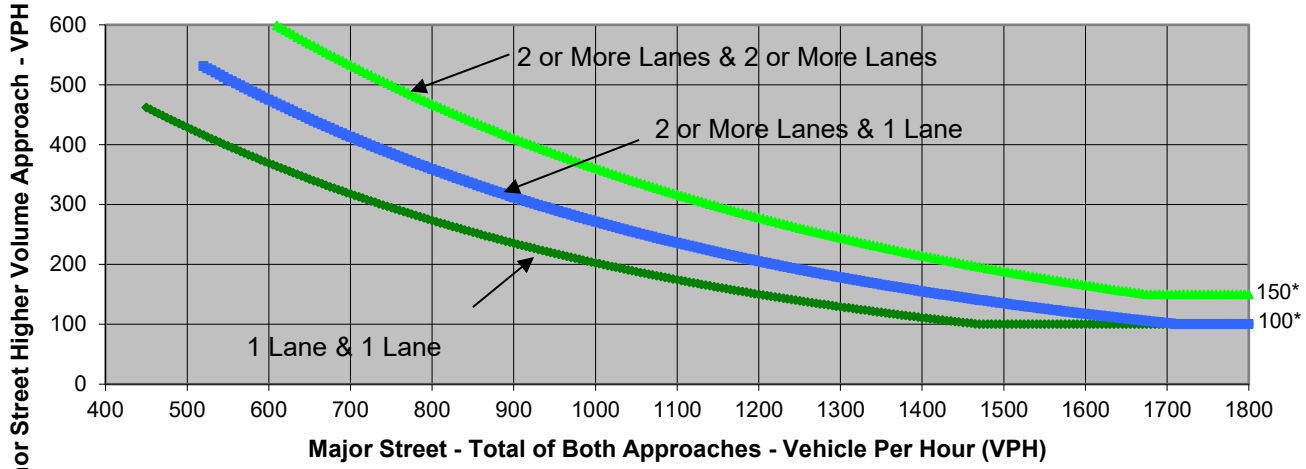
Project	670 Mesquit
Scenario	CP 2026 - Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	281	0	0	599
Through	0	0	23	15
Right	538	0	447	0
Total	819	0	470	614

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,084**	**819**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CP 2026 - Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	281	0	0	599
Through	0	0	23	15
Right	538	0	447	0
Total	819	0	470	614

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	996.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	614

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 AM	**170**	**819**	**1,903**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	E 8th St
Minor Street	I-10 Westbound ramps

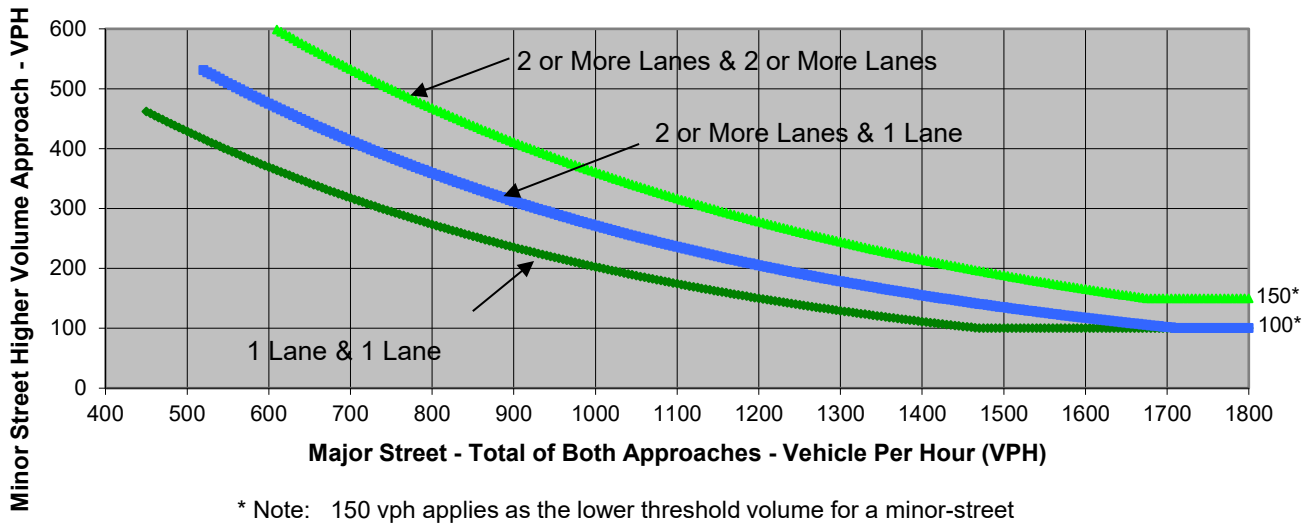
Project	670 Mesquit
Scenario	CP 2026 - Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	302	0	0	608
Through	0	0	22	46
Right	443	0	368	0
Total	745	0	390	654

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,044**	**745**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	E 8th St
Scenario	CP 2026 - Opt1 PM
Minor Street	I-10 Westbound ramps
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	302	0	0	608
Through	0	0	22	46
Right	443	0	368	0
Total	745	0	390	654

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1196.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	654

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 PM	**217.4**	**745**	**1,789**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	Porter St
Minor Street	I-10 Eastbound ramps

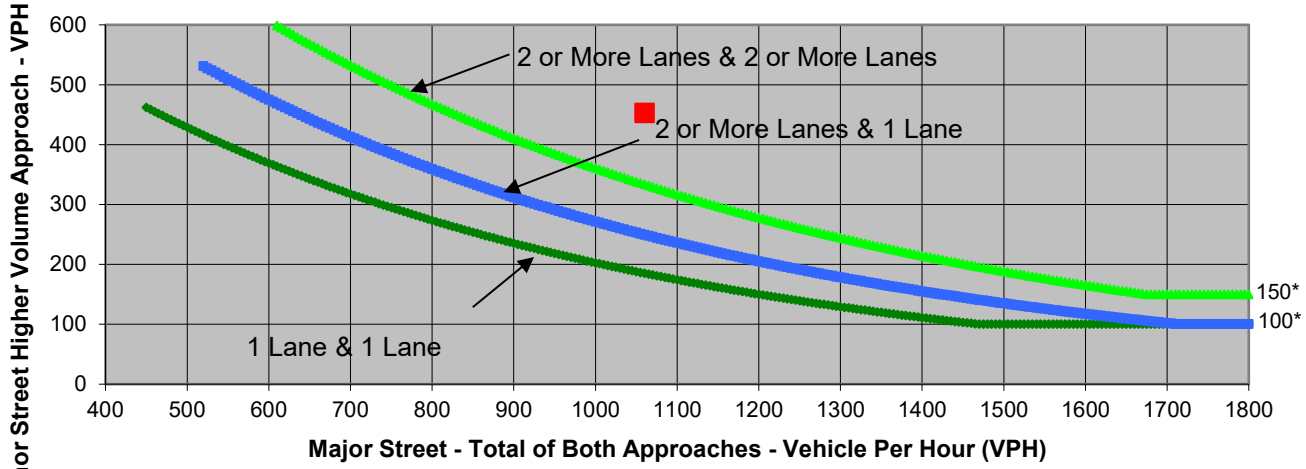
Project	670 Mesquit
Scenario	CP 2026 - Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	806	175	0
Through	0	0	91	20
Right	1	253	3	433
Total	1	1,059	269	453

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,060**	**453**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Porter St
Scenario	CP 2026 - Opt1 AM
Minor Street	I-10 Eastbound ramps
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	806	175	0
Through	0	0	91	20
Right	1	253	3	433
Total	1	1,059	269	453

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	125.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	453

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 AM	**15.8**	**453**	**1,782**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

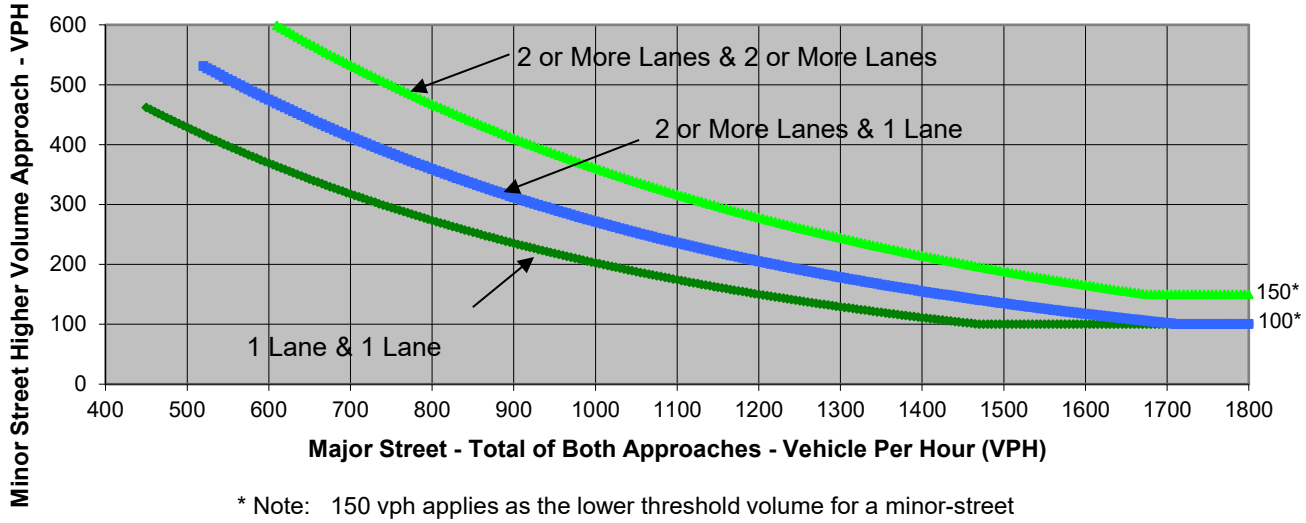
Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	CP 2026 - Opt1 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	497	274	0
Through	3	0	109	21
Right	0	148	4	701
Total	5	645	387	722

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,109**	**645**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Porter St
Scenario	CP 2026 - Opt1 PM
Minor Street	I-10 Eastbound ramps
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	497	274	0
Through	3	0	109	21
Right	0	148	4	701
Total	5	645	387	722

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	172.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	722

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 PM	**34.7**	**645**	**1,759**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Willow St

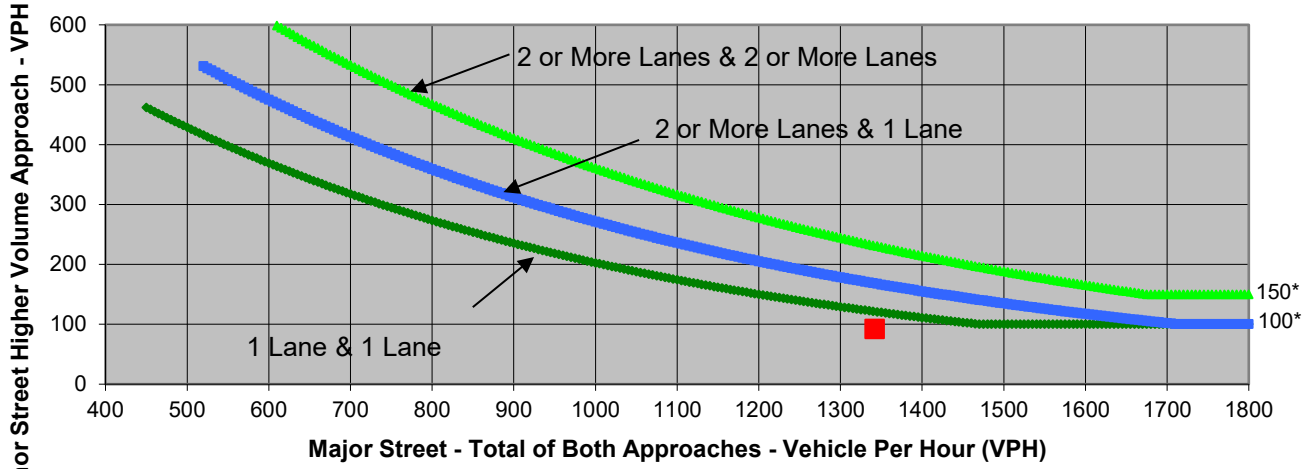
Project	670 Mesquit
Scenario	CP 2026 - Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	83	0	45	0
Through	761	486	0	0
Right	0	12	47	0
Total	844	498	92	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,342**	**92**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt1 AM
Minor Street	Willow St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	83	0	45	0
Through	761	486	0	0
Right	0	12	47	0
Total	844	498	92	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	41.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 AM	**0**	**92**	**1,434**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

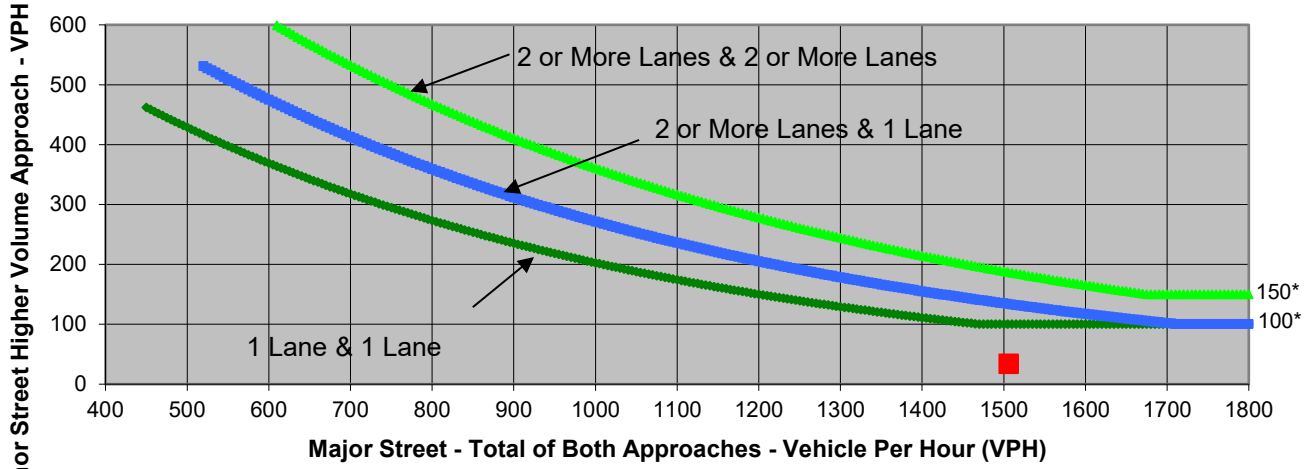
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CP 2026 - Opt1 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	107	1	21	0
Through	790	568	0	0
Right	0	40	13	0
Total	897	609	34	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,506**	**34**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt1 PM
Minor Street	Willow St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	107	1	21	0
Through	790	568	0	0
Right	0	40	13	0
Total	897	609	34	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	58.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 PM	**0**	**34**	**1,540**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Mesquit St

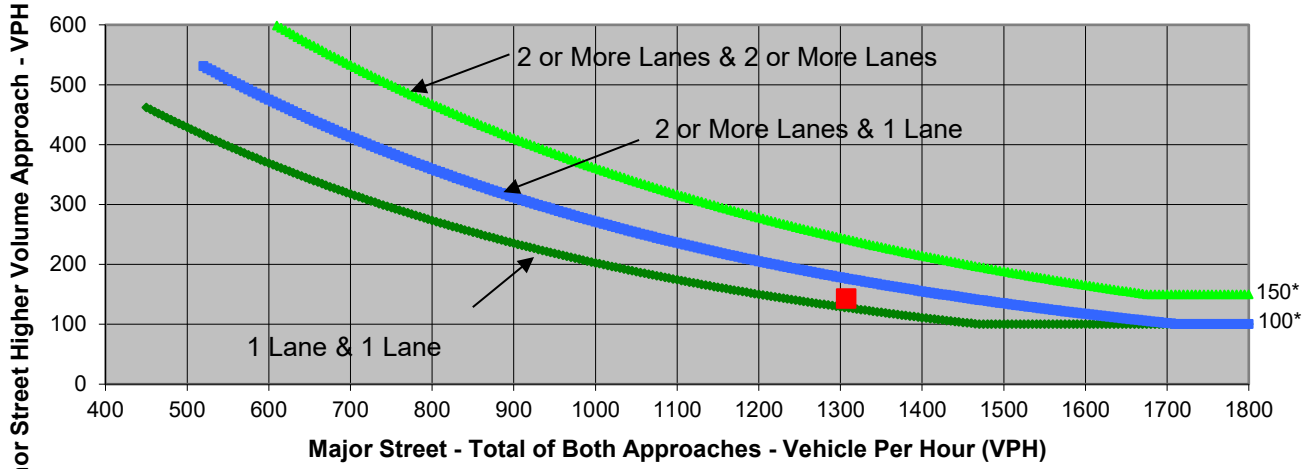
Project	670 Mesquit
Scenario	CP 2026 - Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	63	7	29
Through	753	487	99	0
Right	4	0	34	114
Total	757	550	140	143

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,307**	**143**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt1 AM
Minor Street	Mesquit St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	63	7	29
Through	753	487	99	0
Right	4	0	34	114
Total	757	550	140	143

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	138.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	143

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 AM	**5.5**	**143**	**1,590**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Mesquit St

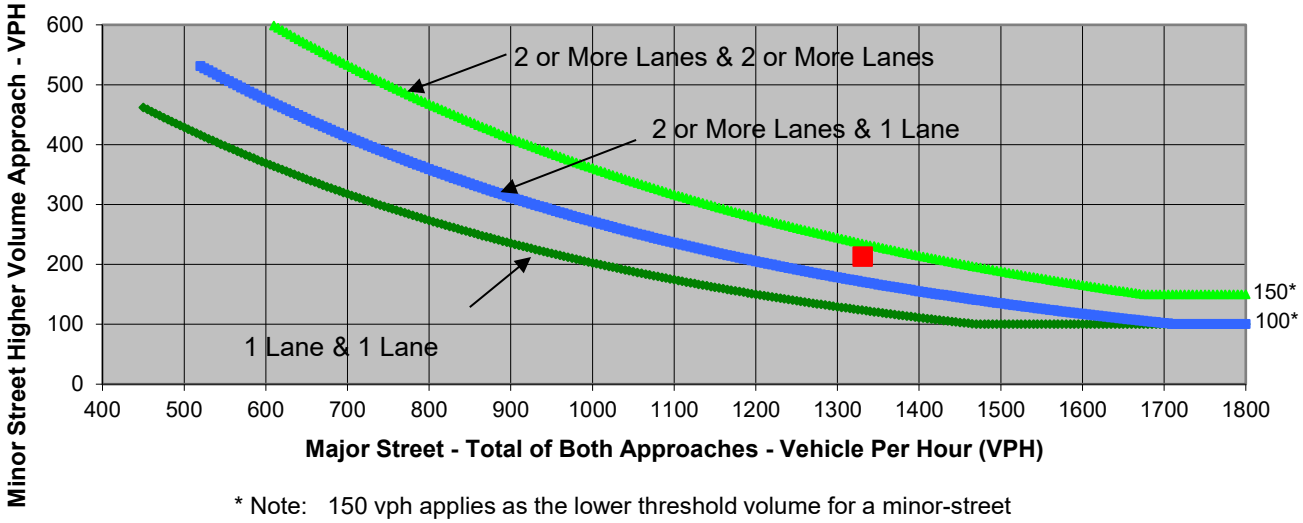
Project	670 Mesquit
Scenario	CP 2026 - Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	58	0	36
Through	737	529	86	0
Right	5	2	18	177
Total	742	589	104	213

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,331**	**213**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt1 PM
Minor Street	Mesquit St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	58	0	36
Through	737	529	86	0
Right	5	2	18	177
Total	742	589	104	213

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	140.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	213

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 PM	**8.3**	**213**	**1,648**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Jesse St

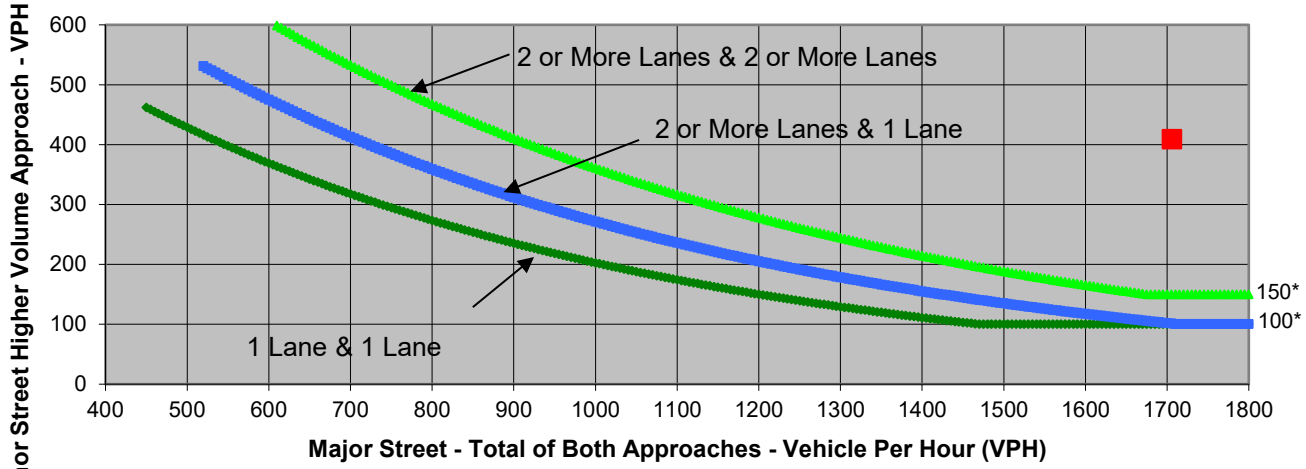
Project	670 Mesquit
Scenario	CP 2026 - Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	79	59	13	73
Through	732	451	329	131
Right	340	45	67	19
Total	1,151	555	409	223

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,706**	**409**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt1 AM
Minor Street	Jesse St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	79	59	13	73
Through	732	451	329	131
Right	340	45	67	19
Total	1,151	555	409	223

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	223

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 AM	**105.3**	**409**	**2,338**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt1 PM
Minor Street	Jesse St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	64	31	169
Through	703	467	292	252
Right	245	60	74	20
Total	960	591	397	441

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	441

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 PM	**208.3**	**441**	**2,389**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Jesse St

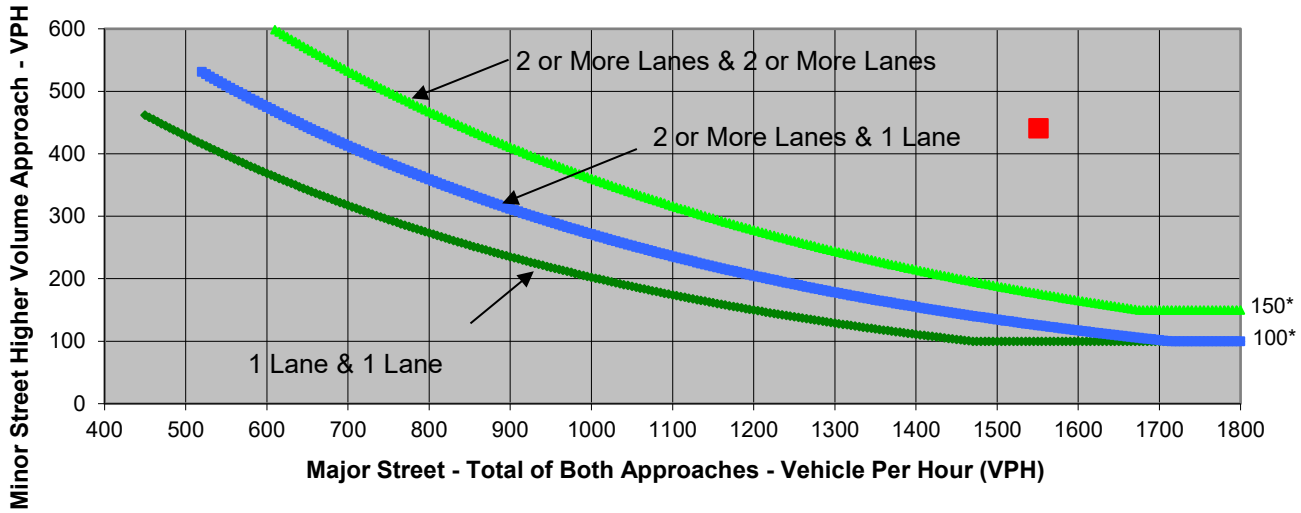
Project	670 Mesquit
Scenario	CP 2026 - Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	64	31	169
Through	703	467	292	252
Right	245	60	74	20
Total	960	591	397	441

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,551**	**441**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

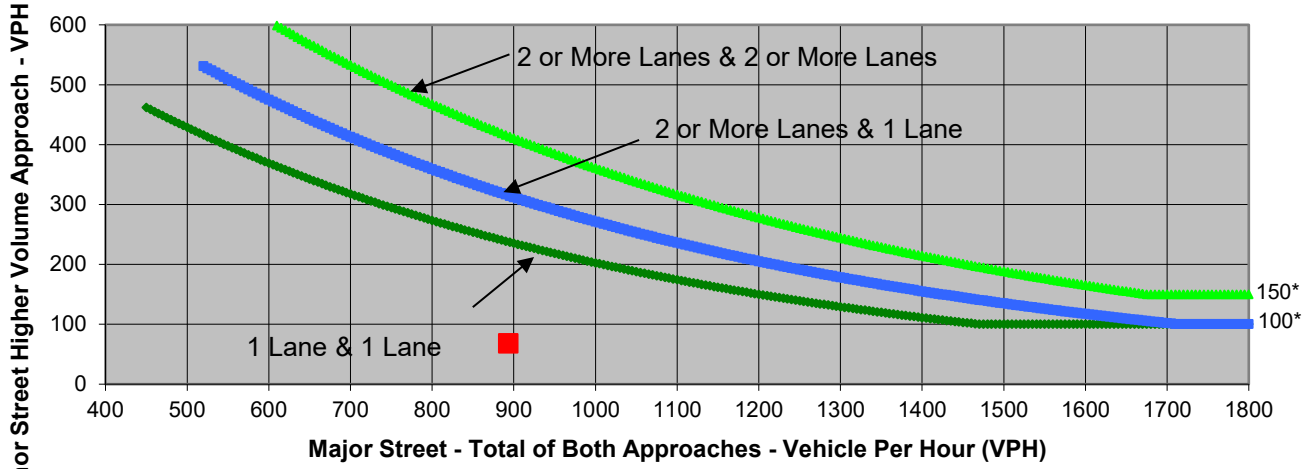
Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2026 - Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	56	94	0
Through	0	0	610	175
Right	0	12	0	14
Total	0	68	704	189

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**893**	**68**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2026 - Opt1 AM
Peak Hour	AM
Major Street	Mesquit St
Minor Street	Jesse St

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	56	94	0
Through	0	0	610	175
Right	0	12	0	14
Total	0	68	704	189

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	71.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	189

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 AM	**3.8**	**68**	**961**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mesquit St
Minor Street	Jesse St

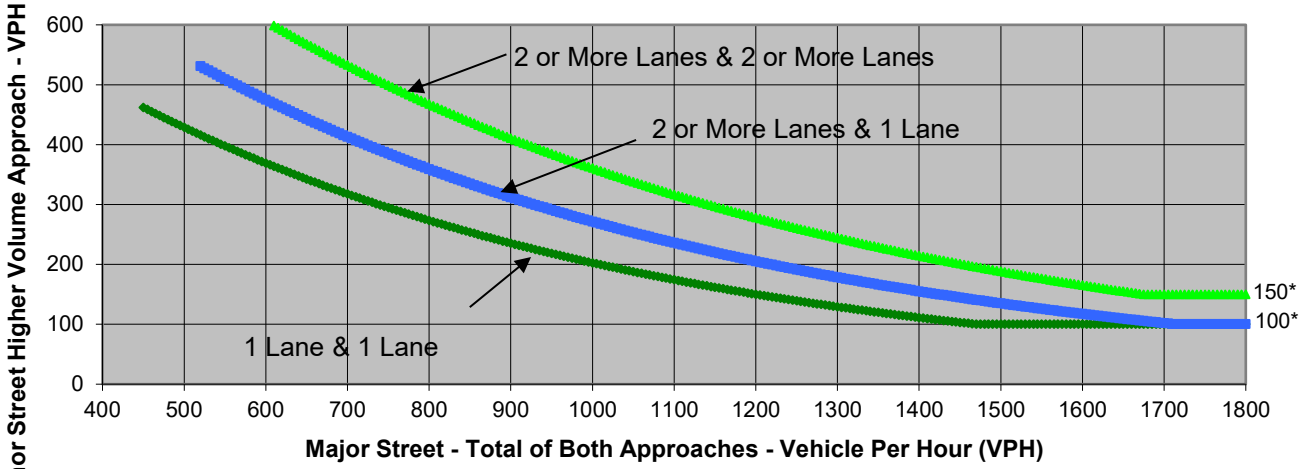
Project	670 Mesquit
Scenario	CP 2026 - Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	50	95	0
Through	0	0	486	390
Right	0	21	0	26
Total	0	71	581	416

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**71**	**581**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2026 - Opt1 PM
Peak Hour	PM
Major Street	Mesquit St
Minor Street	Jesse St

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	50	95	0
Through	0	0	486	390
Right	0	21	0	26
Total	0	71	581	416

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	88.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	416

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 PM	**10.2**	**581**	**1,068**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

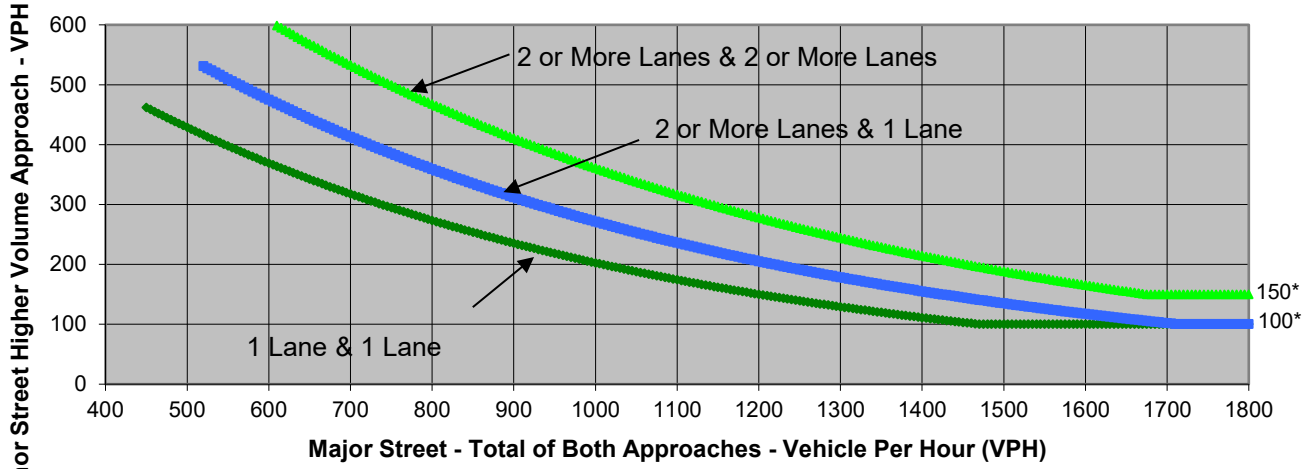
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CP 2026 - Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	0	2
Through	0	0	426	2,179
Right	0	304	348	0
Total	0	318	774	2,181

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,955**	**318**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	7th St
Scenario	CP 2026 - Opt1 AM
Minor Street	US-101 Southbound ramps
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	0	2
Through	0	0	426	2,179
Right	0	304	348	0
Total	0	318	774	2,181

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	458.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	2,181

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 AM	**278**	**318**	**3,273**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

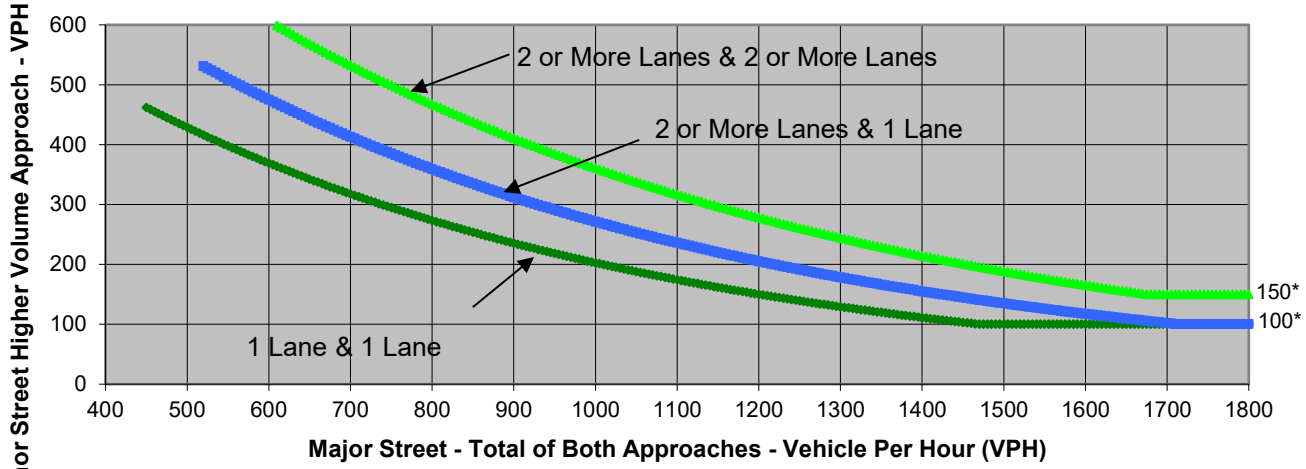
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CP 2026 - Opt1 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	70	0	1
Through	0	0	1,158	1,127
Right	0	194	410	0
Total	0	264	1,568	1,128

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,696**	**264**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	7th St
Scenario	CP 2026 - Opt1 PM
Minor Street	US-101 Southbound ramps
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	70	0	1
Through	0	0	1,158	1,127
Right	0	194	410	0
Total	0	264	1,568	1,128

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	92.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	1,128

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt1 PM	**28.9**	**264**	**2,960**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

CUMULATIVE PLUS PROJECT (2026) – OPTION 2

SIGNAL WARRANT WORKSHEETS

FEHR PEERS

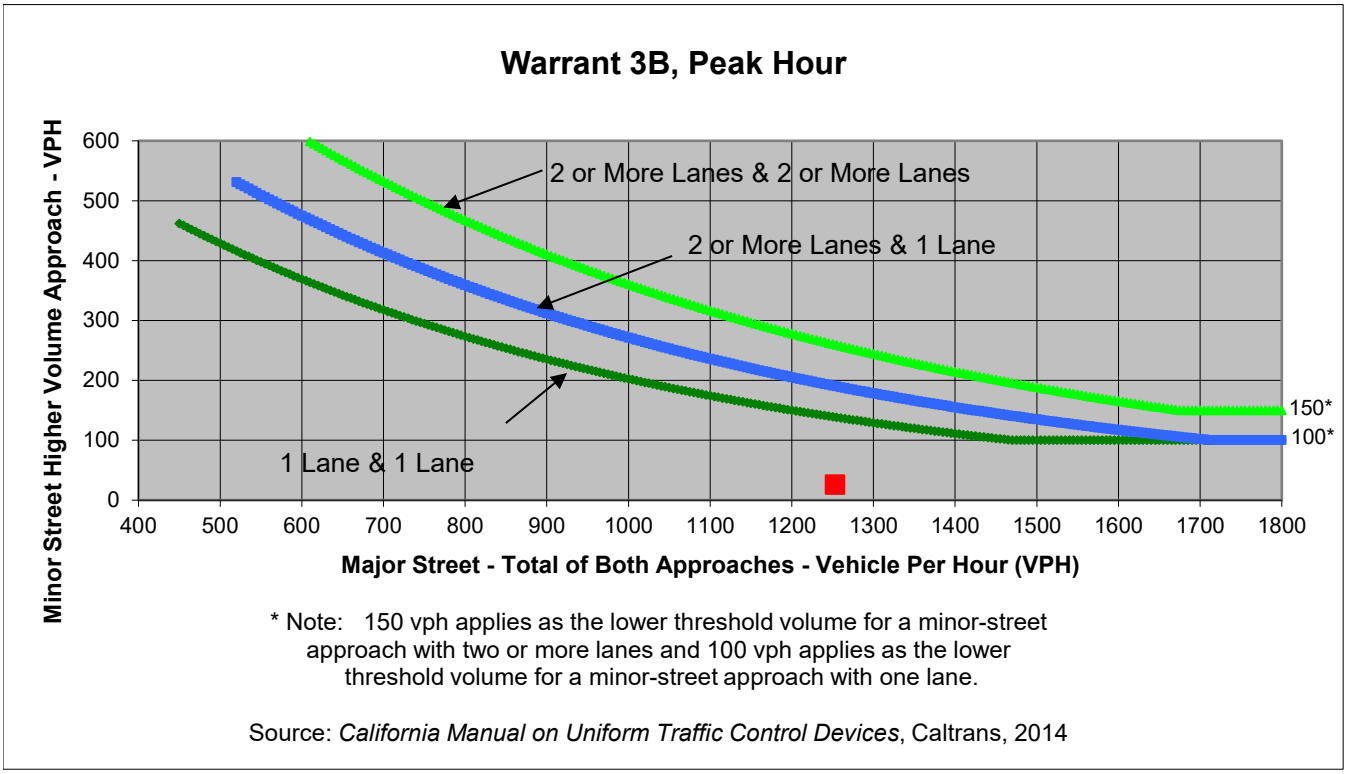
Project	670 Mesquit
Scenario	CP 2026 - Opt2 AM
Peak Hour	AM
Major Street	Mateo St
Minor Street	4th Pl

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	21	0	1
Through	501	626	0	0
Right	104	0	0	25
Total	606	647	0	26

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,253**	**26**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2026 - Opt2 AM
Minor Street	4th Pl
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	21	0	1
Through	501	626	0	0
Right	104	0	0	25
Total	606	647	0	26

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	26

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 AM	**0.1**	**26**	**1,279**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

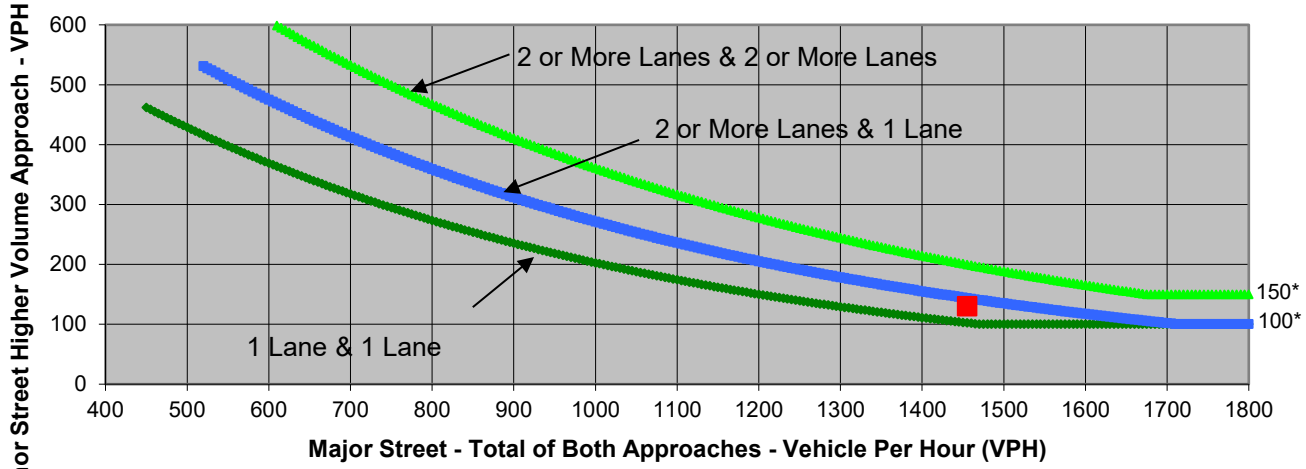
Project	670 Mesquit
Scenario	CP 2026 - Opt2 AM
Peak Hour	AM
Major Street	Mateo St
Minor Street	Willow St

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	39	0	48
Through	664	658	0	0
Right	93	0	0	82
Total	758	697	0	130

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,455**	**130**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2026 - Opt2 AM
Minor Street	Willow St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	39	0	48
Through	664	658	0	0
Right	93	0	0	82
Total	758	697	0	130

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	47.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	130

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 AM	**1.7**	**130**	**1,585**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mateo St
Minor Street	Willow St

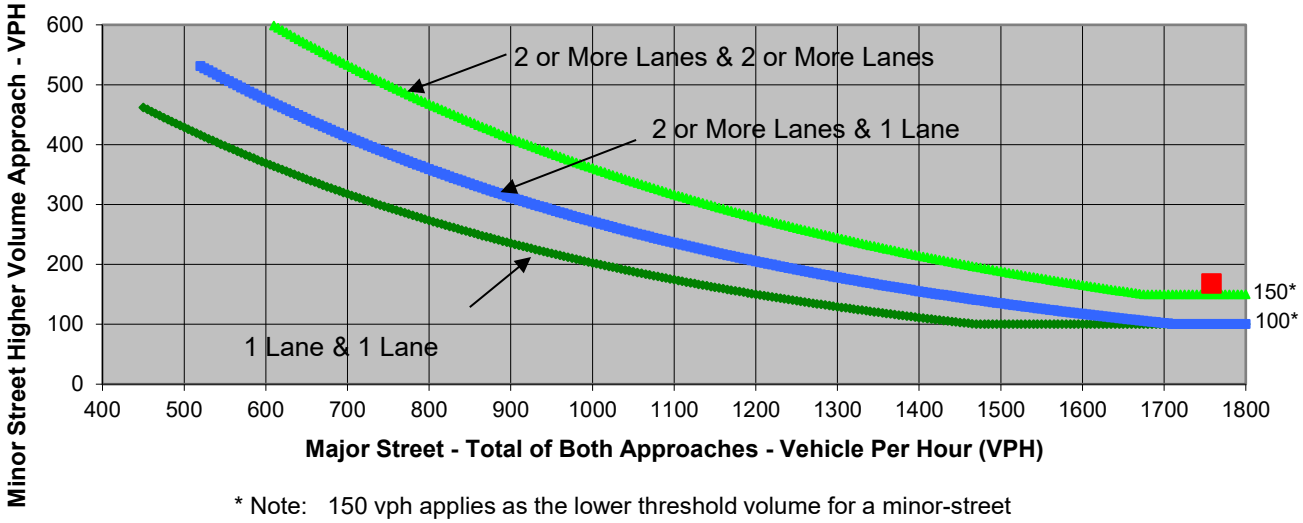
Project	670 Mesquit
Scenario	CP 2026 - Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	22	0	67
Through	828	875	0	0
Right	33	0	0	101
Total	861	897	0	168

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,758**	**168**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2026 - Opt2 PM
Minor Street	Willow St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	22	0	67
Through	828	875	0	0
Right	33	0	0	101
Total	861	897	0	168

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	241.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	168

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 PM	**11.3**	**168**	**1,926**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

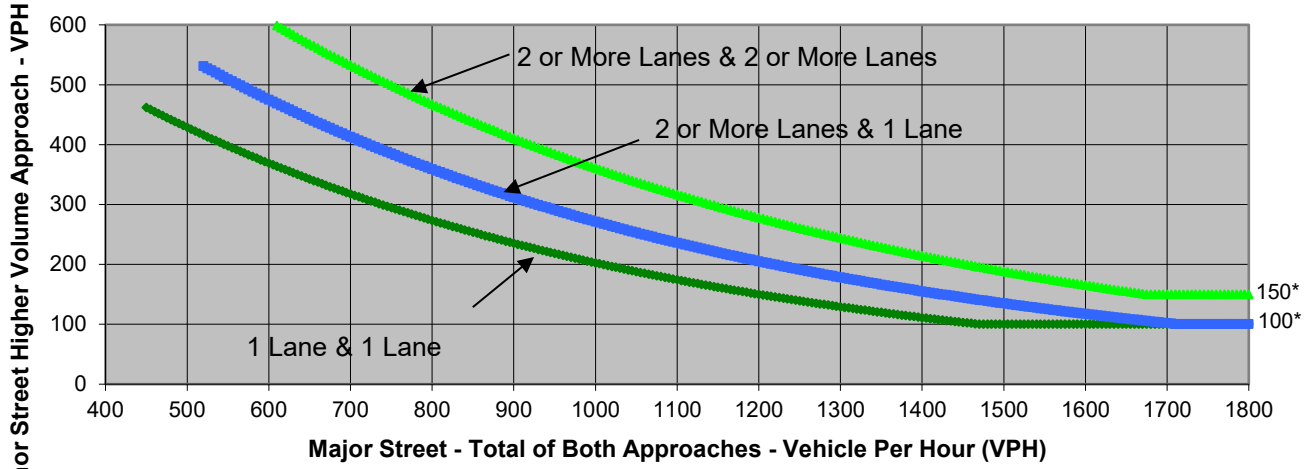
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2026 - Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	350	6	84
Through	510	898	0	0
Right	168	1	3	151
Total	678	1,249	9	235

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,927**	**235**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2026 - Opt2 AM
Minor Street	Jesse St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	350	6	84
Through	510	898	0	0
Right	168	1	3	151
Total	678	1,249	9	235

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	235

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 AM	**111**	**235**	**2,171**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	Mateo St
Minor Street	Jesse St

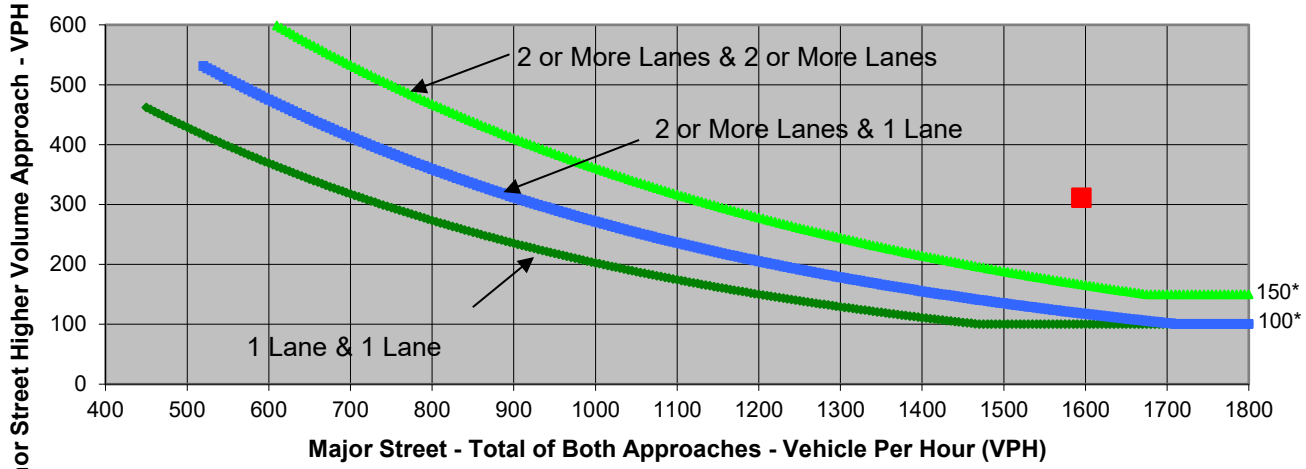
Project	670 Mesquit
Scenario	CP 2026 - Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	181	2	143
Through	657	615	1	1
Right	127	7	3	167
Total	792	803	6	311

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,595**	**311**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2026 - Opt2 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	181	2	143
Through	657	615	1	1
Right	127	7	3	167
Total	792	803	6	311

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	311

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 PM	**146.9**	**311**	**1,912**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

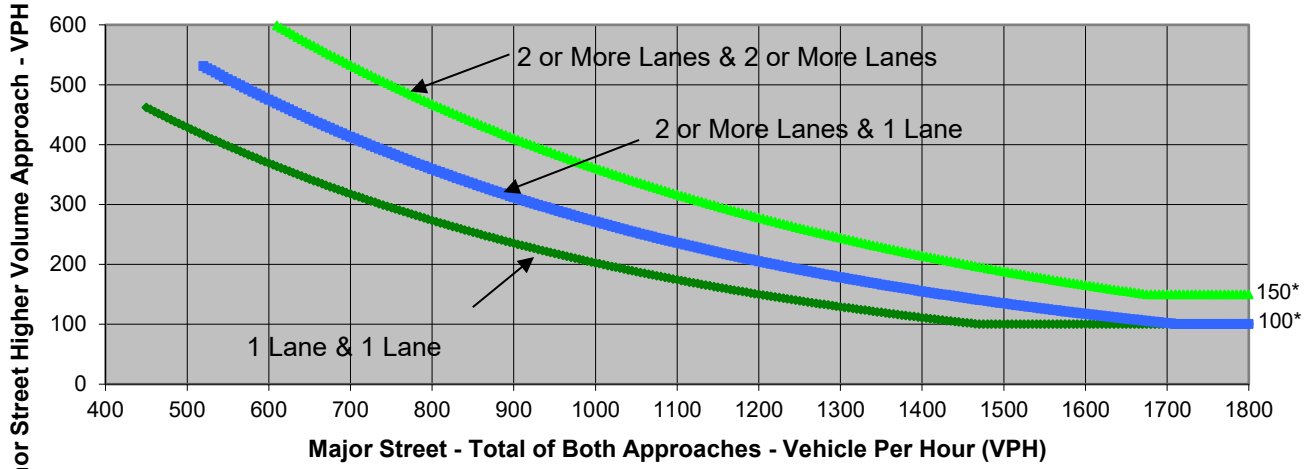
Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CP 2026 - Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	281	0	0	599
Through	0	0	23	15
Right	538	0	447	0
Total	819	0	470	614

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,084**	**819**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	E 8th St
Scenario	CP 2026 - Opt2 AM
Minor Street	I-10 Westbound ramps
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	281	0	0	599
Through	0	0	23	15
Right	538	0	447	0
Total	819	0	470	614

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	996.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	614

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 AM	**170**	**819**	**1,903**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	E 8th St
Minor Street	I-10 Westbound ramps

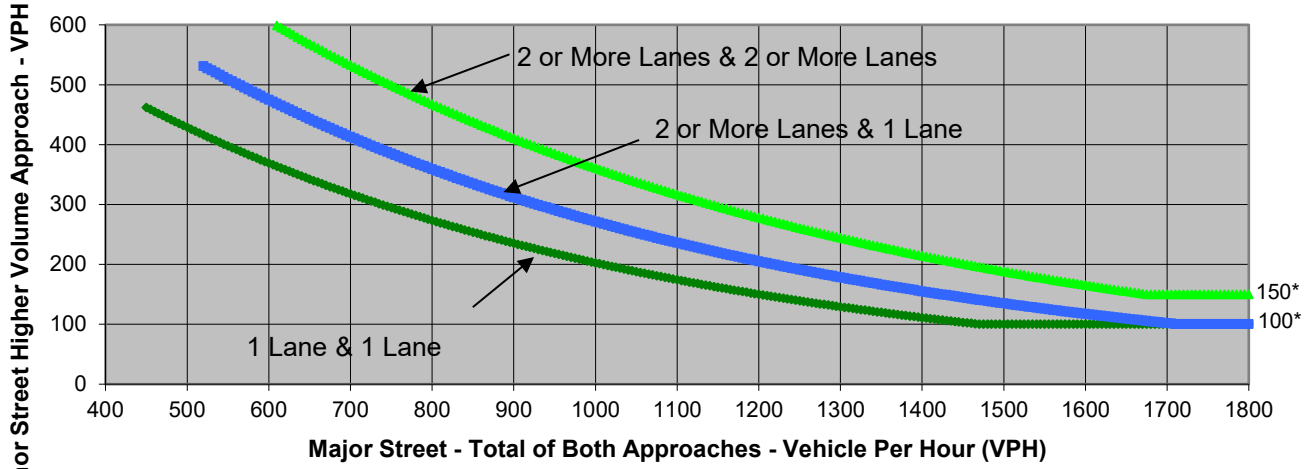
Project	670 Mesquit
Scenario	CP 2026 - Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	302	0	0	608
Through	0	0	22	46
Right	443	0	368	0
Total	745	0	390	654

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,044**	**745**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CP 2026 - Opt2 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	302	0	0	608
Through	0	0	22	46
Right	443	0	368	0
Total	745	0	390	654

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1196.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	654

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 PM	**217.4**	**745**	**1,789**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

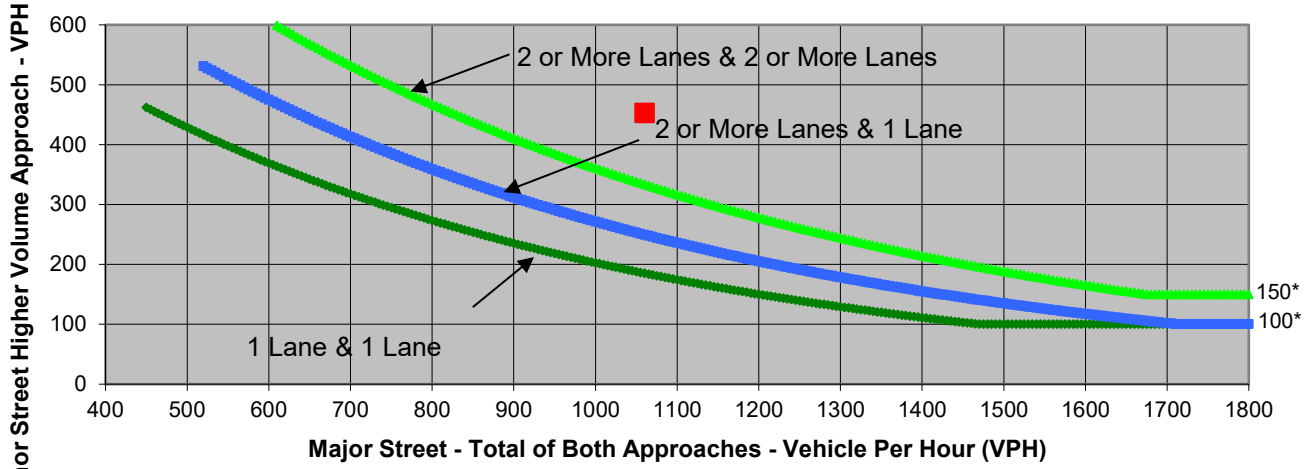
Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	CP 2026 - Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	806	175	0
Through	0	0	91	20
Right	1	253	3	433
Total	1	1,059	269	453

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,060**	**453**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Porter St
Scenario	CP 2026 - Opt2 AM
Minor Street	I-10 Eastbound ramps
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	806	175	0
Through	0	0	91	20
Right	1	253	3	433
Total	1	1,059	269	453

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	125.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	453

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 AM	**15.8**	**453**	**1,782**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	Porter St
Minor Street	I-10 Eastbound ramps

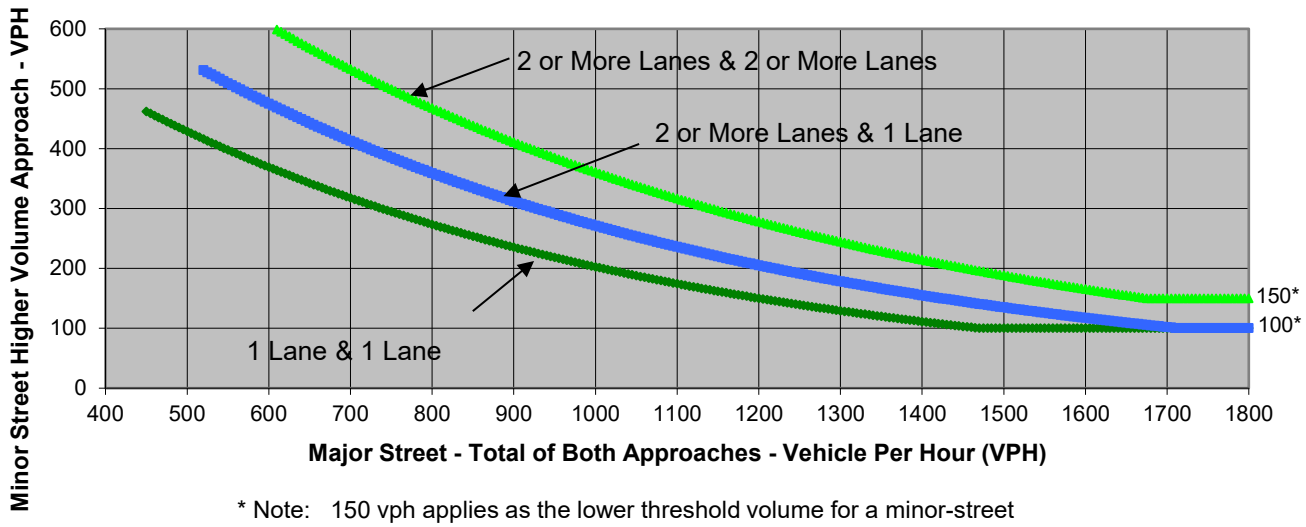
Project	670 Mesquit
Scenario	CP 2026 - Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	497	274	0
Through	3	0	109	21
Right	0	148	4	701
Total	5	645	387	722

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,109**	**645**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Porter St
Scenario	CP 2026 - Opt2 PM
Minor Street	I-10 Eastbound ramps
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	497	274	0
Through	3	0	109	21
Right	0	148	4	701
Total	5	645	387	722

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	172.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	722

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 PM	**34.7**	**645**	**1,759**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Willow St

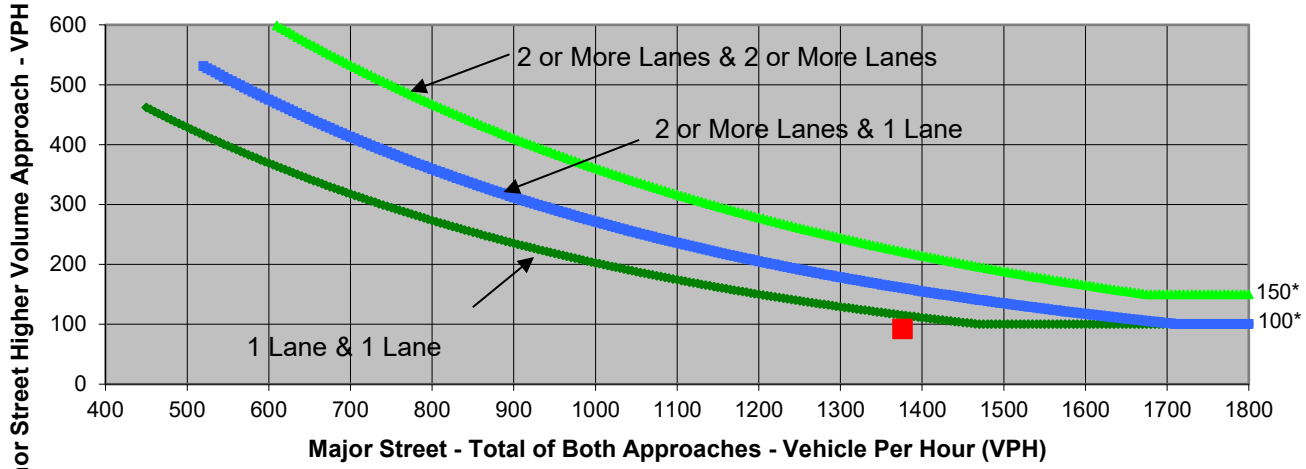
Project	670 Mesquit
Scenario	CP 2026 - Opt2 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	89	0	45	0
Through	775	500	0	0
Right	0	12	47	0
Total	864	512	92	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,376**	**92**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt2 AM
Minor Street	Willow St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	89	0	45	0
Through	775	500	0	0
Right	0	12	47	0
Total	864	512	92	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	41.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 AM	**0**	**92**	**1,468**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Willow St

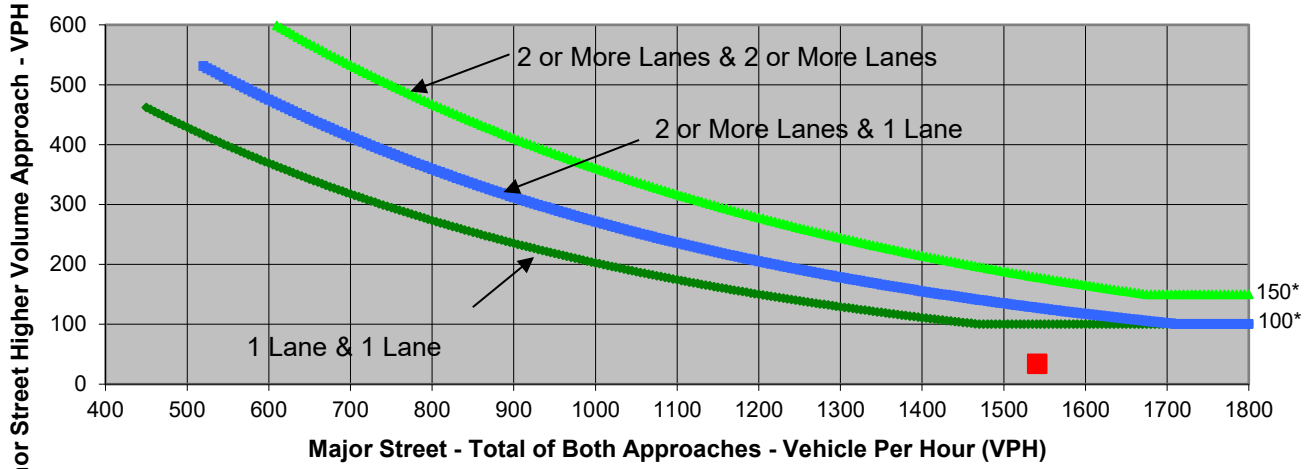
Project	670 Mesquit
Scenario	CP 2026 - Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	113	1	21	0
Through	806	581	0	0
Right	0	40	13	0
Total	919	622	34	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,541**	**34**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt2 PM
Minor Street	Willow St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	113	1	21	0
Through	806	581	0	0
Right	0	40	13	0
Total	919	622	34	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	58.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 PM	**0**	**34**	**1,575**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

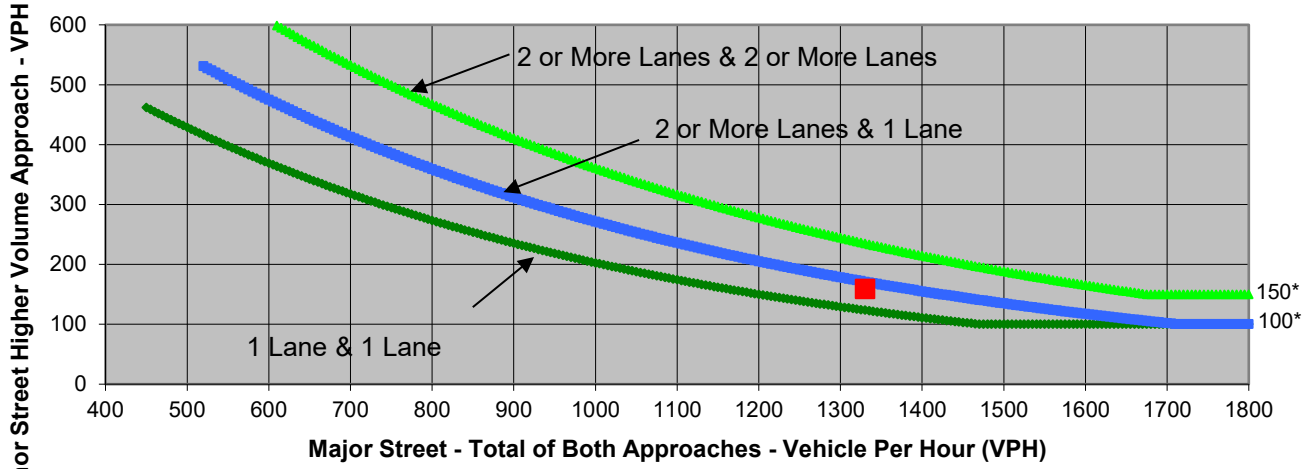
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CP 2026 - Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	71	7	32
Through	761	493	107	0
Right	5	0	35	127
Total	766	564	149	159

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,330**	**159**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt2 AM
Minor Street	Mesquit St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	71	7	32
Through	761	493	107	0
Right	5	0	35	127
Total	766	564	149	159

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	138.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	159

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 AM	**6.1**	**159**	**1,638**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Mesquit St

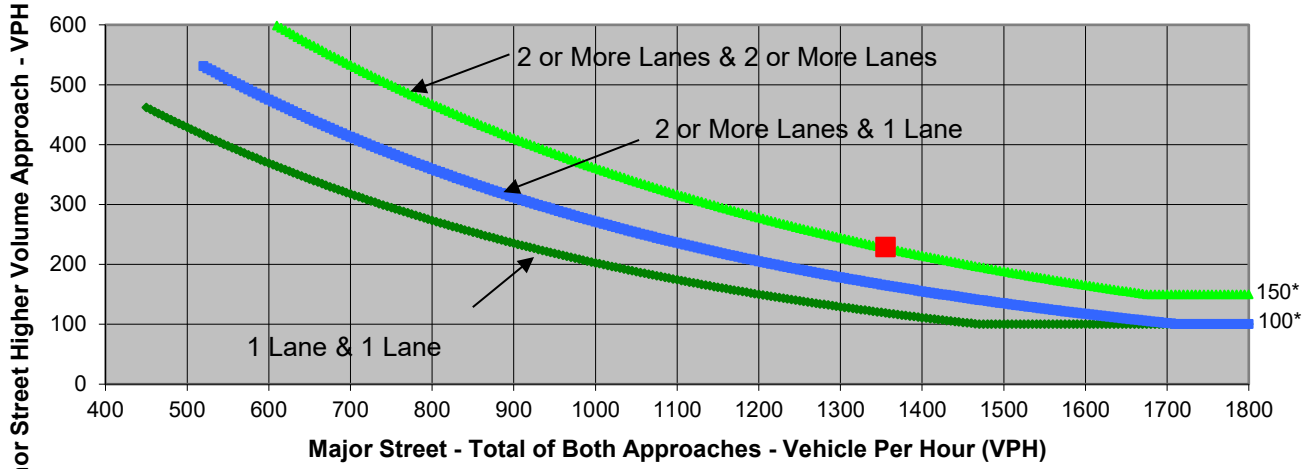
Project	670 Mesquit
Scenario	CP 2026 - Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	67	0	39
Through	745	535	94	0
Right	6	2	19	190
Total	751	604	113	229

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,355**	**229**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt2 PM
Minor Street	Mesquit St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	67	0	39
Through	745	535	94	0
Right	6	2	19	190
Total	751	604	113	229

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	140.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	229

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 PM	**8.9**	**229**	**1,697**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Jesse St

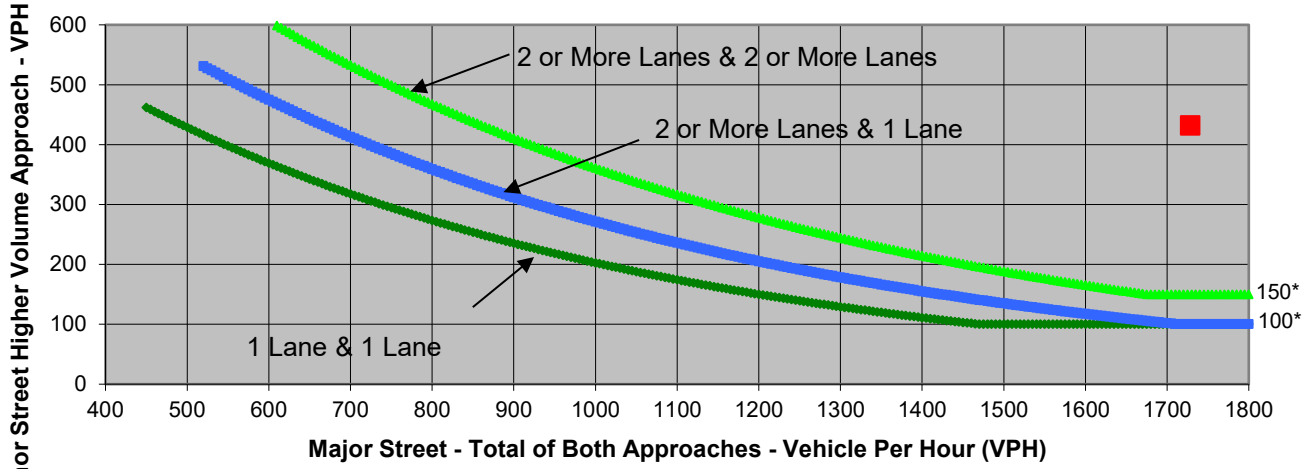
Project	670 Mesquit
Scenario	CP 2026 - Opt2 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	79	65	13	75
Through	736	452	352	151
Right	349	47	67	24
Total	1,164	564	432	250

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,728**	**432**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2026 - Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	79	65	13	75
Through	736	452	352	151
Right	349	47	67	24
Total	1,164	564	432	250

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	250

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 AM	**118.1**	**432**	**2,410**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Jesse St

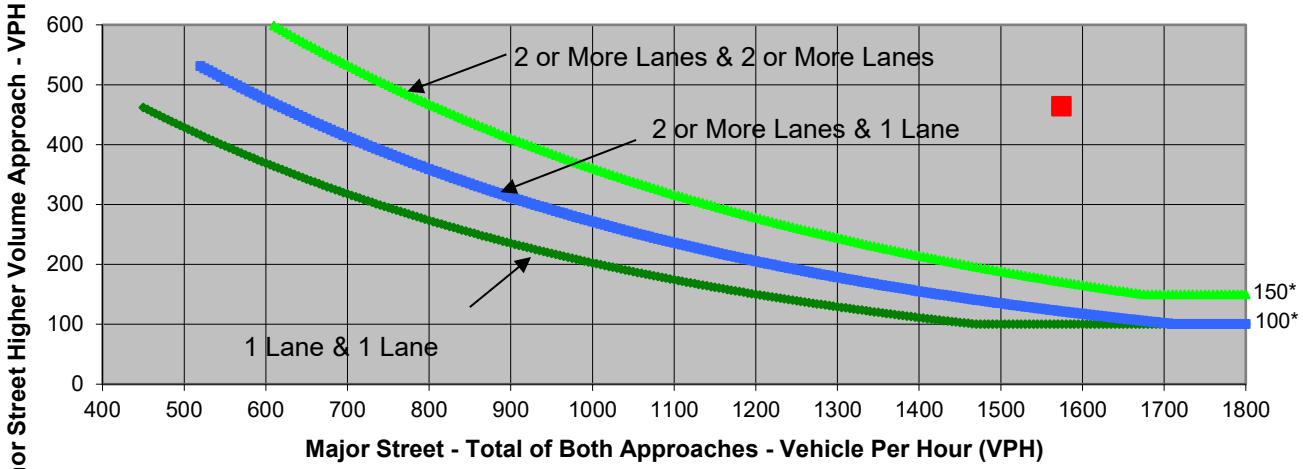
Project	670 Mesquit
Scenario	CP 2026 - Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	70	31	170
Through	707	468	316	270
Right	255	62	74	24
Total	974	600	421	464

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,574**	**464**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2026 - Opt2 PM
Minor Street	Jesse St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	70	31	170
Through	707	468	316	270
Right	255	62	74	24
Total	974	600	421	464

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	464

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 PM	**219.1**	**464**	**2,459**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

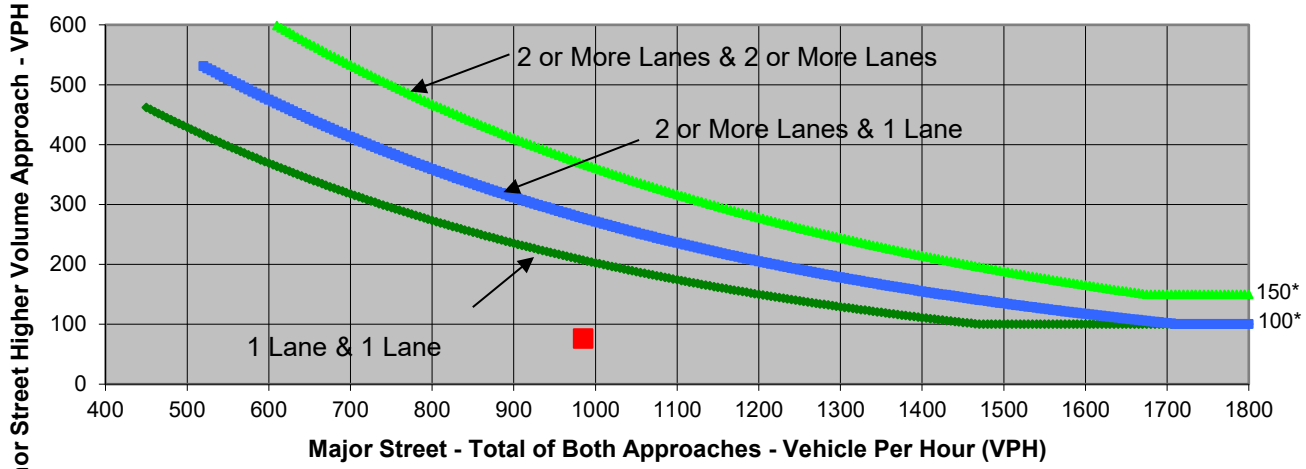
Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2026 - Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	23	62	98	0
Through	3	1	644	200
Right	0	13	28	15
Total	26	76	770	215

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**985**	**76**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2026 - Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	23	62	98	0
Through	3	1	644	200
Right	0	13	28	15
Total	26	76	770	215

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	71.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	215

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 AM	**4.3**	**76**	**1,087**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mesquit St
Minor Street	Jesse St

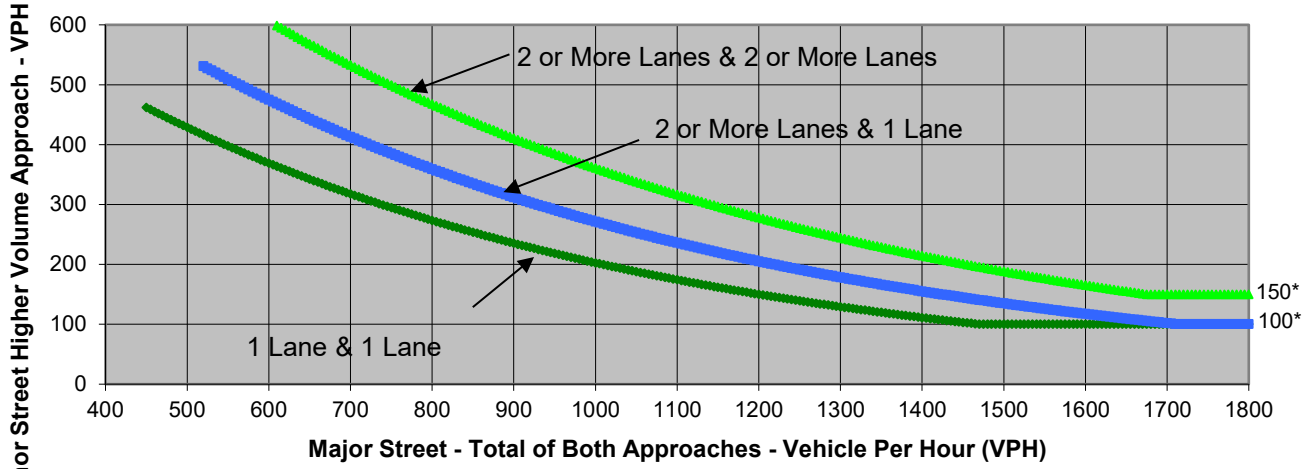
Project	670 Mesquit
Scenario	CP 2026 - Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	55	100	0
Through	1	0	519	414
Right	0	21	6	28
Total	25	76	625	442

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**101**	**625**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2026 - Opt2 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	55	100	0
Through	1	0	519	414
Right	0	21	6	28
Total	25	76	625	442

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	88.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	442

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 PM	**10.9**	**625**	**1,168**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

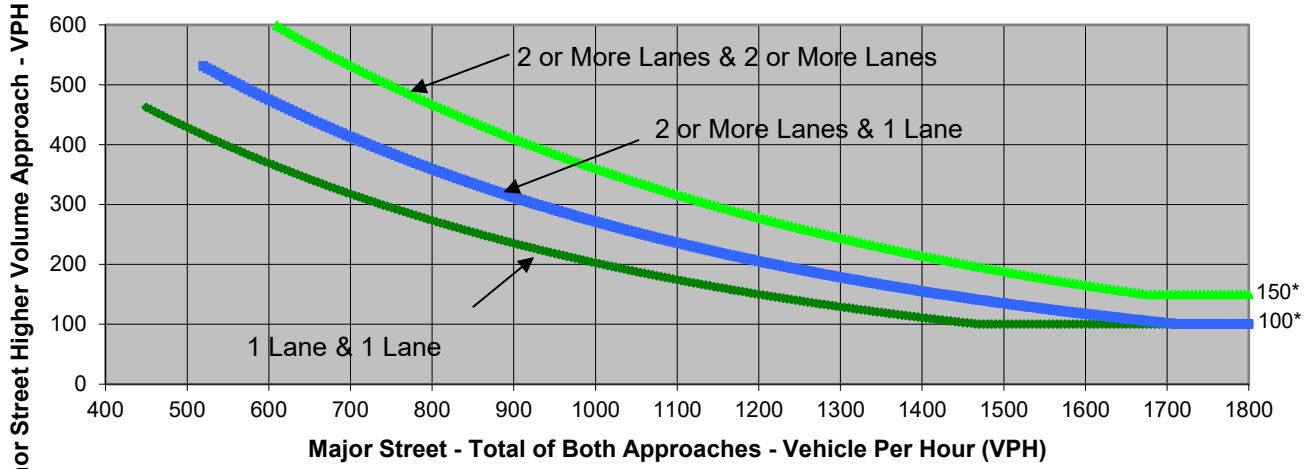
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CP 2026 - Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	0	2
Through	0	0	428	2,182
Right	0	304	348	0
Total	0	318	776	2,184

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,960**	**318**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	7th St
Scenario	CP 2026 - Opt2 AM
Minor Street	US-101 Southbound ramps
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	14	0	2
Through	0	0	428	2,182
Right	0	304	348	0
Total	0	318	776	2,184

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	458.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	2,184

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 AM	**278.4**	**318**	**3,278**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

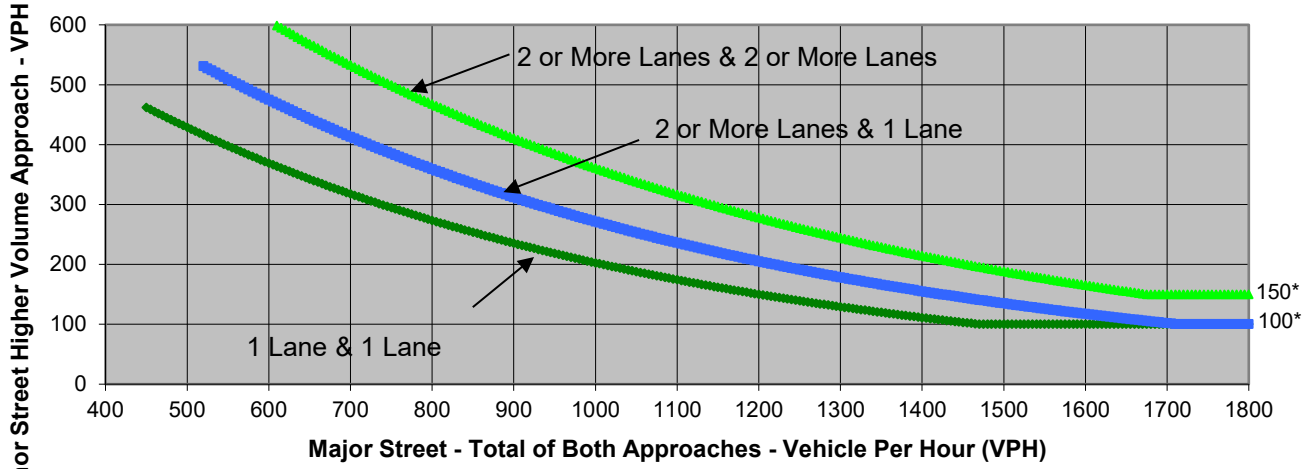
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CP 2026 - Opt2 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	70	0	1
Through	0	0	1,161	1,129
Right	0	194	410	0
Total	0	264	1,571	1,130

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,701**	**264**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	7th St
Scenario	CP 2026 - Opt2 PM
Minor Street	US-101 Southbound ramps
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	70	0	1
Through	0	0	1,161	1,129
Right	0	194	410	0
Total	0	264	1,571	1,130

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	92.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	1,130

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2026 - Opt2 PM	**28.9**	**264**	**2,965**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

CUMULATIVE BASE (2040)

SIGNAL WARRANT WORKSHEETS

FEHR PEERS

Major Street	Mateo St
Minor Street	4th Pl

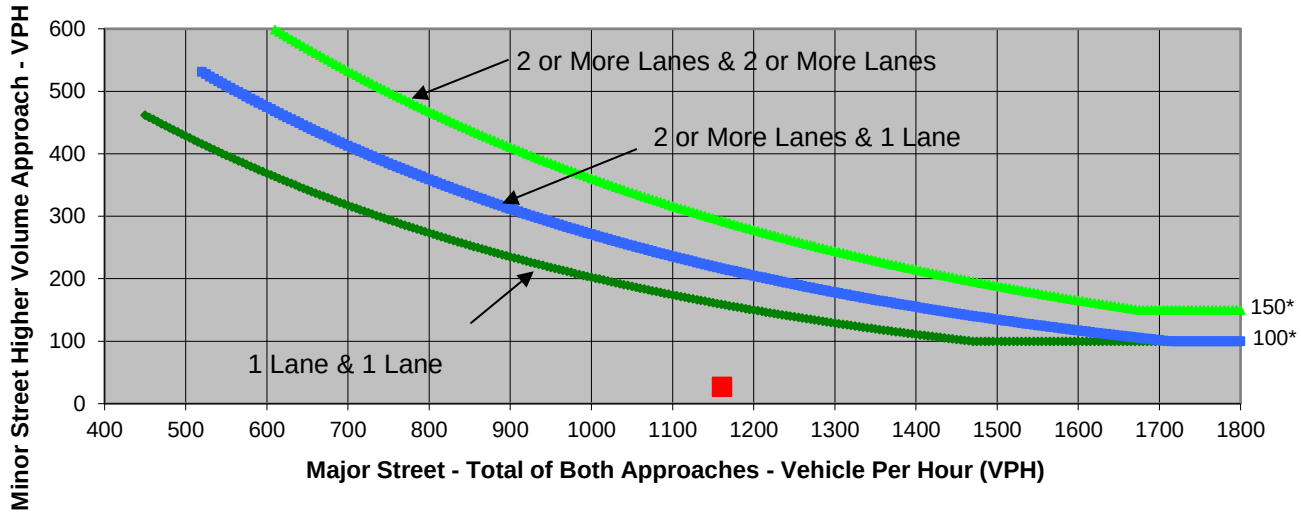
Project	670 Mesquit
Scenario	CB 2040 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	22	0	1
Through	472	576	0	0
Right	90	0	0	26
Total	563	598	0	27

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,161**	**27**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	22	0	1
Through	472	576	0	0
Right	90	0	0	26
Total	563	598	0	27

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	12.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	27

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 AM	**0.1**	**27**	**1,188**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

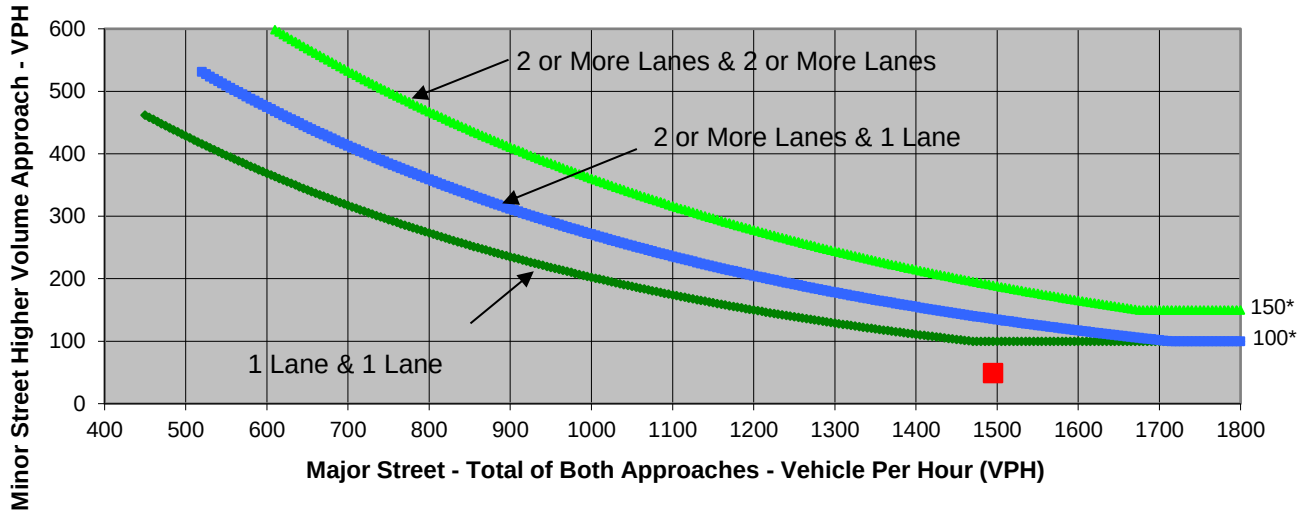
Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	39	0	28
Through	709	697	0	0
Right	50	0	0	21
Total	759	736	0	49

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,495**	**49**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	39	0	28
Through	709	697	0	0
Right	50	0	0	21
Total	759	736	0	49

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	42.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	49

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**0.6**	**49**	**1,544**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

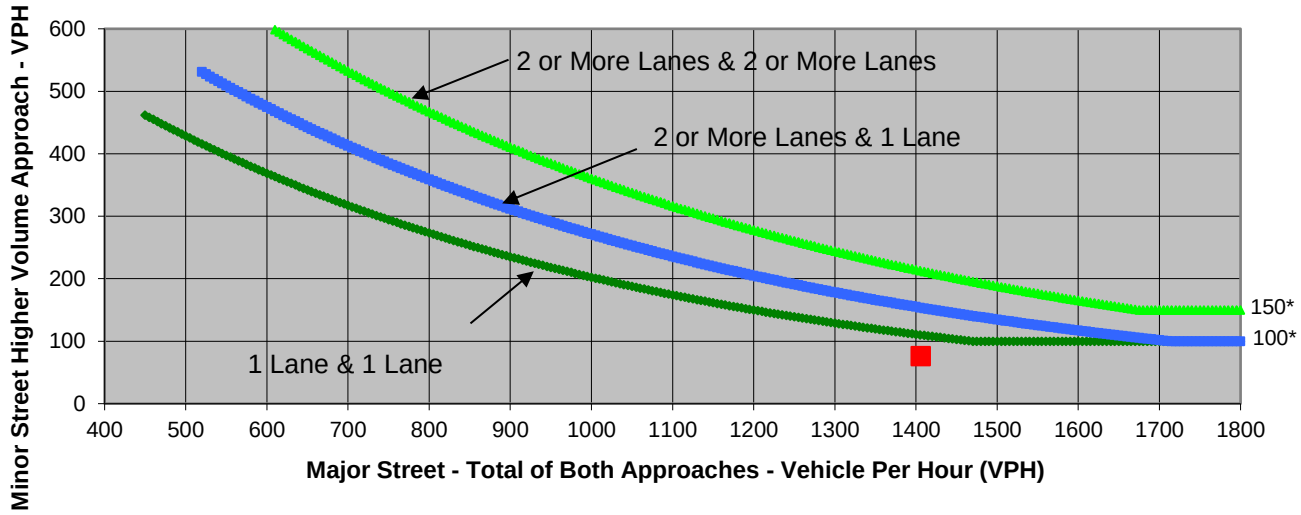
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	40	0	33
Through	664	607	0	0
Right	94	0	0	43
Total	759	647	0	76

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,406**	**76**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	40	0	33
Through	664	607	0	0
Right	94	0	0	43
Total	759	647	0	76

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	35.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	76

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 AM	**0.7**	**76**	**1,482**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

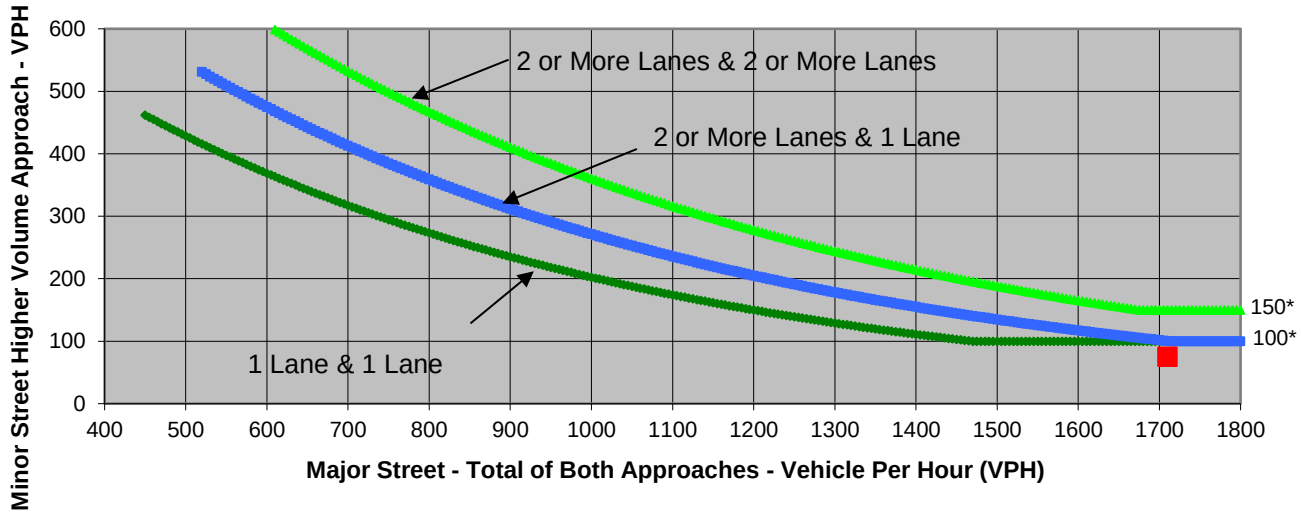
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	23	0	45
Through	816	837	0	0
Right	34	0	0	30
Total	850	860	0	75

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,710**	**75**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	23	0	45
Through	816	837	0	0
Right	34	0	0	30
Total	850	860	0	75

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	101
Approach with Worst Case Delay	WB
Total Vehicles on Approach	75

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**2.1**	**75**	**1,785**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

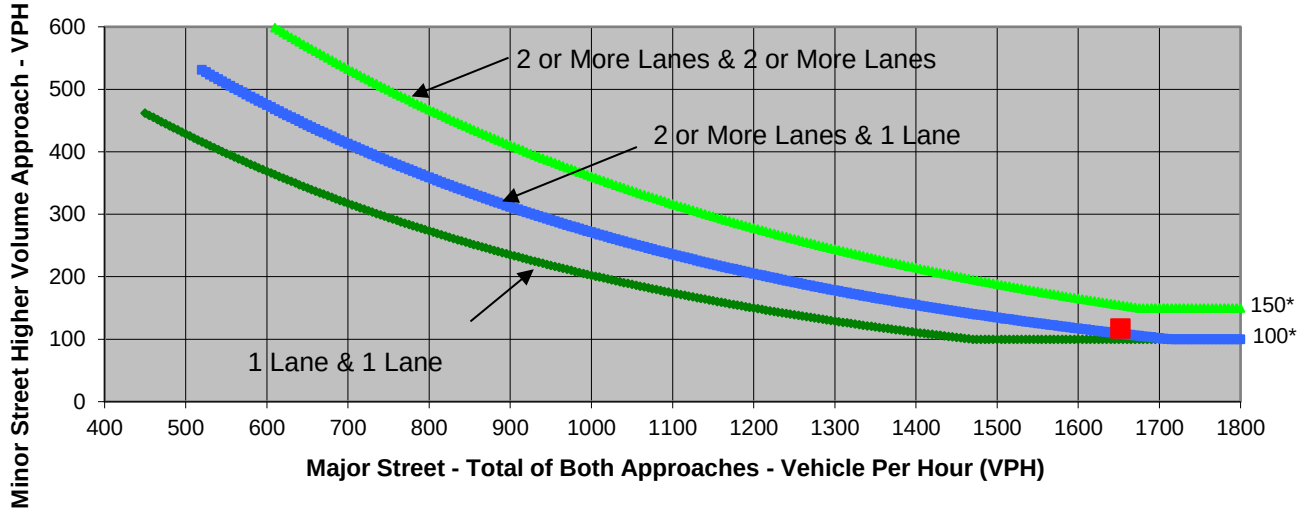
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	214	6	21
Through	496	916	0	0
Right	25	1	3	96
Total	521	1,131	9	117

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,652**	**117**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	214	6	21
Through	496	916	0	0
Right	25	1	3	96
Total	521	1,131	9	117

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	53.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	117

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 AM	**1.8**	**117**	**1,778**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

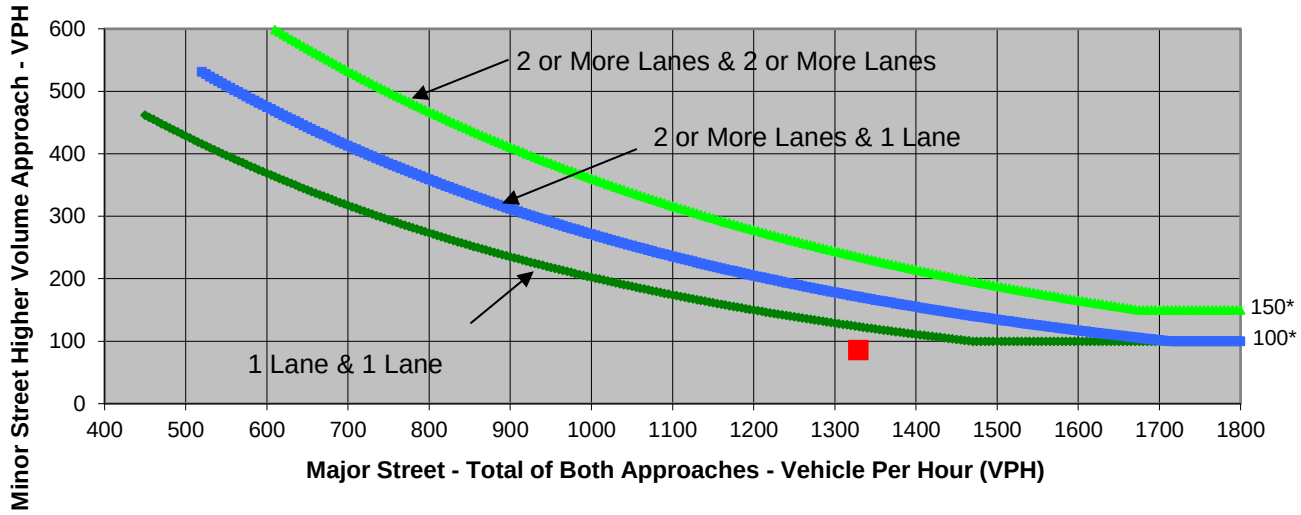
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	63	2	14
Through	607	625	1	1
Right	19	7	3	71
Total	634	695	6	86

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,329**	**86**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	63	2	14
Through	607	625	1	1
Right	19	7	3	71
Total	634	695	6	86

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	20.7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	86

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**0.5**	**86**	**1,421**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	E 8th St
Minor Street	I-10 Westbound ramps

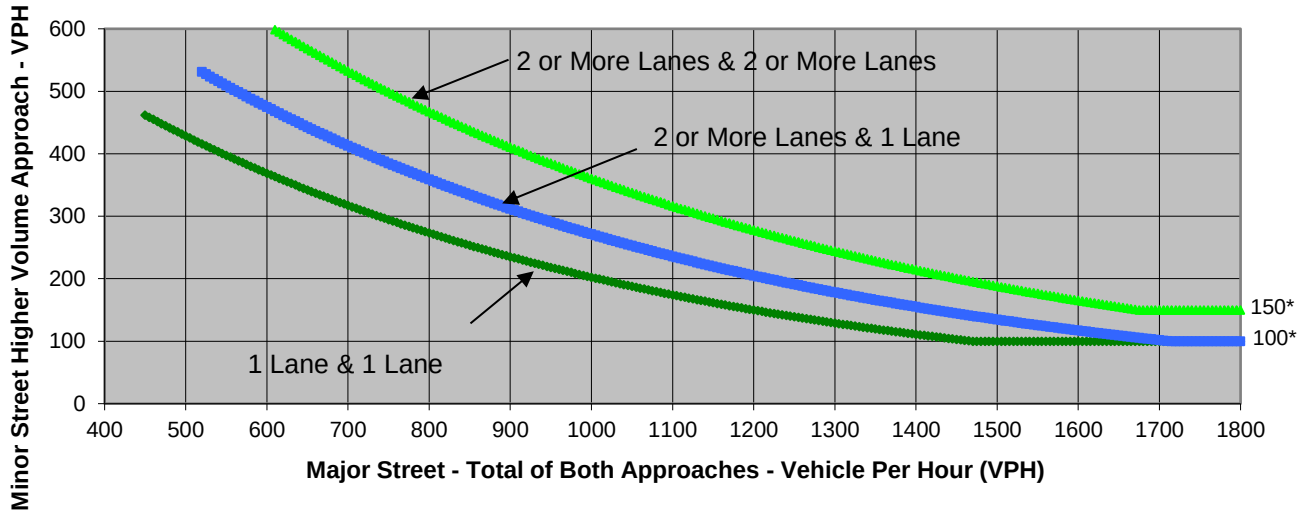
Project	670 Mesquit
Scenario	CB 2040 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	287	0	0	609
Through	0	0	24	16
Right	533	0	453	0
Total	820	0	477	625

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,102**	**820**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	287	0	0	609
Through	0	0	24	16
Right	533	0	453	0
Total	820	0	477	625

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1092.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	625

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 AM	**189.7**	**820**	**1,922**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

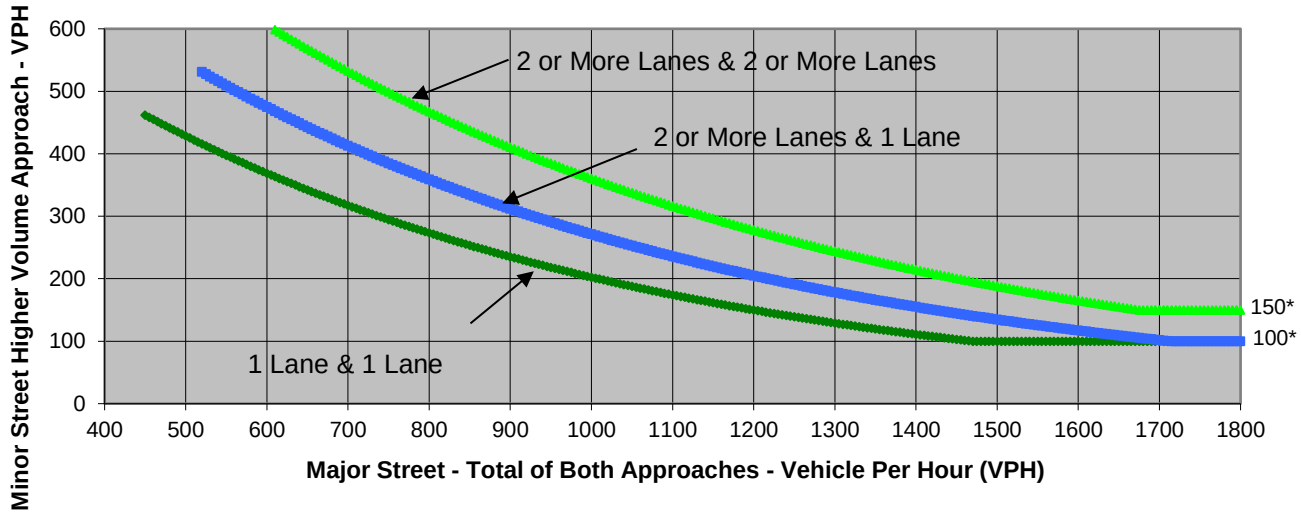
Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	308	0	0	605
Through	0	0	23	47
Right	443	0	354	0
Total	751	0	377	652

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,029**	**751**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	308	0	0	605
Through	0	0	23	47
Right	443	0	354	0
Total	751	0	377	652

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1151.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	652

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**208.6**	**751**	**1,780**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

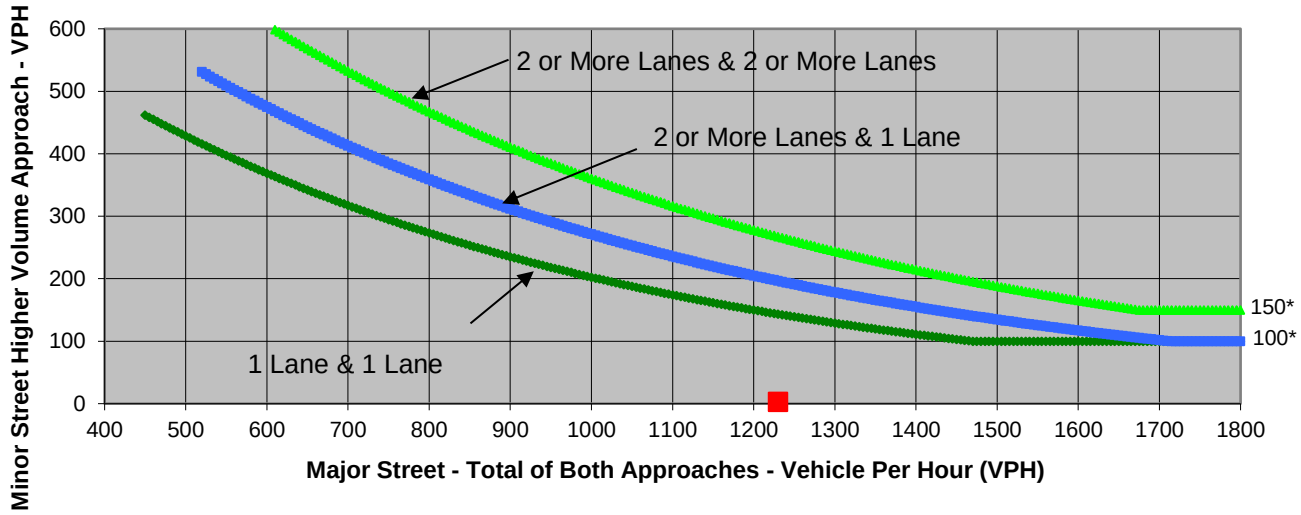
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	0	1
Through	724	502	0	0
Right	0	2	0	2
Total	724	506	0	3

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,230**	**3**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	0	1
Through	724	502	0	0
Right	0	2	0	2
Total	724	506	0	3

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	37.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	3

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**0**	**3**	**1,233**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

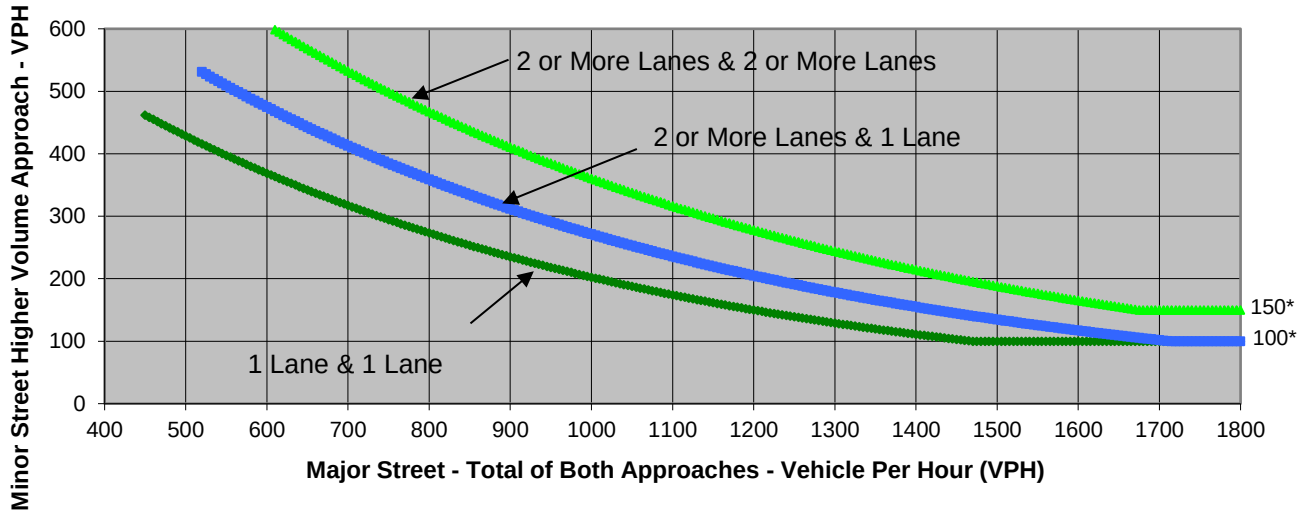
Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	480	257	0
Through	3	0	112	22
Right	0	150	4	685
Total	5	630	373	707

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,080**	**630**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	480	257	0
Through	3	0	112	22
Right	0	150	4	685
Total	5	630	373	707

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	117.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	707

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**23**	**630**	**1,715**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

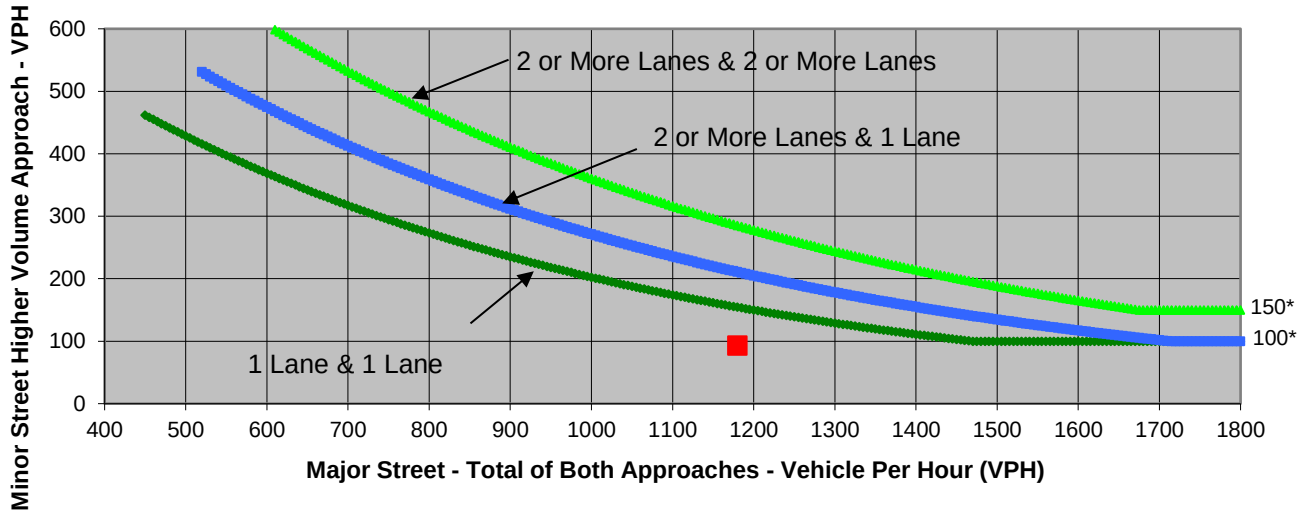
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	34	0	45	0
Through	717	417	0	0
Right	0	12	48	0
Total	751	429	93	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,180**	**93**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	34	0	45	0
Through	717	417	0	0
Right	0	12	48	0
Total	751	429	93	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	23.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 AM	**0**	**93**	**1,273**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Willow St

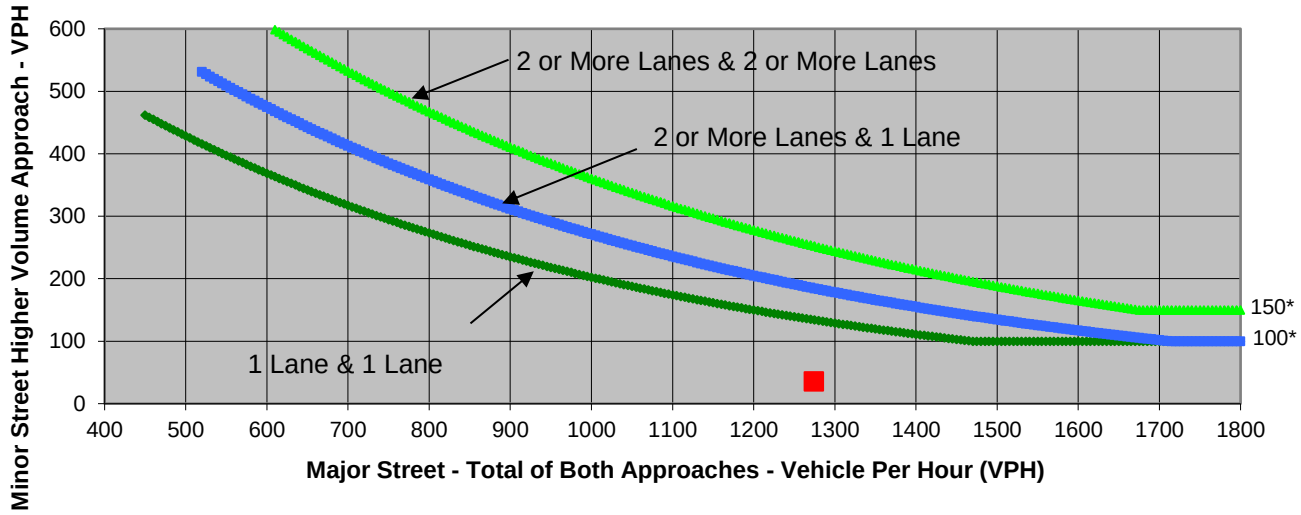
Project	670 Mesquit
Scenario	CB 2040 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	18	1	22	0
Through	718	497	0	0
Right	0	40	14	0
Total	736	538	36	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,274**	**36**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	18	1	22	0
Through	718	497	0	0
Right	0	40	14	0
Total	736	538	36	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	24.7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**0**	**36**	**1,310**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

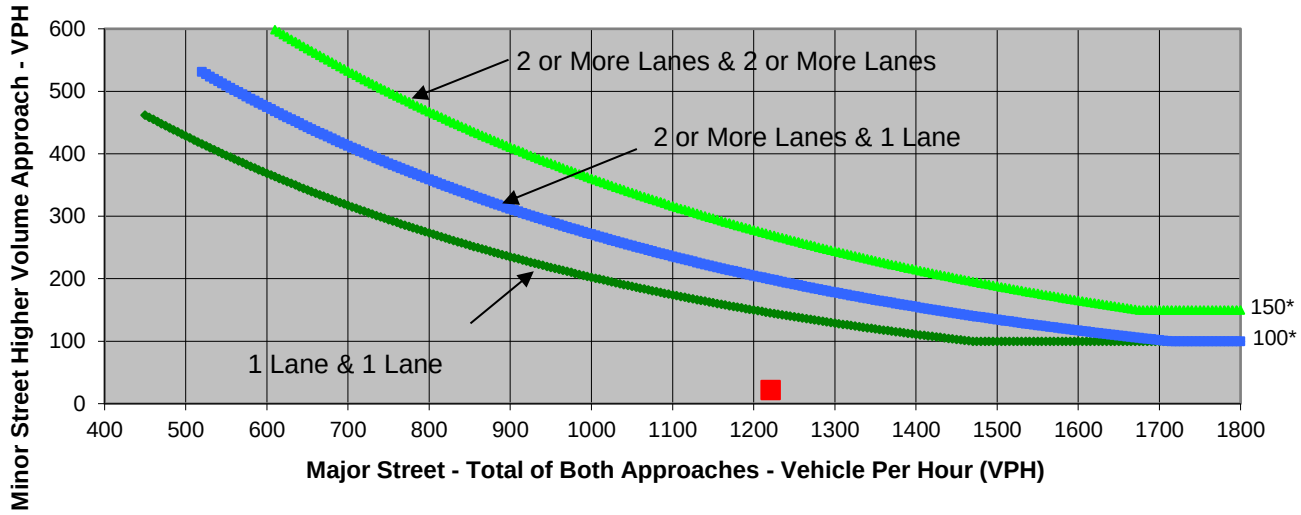
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	7	7	1
Through	749	465	1	0
Right	0	0	14	9
Total	749	472	22	10

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,221**	**22**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	7	7	1
Through	749	465	1	0
Right	0	0	14	9
Total	749	472	22	10

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	46
Approach with Worst Case Delay	WB
Total Vehicles on Approach	10

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 AM	**0.1**	**22**	**1,253**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

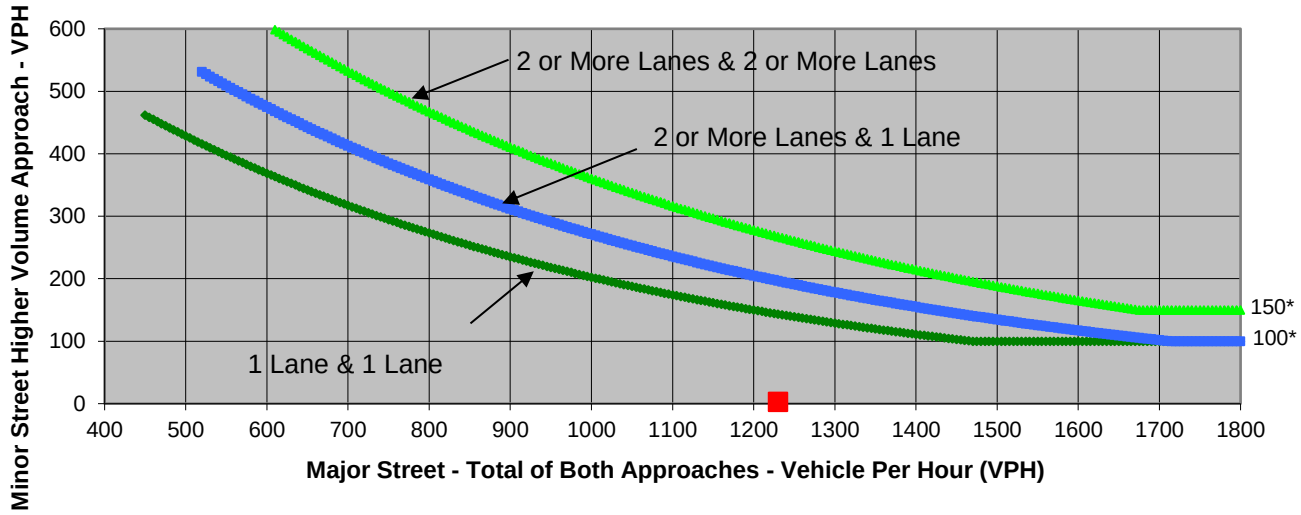
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	0	1
Through	724	502	0	0
Right	0	2	0	2
Total	724	506	0	3

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,230**	**3**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Mesquit St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	2	0	1
Through	724	502	0	0
Right	0	2	0	2
Total	724	506	0	3

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	37.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	3

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**0**	**3**	**1,233**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

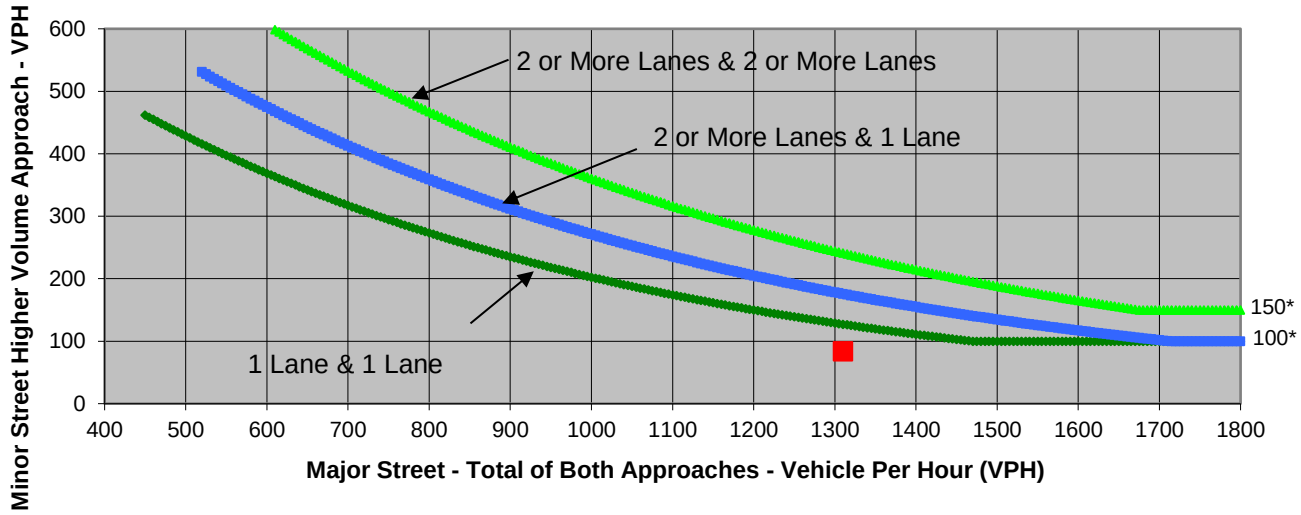
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	81	4	13	18
Through	736	453	2	5
Right	16	20	69	3
Total	833	477	84	26

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,310**	**84**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	81	4	13	18
Through	736	453	2	5
Right	16	20	69	3
Total	833	477	84	26

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	68.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	26

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 AM	**0.5**	**84**	**1,420**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

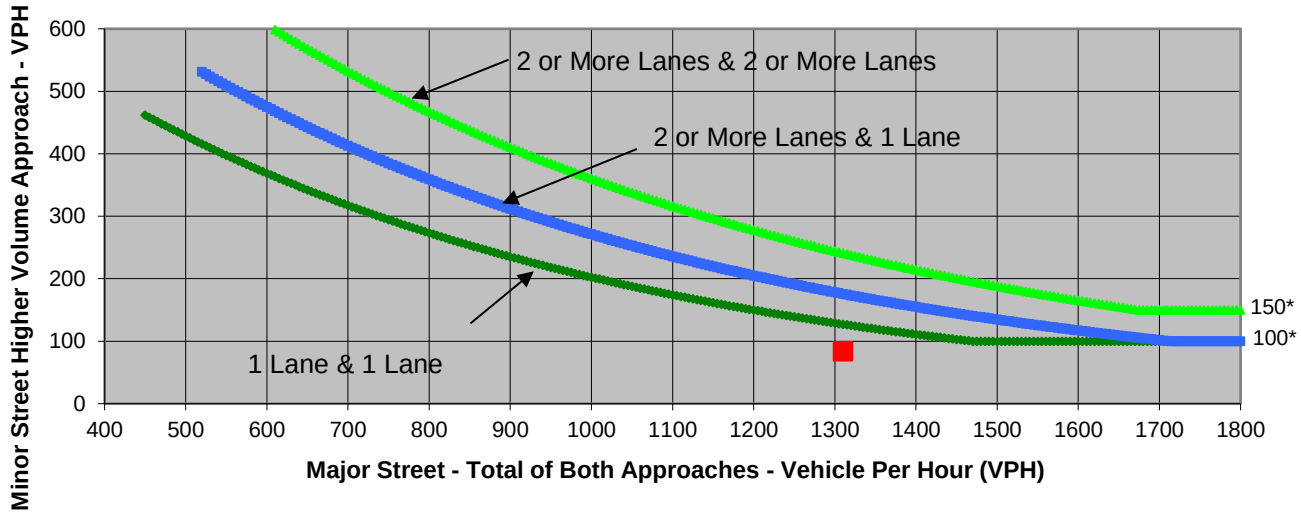
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	81	4	13	18
Through	736	453	2	5
Right	16	20	69	3
Total	833	477	84	26

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,310**	**84**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	81	4	13	18
Through	736	453	2	5
Right	16	20	69	3
Total	833	477	84	26

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	68.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	26

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 AM	**0.5**	**84**	**1,420**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

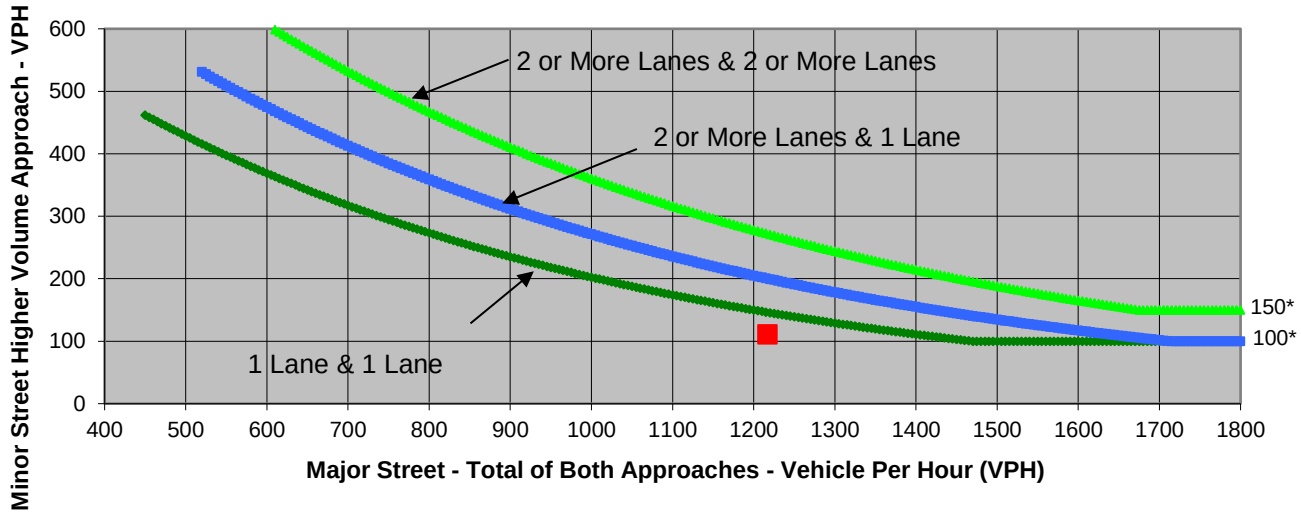
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	3	32	9
Through	696	471	3	3
Right	5	30	76	3
Total	713	504	111	15

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,217**	**111**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	3	32	9
Through	696	471	3	3
Right	5	30	76	3
Total	713	504	111	15

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	36.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	15

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**0.2**	**111**	**1,343**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

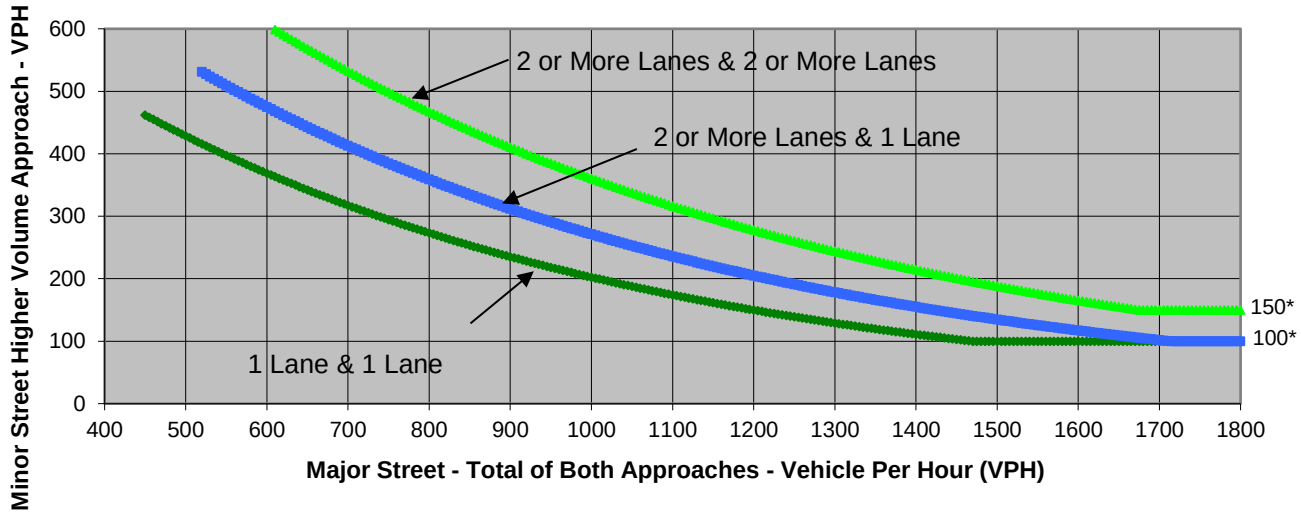
Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	0	8	0
Through	3	1	0	0
Right	0	7	29	0
Total	27	8	37	0

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**37**	**27**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CB 2040 AM
Peak Hour	AM

Major Street	Mesquit St
Minor Street	Jesse St

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	0	8	0
Through	3	1	0	0
Right	0	7	29	0
Total	27	8	37	0

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 AM	**0**	**27**	**72**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

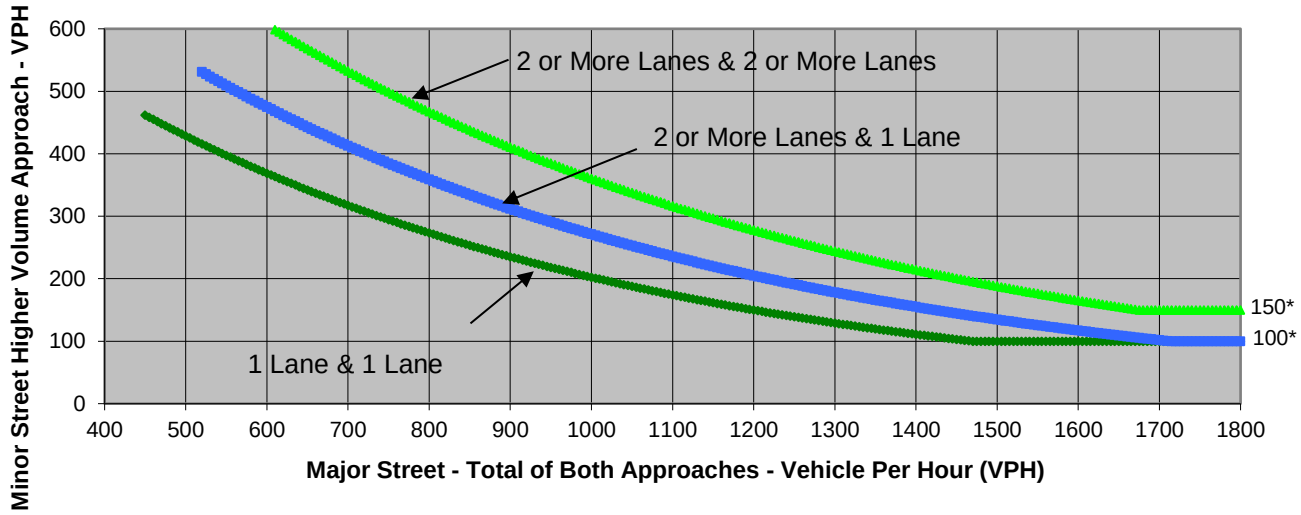
Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	25	0	4	0
Through	1	0	0	0
Right	0	15	6	0
Total	26	15	10	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**41**	**10**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	25	0	4	0
Through	1	0	0	0
Right	0	15	6	0
Total	26	15	10	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	8.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**0**	**10**	**51**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	7th St
Minor Street	US-101 Southbound ramps

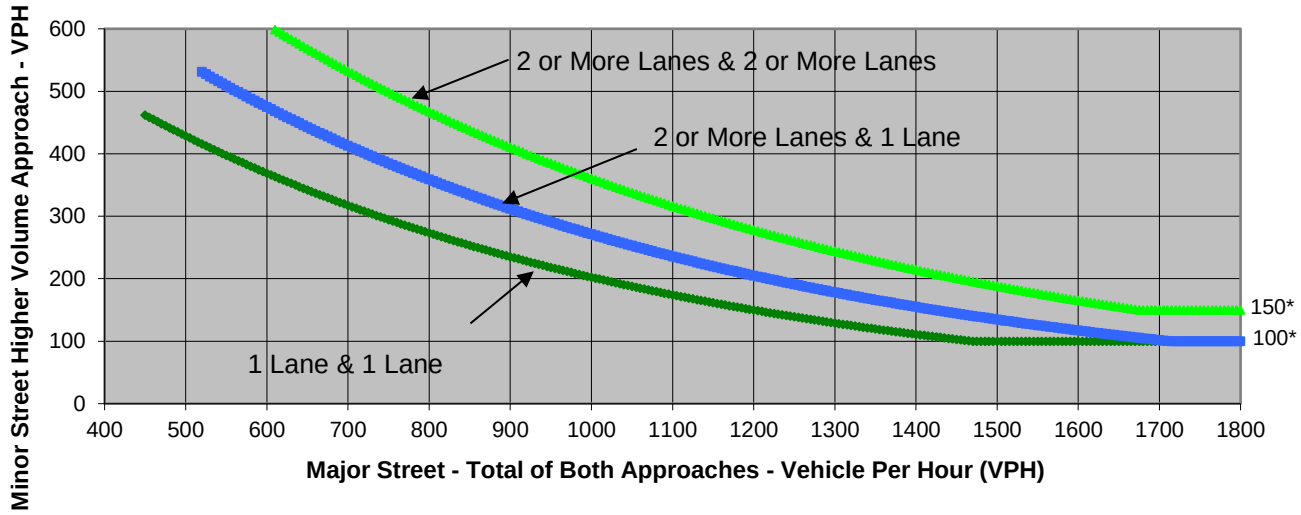
Project	670 Mesquit
Scenario	CB 2040 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	0	2
Through	0	0	402	2,104
Right	0	285	346	0
Total	0	300	748	2,106

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,854**	**300**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CB 2040 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	0	2
Through	0	0	402	2,104
Right	0	285	346	0
Total	0	300	748	2,106

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	334.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	2,106

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 AM	**195.7**	**300**	**3,154**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	7th St
Minor Street	US-101 Southbound ramps

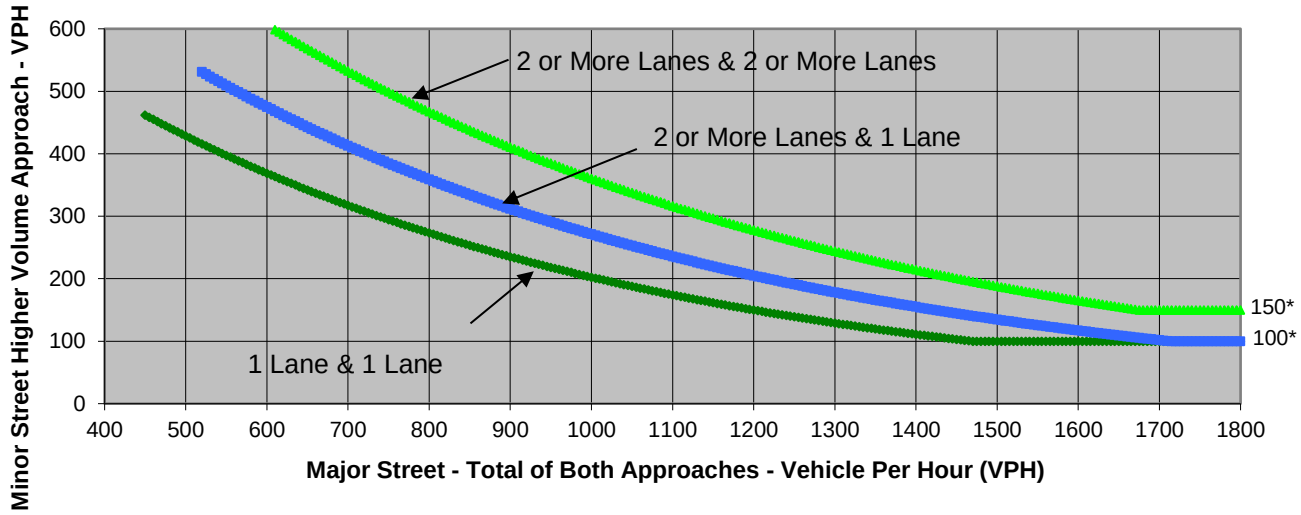
Project	670 Mesquit
Scenario	CB 2040 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	72	0	1
Through	0	0	1,088	1,059
Right	0	181	391	0
Total	0	253	1,479	1,060

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,539**	**253**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CB 2040 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	72	0	1
Through	0	0	1,088	1,059
Right	0	181	391	0
Total	0	253	1,479	1,060

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	70.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	1,060

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CB 2040 PM	**20.8**	**253**	**2,792**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

CUMULATIVE PLUS PROJECT (2040) – OPTION 1

SIGNAL WARRANT WORKSHEETS

FEHR PEERS

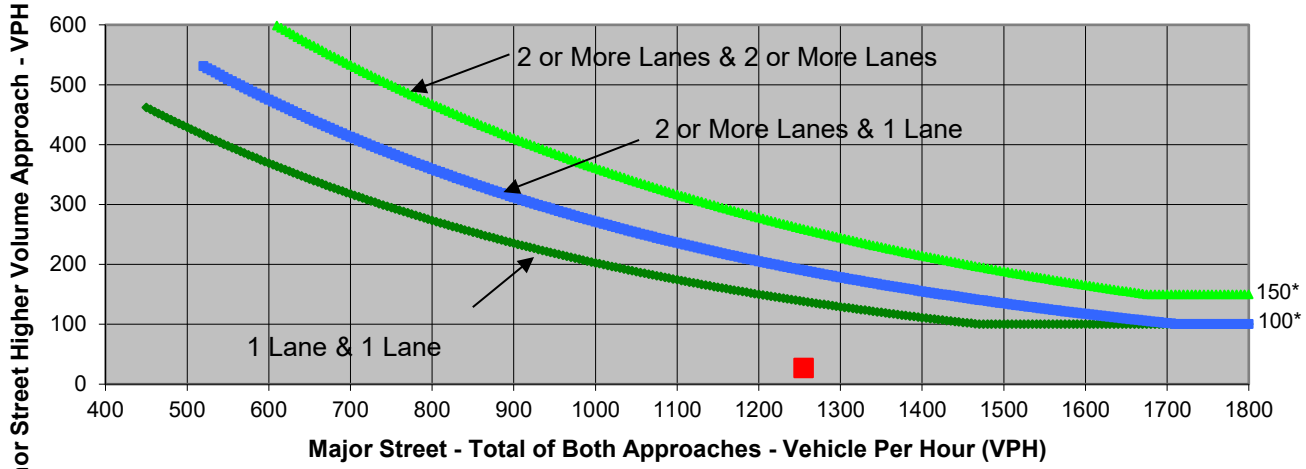
Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CP 2040 Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	22	0	1
Through	500	628	0	0
Right	104	0	0	26
Total	605	650	0	27

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,255**	**27**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CP 2040 Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	22	0	1
Through	500	628	0	0
Right	104	0	0	26
Total	605	650	0	27

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	27

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 AM	**0.1**	**27**	**1,282**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

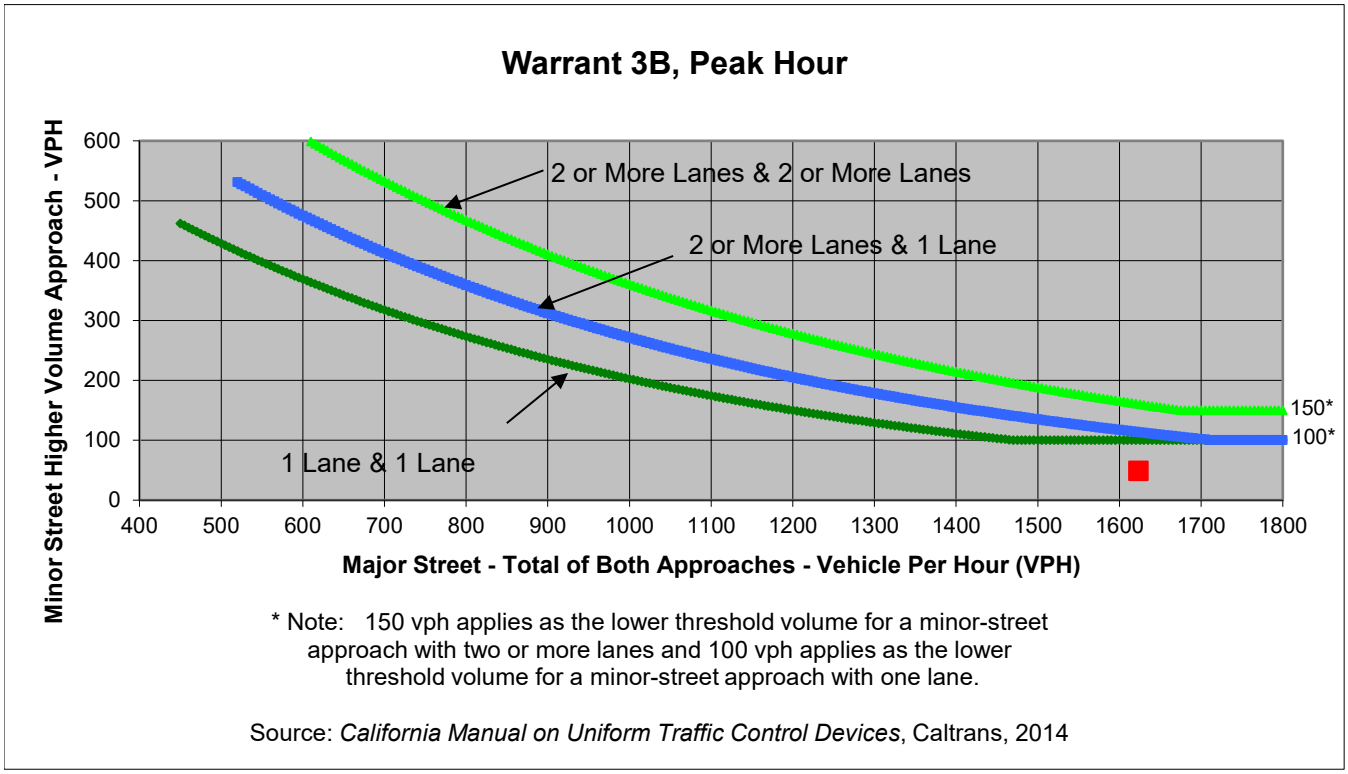
Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CP 2040 Opt1 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	39	0	28
Through	760	741	0	0
Right	83	0	0	21
Total	843	780	0	49

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,623**	**49**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2040 Opt1 PM
Minor Street	4th Pl
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	39	0	28
Through	760	741	0	0
Right	83	0	0	21
Total	843	780	0	49

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	57
Approach with Worst Case Delay	WB
Total Vehicles on Approach	49

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 PM	**0.8**	**49**	**1,672**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

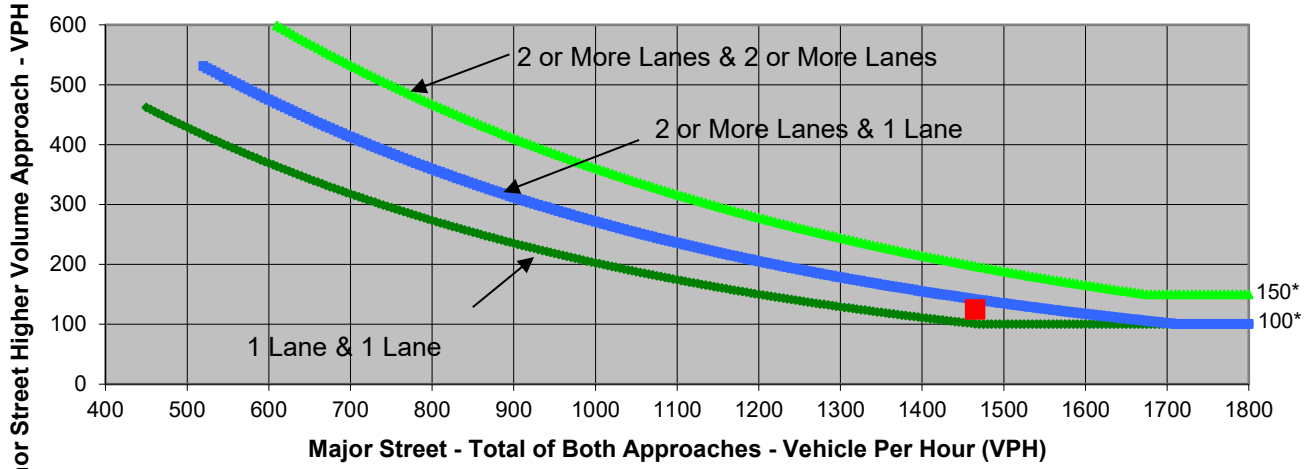
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Willow St	Scenario	CP 2040 Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	40	0	47
Through	671	659	0	0
Right	94	0	0	78
Total	766	699	0	125

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,465**	**125**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt1 AM
Peak Hour	AM

Major Street	Mateo St
Minor Street	Willow St

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	40	0	47
Through	671	659	0	0
Right	94	0	0	78
Total	766	699	0	125

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	51
Approach with Worst Case Delay	WB
Total Vehicles on Approach	125

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 AM	**1.8**	**125**	**1,590**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mateo St
Minor Street	Willow St

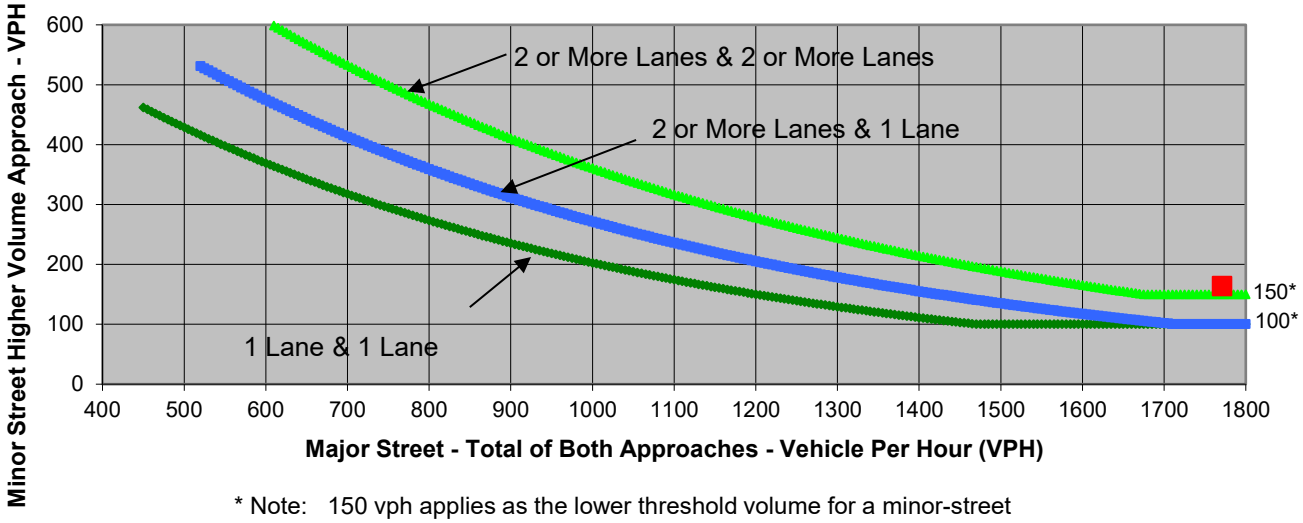
Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	23	0	67
Through	833	881	0	0
Right	34	0	0	97
Total	867	904	0	164

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,771**	**164**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM
Major Street	Mateo St
Minor Street	Willow St

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	23	0	67
Through	833	881	0	0
Right	34	0	0	97
Total	867	904	0	164

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	270.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	164

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 PM	**12.3**	**164**	**1,935**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

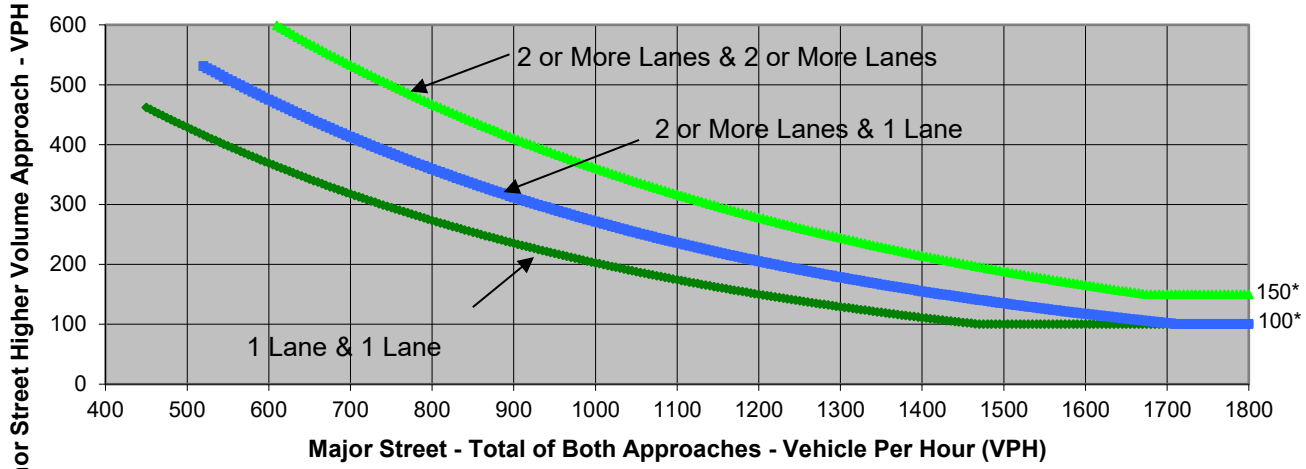
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2040 Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	343	6	77
Through	514	916	0	0
Right	162	1	3	144
Total	676	1,260	9	221

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,936**	**221**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt1 AM
Peak Hour	AM

Major Street	Mateo St
Minor Street	Jesse St

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	343	6	77
Through	514	916	0	0
Right	162	1	3	144
Total	676	1,260	9	221

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	221

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 AM	**104.4**	**221**	**2,166**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	Mateo St
Minor Street	Jesse St

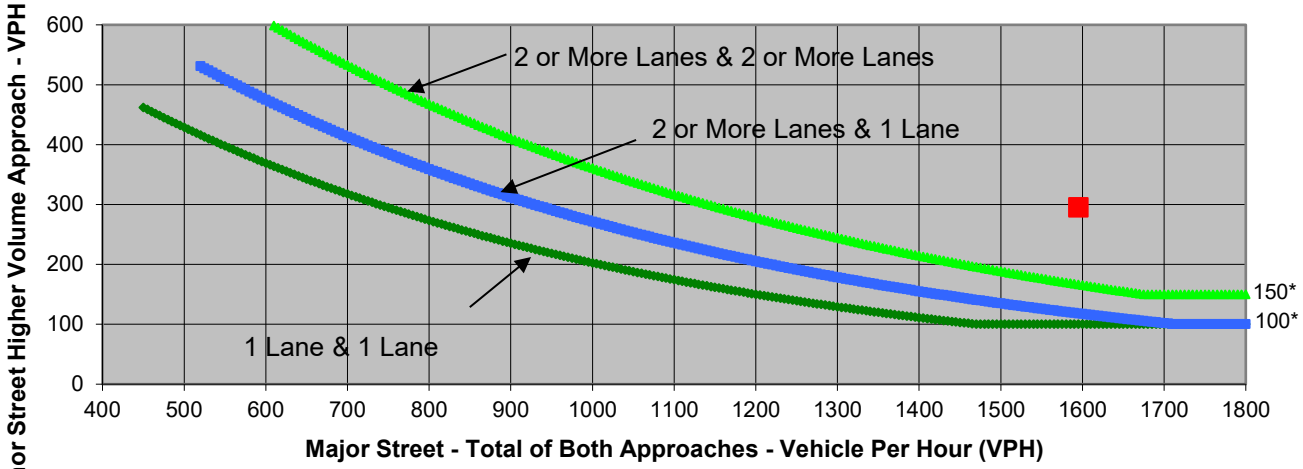
Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	171	2	137
Through	661	625	1	1
Right	123	7	3	157
Total	792	803	6	295

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,595**	**295**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM
Major Street	Mateo St
Minor Street	Jesse St

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	171	2	137
Through	661	625	1	1
Right	123	7	3	157
Total	792	803	6	295

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	295

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 PM	**139.3**	**295**	**1,896**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	E 8th St
Minor Street	I-10 Westbound ramps

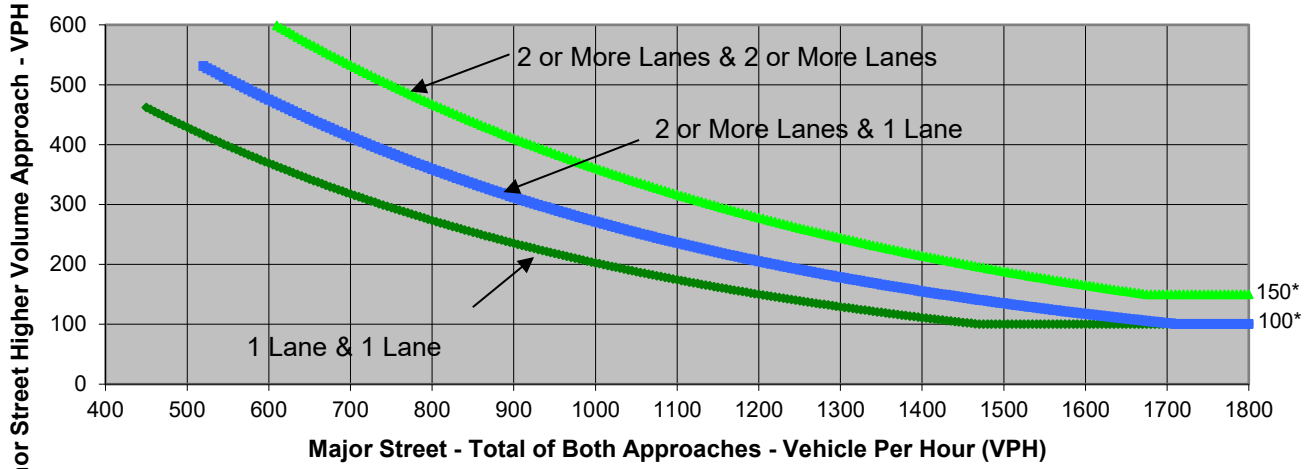
Project	670 Mesquit
Scenario	CP 2040 Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	287	0	0	613
Through	0	0	24	16
Right	547	0	458	0
Total	834	0	482	629

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,111**	**834**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CP 2040 Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	287	0	0	613
Through	0	0	24	16
Right	547	0	458	0
Total	834	0	482	629

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1132
Approach with Worst Case Delay	WB
Total Vehicles on Approach	629

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 AM	**197.8**	**834**	**1,945**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	E 8th St
Minor Street	I-10 Westbound ramps

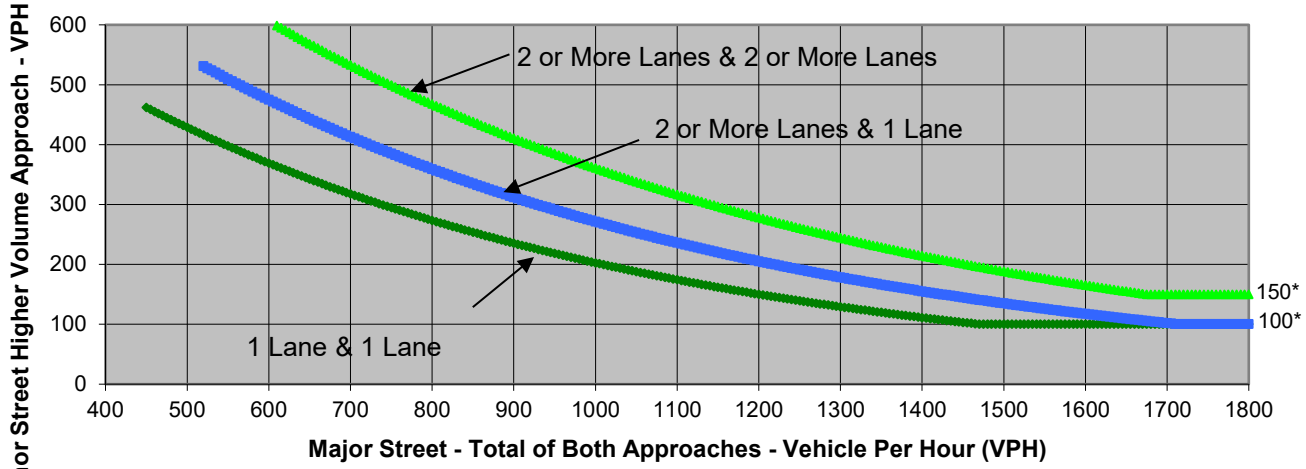
Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	308	0	0	620
Through	0	0	23	47
Right	453	0	375	0
Total	761	0	398	667

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,065**	**761**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM
Major Street	E 8th St
Minor Street	I-10 Westbound ramps

Turn Movement Volumes

	NB	SB	EB	WB
Left	308	0	0	620
Through	0	0	23	47
Right	453	0	375	0
Total	761	0	398	667

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1352.7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	667

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 PM	**250.6**	**761**	**1,826**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	Porter St
Minor Street	I-10 Eastbound ramps

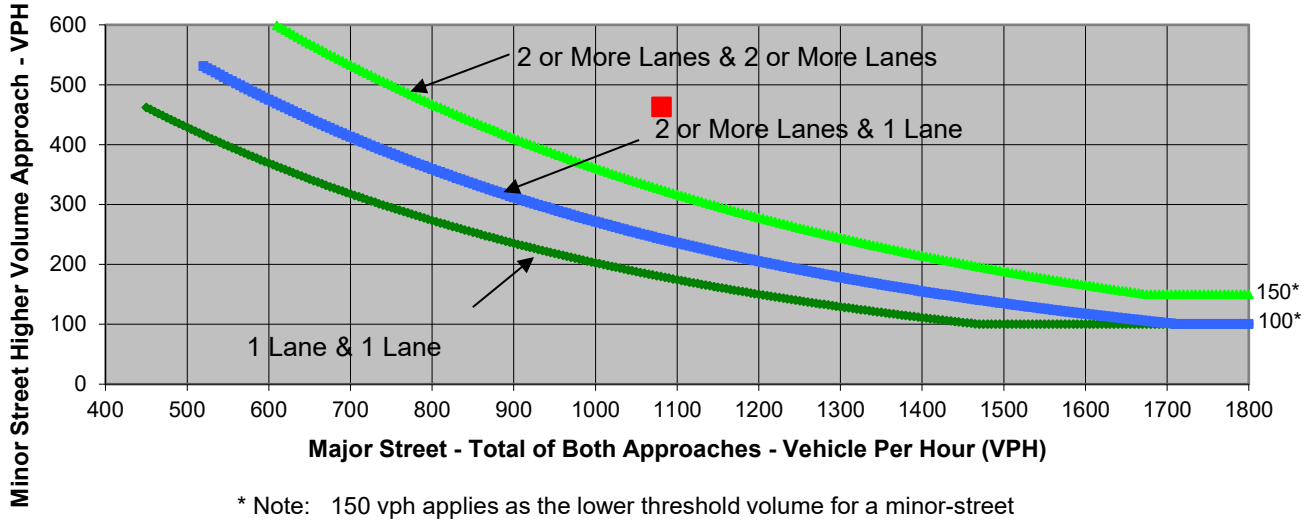
Project	670 Mesquit
Scenario	CP 2040 Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	822	179	0
Through	0	0	94	21
Right	1	258	3	442
Total	1	1,080	276	463

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,081**	**463**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt1 AM
Peak Hour	AM

Major Street	Porter St
Minor Street	I-10 Eastbound ramps

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	822	179	0
Through	0	0	94	21
Right	1	258	3	442
Total	1	1,080	276	463

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	142
Approach with Worst Case Delay	WB
Total Vehicles on Approach	463

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 AM	**18.3**	**463**	**1,820**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	Porter St
Minor Street	I-10 Eastbound ramps

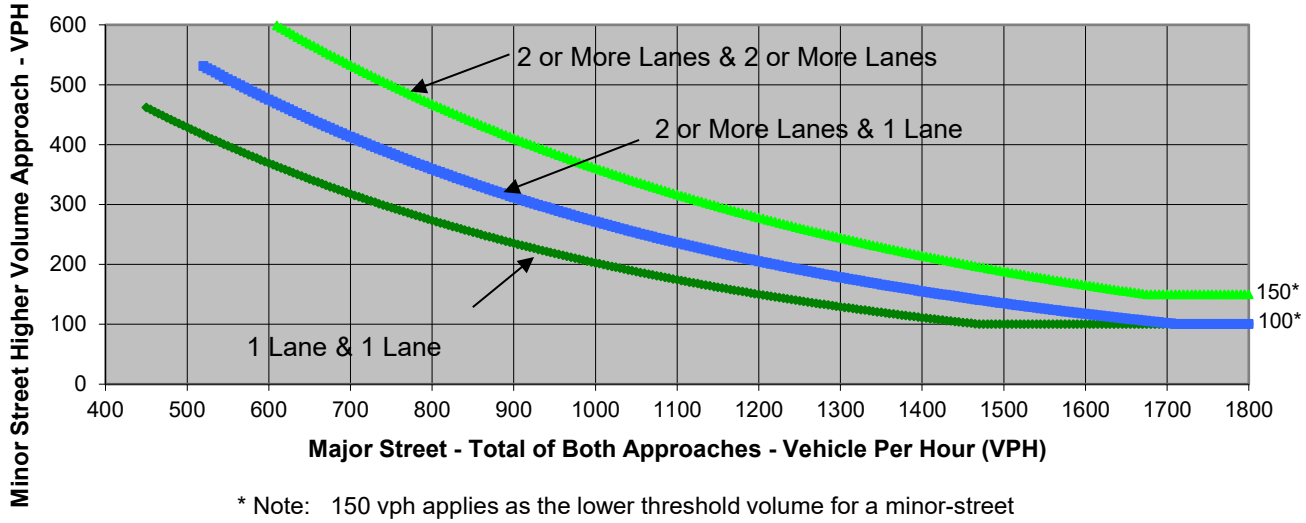
Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	503	280	0
Through	3	0	112	22
Right	0	150	4	714
Total	5	653	396	736

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,132**	**653**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM
Major Street	Porter St
Minor Street	I-10 Eastbound ramps

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	503	280	0
Through	3	0	112	22
Right	0	150	4	714
Total	5	653	396	736

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	195.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	736

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 PM	**40.1**	**653**	**1,790**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Willow St

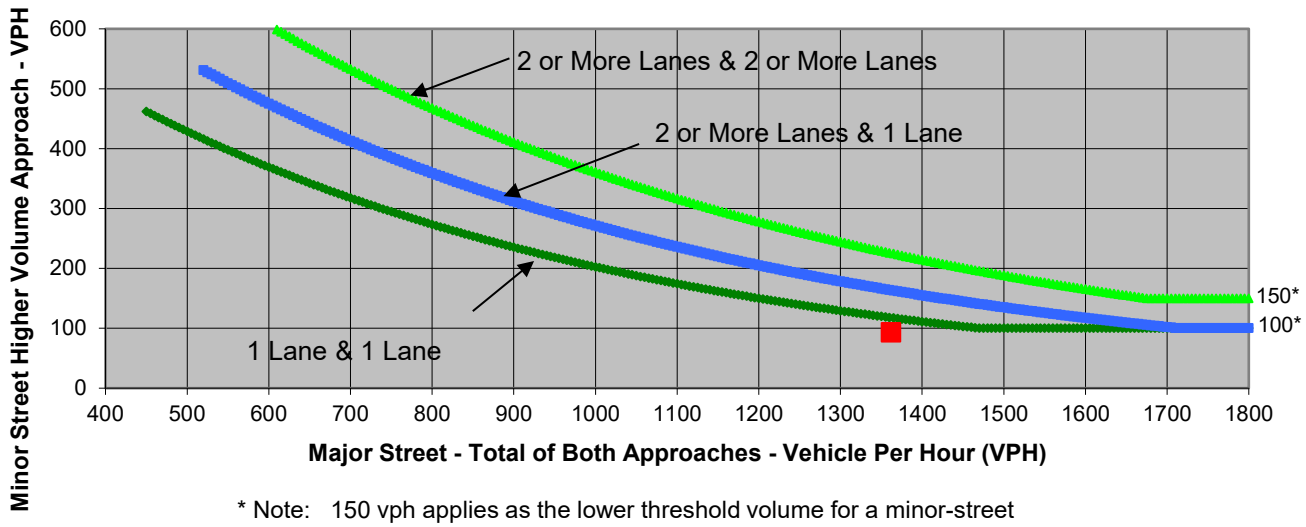
Project	670 Mesquit
Scenario	CP 2040 Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	83	0	45	0
Through	776	491	0	0
Right	0	12	48	0
Total	859	503	93	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,362**	**93**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CP 2040 Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	83	0	45	0
Through	776	491	0	0
Right	0	12	48	0
Total	859	503	93	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	43.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 AM	**0**	**93**	**1,455**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

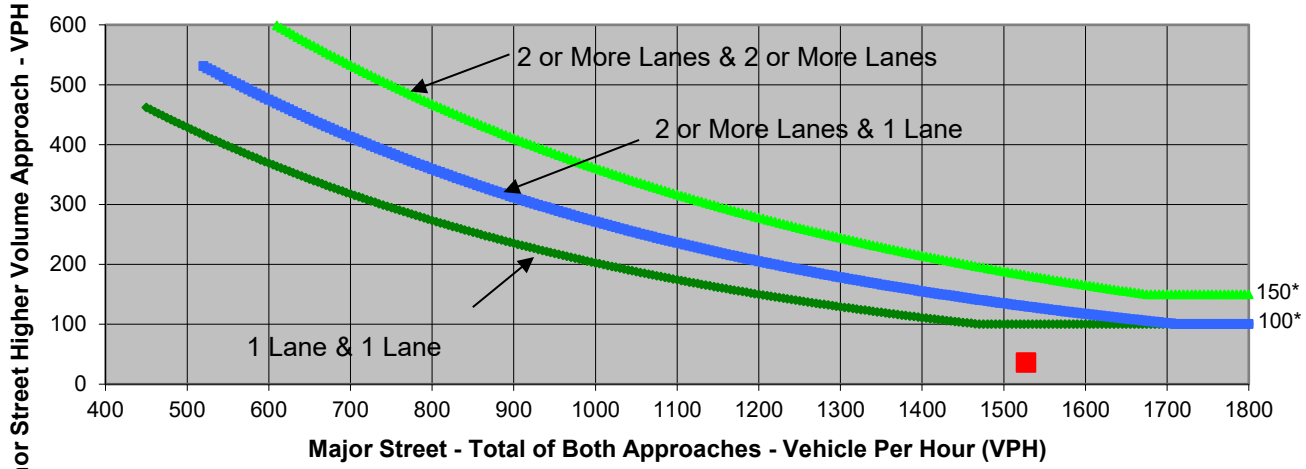
Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CP 2040 Opt1 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	108	1	22	0
Through	802	576	0	0
Right	0	40	14	0
Total	910	617	36	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,527**	**36**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2040 Opt1 PM
Minor Street	Willow St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	108	1	22	0
Through	802	576	0	0
Right	0	40	14	0
Total	910	617	36	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	62.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 PM	**0**	**36**	**1,563**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Mesquit St

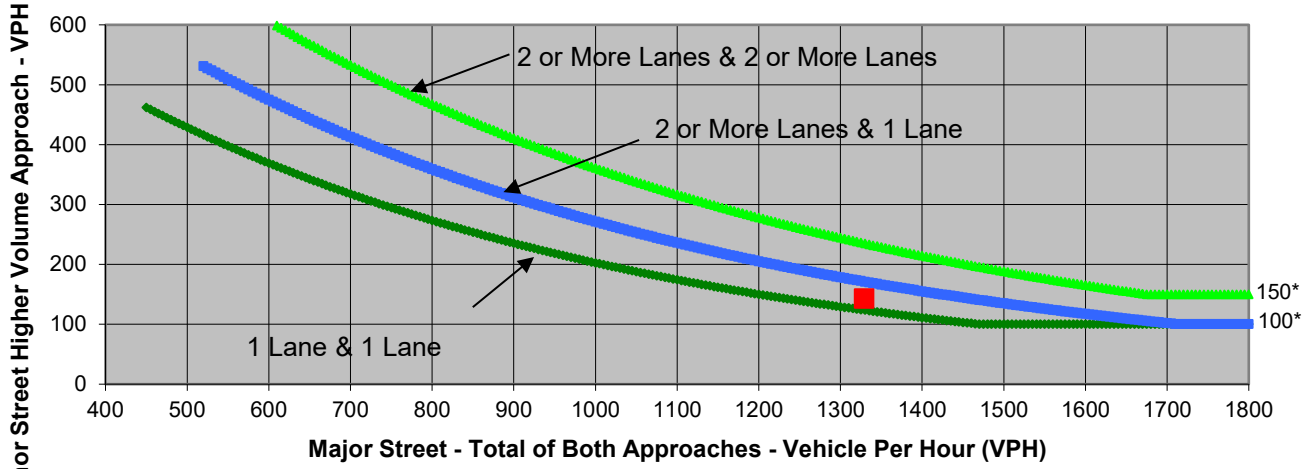
Project	670 Mesquit
Scenario	CP 2040 Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	63	7	29
Through	769	493	99	0
Right	4	0	35	114
Total	773	556	141	143

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,329**	**143**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt1 AM
Peak Hour	AM

Major Street	S Santa Fe Ave
Minor Street	Mesquit St

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	63	7	29
Through	769	493	99	0
Right	4	0	35	114
Total	773	556	141	143

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	142.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	143

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 AM	**5.7**	**143**	**1,613**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Mesquit St

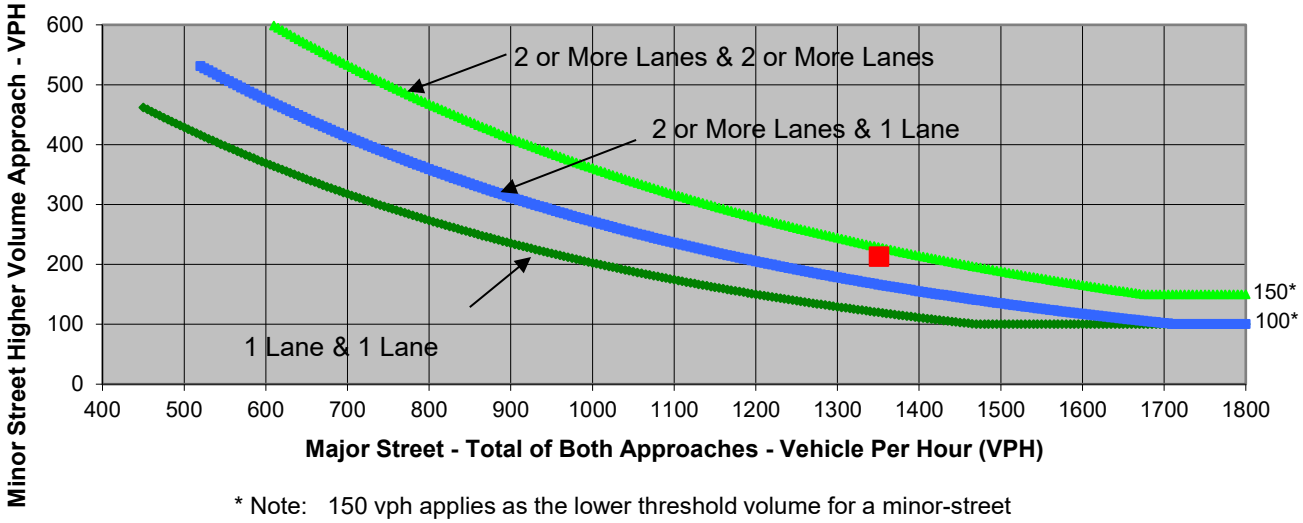
Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	58	0	36
Through	749	537	86	0
Right	5	2	18	177
Total	754	597	104	213

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,351**	**213**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2040 Opt1 PM
Minor Street	Mesquit St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	58	0	36
Through	749	537	86	0
Right	5	2	18	177
Total	754	597	104	213

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	147.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	213

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 PM	**8.7**	**213**	**1,668**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Jesse St

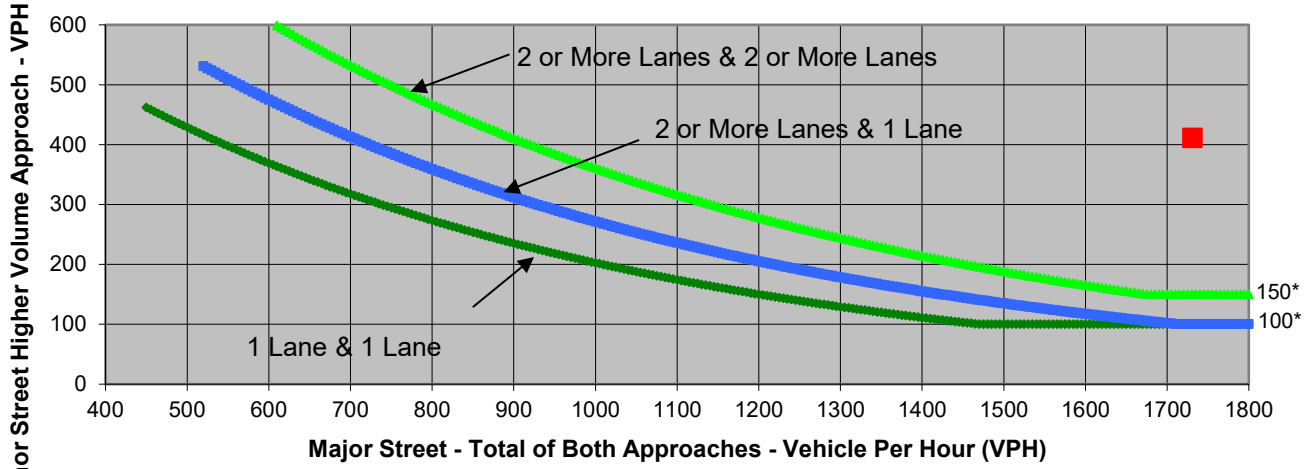
Project	670 Mesquit
Scenario	CP 2040 Opt1 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	81	59	13	74
Through	748	457	329	131
Right	341	45	69	19
Total	1,170	561	411	224

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,731**	**411**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2040 Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	81	59	13	74
Through	748	457	329	131
Right	341	45	69	19
Total	1,170	561	411	224

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	224

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 AM	**105.8**	**411**	**2,366**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Jesse St

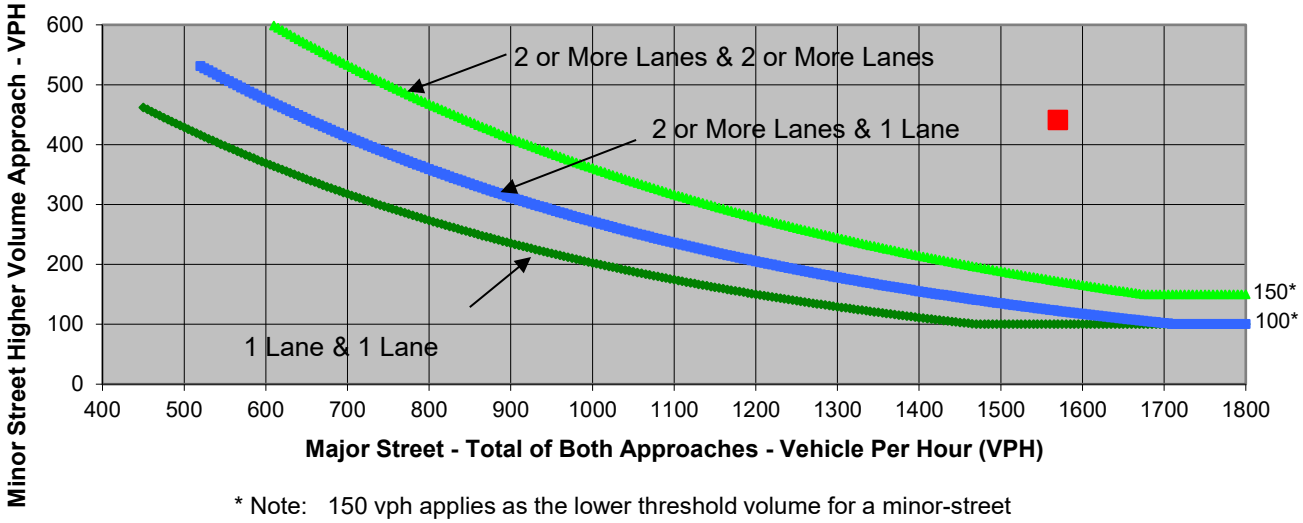
Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	64	32	169
Through	714	474	292	252
Right	245	61	76	20
Total	971	599	400	441

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,570**	**441**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2040 Opt1 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	64	32	169
Through	714	474	292	252
Right	245	61	76	20
Total	971	599	400	441

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	441

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 PM	**208.3**	**441**	**2,411**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

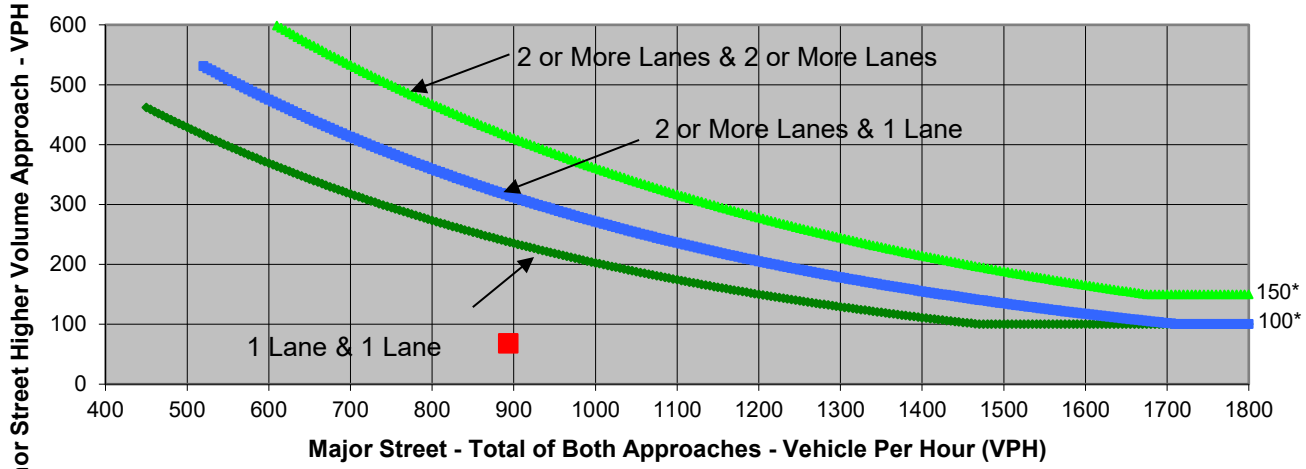
Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2040 Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	56	94	0
Through	0	0	610	175
Right	0	12	0	14
Total	0	68	704	189

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**893**	**68**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt1 AM
Peak Hour	AM

Major Street	Mesquit St
Minor Street	Jesse St

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	56	94	0
Through	0	0	610	175
Right	0	12	0	14
Total	0	68	704	189

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	72.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	189

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 AM	**3.8**	**68**	**961**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

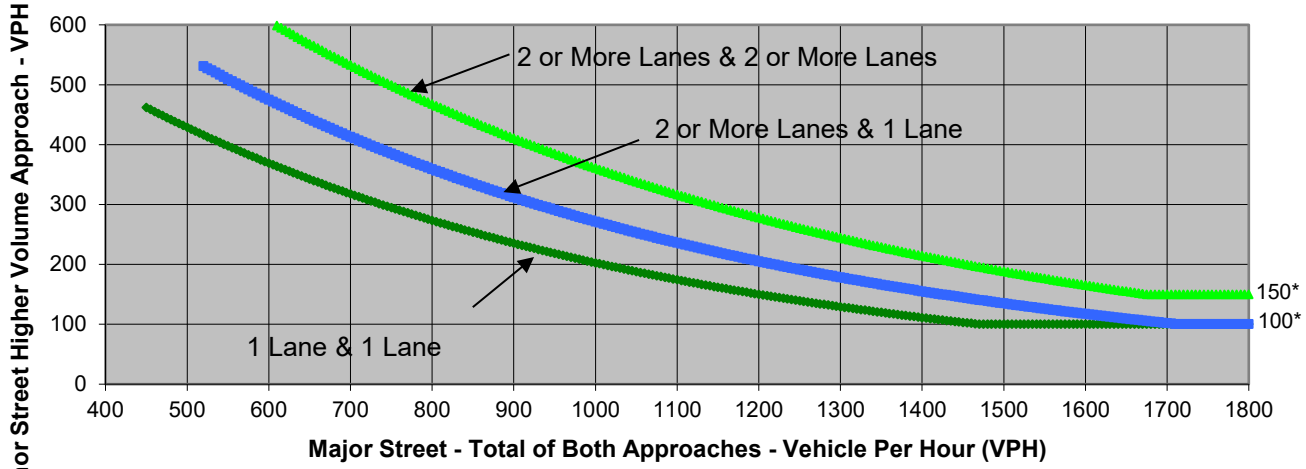
Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2040 Opt1 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	50	95	0
Through	0	0	486	390
Right	0	22	0	26
Total	0	72	581	416

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**72**	**581**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt1 PM
Peak Hour	PM
Major Street	Mesquit St
Minor Street	Jesse St

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	50	95	0
Through	0	0	486	390
Right	0	22	0	26
Total	0	72	581	416

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	89.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	416

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 PM	**10.3**	**581**	**1,069**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

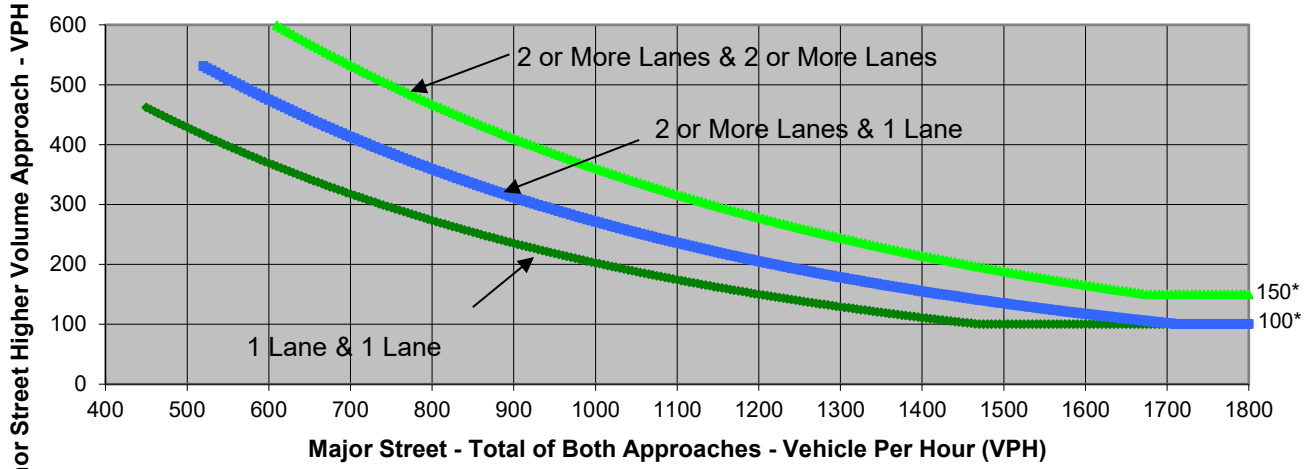
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CP 2040 Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	0	2
Through	0	0	432	2,224
Right	0	308	352	0
Total	0	323	784	2,226

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**3,010**	**323**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CP 2040 Opt1 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	0	2
Through	0	0	432	2,224
Right	0	308	352	0
Total	0	323	784	2,226

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	498.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	2,226

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 AM	**308**	**323**	**3,333**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

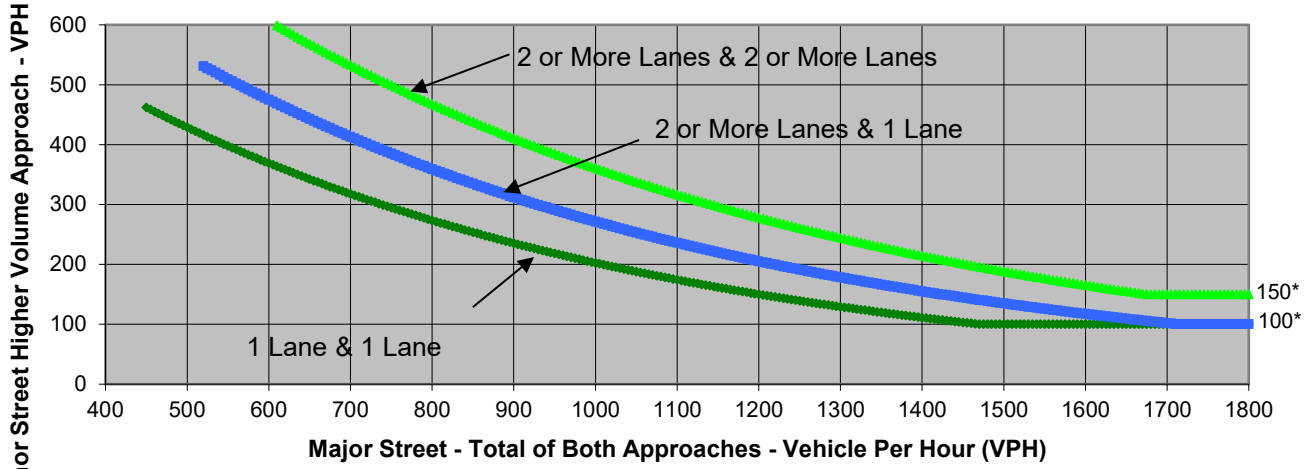
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CP 2040 Opt1 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	72	0	1
Through	0	0	1,178	1,143
Right	0	197	414	0
Total	0	269	1,592	1,144

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,736**	**269**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	7th St
Scenario	CP 2040 Opt1 PM
Minor Street	US-101 Southbound ramps
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	72	0	1
Through	0	0	1,178	1,143
Right	0	197	414	0
Total	0	269	1,592	1,144

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	104.7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	1,144

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt1 PM	**33.3**	**269**	**3,005**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

CUMULATIVE PLUS PROJECT (2040) – OPTION 2

SIGNAL WARRANT WORKSHEETS

FEHR PEERS

Major Street	Mateo St
Minor Street	4th Pl

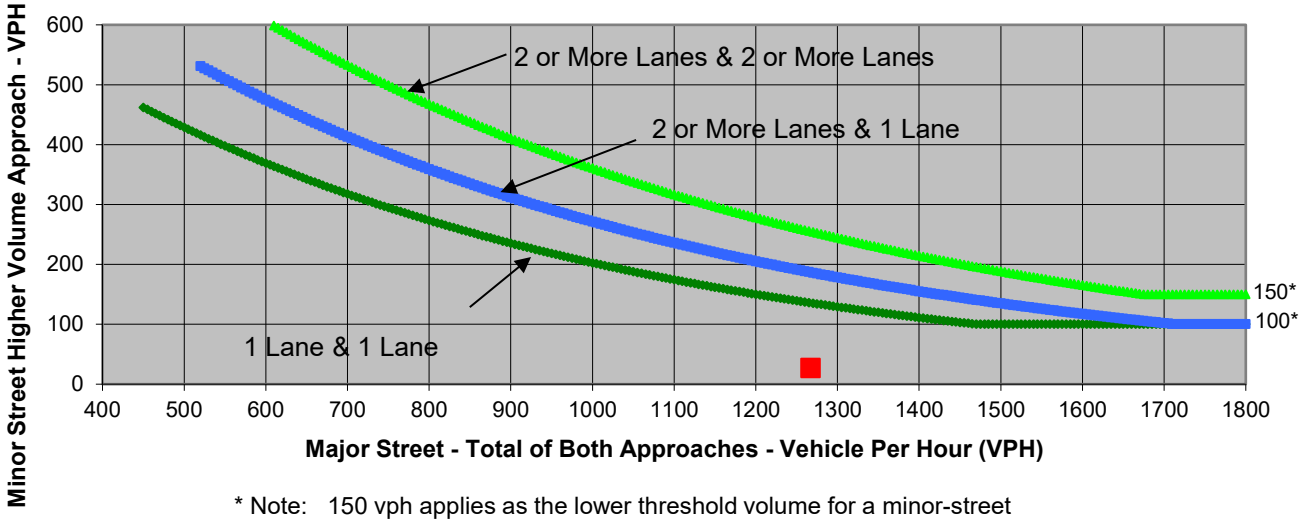
Project	670 Mesquit
Scenario	CP 2040 Opt2 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	22	0	1
Through	505	633	0	0
Right	106	0	0	26
Total	612	655	0	27

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,267**	**27**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mateo St	Project	670 Mesquit
Minor Street	4th Pl	Scenario	CP 2040 Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	22	0	1
Through	505	633	0	0
Right	106	0	0	26
Total	612	655	0	27

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	13.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	27

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 AM	**0.1**	**27**	**1,294**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mateo St
Minor Street	4th Pl

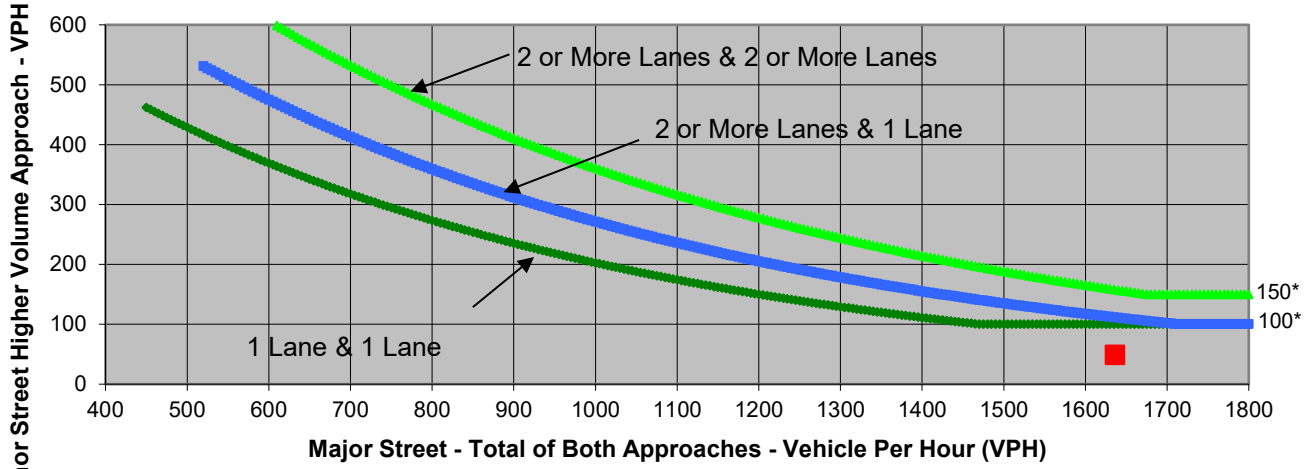
Project	670 Mesquit
Scenario	CP 2040 Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	39	0	28
Through	765	746	0	0
Right	86	0	0	21
Total	851	785	0	49

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	4th Pl	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,636**	**49**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2040 Opt2 PM
Minor Street	4th Pl
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	39	0	28
Through	765	746	0	0
Right	86	0	0	21
Total	851	785	0	49

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	57
Approach with Worst Case Delay	WB
Total Vehicles on Approach	49

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 PM	**0.8**	**49**	**1,685**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mateo St
Minor Street	Willow St

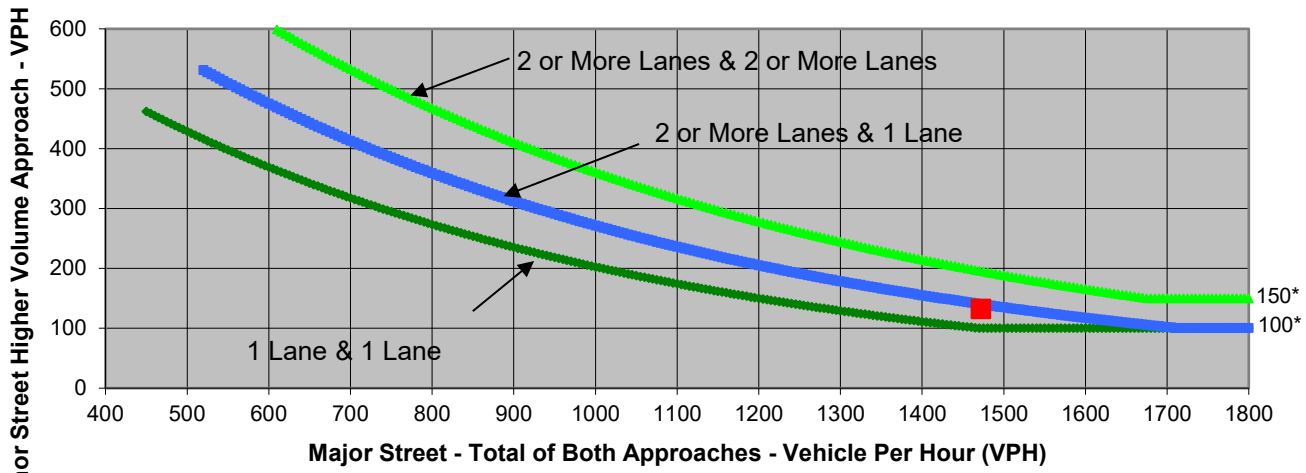
Project	670 Mesquit
Scenario	CP 2040 Opt2 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	40	0	49
Through	673	664	0	0
Right	94	0	0	83
Total	768	704	0	132

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,472**	**132**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	Mateo St
Scenario	CP 2040 Opt2 AM
Minor Street	Willow St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	1	40	0	49
Through	673	664	0	0
Right	94	0	0	83
Total	768	704	0	132

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	51
Approach with Worst Case Delay	WB
Total Vehicles on Approach	132

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 AM	**1.9**	**132**	**1,604**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mateo St
Minor Street	Willow St

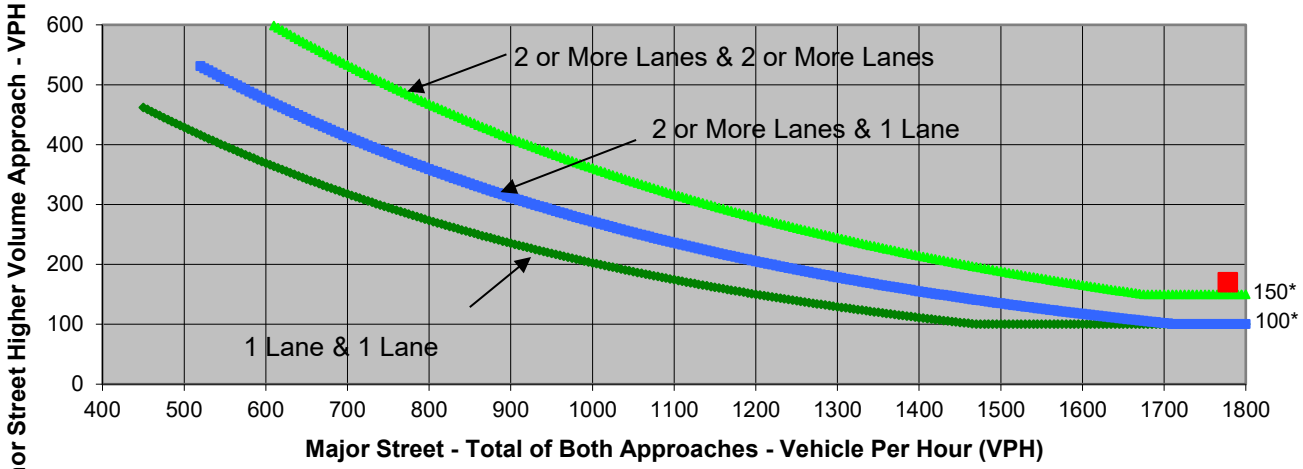
Project	670 Mesquit
Scenario	CP 2040 Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	23	0	68
Through	835	886	0	0
Right	34	0	0	102
Total	869	909	0	170

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Willow St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,778**	**170**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt2 PM
Peak Hour	PM
Major Street	Mateo St
Minor Street	Willow St

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	23	0	68
Through	835	886	0	0
Right	34	0	0	102
Total	869	909	0	170

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	270.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	170

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 PM	**12.8**	**170**	**1,948**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	Mateo St
Minor Street	Jesse St

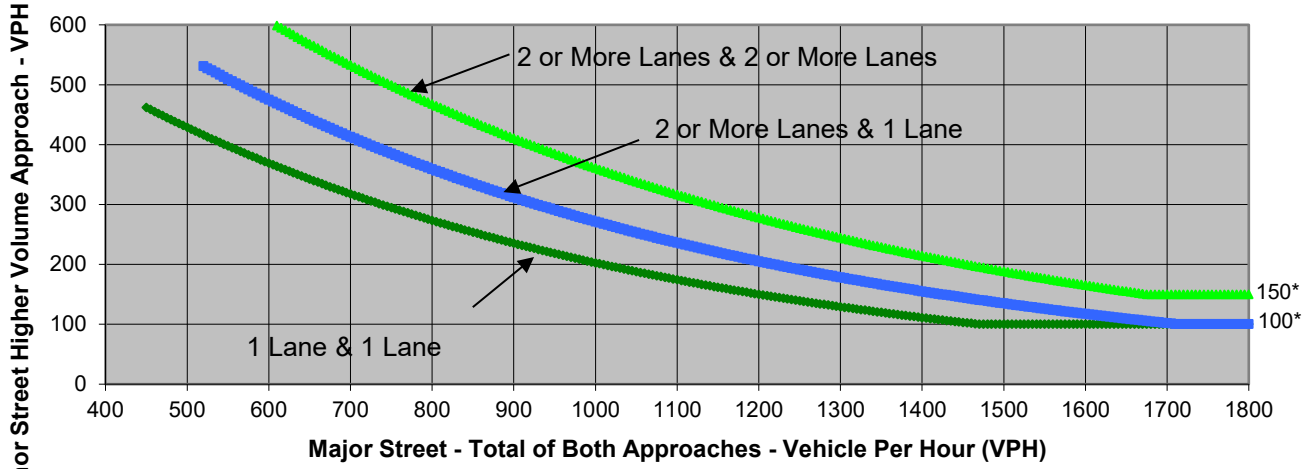
Project	670 Mesquit
Scenario	CP 2040 Opt2 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	354	6	85
Through	517	916	0	0
Right	169	1	3	153
Total	686	1,271	9	238

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,957**	**238**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt2 AM
Peak Hour	AM

Major Street	Mateo St
Minor Street	Jesse St

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	354	6	85
Through	517	916	0	0
Right	169	1	3	153
Total	686	1,271	9	238

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	238

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 AM	**112.4**	**238**	**2,204**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

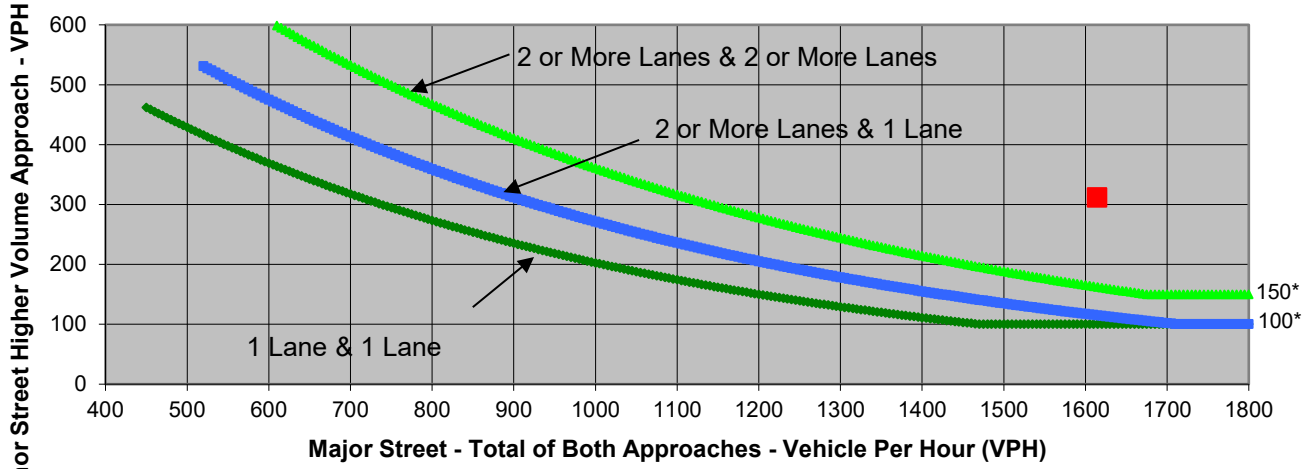
Major Street	Mateo St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2040 Opt2 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	182	2	144
Through	664	625	1	1
Right	128	7	3	167
Total	800	814	6	312

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mateo St	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,614**	**312**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt2 PM
Peak Hour	PM
Major Street	Mateo St
Minor Street	Jesse St

Turn Movement Volumes

	NB	SB	EB	WB
Left	8	182	2	144
Through	664	625	1	1
Right	128	7	3	167
Total	800	814	6	312

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	312

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 PM	**147.3**	**312**	**1,932**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

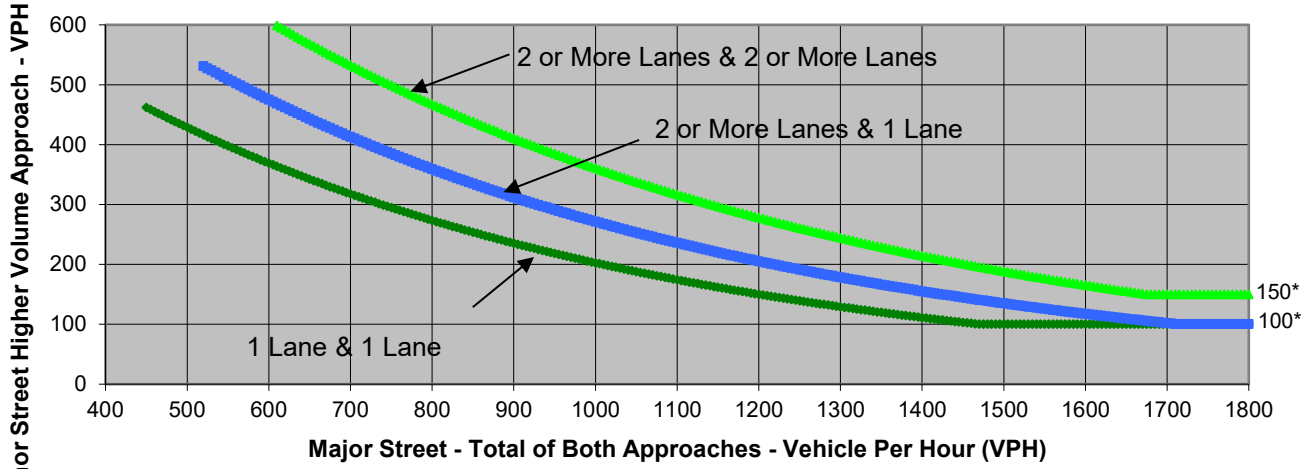
Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CP 2040 Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	287	0	0	613
Through	0	0	24	16
Right	547	0	458	0
Total	834	0	482	629

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,111**	**834**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CP 2040 Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	287	0	0	613
Through	0	0	24	16
Right	547	0	458	0
Total	834	0	482	629

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1132
Approach with Worst Case Delay	WB
Total Vehicles on Approach	629

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 AM	**197.8**	**834**	**1,945**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

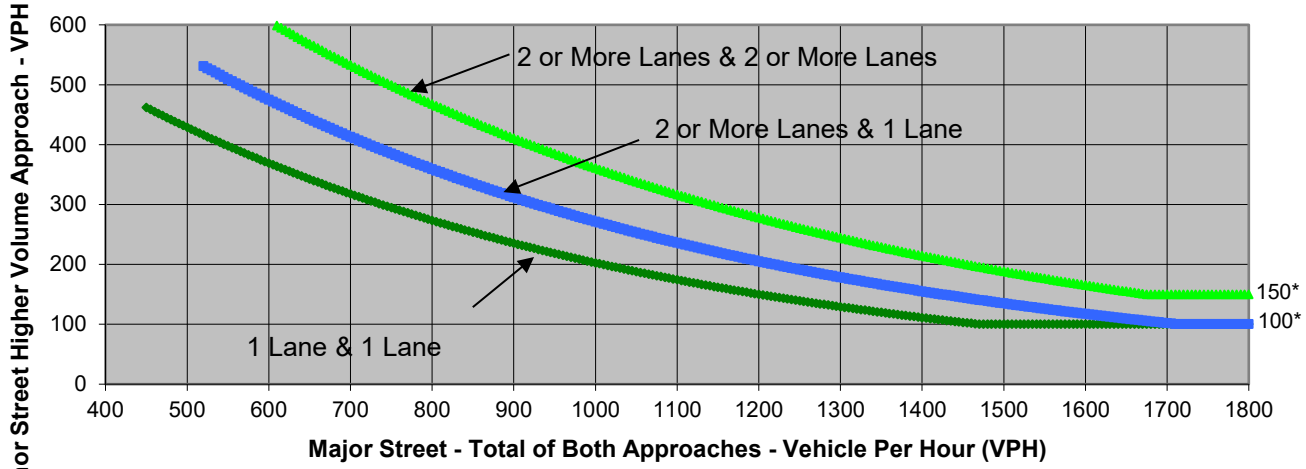
Major Street	E 8th St	Project	670 Mesquit
Minor Street	I-10 Westbound ramps	Scenario	CP 2040 Opt2 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	308	0	0	620
Through	0	0	23	47
Right	453	0	375	0
Total	761	0	398	667

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	E 8th St	I-10 Westbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,065**	**761**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	E 8th St
Scenario	CP 2040 Opt2 PM
Minor Street	I-10 Westbound ramps
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	308	0	0	620
Through	0	0	23	47
Right	453	0	375	0
Total	761	0	398	667

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1352.7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	667

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 PM	**250.6**	**761**	**1,826**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

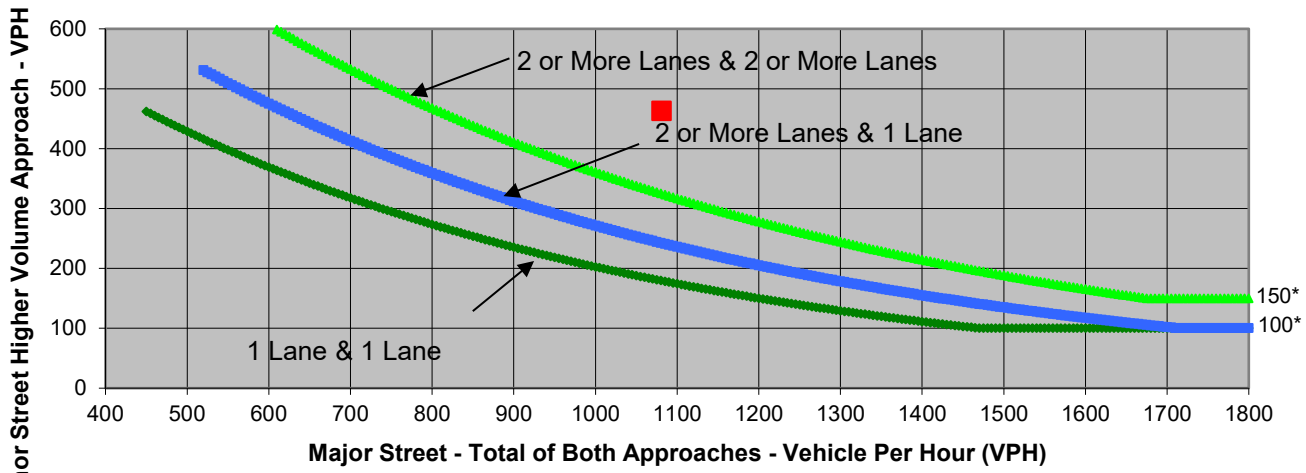
Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	CP 2040 Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	822	179	0
Through	0	0	94	21
Right	1	258	3	442
Total	1	1,080	276	463

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,081**	**463**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt2 AM
Peak Hour	AM
Major Street	Porter St
Minor Street	I-10 Eastbound ramps

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	822	179	0
Through	0	0	94	21
Right	1	258	3	442
Total	1	1,080	276	463

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	142
Approach with Worst Case Delay	WB
Total Vehicles on Approach	463

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 AM	**18.3**	**463**	**1,820**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

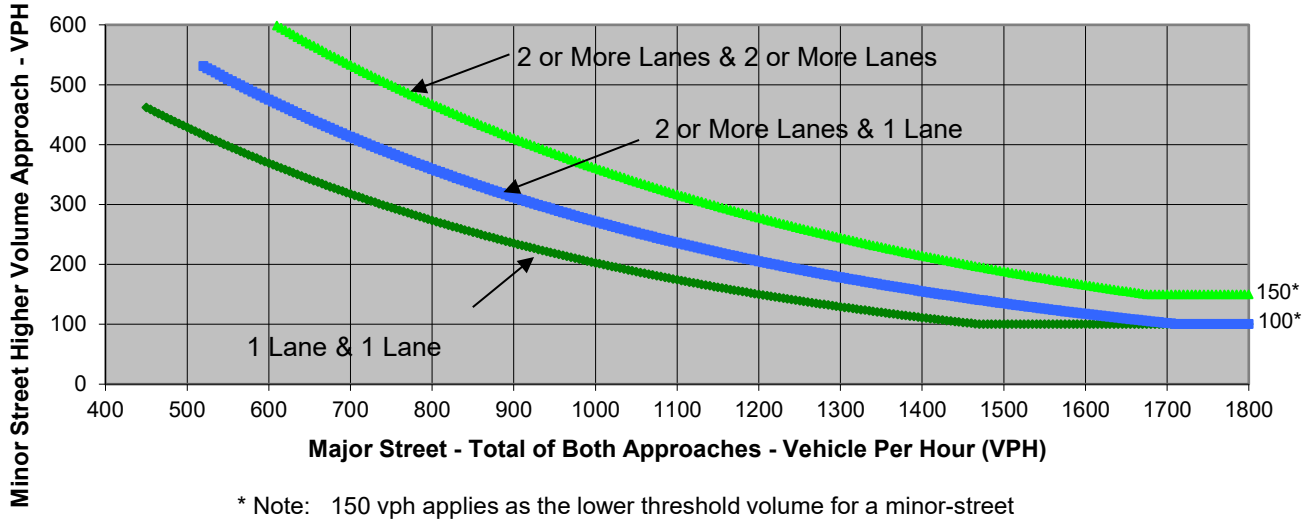
Major Street	Porter St	Project	670 Mesquit
Minor Street	I-10 Eastbound ramps	Scenario	CP 2040 Opt2 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	503	280	0
Through	3	0	112	22
Right	0	150	4	714
Total	5	653	396	736

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Porter St	I-10 Eastbound ramps	
Number of Approach Lanes	**1**	**2**	**YES**
Traffic Volume (VPH) *	**1,132**	**653**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Scenario	CP 2040 Opt2 PM
Peak Hour	PM
Major Street	Porter St
Minor Street	I-10 Eastbound ramps

Turn Movement Volumes

	NB	SB	EB	WB
Left	2	503	280	0
Through	3	0	112	22
Right	0	150	4	714
Total	5	653	396	736

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	195.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	736

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 PM	**40.1**	**653**	**1,790**
Limiting Value	**5**	**150**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Willow St

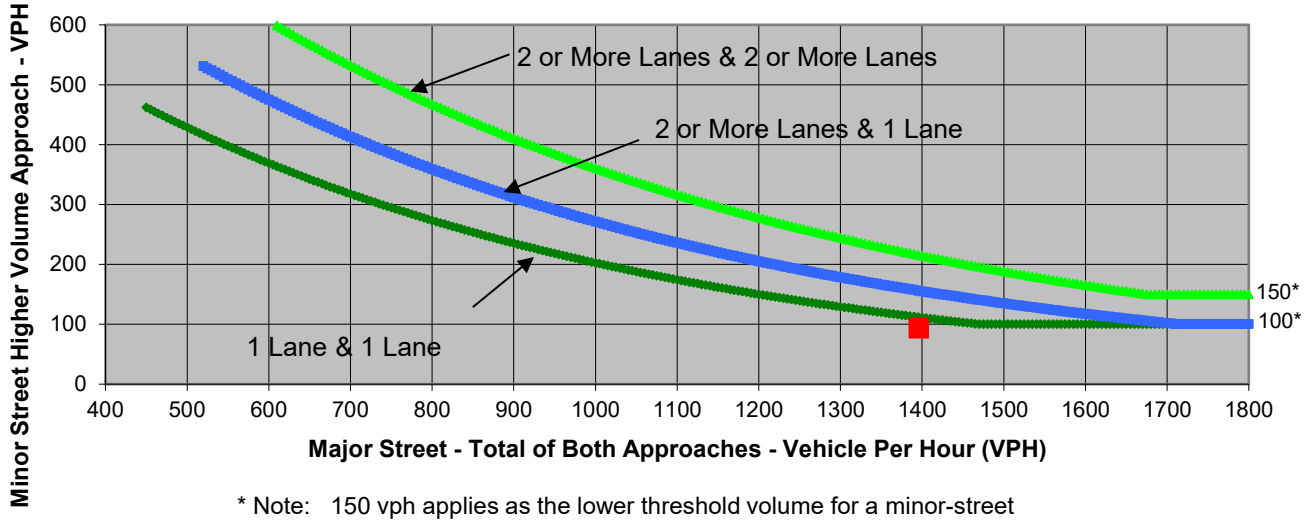
Project	670 Mesquit
Scenario	CP 2040 Opt2 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	89	0	45	0
Through	790	505	0	0
Right	0	12	48	0
Total	879	517	93	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,396**	**93**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Willow St	Scenario	CP 2040 Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	89	0	45	0
Through	790	505	0	0
Right	0	12	48	0
Total	879	517	93	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	43.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 AM	**0**	**93**	**1,489**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Willow St

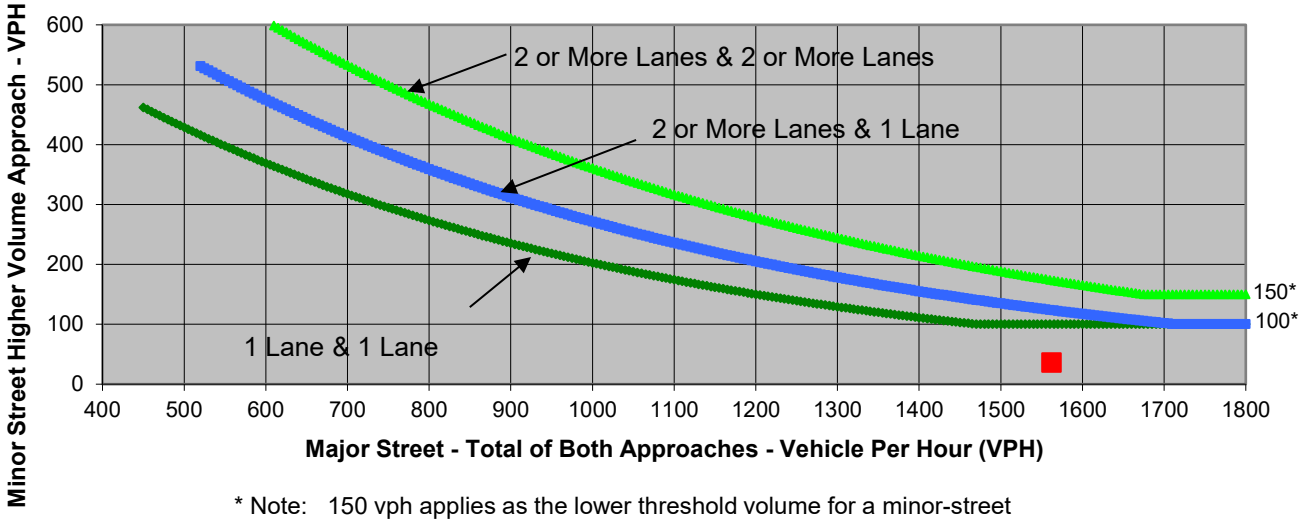
Project	670 Mesquit
Scenario	CP 2040 Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	114	1	22	0
Through	818	589	0	0
Right	0	40	14	0
Total	932	630	36	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Willow St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**1,562**	**36**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2040 Opt2 PM
Minor Street	Willow St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	114	1	22	0
Through	818	589	0	0
Right	0	40	14	0
Total	932	630	36	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	62.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 PM	**0**	**36**	**1,598**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Mesquit St

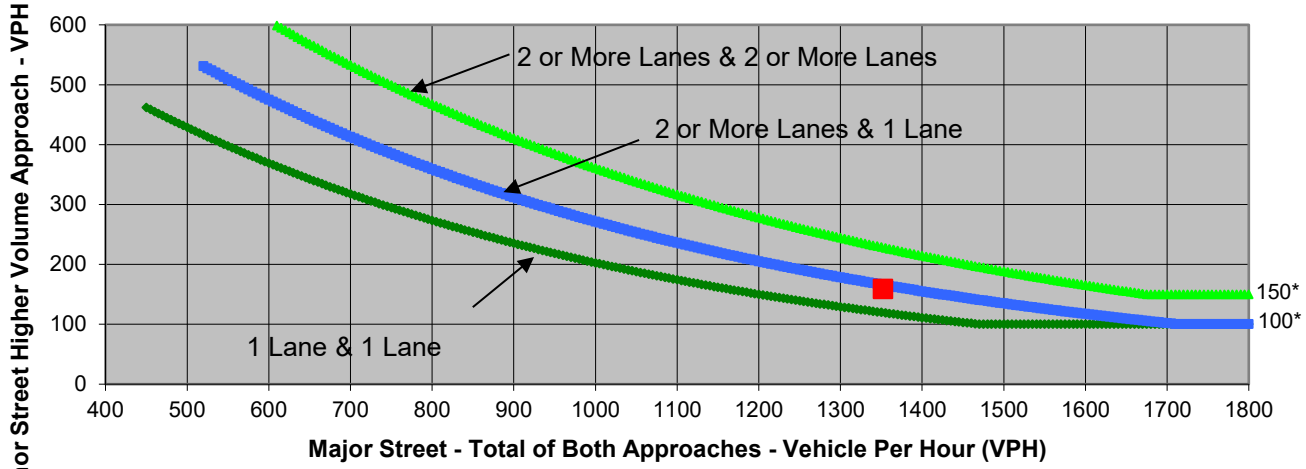
Project	670 Mesquit
Scenario	CP 2040 Opt2 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	71	7	32
Through	777	499	107	0
Right	5	0	36	127
Total	782	570	150	159

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,352**	**159**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2040 Opt2 AM
Minor Street	Mesquit St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	71	7	32
Through	777	499	107	0
Right	5	0	36	127
Total	782	570	150	159

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	142.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	159

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 AM	**6.3**	**159**	**1,661**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Mesquit St

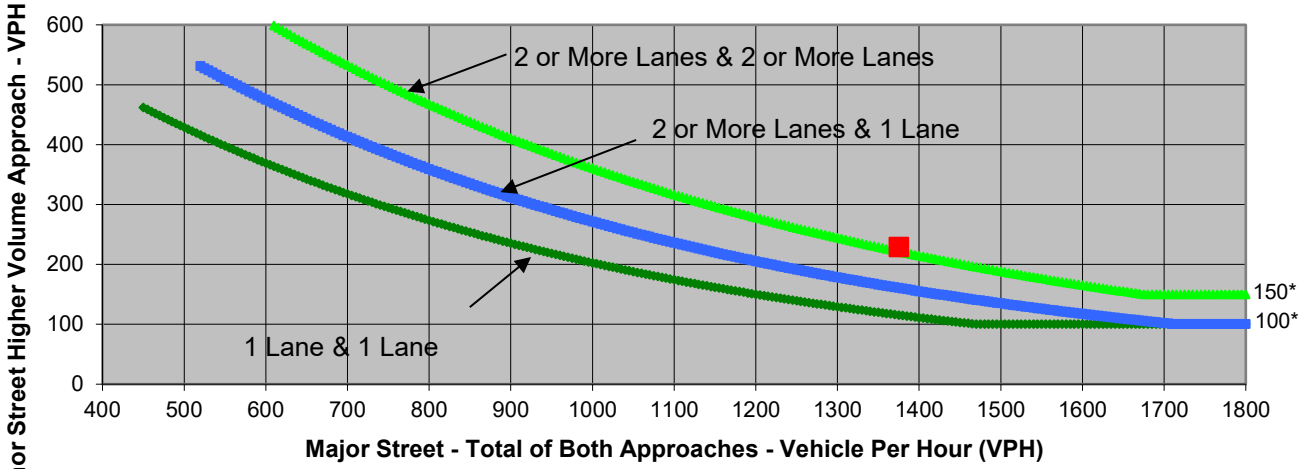
Project	670 Mesquit
Scenario	CP 2040 Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	67	0	39
Through	757	543	94	0
Right	6	2	19	190
Total	763	612	113	229

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Mesquit St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,375**	**229**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2040 Opt2 PM
Minor Street	Mesquit St
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	67	0	39
Through	757	543	94	0
Right	6	2	19	190
Total	763	612	113	229

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	147.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	229

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 PM	**9.4**	**229**	**1,717**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Jesse St

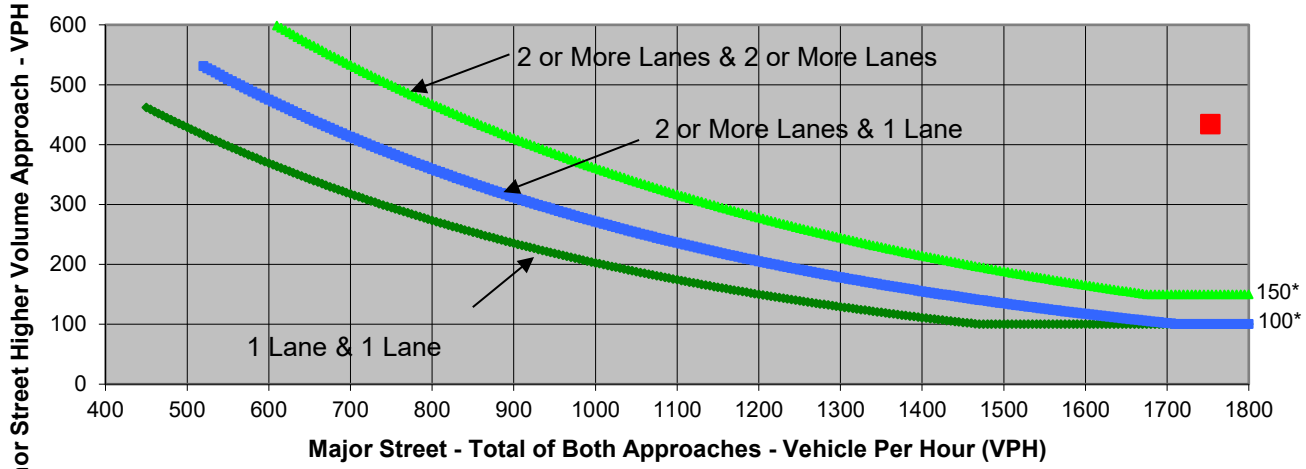
Project	670 Mesquit
Scenario	CP 2040 Opt2 AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	81	65	13	76
Through	752	458	352	151
Right	350	47	69	24
Total	1,183	570	434	251

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,753**	**434**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	S Santa Fe Ave
Scenario	CP 2040 Opt2 AM
Minor Street	Jesse St
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	81	65	13	76
Through	752	458	352	151
Right	350	47	69	24
Total	1,183	570	434	251

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	251

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 AM	**118.5**	**434**	**2,438**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	S Santa Fe Ave
Minor Street	Jesse St

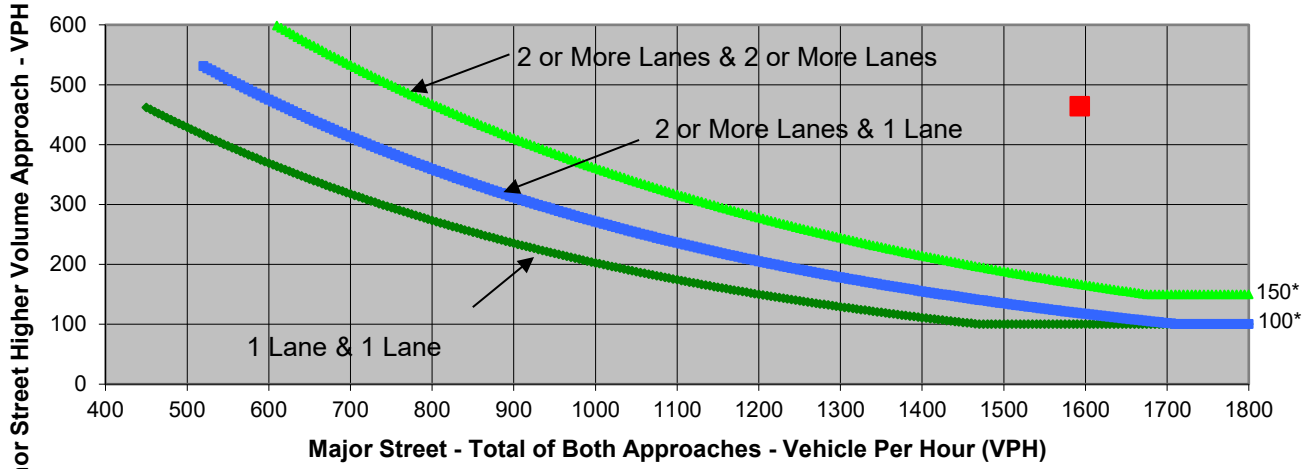
Project	670 Mesquit
Scenario	CP 2040 Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	70	32	170
Through	718	475	316	270
Right	255	63	76	24
Total	985	608	424	464

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	S Santa Fe Ave	Jesse St	
Number of Approach Lanes	**1**	**1**	**YES**
Traffic Volume (VPH) *	**1,593**	**464**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	S Santa Fe Ave	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2040 Opt2 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	12	70	32	170
Through	718	475	316	270
Right	255	63	76	24
Total	985	608	424	464

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1700
Approach with Worst Case Delay	WB
Total Vehicles on Approach	464

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 PM	**219.1**	**464**	**2,481**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

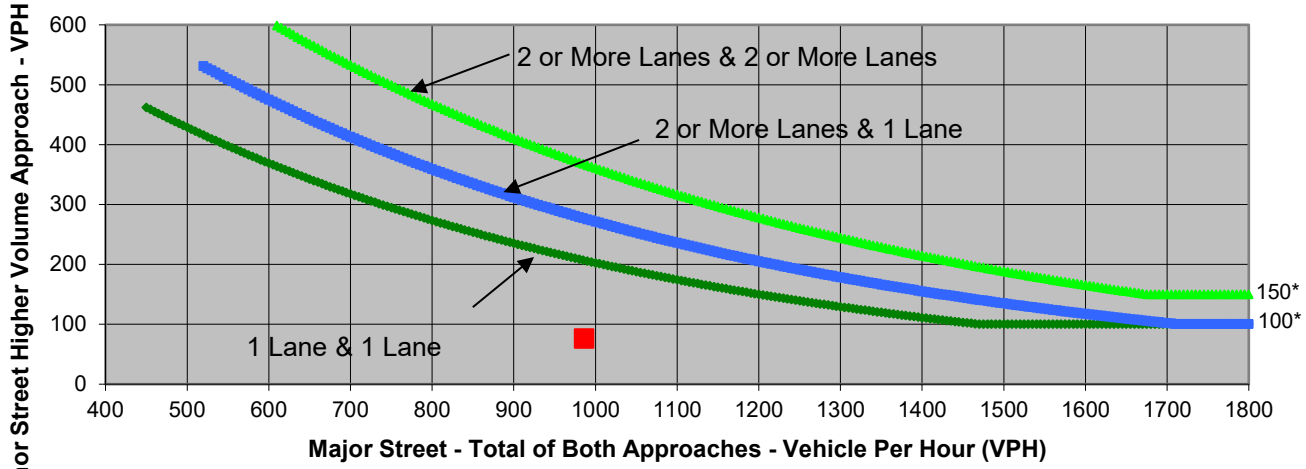
Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2040 Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	62	98	0
Through	3	1	644	200
Right	0	13	29	15
Total	27	76	771	215

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**986**	**76**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2040 Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	62	98	0
Through	3	1	644	200
Right	0	13	29	15
Total	27	76	771	215

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	72.9
Approach with Worst Case Delay	WB
Total Vehicles on Approach	215

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 AM	**4.4**	**76**	**1,089**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Not Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	Mesquit St
Minor Street	Jesse St

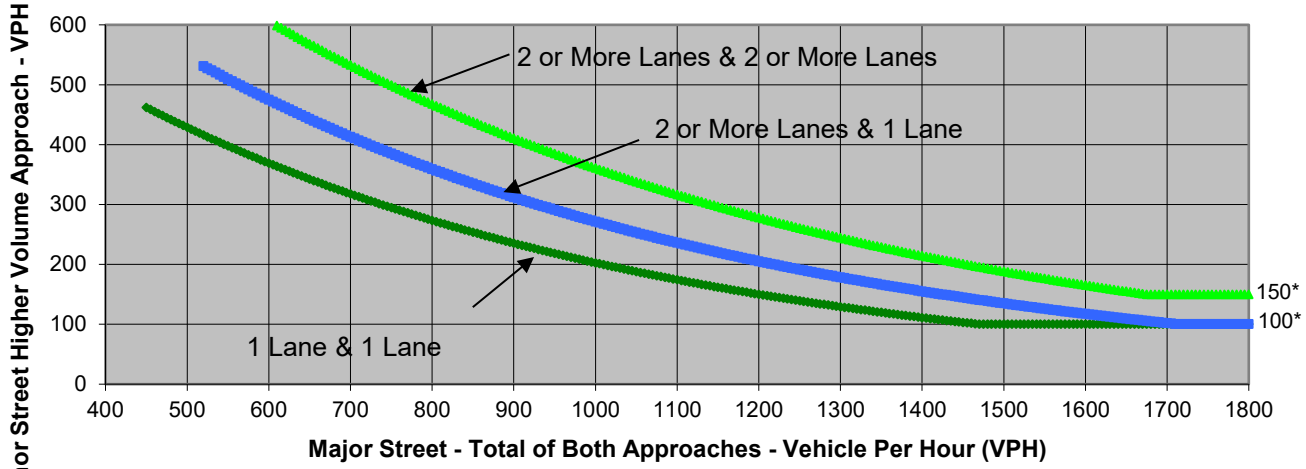
Project	670 Mesquit
Scenario	CP 2040 Opt2 PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	25	55	100	0
Through	1	0	519	414
Right	0	22	6	28
Total	26	77	625	442

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Mesquit St	Jesse St	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**103**	**625**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Mesquit St	Project	670 Mesquit
Minor Street	Jesse St	Scenario	CP 2040 Opt2 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	25	55	100	0
Through	1	0	519	414
Right	0	22	6	28
Total	26	77	625	442

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	89.5
Approach with Worst Case Delay	WB
Total Vehicles on Approach	442

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 PM	**11**	**625**	**1,170**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

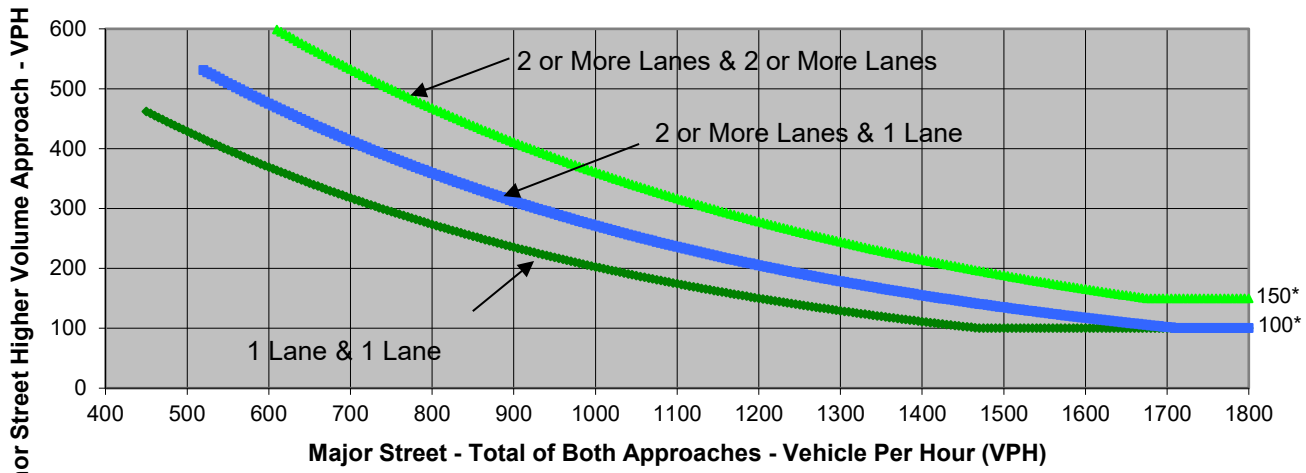
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CP 2040 Opt2 AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	0	2
Through	0	0	434	2,227
Right	0	308	352	0
Total	0	323	786	2,229

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**3,015**	**323**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	7th St
Scenario	CP 2040 Opt2 AM
Minor Street	US-101 Southbound ramps
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	15	0	2
Through	0	0	434	2,227
Right	0	308	352	0
Total	0	323	786	2,229

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	498.1
Approach with Worst Case Delay	WB
Total Vehicles on Approach	2,229

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 AM	**308.4**	**323**	**3,338**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

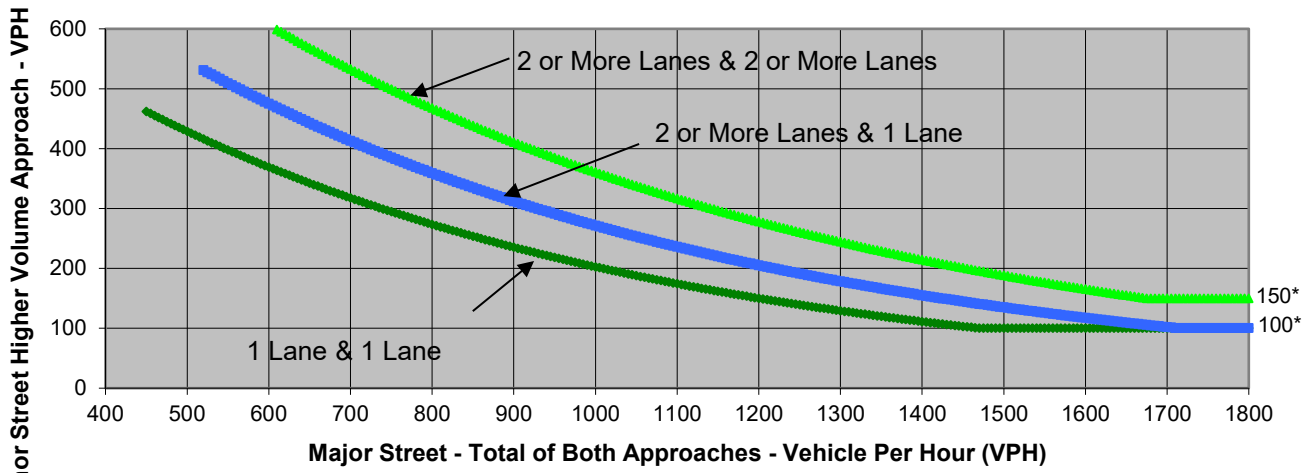
Major Street	7th St	Project	670 Mesquit
Minor Street	US-101 Southbound ramps	Scenario	CP 2040 Opt2 PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	72	0	1
Through	0	0	1,181	1,145
Right	0	197	414	0
Total	0	269	1,595	1,146

Major Street Direction

	North/South
x	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	7th St	US-101 Southbound ramps	
Number of Approach Lanes	**2**	**2**	**YES**
Traffic Volume (VPH) *	**2,741**	**269**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	670 Mesquit
Major Street	7th St
Scenario	CP 2040 Opt2 PM
Minor Street	US-101 Southbound ramps
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	72	0	1
Through	0	0	1,181	1,145
Right	0	197	414	0
Total	0	269	1,595	1,146

Major Street Direction

	North/South
x	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	2
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	104.7
Approach with Worst Case Delay	WB
Total Vehicles on Approach	1,146

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
CP 2040 Opt2 PM	**33.3**	**269**	**3,010**
Limiting Value	**5**	**150**	**650**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

M-2 LADOT Correspondence Approving the Traffic Assessment

FORM GEN. 160A (Rev. 1/82)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

670 Mesquit St
DOT Case No. CEN16-45273

Date: August 19, 2021

To: Susan Jimenez, Administrative Clerk
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION ASSESSMENT FOR THE PROPOSED MIXED-USE DEVELOPMENT PROJECT AT 670 MESQUIT STREEET**

The Department of Transportation (DOT) reviewed the traffic analysis, dated December 2018, prepared by Fehr & Peers, for the proposed mixed-use project located at 670 Mesquit Street. However, on July 30, 2019, pursuant to Senate Bill (SB) 743 and the recent changes to Section 15064.3 of the State's California Environmental Quality Act (CEQA) Guidelines, the city of Los Angeles adopted vehicle miles traveled (VMT) as the criteria by which to determine transportation impacts for a new development. A VMT analysis is required to identify the project's ability to promote the reduction of greenhouse emissions, and access to diverse land-uses and the development of multi-modal networks. The applicant submitted a VMT analysis dated April 2021, that replaced the previous analysis submitted, dated December 2018. The significance of the project's in this regard is measured against the VMT threshold in DOT's Transportation Assessment Guidelines (TAG) as described below.

DISCUSSION AND FINDINGS

A. Project Description

The Project site is currently developed with existing one- to four-story cold storage facilities consisting of warehouse and wholesale commercial buildings and associated office space, loading docks, and seven surface parking spaces. The existing buildings total approximately 205,393 gross square feet (sf) of floor area. The Project would remove the existing on-site cold storage facilities and redevelop the Project site with a mix of uses totaling approximately 1,792,103 sf of floor area on seven proposed ground lots. The development would include creative office space (approximately 944,055 sf); 308 multifamily residential housing units; a hotel (236 rooms); and a range of commercial uses including a grocery store (approximately 28,054 sf) and food hall (approximately 28,858 sf); restaurants (approximately 89,576 sf); studio/event/gallery space and a potential museum (approximately 93,617 sf); a gym (approximately 62,148 sf); and general retail (approximately 79,240 sf). The Project would also include at- and above-grade landscaped open space and would provide vehicle and bicycle parking spaces to support the proposed on-site uses in accordance with the proposed Mesquit Specific Plan. The Project would provide a minimum of 2,000 traditional vehicle parking spaces, with parking for up to 3,500 vehicles using a combination of automated parking systems, valet parking, or other efficiency parking methods. In addition, a minimum of 288 short-term and 519 long-term bicycle parking spaces would be provided. A rooftop heliport is also proposed for emergency and occasional residential and office uses, providing an amenity for the Project's residents, hotel guests, office workers, and visitors. The site plans are provided in **Attachment A &B**.

B. Freeway Safety Analysis

Per the Interim Guidance for Freeway Safety Analysis memorandum issued by LADOT on May 1, 2020 to address Caltrans safety concerns on freeways, the study addresses the project's effects on vehicle queuing on freeway off-ramps. Such an evaluation measures the project's potential to lengthen a forecasted off-ramp queue and create speed differentials between vehicles exiting the freeway off-ramps and vehicles operating on the freeway mainline.

Based on the Project's trip generation estimates, and traffic distribution pattern detailed later in this report, the Project would add 25 or more peak hour trips to three off-ramps during the morning and afternoon peak hours to the following off-ramps:

- I-10 Eastbound Off-ramp to Alameda Street (AM peak hour)
- US-101 Southbound Off-ramp to 7th Street (AM peak hour)
- I-10 Eastbound Off-ramp to Porter Street (AM peak hour)

As shown in **Attachment C**, the addition of traffic generated by the Project is projected to increase the overflow onto the mainline lanes by six cars in the AM peak hour and two cars in the PM peak hour (assuming an average queue storage length of 25 feet per car) for the US-101 Southbound Off-ramp to 7th in both Future Base (2026 and 2040) plus Project scenarios. The following mitigation measure was identified to address the impact:

- Project applicant shall work with the City of Los Angeles and Caltrans to signalize the intersection of the US-101 Southbound Off-ramp & 7th Street.

The applicant should work with CALTRANS on implementing any proposed improvement measures.

C. CEQA Screening Threshold

Prior to accounting for trip reductions resulting from the application of Transportation Demand Management (TDM) Strategies, a trip generation analysis was conducted to determine if the project would exceed 250 daily vehicle trips screening threshold. Using the City of Los Angeles VMT Calculator tool, which draws upon trip rate estimates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition as well as applying trip generation adjustments when applicable, based on sociodemographic data and the built environment factors of the project's surroundings, it was determined that the project **does** exceed the net 250 daily vehicle trips threshold.

Additionally, the analysis included further discussion of the transportation impact thresholds:

T-1 Conflicting with plans, programs, ordinances, or policies
T-2.1 Causing substantial vehicle miles traveled
T-3 Substantially increasing hazards due to a geometric design feature or incompatible use.

The assessment determined that the project would **not** have a significant transportation impact under Thresholds T-1 and T-3. However, the Project is projected to have significant and unavoidable VMT impacts for the retail land uses. Based on the Project's mix of land uses, location and other characteristics, it is projected to have less than significant VMT impacts for the residential and office land uses. The Project will implement transportation demand measures through compliance with regulatory requirements, site design elements and a transportation demand management plan to reduce and mitigate Project VMT; however, the

retail VMT impact will remain significant and unavoidable as there are no additional feasible mitigation measures that would further reduce the retail VMT impact to a less-than significant level. A copy of the VMT Calculator summary report is provided as **Attachment D**.

D. Transportation Impacts

On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.3 of the State's CEQA Guidelines, the City of Los Angeles adopted VMT as criteria in determining transportation impacts under CEQA. The new LADOT TAG provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds.

The LADOT VMT Calculator tool measures project impact in terms of Household VMT per Capita, and Work VMT per Employee. LADOT identified distinct thresholds for significant VMT impacts for each of the seven Area Planning Commission (APC) areas in the City. For the Central APC area, in which the project is located, the following thresholds have been established:

- Household VMT per Capita: 6.0
- Work VMT per Employee: 7.6

The project will include bike parking per LAMC, secured bike parking and showers, and pedestrian network improvements as project design features. For both options (Deck and Without Deck) and with the project design features applied, the proposed project is projected to have a Household VMT per capita of 4.0 and Work VMT per employee of 6.6. Therefore, it is concluded that implementation of the project would result in **no significant VMT impact**. Since the retail components of the Project are greater than 50,000 square feet, they were evaluated using the City's travel demand forecasting model. The Project with the Deck Concept would result in an estimated net increase of 32,000 VMT daily miles. This increase in VMT is considered to be a significant impact, due to the significance criteria identifying an impact when any increase in VMT due to retail occurs. The Proposed mitigation measures are described below under CEQA (Corrective Measure) section. A copy of the VMT Calculator summary report is provided as **Attachment D**.

E. Safety, Access and Circulation

During the preparation of the new CEQA guidelines, the State's Office of Planning and Research stressed that lead agencies can continue to apply traditional operational analysis requirements to inform land use decisions provided that such analyses were outside of the CEQA process. The authority for requiring non-CEQA transportation analysis and requiring improvements to address potential circulation deficiencies, lies in the City of Los Angeles' Site Plan Review authority as established in Section 16.05 of the LAMC. Therefore, LADOT continues to require and review a project's site access, circulation, and operational plan to determine if any access enhancements, transit amenities, intersection improvements, traffic signal upgrades, neighborhood traffic calming, or other improvements are needed. As illustrated in **Attachment A&B**, the Project was analyzed with the following driveways:

- A two-way full-access driveway on Mesquit Street at the northern end of the Project at ground level (Building 1).
- A two-way full-access driveway at the intersection of Mesquit Street & Jesse Street at ground level (Building 2).
- A two-way signalized driveway connecting the 7th Street Bridge to the third level of

Building 4 near the southeastern corner of the Project site that allows for full access out and right-turns only in.

- A one-way right-turn-out-only driveway connecting the 7th Street Bridge to the second level of Building 5 near the southwestern corner of the Project site.

As shown in **Attachment E,** the study intersections are analyzed using the "level of service (LOS)" screening methodology to evaluate the operational characteristics intersections based on the delay being experienced by vehicles passing through an intersection in the peak hour, calculated using a ratio of its traffic volume and its intersection capacity and based on intersection geometrics peak-hour volumes, turning movements and signal phasing.
The LOS analysis for the Future (2026) plus Project scenario determined that 14 signalized intersections and 10 unsignalized intersections are projected to perform at **LOS E or worse** during at least one of the peak periods for both Project options. The remaining signalized and unsignalized intersections are projected to operate at **LOS D or better** during both peak periods.
The LOS analysis for the Future (2040) plus Project scenario determined that 15 signalized intersections and 10 unsignalized intersections are projected to perform at **LOS E or worse** during at least one of the peak periods for both Project options. The remaining signalized and unsignalized intersections are projected to operate at **LOS D or better** during both peak periods.

PROJECT REQUIREMENTS

A. CEQA-Related Requirements

The purpose of a Transportation Demand Management (TDM) plan is to reduce the use of single occupant vehicles (SOV) by increasing the number of trips by walking, bicycle, carpool, vanpool and transit. A TDM plan should include design features, transportation services, education, and incentives intended to reduce the amount of SOV during commute hours. Through strategic building design and orientation, this project can facilitate access to transit, can provide a pedestrian-friendly environment, can promote non-automobile travel and can support the goals of a trip-reduction program. A preliminary TDM program shall be prepared and provided for DOT review prior to the issuance of the first building permit for this project and a final TDM program approved by DOT is required prior to the issuance of the first certificate of occupancy for the project. The TDM program should include, but not be limited to, the following strategies:

- Site Design – The site will be designed to encourage walking, biking, and taking transit. Amenities would include:
  - New sidewalks and street trees along the perimeter
  - Improved street and pedestrian lighting
  - Pedestrian network within the site and connecting to the surrounding pedestrian system
  - Readily accessible drop-off/pick-up zones for shared mobility providers
  - EV charging stations
- Unbundled parking and discounted transit passes
- Commute trip reduction program for office and commercial workers and residents. Also includes TDM marketing and promotion (website and possible mobile app for transportation information specific to the Project).
- Parking cost unbundled from leases for office and commercial tenants, coupled with employee parking cash-out and pricing workplace parking.
- Parking costs unbundled from rent for residential tenants.

- Tenants in the office and commercial uses and residents would be provided with the opportunity to obtain subsidized/discounted daily or monthly public transit passes to use locally/regionally.
- A ride-sharing program would be provided by designating a certain percentage of parking spaces for ride sharing vehicles, designing adequate passenger loading/unloading and waiting areas for ride-sharing vehicles, and providing a website or message board for coordinating rides.
- Enhancements/amenities, such as curb cuts and continental crosswalks, at bus stops nearest to Project site:
    - Decatur Street & 7th Street: Metro Rapid 720
    - Alameda Street & 7th Street: Metro Rapid 760
    - Imperial Street & 7th Street: Metro 18, 60, 62
    - Molino Street & Palmetto Street: LADOT DASH A
- Improved first-mile/last-mile connections to nearby bus stops
- Mobility hub (carshare, bikeshare, bike repair facilities, and real-time transit information)

B. Corrective Measure (Non-CEQA Analysis)

Per DOT's Transportation Assessment Guidelines, a non-CEQA analysis was conducted for the project. The Traffic Study non-CEQA access and circulation analysis included a review of current and potential future deficiencies that may result from the project. To address these non-CEQA deficiencies, the applicant should be required to implement the following corrective measures.

1. **Transportation System Management (TSM) Improvements**

LADOT's goal is to improve the efficiency of the study intersections, by optimally allocating green time to different modes and in different directions and provide the capability to remotely monitor and adjust signal timing in real-time to respond to specific traffic conditions or occurrences. The following Traffic Surveillance and Control system (ATSAC)improvements will maximize intersection throughput or manage queues and improve system performance:

- One 3" conduit, one 24SM fiber optic cable, one 25 pair interconnect on 7th Street between Santa Fe Avenue and Alameda Street.
- A new CCTV camera at the intersection of Santa Fe and 7th Street.

The applicant should be responsible for the cost and implementation of any necessary bus stop relocations and lost parking meter revenues associated with the proposed transportation improvement as necessary.

2. **Transportation Management Organization (TMO)**

The Applicant proposes to contribute to FASTLink, the Downtown TMO, or to the formation of a new Arts District TMO focused on the area around the project. The TMO services would be available to anyone within the general Arts District community, not just residents and tenants of the proposed Project, and in this way help to alleviate current and future traffic congestion throughout the area. The Applicant will agree to contribute to the Arts District TMO / Arts District portion of a Downtown TMO following issuance of a Certificate of Occupancy for the Project by becoming a member, participating in, and make a one-time contribution of **$100,000** to TMO operations and marketing efforts. In addition, the applicant will encourage its office and hotel lessees

to become members of the TMO and maintain that membership on an ongoing basis.

3. **Physical intersection improvements**

• **Santa Fe Avenue & Jesse Street**: The Project proposes to modify the eastbound and westbound approaches along Jesse Street to provide a left-only turn lane. This Corrective Action would require restriping the eastbound and westbound approaches from one shared left-through-right to one left-only turn lane and one through-right lane. This Corrective Action would require the removal of up to three on-street parking spaces at the eastbound leg and removal of yellow curb space at the westbound leg. **Attachment F** shows the conceptual design and striping plan for this Corrective Action.

• **Santa Fe Avenue & 7th Street**: The Project proposes to modify the southbound approach along Santa Fe Avenue to provide a left-only lane. This Corrective Action would require restriping the southbound approach from a shared left-through-right lane to a shared through-right lane and one left-only turn lane. Improvements would also include upgrading curb ramps to include tactile warning strips and crosswalks to continental crosswalks. **Attachment G** shows the conceptual design and striping plan for this improvement.

Should the project be approved, then a final determination on how to implement the ATSAC improvements listed above will be made by DOT prior to the issuance of the first building permit. These improvements will be implemented **either** by the applicant through the B-Permit process of the Bureau of Engineering (BOE), **or** through a direct payment to DOT to fund the cost of the upgrades and improvements. If the upgrades and improvements are implemented by the applicant through the B-Permit process, then these improvements must be guaranteed prior to the issuance of any building permit and completed prior to the issuance of any certificate of occupancy. Temporary certificates of occupancy may be granted in the event of any delay through no fault of the applicant, provided that, in each case, the applicant has demonstrated reasonable efforts and due diligence to the satisfaction of DOT.

All proposed street improvements within the City of Los Angeles must be guaranteed through BOE's B-Permit process, prior to the issuance of any building permit and completed prior to the issuance of any certificate of occupancy. Prior to setting the bond amount, BOE shall require that the developer's engineer or contractor contact LADOT's B-Permit Coordinator, ladot.planprocessing@lacity.org, to arrange a pre-design meeting to finalize the proposed design.

C. Traffic Signal Warrant Analysis

In the preparation of traffic study, DOT guidelines indicate that unsignalized intersections should be evaluated solely to determine the need for the installation of a traffic signal or other traffic control device. When choosing which unsignalized intersections to evaluate in the study, intersections that are adjacent to the project or that are integral to the project's site access and circulation plan should be identified. The signal warrant analysis determined that the projected volumes would meet standard signal warrants for installation of a signal at 8 unsignalized intersections. Out of the eight (8) intersections that met the peak hour signal warrant analysis, three (3) signal warrants would be triggered due to the trips generated by the Project (i.e., signals are only warranted when Project trips were added). Those three intersections are:

- South Santa Fe Avenue & Mesquit Street
- South Santa Fe Avenue & Jesse Street
- Mesquit Street & Jesse Street

As mentioned under project description, the project is also proposing a two-way signalized driveway connecting the 7th Street Bridge to the third level of Building 4 near the southeastern corner of the Project site that allows for full access out and right-turns only in**.**

Any proposed signal installation is subject to final approval by LADOT. During the building permit approval process for this project, the applicant should work with DOT's Central District Office for a final determination on the need for a traffic signal at the location. The satisfaction of a traffic signal warrant does not in itself require the installation of a signal. Other factors relative to safety, traffic flow, signal spacing, coordination, etc. should be considered. If DOT makes the determination that a traffic signal is warranted and needed at the intersection, then the applicant would be responsible to cover all costs associated with the design and installation of the new signal.

D. Parking Requirements

The Project would provide a minimum of 2,000 traditional vehicle parking spaces, with parking for up to 3,500 vehicles using a combination of automated parking systems, valet parking, or other efficiency parking methods. In addition, a minimum of 288 short term and 519 long-term bicycle parking spaces would be provided. A rooftop heliport is also proposed for emergency and occasional residential and office uses, providing an amenity for the Project's residents, hotel guests, office workers, and visitors.

E. Highway Dedication and Street Widening Requirements

Per the new Mobility Element of the General Plan, **6th Street and 7th Street** are designated as Modified Avenue II, would require a 28-foot half-width roadway within a 43-foot half-width right-of-way. **Mesquit Street** is designated as Collector Street which requires 20-foot half-width within a 33-foot half-width right-of-way. On the western side of the Project, the Project proposes a full-width vacation/merger of Mesquit Street from the northerly right-of-way of 7th Street to the southerly right-of way of Jesse Street in order to convert Mesquit Street from Jesse Street to 7th Street to a pedestrian paseo with limited vehicle access that connects to 7th Street. The project also proposes a half-width subsurface merger for the easterly half of Mesquit Street from the southerly right-of-way of Jesse Street to the southerly line of the LADWP property on the east side of Mesquit Street.

The applicant should check with BOE's Land Development Group to determine if there are any other applicable highway dedication, street widening and/or sidewalk requirements for this project.

F. Project Access and Circulation

As illustrated in **Attachment A&B** under Safety, Access and Circulations, vehicular and bicycle access to the Project site is anticipated to be obtained via four driveways. Primary service access would be provided via loading docks located within the ground level of the Project's parking structure. Large truck deliveries would enter and exit the parking structure via the northern driveway on Mesquit Street and have turnaround capability provided within the Project site. A loading area accommodating cars or vans associated with residential and commercial uses

would also be accessible via the northern driveway on Mesquit Street. A passenger loading/unloading zone pull-out would be provided along the east side of Mesquit Street north of Jesse Street. The 7th Street driveway would also provide access to an internal passenger loading/unloading area in addition to access to the on-site parking structure.

The conceptual site plan is acceptable to LADOT; however, the review of this study does not constitute approval of the driveway dimensions, access, and circulation scheme. Any changes to the project's site access, circulation scheme, or loading/unloading area after issuance of this report would require separate review and approval and should be coordinated as soon as possible with LADOT's Citywide Planning Coordination Section (201 North Figueroa Street, 5th Floor, Room 550, at 213-482-7024 or email: ladot.onestop@lacity.org). Driveway placement and design shall be approved by the Department of City Planning (City Planning) in consultation with LADOT, prior to issuance of a Letter of Determination by City Planning.

G. Worksite Traffic Control Requirements
LADOT recommends that a construction work site traffic control plan be submitted to LADOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/businesses/temporary-traffic-control-plans to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. LADOT also recommends that all construction related truck traffic be restricted to off-peak hours to the extent feasible.

H. Development Review Fees
Section 19.15 of the LAMC identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact Russell Hasan of my staff at (213) 482-7024.

Attachments

J:\Letters\2021\CEN 16-45273_670 Mesquit St.docx

c: Shawn Kuk, Council District 14
Matthew Masuda, Central District, BOE
Edward Yu, Central District, LADOT
Taimour Tanavoli, Case Management, LADOT
Netai Bashu, Fehr & Peers

7TH STREET LEVEL PLAN - NO DECK

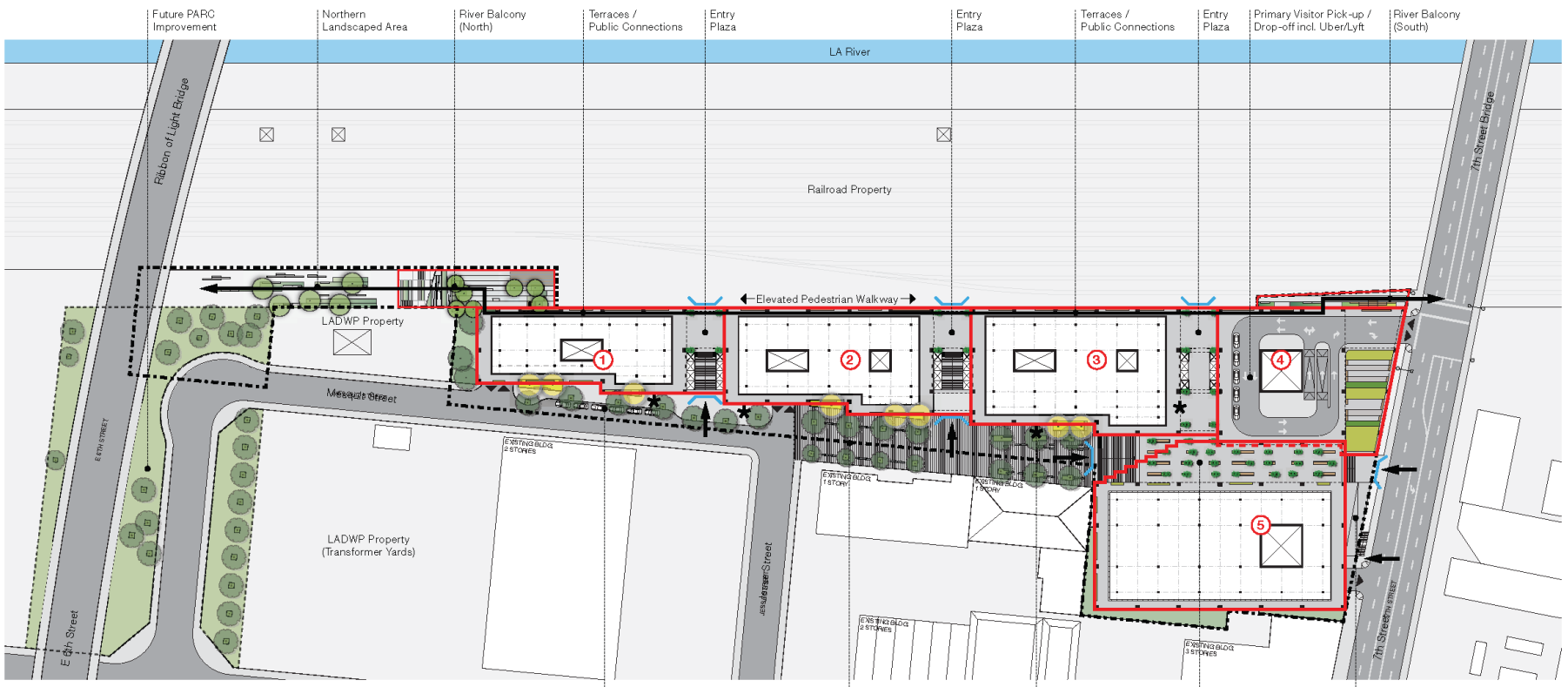
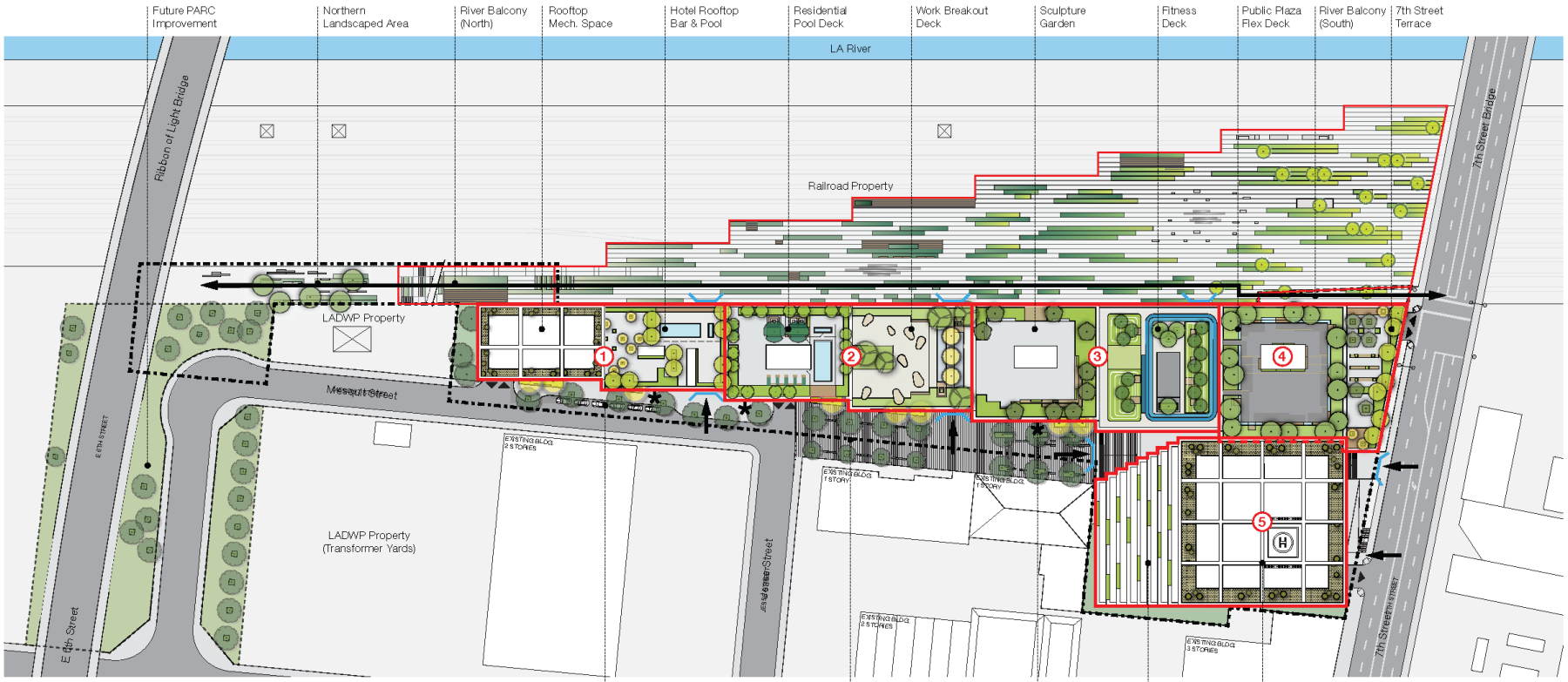


Figure 2A

Project Site Plan

ROOF PLAN - FULL DECK



1 BUILDING 1
Use: Hotel/Residential
Height: 378ft
Floor Area: 466,554sf

2 BUILDING 2
Use: Office/Gym/Retail
Height: 294ft
Floor Area: 331,517sf

3 BUILDING 3
Use: Office/Studio/Event/Retail
Height: 210ft
Floor Area: 239,936sf

4 BUILDING 4
Use: Retail/Restaurants
Height: 126ft
Floor Area: 70,519sf

5 BUILDING 5
Use: Office/Retail
Height: 378ft
Floor Area: 683,577sf

Pedestrian Access
Vehicular Access
View Corridor
Bicycle Parking

0' 50' 100' 200'

670 MESQUIT

CONCEPTUAL & ILLUSTRATIVE, SUBJECT TO CHANGE

Figure 2B

Project with the Deck Concept Site Plan

TABLE 3
PEAK HOUR OFF-RAMP QUEUE ANALYSIS
FUTURE BASE (2026) AND FUTURE BASE (2026) PLUS PROJECT WITH THE DECK CONCEPT
670 MESQUIT STREET PROJECT

ID	Ramp	Cross Street	Total Capacity (ft) [a]	Turning Movements by Lanes at Intersection	Control	Future Base (2026) Conditions						Future Base (2026) + Project Option 2							
						AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Exceeds Storage?		AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Length Increase (car lengths) [b]		Potential Safety Issue? [c]	
						Queue (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	Lane (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	AM	PM
22	I-10 EB Off-Ramp	Alameda Street	1,140	Left Right	Signal	227 186	413	149 116	265	No	No	248 178	426	162 116	278	1	1	No	No
H	US-101 SB Off-Ramp	7th Street	310	Left Right	Two-Way Stop Controlled	48 478	526	128 50	178	**Yes**	No	55 613	668	155 65	220	6	2	**Yes**	No
J	I-10 EB Off-Ramp	Porter Street	1,120	Left Right	Two-Way Stop Controlled	577 266	843	397 161	558	No	No	679 309	988	528 227	755	6	8	No	No

[a]: Ramp lengths determined based on scaled distances from on-line aerial photographs. Per LADOT guidance, max length is measured from the intersection to the gore point.
When an auxiliary lane is present, the maximum length includes one half of the length of the auxiliary lane to the gore point of the preceding on-ramp.
[b]: Assumes an average storage length per car of 25 feet.
[c]: If a proposed project adds two or more car lengths to a ramp queue that extends to the freeway mainline, then the location must be tested for safety issues.

TABLE 4
PEAK HOUR OFF-RAMP QUEUE ANALYSIS
FUTURE BASE (2040) AND FUTURE BASE (2040) PLUS PROJECT WITH THE DECK CONCEPT
670 MESQUIT STREET PROJECT

ID	Ramp	Cross Street	Total Capacity (ft) [a]	Turning Movements by Lanes at Intersection	Control	Future Base (2040) Conditions						Future Base (2040) + Project with the Deck Concept							
						AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Exceeds Storage?		AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Length Increase (car lengths) [b]		Potential Safety Issue? [c]	
						Queue (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	Lane (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	AM	PM
22	I-10 EB Off-Ramp	Alameda Street	1,140	Left Right	Signal	229 186	415	150 121	271	No	No	254 186	440	163 121	284	1	1	No	No
H	US-101 SB Off-Ramp	7th Street	310	Left Right	Two-Way Stop Controlled	53 508	561	140 53	193	**Yes**	No	60 643	703	168 70	238	6	2	**Yes**	No
J	I-10 EB Off-Ramp	Porter Street	1,120	Left Right	Two-Way Stop Controlled	631 294	925	432 178	610	No	No	737 343	1,080	568 254	822	7	9	No	No

[a]: Ramp lengths determined based on scaled distances from on-line aerial photographs. Per LADOT guidance, max length is measured from the intersection to the gore point.
When an auxiliary lane is present, the maximum length includes one half of the length of the auxiliary lane to the gore point of the preceding on-ramp.
[b]: Assumes an average storage length per car of 25 feet.
[c]: If a proposed project adds two or more car lengths to a ramp queue that extends to the freeway mainline, then the location must be tested for safety issues.

TABLE 5
PEAK HOUR OFF-RAMP QUEUE ANALYSIS - WITH MITIGATION
FUTURE BASE (2026) AND FUTURE BASE (2026) PLUS PROJECT WITH THE DECK CONCEPT
670 MESQUIT STREET PROJECT

ID	Ramp	Cross Street	Total Capacity (ft) [a]	Turning Movements by Lanes at Intersection	Control	Future Base (2026) Conditions						Future Base (2026)+ Project Option 2 with Signal							
						AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Exceeds Storage?		AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Length Change (car lengths) [b]		Project Impact Mitigated?	
						Queue (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	Lane (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	AM	PM
H	US-101 SB Off-Ramp	7th Street	310	Left Right	Two-Way Stop Controlled	53 508	561	140 53	193	**Yes**	No	18 266	284	55 97	152	-12	-2	**Yes**	N/A

[a]: Ramp lengths determined based on scaled distances from on-line aerial photographs. Per LADOT guidance, max length is measured from the intersection to the gore point.
When an auxiliary lane is present, the maximum length includes one half of the length of the auxiliary lane to the gore point of the preceding on-ramp.
[b]: Assumes an average storage length per car of 25 feet.

TABLE 6
PEAK HOUR OFF-RAMP QUEUE ANALYSIS - WITH MITIGATION
FUTURE BASE (2040) AND FUTURE BASE (2040) PLUS PROJECT WITH THE DECK CONCEPT
670 MESQUIT STREET PROJECT

ID	Ramp	Cross Street	Total Capacity (ft) [a]	Turning Movements by Lanes at Intersection	Control	Future Base (2040) Conditions						Future Base (2040)+ Project Option 2 with Signal							
						AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Exceeds Storage?		AM 95th Percentile Queue		PM 95th Percentile Queue		Queue Length Change (car lengths) [b]		Project Impact Mitigated?	
						Queue (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	Lane (ft)	Total (ft)	Lane (ft)	Total (ft)	AM	PM	AM	PM
H	US-101 SB Off-Ramp	7th Street	310	Left Right	Two-Way Stop Controlled	53 508	561	140 53	193	**Yes**	No	18 270	288	56 100	156	-11	-2	**Yes**	N/A

[a]: Ramp lengths determined based on scaled distances from on-line aerial photographs. Per LADOT guidance, max length is measured from the intersection to the gore point.
When an auxiliary lane is present, the maximum length includes one half of the length of the auxiliary lane to the gore point of the preceding on-ramp.
[b]: Assumes an average storage length per car of 25 feet.

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

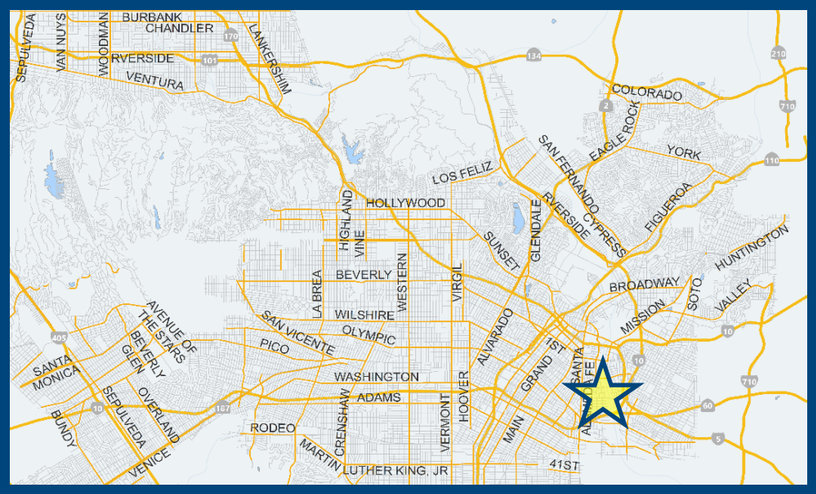
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 670 Mesquit

Scenario: Project Option 1 www

Address: 670 S MESQUIT ST, 90021



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ◉ No

Existing Land Use

Land Use Type	Value	Unit
Industrial | Warehousing/Self-Storage	205.4	ksf
Industrial | Warehousing/Self-Storage	205.4	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Housing | Affordable Housing - Family	50	DU
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	155.765	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed Project
428 Daily Vehicle Trips	27,939 Daily Vehicle Trips
3,135 Daily VMT	201,804 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	27,511 Net Daily Trips
The net increase in daily VMT ≤ 0	198,669 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	386.176 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

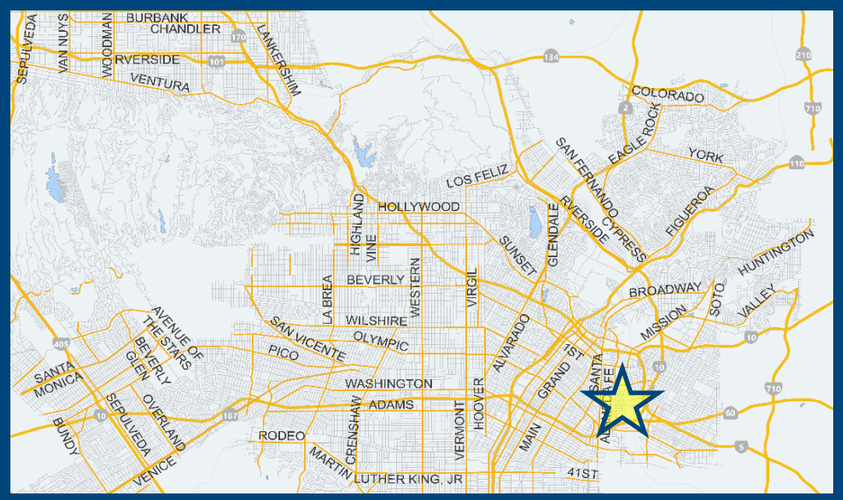
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 670 Mesquit

Scenario: Project Option 1

Address: 670 S MESQUIT ST, 90021



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	155.765	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**Yes**
Max Work Based TDM Achieved?	**No**	**Yes**

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure
- **G** Neighborhood Enhancement

Traffic Calming Improvements

☐ Proposed Prj ☐ Mitigation

25 percent of streets within project with traffic calming improvements

25 percent of intersections within project with traffic calming improvements

Pedestrian Network Improvements

☑ Proposed Prj ☐ Mitigation

within project and connecting off-site

Analysis Results

Proposed Project	With Mitigation
27,040 Daily Vehicle Trips	**24,484** Daily Vehicle Trips
195,304 Daily VMT	**176,517** Daily VMT
4.0 Household VMT per Capita	**3.3** Household VMT per Capita
6.6 Work VMT per Employee	**5.4** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	*Single Family*	*0*	*DU*
	Multi Family	258	DU
	Townhouse	*0*	*DU*
	Hotel	236	Rooms
	Motel	*0*	*Rooms*
Affordable Housing	Family	50	DU
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	General Retail	79.240	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	32.737	ksf
	Bank	*0.000*	*ksf*
	Health Club	155.765	ksf
	High-Turnover Sit-Down Restaurant	44.788	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	73.646	ksf
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	General Office	944.055	ksf
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*
Other		*0*	*Trips*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

Analysis Results

Total Employees: 4,813
Total Population: 738

Proposed Project		*With Mitigation*	
27,040	**Daily Vehicle Trips**	**24,484**	**Daily Vehicle Trips**
195,304	**Daily VMT**	**176,517**	**Daily VMT**
4	**Household VMT per Capita**	**3.3**	**Household VMT per Capita**
6.6	**Work VMT per Employee**	**5.4**	**Work VMT per Employee**

Significant VMT Impact?

APC: Central

Impact Threshold: 15% Below APC Average
Household = 6.0
Work = 7.6

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	*Reduce parking supply*	*City code parking provision (spaces)*	*0*	*0*
		Actual parking provision (spaces)	*0*	*0*
	Unbundle parking	Monthly cost for parking ($)	*$0*	$125
	Parking cash-out	Employees eligible (%)	*0%*	50%
	Price workplace parking	Daily parking charge ($)	*$0.00*	$6.00
		Employees subject to priced parking (%)	*0%*	50%
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	Employees and residents eligible (%)	*0%*	100%
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	$0.75
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	Employees and residents participating (%)	*0%*	100%

(cont. on following page)

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	Required commute trip reduction program	Employees participating (%)	*0%*	90%
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	Car share	Car share project setting (Urban, Suburban, All Other)	*0*	Urban + Comprehensive Transit
	Bike share	Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)	*0*	Yes
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	Includes indoor bike parking/lockers, showers, & repair station (Yes/No)	Yes	Yes
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	Included (within project and connecting off-site/within project only)	within project and connecting off-site	within project and connecting off-site

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	*0%*	15%	*0%*	*0%*	*0%*	15%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Parking cash-out	*0%*	*0%*	*0%*	2%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Price workplace parking	*0%*	*0%*	*0%*	3%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Residential area parking permits	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	
Transit	Reduce transit headways	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Transit subsidies	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	
Education & Encouragement	Voluntary travel behavior change program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	*0%*	
Commute Trip Reductions	Required commute trip reduction program	*0%*	*0%*	*0%*	19%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Employer sponsored vanpool or shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Ride-share program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Shared Mobility	Car-share	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	
	School carpool program	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	*Implement/ Improve on-street bicycle facility*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
Neighborhood Enhancement	*Traffic calming improvements*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement sections 1 - 2
	Pedestrian network improvements	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*3%*	*24%*	*3%*	*32%*	*3%*	*24%*	*3%*	*11%*	*3%*	*11%*	*3%*	*7%*
MAX. TDM EFFECT	*3%*	*20%*	*3%*	*20%*	*3%*	*20%*	*3%*	*11%*	*3%*	*11%*	*3%*	*11%*

= Minimum (X%, 1-[(1-A)*(1-B)…])
where X%=

PLACE TYPE MAX:	*urban*	*75%*
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,…). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 1
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	274	-67.5%	89	7.4	2,028	659
Home Based Other Production	758	-40.9%	448	5.3	4,017	2,374
Non-Home Based Other Production	6,706	-4.6%	6,400	7.9	52,977	50,560
Home-Based Work Attraction	5,306	-26.6%	3,893	8.4	44,570	32,701
Home-Based Other Attraction	15,689	-30.1%	10,965	6.5	101,979	71,273
Non-Home Based Other Attraction	6,438	-4.6%	6,144	7.2	46,354	44,237

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-3.2%	86	638	-20.0%	71	527
Home Based Other Production	-3.2%	434	2,298	-20.0%	358	1,899
Non-Home Based Other Production	-3.2%	6,194	48,931	-10.9%	5,701	45,037
Home-Based Work Attraction	-3.2%	3,768	31,648	-20.0%	3,114	26,161
Home-Based Other Attraction	-3.2%	10,612	68,977	-10.9%	9,767	63,488
Non-Home Based Other Attraction	-3.2%	5,946	42,812	-10.9%	5,473	39,405

MXD VMT Methodology Per Capita & Per Employee

Total Population: 738
Total Employees: 4,813
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**2,936**	**2,426**
Total Home Based Work Attraction VMT	**31,648**	**26,161**
Total Home Based VMT Per Capita	**4.0**	**3.3**
Total Work Based VMT Per Employee	**6.6**	**5.4**

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

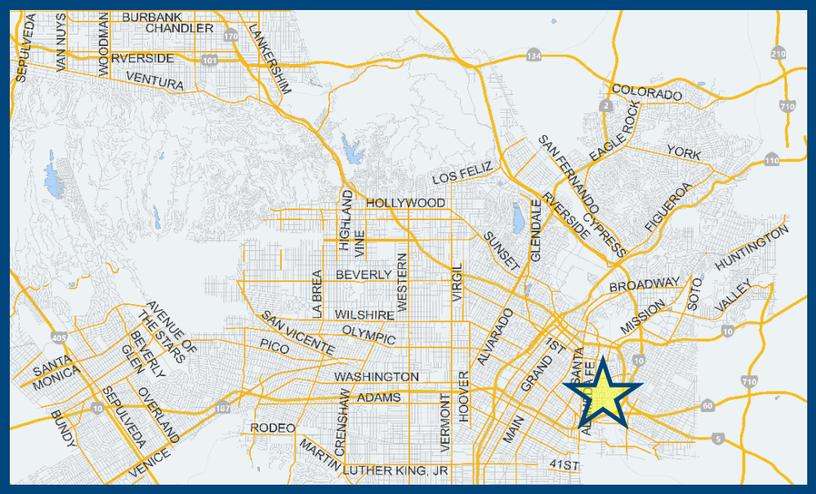
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 670 Mesquit

Scenario: Project Option 2 www

Address: 670 S MESQUIT ST, 90021



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ◉ No

Existing Land Use

Land Use Type	Value	Unit
Industrial | Warehousing/Self-Storage	205.4	ksf
Industrial | Warehousing/Self-Storage	205.4	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | Health Club	173.378	ksf
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	173.378	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed Project
428 Daily Vehicle Trips	28,408 Daily Vehicle Trips
3,135 Daily VMT	205,148 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	27,980 Net Daily Trips
The net increase in daily VMT ≤ 0	202,013 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	403.789 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

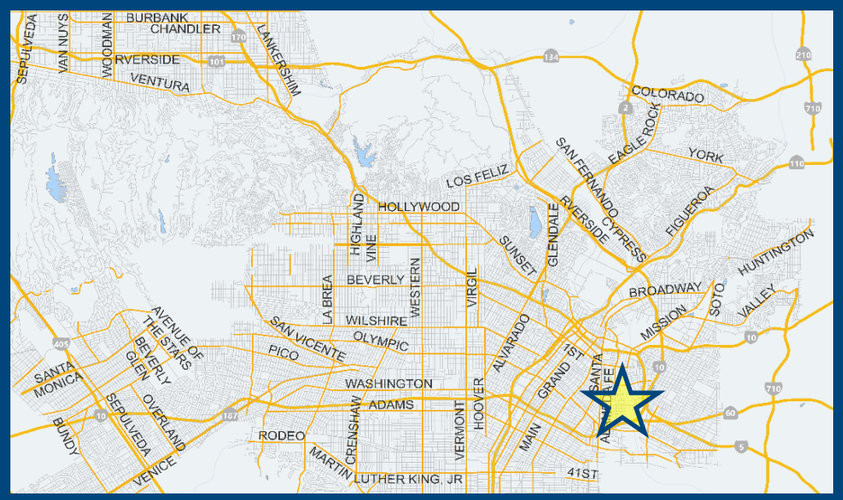
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 670 Mesquit

Scenario: Project Option 2

Address: 670 S MESQUIT ST, 90021



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	258	DU
Housing | Hotel	236	Rooms
Retail | General Retail	79.24	ksf
Retail | Supermarket	32.737	ksf
Retail | Health Club	173.378	ksf
Retail | High-Turnover Sit-Down Restaurant	44.788	ksf
Retail | Quality Restaurant	73.646	ksf
Office | General Office	944.055	ksf
Housing | Affordable Housing - Family	50	DU

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**Yes**
Max Work Based TDM Achieved?	**No**	**Yes**

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure
- **G** Neighborhood Enhancement

Traffic Calming Improvements

☐ Proposed Prj ☐ Mitigation

25 percent of streets within project with traffic calming improvements

25 percent of intersections within project with traffic calming improvements

Pedestrian Network Improvements

☑ Proposed Prj ☐ Mitigation

within project and connecting off-site

Analysis Results

Proposed Project	With Mitigation
27,493 Daily Vehicle Trips	**24,901** Daily Vehicle Trips
198,540 Daily VMT	**179,481** Daily VMT
4.0 Household VMT per Capita	**3.3** Household VMT per Capita
6.6 Work VMT per Employee	**5.4** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	*Single Family*	*0*	*DU*
	Multi Family	258	DU
	Townhouse	*0*	*DU*
	Hotel	236	Rooms
	Motel	*0*	*Rooms*
Affordable Housing	Family	50	DU
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	General Retail	79.240	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	32.737	ksf
	Bank	*0.000*	*ksf*
	Health Club	173.378	ksf
	High-Turnover Sit-Down Restaurant	44.788	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	73.646	ksf
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	General Office	944.055	ksf
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*
Other		*0*	*Trips*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

Analysis Results

Total Employees: 4,831
Total Population: 738

Proposed Project		*With Mitigation*	
27,493	**Daily Vehicle Trips**	**24,901**	**Daily Vehicle Trips**
198,540	**Daily VMT**	**179,481**	**Daily VMT**
4	**Household VMT per Capita**	**3.3**	**Household VMT per Capita**
6.6	**Work VMT per Employee**	**5.4**	**Work VMT per Employee**

Significant VMT Impact?

APC: Central

Impact Threshold: 15% Below APC Average
Household = 6.0
Work = 7.6

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	*Reduce parking supply*	*City code parking provision (spaces)*	*0*	*0*
		Actual parking provision (spaces)	*0*	*0*
	Unbundle parking	Monthly cost for parking ($)	*$0*	$125
	Parking cash-out	Employees eligible (%)	*0%*	50%
	Price workplace parking	Daily parking charge ($)	*$0.00*	$6.00
		Employees subject to priced parking (%)	*0%*	50%
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	Employees and residents eligible (%)	*0%*	100%
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	$0.75
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	Employees and residents participating (%)	*0%*	100%

(cont. on following page)

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	Required commute trip reduction program	Employees participating (%)	*0%*	90%
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	Car share	Car share project setting (Urban, Suburban, All Other)	*0*	Urban + Comprehensive Transit
	Bike share	Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)	*0*	Yes
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	Includes indoor bike parking/lockers, showers, & repair station (Yes/No)	Yes	Yes
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	Included (within project and connecting off-site/within project only)	within project and connecting off-site	within project and connecting off-site

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	*0%*	15%	*0%*	*0%*	*0%*	15%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Parking cash-out	*0%*	*0%*	*0%*	2%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Price workplace parking	*0%*	*0%*	*0%*	3%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Residential area parking permits	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	
Transit	Reduce transit headways	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Transit subsidies	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	*0%*	3%	
Education & Encouragement	Voluntary travel behavior change program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	4%	*0%*	*0%*	
Commute Trip Reductions	Required commute trip reduction program	*0%*	*0%*	*0%*	19%	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Employer sponsored vanpool or shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Ride-share program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Shared Mobility	Car-share	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	*0.0%*	0.5%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	*0.00%*	0.25%	
	School carpool program	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Suburban Center

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	*Implement/ Improve on-street bicycle facility*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
Neighborhood Enhancement	*Traffic calming improvements*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement sections 1 - 2
	Pedestrian network improvements	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*3%*	*24%*	*3%*	*32%*	*3%*	*24%*	*3%*	*11%*	*3%*	*11%*	*3%*	*7%*
MAX. TDM EFFECT	*3%*	*20%*	*3%*	*20%*	*3%*	*20%*	*3%*	*11%*	*3%*	*11%*	*3%*	*11%*

= Minimum (X%, 1-[(1-A)*(1-B)…])
where X%=

PLACE TYPE MAX:	*urban*	*75%*
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,…). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: June 30, 2020
Project Name: 670 Mesquit
Project Scenario: Project Option 2
Project Address: 670 S MESQUIT ST, 90021

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	274	-67.5%	89	7.4	2,028	659
Home Based Other Production	758	-41.0%	447	5.3	4,017	2,369
Non-Home Based Other Production	6,835	-4.6%	6,523	7.9	53,997	51,532
Home-Based Work Attraction	5,331	-26.6%	3,912	8.4	44,780	32,861
Home-Based Other Attraction	15,985	-30.1%	11,170	6.5	103,903	72,605
Non-Home Based Other Attraction	6,567	-4.6%	6,267	7.2	47,282	45,122

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-3.2%	86	638	-20.0%	71	527
Home Based Other Production	-3.2%	433	2,293	-20.0%	358	1,895
Non-Home Based Other Production	-3.2%	6,313	49,872	-10.9%	5,810	45,903
Home-Based Work Attraction	-3.2%	3,786	31,802	-20.0%	3,130	26,289
Home-Based Other Attraction	-3.2%	10,810	70,266	-10.9%	9,950	64,674
Non-Home Based Other Attraction	-3.2%	6,065	43,669	-10.9%	5,582	40,193

MXD VMT Methodology Per Capita & Per Employee

Total Population: 738
Total Employees: 4,831
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**2,931**	**2,422**
Total Home Based Work Attraction VMT	**31,802**	**26,289**
Total Home Based VMT Per Capita	**4.0**	**3.3**
Total Work Based VMT Per Employee	**6.6**	**5.4**

TABLE 3
670 Mesquit
Study Intersection Locations

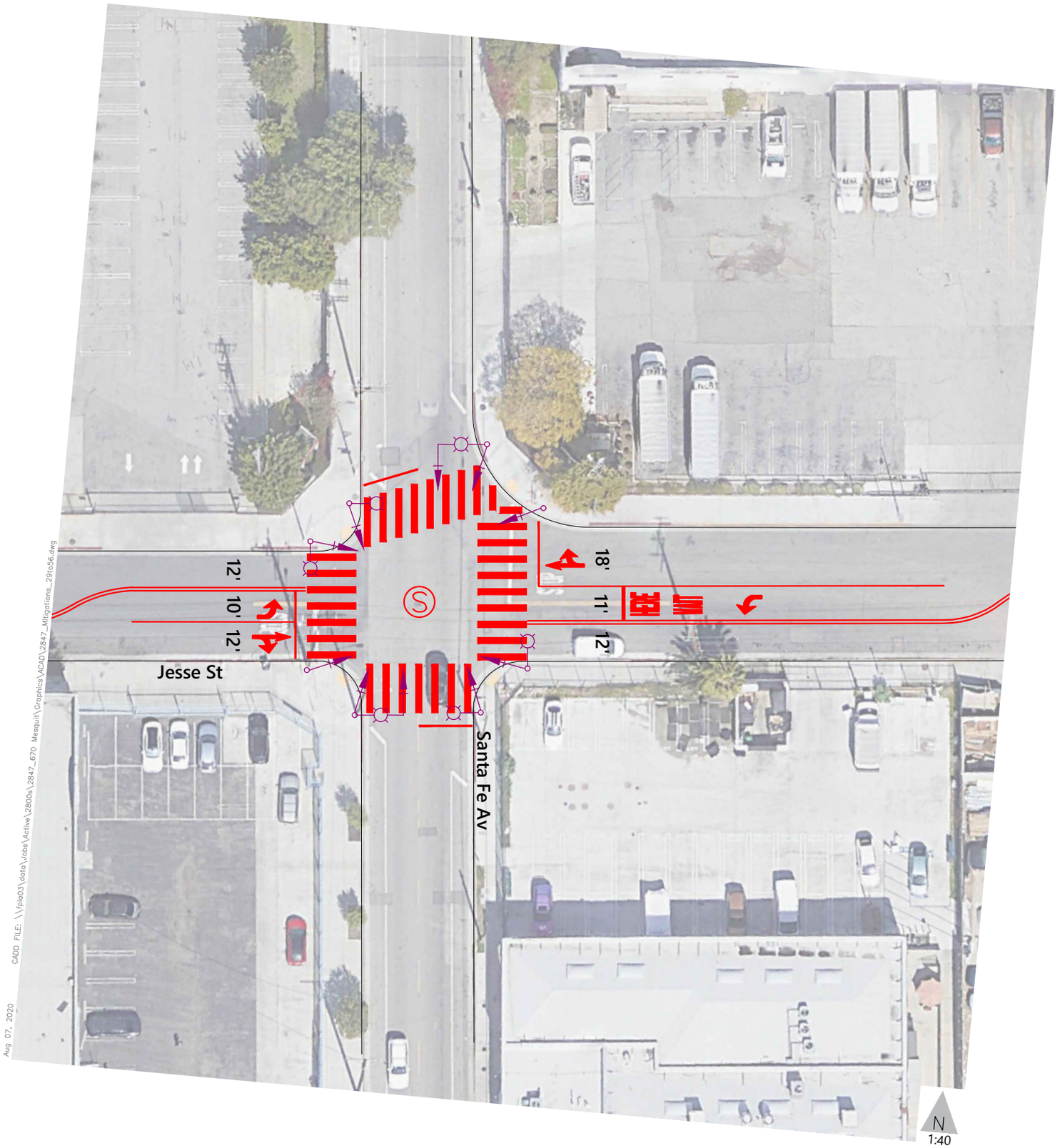
No.	North-South Street	East-West Street	Control
1	S Central Avenue	7th Street	Signalized
2	N Alameda Street	E. Aliso Street/E. Commercial Street	Signalized
3	Alameda Street	Temple Street	Signalized
4	N Alameda Street	E 1st Street	Signalized
5	N Alameda Street	E 2nd Street	Signalized
6	S Alameda Street	3rd Street	Signalized
7	S Alameda Street	4th Street	Signalized
8	S Alameda Street	6th Street	Signalized
9	S Alameda Street	7th Street	Signalized
10	Molino Street/Merrick Street	4th Street	Signalized
11	Mateo Street	6th Street	Signalized
12	Mateo Street	7th Street	Signalized
13	S Santa Fe Avenue	7th Street	Signalized
14	S Santa Fe Avenue	8th Street	Signalized
15	S Santa Fe Avenue	Porter Street	Signalized
16	S Santa Fe Avenue	Olympic Boulevard	Signalized
17	S Santa Fe Avenue	E 15th Street	Signalized
18	S Rio Street	E 7th Street	Signalized
19	S Anderson Street	E 7th Street	Signalized
20	Boyle Avenue	Whittier Boulevard	Signalized
21	Boyle Avenue	7th Street	Signalized
22	S Alameda Street	I-10 Eastbound Ramps	Signalized
A	Mateo Street	4th Place	Unsignalized
B	Mateo Street	Willow Street	Unsignalized
C	Mateo Street	Jesse Street	Unsignalized
D	S Santa Fe Avenue	Willow Street	Unsignalized
E	S Santa Fe Avenue	Mesquit Street	Unsignalized
F	S Santa Fe Avenue	Jesse Street	Unsignalized
G	Mesquit Street	Jesse Street	Unsignalized
H	US-101 Southbound Off-Ramp	7th Street	Unsignalized
I	I-10 Westbound Ramps	E 8th Street	Unsignalized
J	I-10 Eastbound Ramps	Porter Street	Unsignalized

TABLE 15A
670 MESQUIT
FUTURE BASE (2026) PLUS PROJECT WITH THE DECK CONCEPT
SIGNALIZED INTERSECTIONS LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2026)		FUTURE BASE (2026) + PROJECT WITH THE DECK CONCEPT	
			V/C	LOS	V/C	LOS
1	S Central Avenue &	AM	0.821	D	0.844	D
	7th Street	PM	1.039	F	1.088	F
2	N Alameda Street &	AM	0.737	C	0.755	C
	E Aliso Street/E Commercial Street	PM	1.019	F	1.040	F
3	Alameda Street &	AM	0.763	C	0.800	C
	Temple Street	PM	0.789	C	0.812	D
4	N Alameda Street &	AM	1.166	F	1.199	F
	E 1st Street	PM	1.201	F	1.221	F
5	N Alameda Street &	AM	1.053	F	1.060	F
	E 2nd Street	PM	0.960	E	0.983	E
6	S Alameda Street &	AM	0.948	E	0.987	E
	3rd Street/4th Place	PM	0.871	D	0.915	E
7	S Alameda Street &	AM	0.591	A	0.611	B
	4th Street	PM	0.966	E	1.005	F
8	S Alameda Street &	AM	1.045	F	1.069	F
	6th Street	PM	1.055	F	1.083	F
9	S Alameda Street &	AM	1.145	F	1.165	F
	7th Street	PM	1.162	F	1.252	F
10	Molino Street/Merrick Street &	AM	0.815	D	0.840	D
	4th Street	PM	0.800	C	0.855	D
11	Mateo Street &	AM	0.948	E	1.013	F
	6th Street	PM	0.875	D	1.007	F
12	Mateo Street &	AM	0.881	D	0.946	E
	7th Street	PM	0.941	E	1.102	F
13	S Santa Fe Avenue &	AM	1.229	F	1.277	F
	7th Street	PM	1.292	F	1.451	F
14	S Santa Fe Avenue &	AM	0.711	C	0.751	C
	8th Street	PM	0.554	A	0.605	B
15	S Santa Fe Avenue &	AM	0.599	A	0.639	B
	Porter Street	PM	0.809	D	0.868	D
16	S Santa Fe Avenue &	AM	0.998	E	1.034	F
	Olympic Boulevard	PM	0.983	E	1.016	F
17	S Santa Fe Avenue &	AM	0.889	D	0.899	D
	E 15th Street	PM	0.678	B	0.702	C
18	S Rio Street &	AM	0.595	A	0.650	B
	E 7th Street	PM	0.418	A	0.462	A
19	S Anderson Street &	AM	0.737	C	0.792	C
	E 4th Street	PM	0.433	A	0.469	A
20	Boyle Avenue &	AM	1.072	F	1.112	F
	Whittier Boulevard	PM	1.049	F	1.081	F
21	Boyle Avenue &	AM	0.885	D	0.941	E
	7th Street	PM	0.806	D	0.845	D
22	S Alameda Street &	AM	0.739	C	0.759	C
	I-10 Eastbound ramps	PM	0.853	D	0.865	D

TABLE 16A
670 MESQUIT
FUTURE BASE (2040) PLUS PROJECT
SIGNALIZED INTERSECTIONS LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	FUTURE BASE (2040)		FUTURE BASE (2040) + PROJECT	
			V/C	LOS	V/C	LOS
1	S Central Avenue &	AM	0.838	D	0.859	D
	7th Street	PM	1.059	F	1.107	F
2	N Alameda Street &	AM	0.752	C	0.769	C
	E Aliso Street/E Commercial Street	PM	1.040	F	1.061	F
3	Alameda Street &	AM	0.778	C	0.813	D
	Temple Street	PM	0.804	D	0.825	D
4	N Alameda Street &	AM	1.189	F	1.221	F
	E 1st Street	PM	1.223	F	1.242	F
5	N Alameda Street &	AM	1.069	F	1.076	F
	E 2nd Street	PM	0.974	E	0.996	E
6	S Alameda Street &	AM	0.969	E	1.008	F
	3rd Street/4th Place	PM	0.889	D	0.930	E
7	S Alameda Street &	AM	0.603	B	0.621	B
	4th Street	PM	0.987	E	1.025	F
8	S Alameda Street &	AM	1.069	F	1.093	F
	6th Street	PM	1.077	F	1.103	F
9	S Alameda Street &	AM	1.169	F	1.186	F
	7th Street	PM	1.182	F	1.269	F
10	Molino Street/Merrick Street &	AM	0.834	D	0.854	D
	4th Street	PM	0.814	D	0.864	D
11	Mateo Street &	AM	0.966	E	1.024	F
	6th Street	PM	0.884	D	1.009	F
12	Mateo Street &	AM	0.898	D	0.957	E
	7th Street	PM	0.957	E	1.107	F
13	S Santa Fe Avenue &	AM	1.251	F	1.296	F
	7th Street	PM	1.315	F	1.472	F
14	S Santa Fe Avenue &	AM	0.729	C	0.768	C
	8th Street	PM	0.569	A	0.620	B
15	S Santa Fe Avenue &	AM	0.615	B	0.654	B
	Porter Street	PM	0.831	D	0.889	D
16	S Santa Fe Avenue &	AM	1.024	F	1.055	F
	Olympic Boulevard	PM	1.003	F	1.037	F
17	S Santa Fe Avenue &	AM	0.915	E	0.923	E
	E 15th Street	PM	0.697	B	0.722	C
18	S Rio Street &	AM	0.610	B	0.664	B
	E 7th Street	PM	0.427	A	0.471	A
19	S Anderson Street &	AM	0.755	C	0.809	D
	E 4th Street	PM	0.442	A	0.477	A
20	Boyle Avenue &	AM	1.098	F	1.136	F
	Whittier Boulevard	PM	1.074	F	1.104	F
21	Boyle Avenue &	AM	0.907	E	0.961	E
	7th Street	PM	0.827	D	0.864	D
22	S Alameda Street &	AM	0.759	C	0.779	C
	I-10 Eastbound ramps	PM	0.874	D	0.886	D



CONCEPTUAL - NOT FOR CONSTRUCTION
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED

Figure 10
Conceptual Corrective Action
Santa Fe Avenue & Jesse Street
670 Mesquit Project

DOT Case No. CEN16-45273
Attachment G

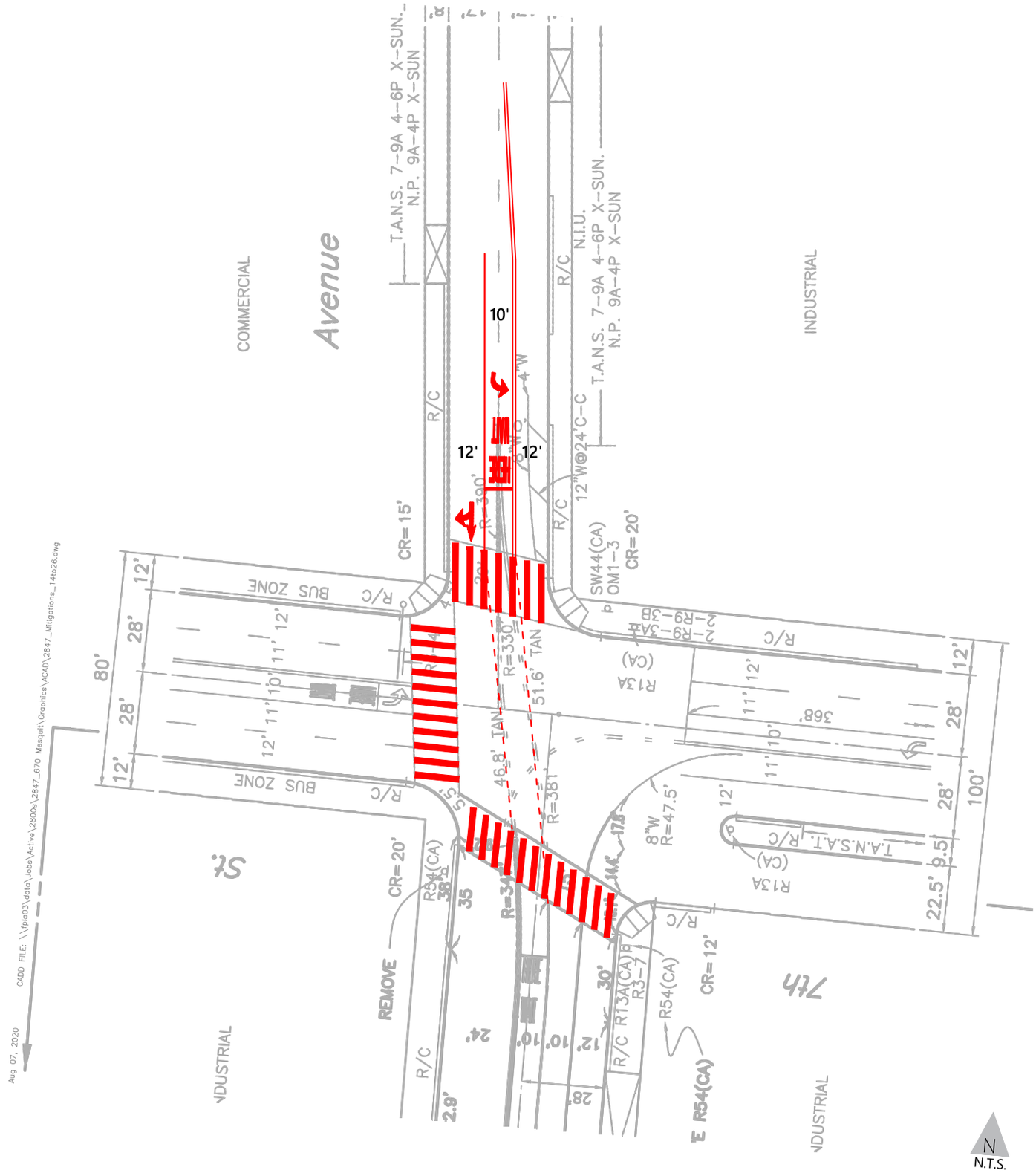


Figure 11
Conceptual Correction Action
Santa Fe Avenue & 7th Street
670 Mesquit Project

CONCEPTUAL - NOT FOR CONSTRUCTION
DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED

CONCEPTUAL SIGNAL EQUIPMENT AND POLE TYPES:

(A) LADOT/CALTRANS TYPE 17-3-100 SIGNAL POLE WITH 20' SIGNAL MAST ARM AND 4' STREET LIGHT MAST ARM. SEE SHEET 2 FOR CITY STD. DRAWING S-52.1.6 AND SHEET 3 FOR POTENTIAL POLE INSTALLATION OPTIONS.

(B) LADOT TYPE 7 PEDESTRIAN PUSH BUTTON POST. SEE SHEET 2 FOR CITY STD. DRAWING S-51.7.

(C) TYPE 351 SIGNAL CONTROLLER ON TYPE F-332 FOUNDATION. SEE SHEET 2 FOR CITY STD. DRAWING S-52.1.3 FOR FOUNDATION DETAILS.

(D) BUREAU OF STREET LIGHTING (BSL) CD953C SIGNAL/STREET LIGHT POLE WITH 4' STREET LIGHT MAST ARM. SEE SHEET 2 FOR STANDARD DRAWING B-3685 AND SHEET 3 FOR POTENTIAL POLE INSTALLATION OPTIONS.

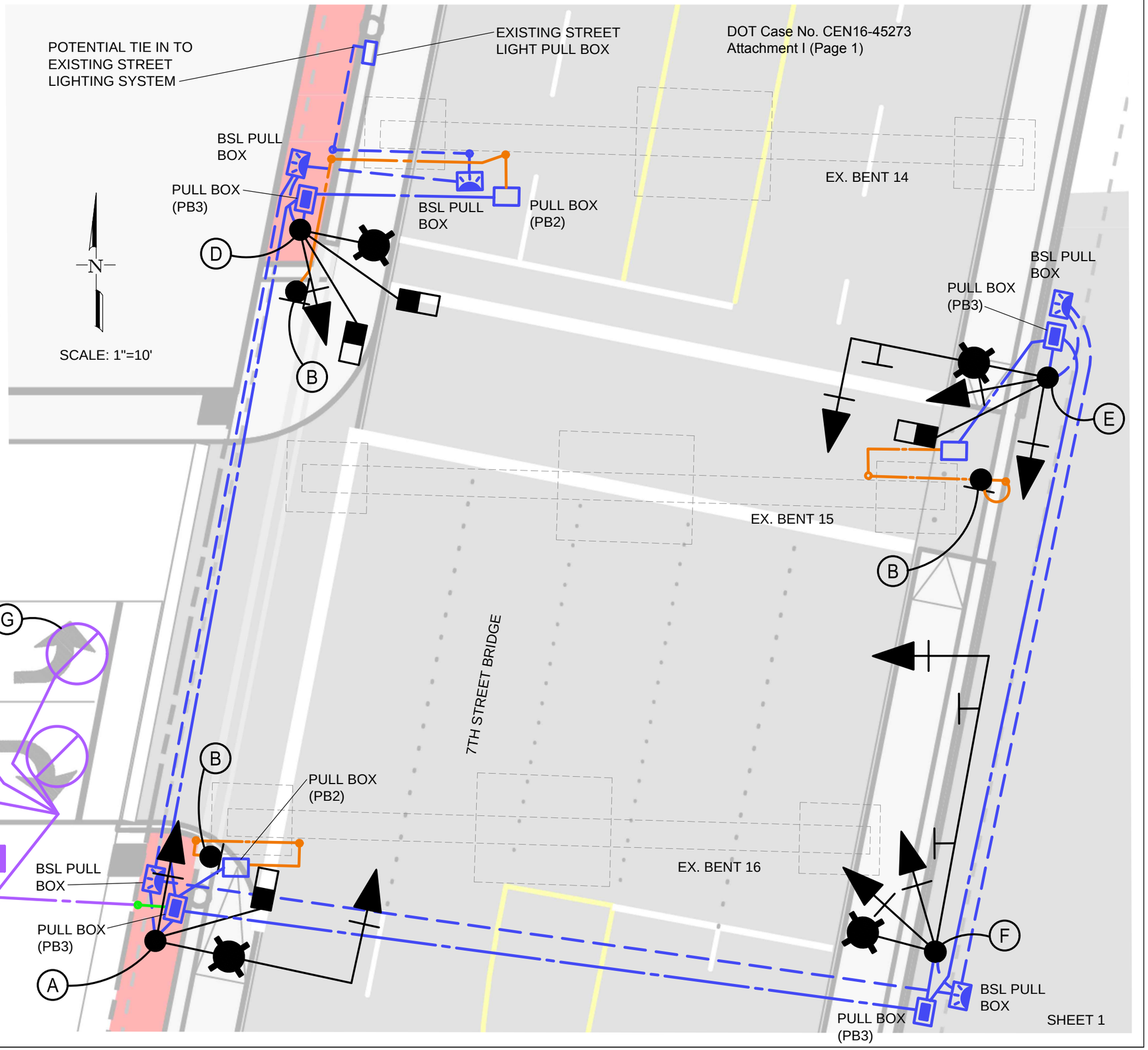
(E) LADOT/CALTRANS TYPE 17-3-100 SIGNAL POLE WITH 20' SIGNAL MAST ARM AND A 4' STREET LIGHT MAST ARM. SEE SHEET 2 FOR CITY STD. DRAWING S-52.1.6 AND SHEET 3 FOR POTENTIAL POLE INSTALLATION OPTIONS.

(F) LADOT/CALTRANS TYPE 19-4-100 SIGNAL POLE WITH 30' SIGNAL MAST ARM AND A 4' STREET LIGHT MAST ARM. SEE SHEET 2 FOR CITY STD. DRAWING S-52.1.6 AND SHEET 3 FOR POTENTIAL POLE INSTALLATION OPTIONS.

(G) PREFORMED TRAFFIC SIGNAL LOOP DETECTORS. SEE SHEET 2 FOR CITY STD. DRAWING S-70.1E.

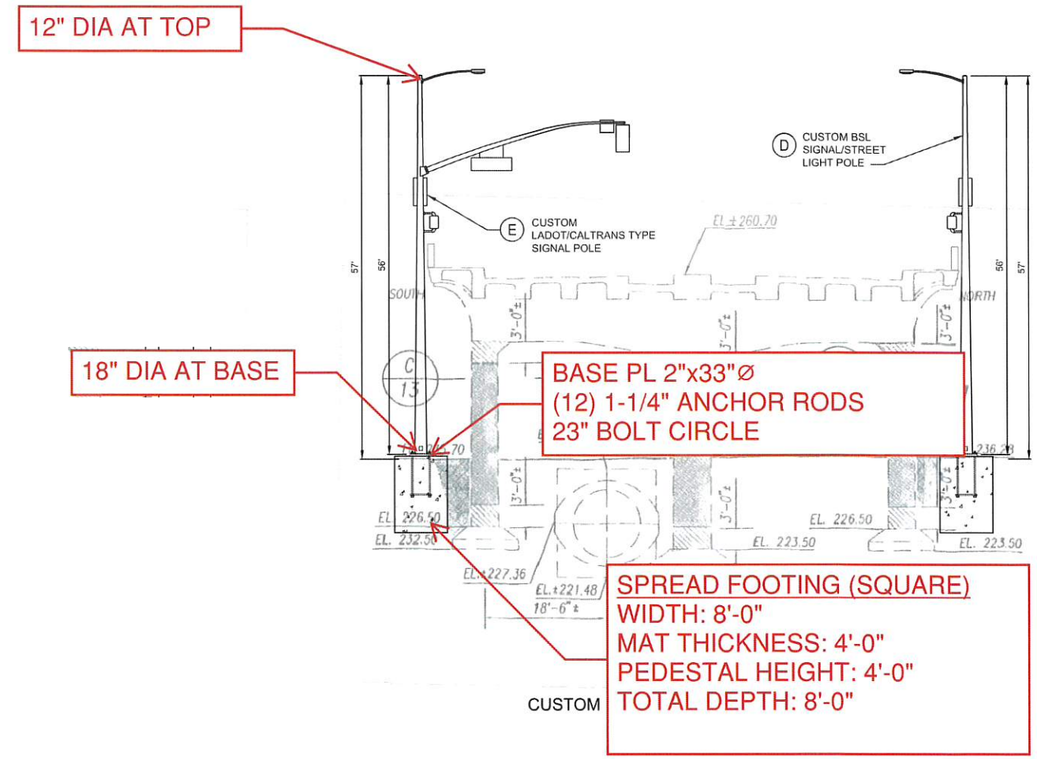
LEGEND:

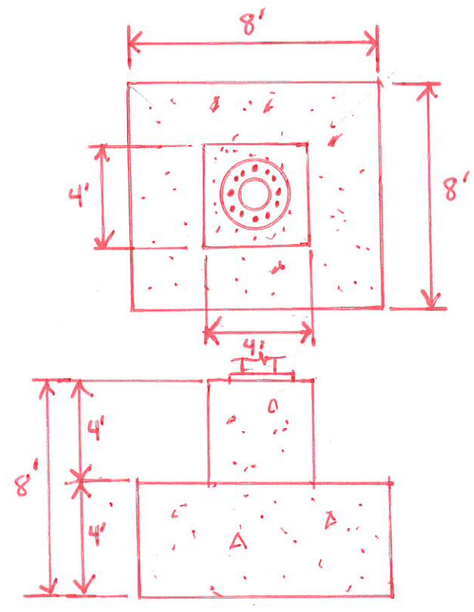
- CONDUIT AND SIGNAL EQUIPMENT INSTALLED WITHIN BUILDING STRUCTURE
- CONDUIT AND SIGNAL EQUIPMENT INSTALLED BELOW BRIDGE IN GRADE
- GALVANIZED RIDGE CONDUIT ATTACHED TO BRIDGE STRUCTURE TO CONNECT PEDESTRIAN PUSH BUTTON POLES TO CONTROLLER
- GALVANIZED RIDGE CONDUIT RISER FROM IN GRADE PULL BOX TO CONTROLLER CABINET PULL BOX
- STREET LIGHT CONDUIT INSTALLED BELOW GRADE AND ON BRIDGE TO TIE INTO EXISTING STREET LIGHTING SYSTEM.



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

DOT Case No. CEN16-45273
Attachment I (Page 2)





CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.