Appendix F

Traffic

Supporting Information

Appendix F – Traffic Report Supporting Information

Paramount Petroleum
AltAir Renewable Fuels Project
Traffic Impact Analysis

October 11, 2021

Submitted to:
AltAir Paramount

J# 10985

Prepared by:
Iteris, Inc.

Innovating Through Informatics™

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1.0 INTRODUCTION

This traffic impact analysis has been prepared for the AltAir Revised Renewable Fuels Project (Project) that is expected to convert the Paramount Petroleum Refinery to manufacture only renewable fuels. This analysis evaluates the operations of the Project gate and study area intersections as directed by the City of Paramount staff as potentially being impacted by traffic from the Project.

The Paramount Facility resides on a 66-acre complex and includes refinery processing units, renewable fuel processing units, over 1.7 million barrels of product storage, truck loading and unloading facilities, and railcar loading and unloading facilities. The current renewable fuels operation has been in continuous production since January of 2016.

Raw materials will continue to be received by rail or by truck. Approximately 25 percent of the raw material may be shipped by barge to the Port of Los Angeles area, where it will be transferred to local tank storage prior to loading into trucks for transport to the Paramount Facility.

Logistics changes are summarized below, with more detailed descriptions following:

- Existing truck loading and unloading facilities (mainly racks previously used for asphalt) will be modified and relocated for the Renewable Fuels operation.
- Existing railcar loading and unloading facilities will be modified for the variety of raw materials and products that are needed for and produced by the Renewable Fuels operation.

Existing truck loading and unloading racks will be modified and relocated as part of the Renewable Fuels Project to accommodate the renewable fuels operation. In general, existing asphalt truck racks will be relocated and converted to feed, blendstock and product receipts and sales. No additional truck racks will be required at the Facility. Anticipated truck trips will increase compared to activity levels evaluated for the Renewable Fuels Project.

The following analysis of transportation conditions with the Project includes an analysis of employee, truck and rail volumes accessing the project site.

1.1 Project Location

The Project site is located at 14700 Downey Avenue, Paramount, California. The Project site is located immediately west of the City of Bellflower municipal boundary, and approximately one-quarter mile south of the City of Downey boundary. Regional access to the Project is provided by Interstates 605 and 710 which run north-south approximately two-and-one quarter miles east and west of the Revised Project, respectively. State Route 91 runs east-west and is located approximately two miles south of the Project. Interstate 105 runs east-west and is located about three-quarters of a mile north of the Project. **Figure 1** shows the project site location and study intersections.

1.2 Study Area

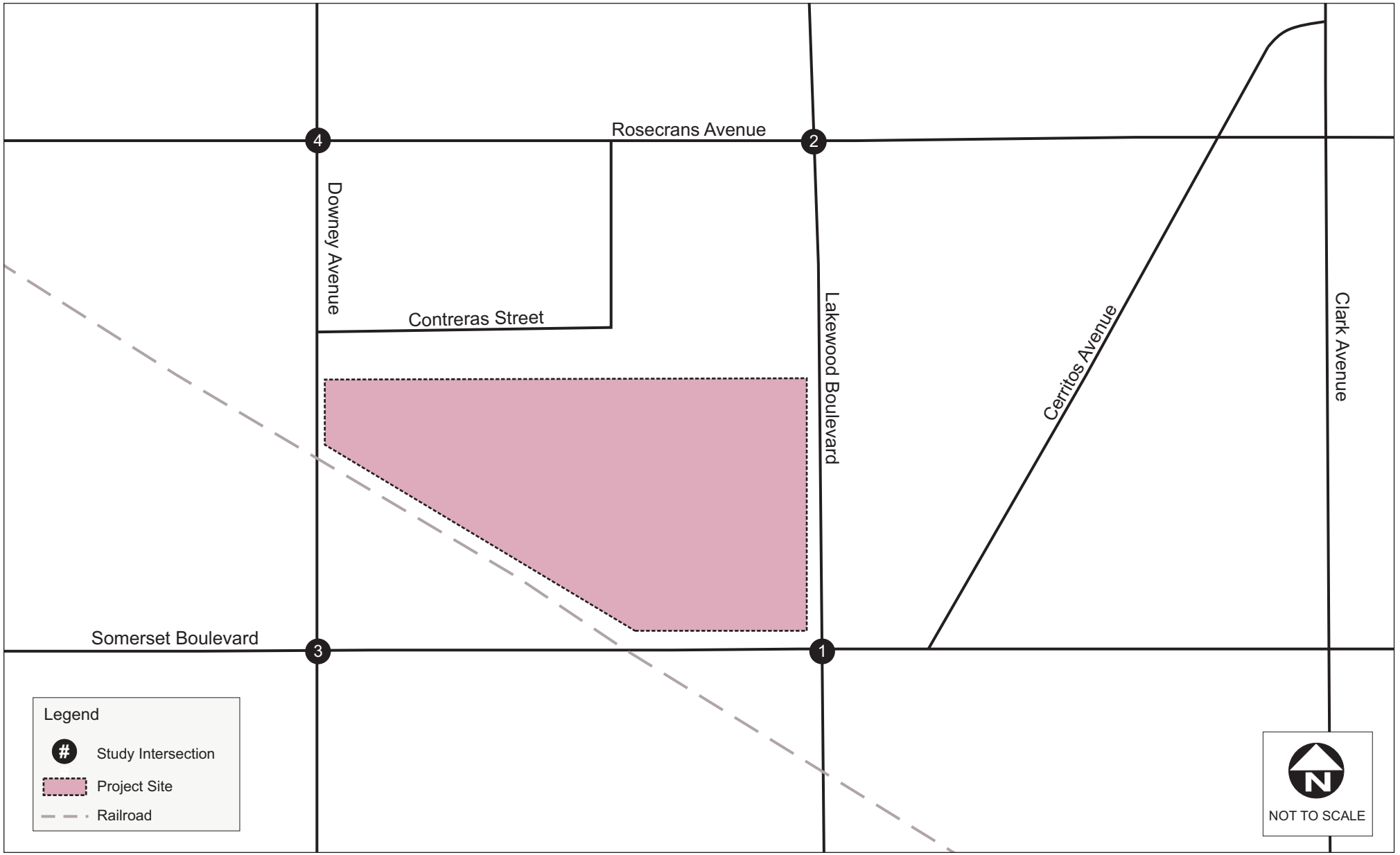
The study area for analysis is the four (4) signalized intersections immediately surrounding the project site and two site driveways. The study intersections are illustrated in the previously referenced **Figure 1** and are as follows:

1. Lakewood Boulevard/Somerset Boulevard;
2. Lakewood Boulevard/Rosecrans Avenue;
3. Downey Avenue/Somerset Boulevard; and
4. Downey Avenue/Rosecrans Avenue.

1.3 Analysis Scenarios

Traffic operations were evaluated for each of the following scenarios during the weekday peak hours during the periods of the a.m. (7:00 a.m. – 9:00 a.m.) and p.m. (4:00 p.m. – 6:00 p.m.):

- Existing Conditions
- Existing Plus Project Conditions
- Existing Plus Project Construction Conditions



Paramount Refinery
Traffic Impact Study
City of Paramount

Figure 1
Project Location and Study Intersections

2.0 ENVIRONMENTAL SETTING

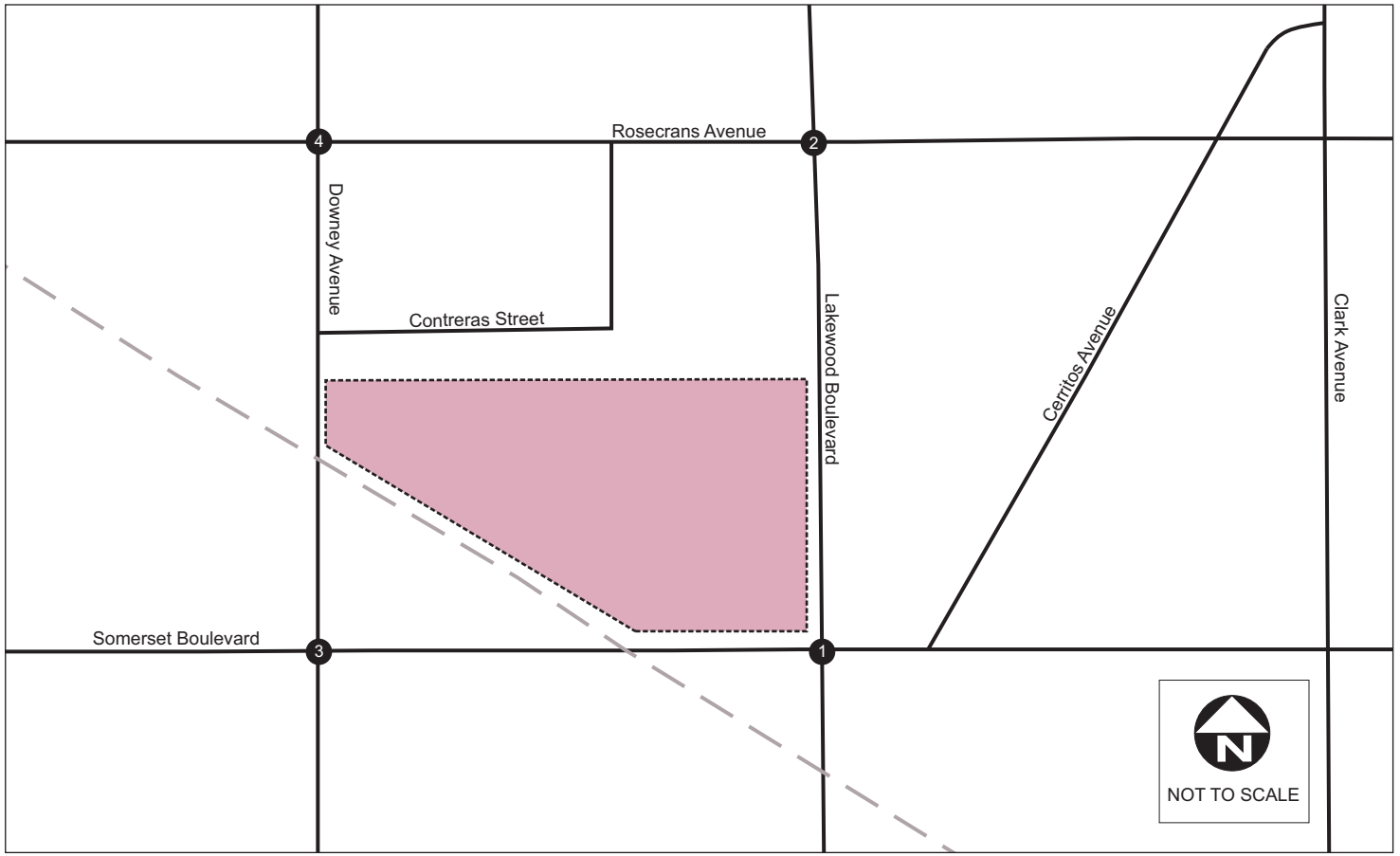
This section presents an overview of the roadways and existing traffic volumes within the study area.

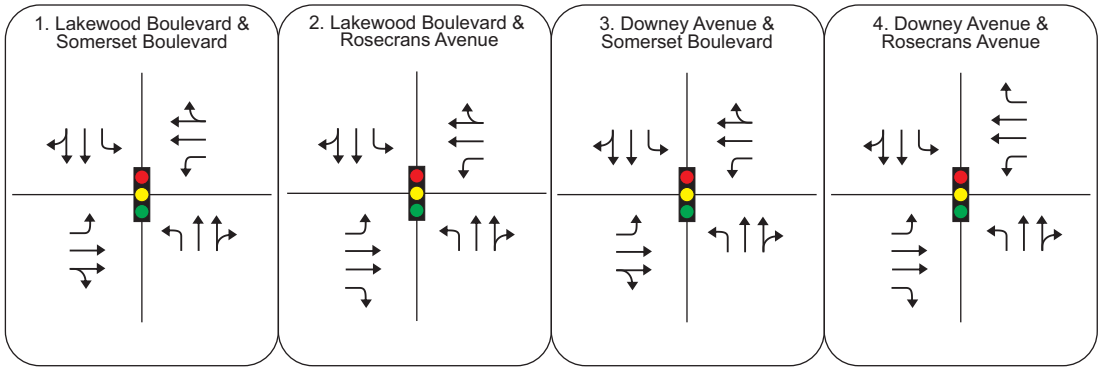
2.1 Roadway Configurations

The Project site is bounded by Lakewood Boulevard, Somerset Boulevard, and Downey Avenue. The following is a description of area roadways.

- *The Century Freeway (I-105)* is an east-west freeway from the Los Angeles International Airport to Norwalk. It has four general-purpose lanes and one high-occupancy vehicle lane in the vicinity of the Project.
- *The Artesia Freeway (SR-91*) is an east-west freeway that extends from Gardena to the SR-60/I-215 interchange in Riverside. It has five general-purpose lanes and one high-occupancy vehicle lane in the vicinity of the Project.
- *The Long Beach Freeway (I-710)* is a north-south freeway that extends from Long Beach to Alhambra. It has five general-purpose lanes in the vicinity of the Project.
- *The San Gabriel River Freeway (I-605)* is a north-south freeway that extends from I-405 in Seal Beach to I-210 in Irwindale. It has six general-purpose lanes and one high-occupancy vehicle lane in the vicinity of the Project.
- *Lakewood Boulevard* is a north–south four-to-six lane major arterial. It has interchanges with both the SR-91 and I-105 freeways. The roadway is a Terminal Access Route Surface Transportation Assistance Act (STAA) which allows large trucks to operate. Lakewood Boulevard was a state highway whose maintenance was relinquished to the City of Bellflower adjacent to the Project site.
- *Somerset Boulevard* is an east-west secondary arterial. Somerset Boulevard does not have direct freeway access.
- *Downey Avenue* is a north-south secondary arterial. Downey Avenue has an interchange with SR-91.
- *Rosecrans Boulevard* is an east-west major arterial. Rosecrans Boulevard has interchanges with I-710 to the west and I-605 to the east. Rosecrans Avenue is designated a City of Paramount truck route from the west city limits to Century Boulevard.
- *Andry Drive* is an L-shaped private street belonging to Altair Paramount that connects Lakewood Boulevard and Somerset Boulevard and acts as the site driveway access. These access points are stop-controlled.

Figure 2 shows the existing intersection lane configurations.





Legend

- # Study Intersection
- Project Site
- XX/XX AM/PM Peak Hour Volumes

2.2 Existing Traffic Volumes

Existing traffic volumes are based on vehicle turning movement counts during the a.m. (7:00 – 9:00) and p.m. (2:00 – 4:00) peak periods. All four of the locations were counted in June 2020 during the COVID-19 Pandemic. Due to the COVID-19 Pandemic, traffic volumes are depressed below their typical level for the preceding years. Therefore, to have a study that reflects typical conditions—as well as conditions more likely once the Project is operational—the volumes were modified with factors using a February 25, 2016 count at Lakewood Boulevard and Somerset Boulevard.

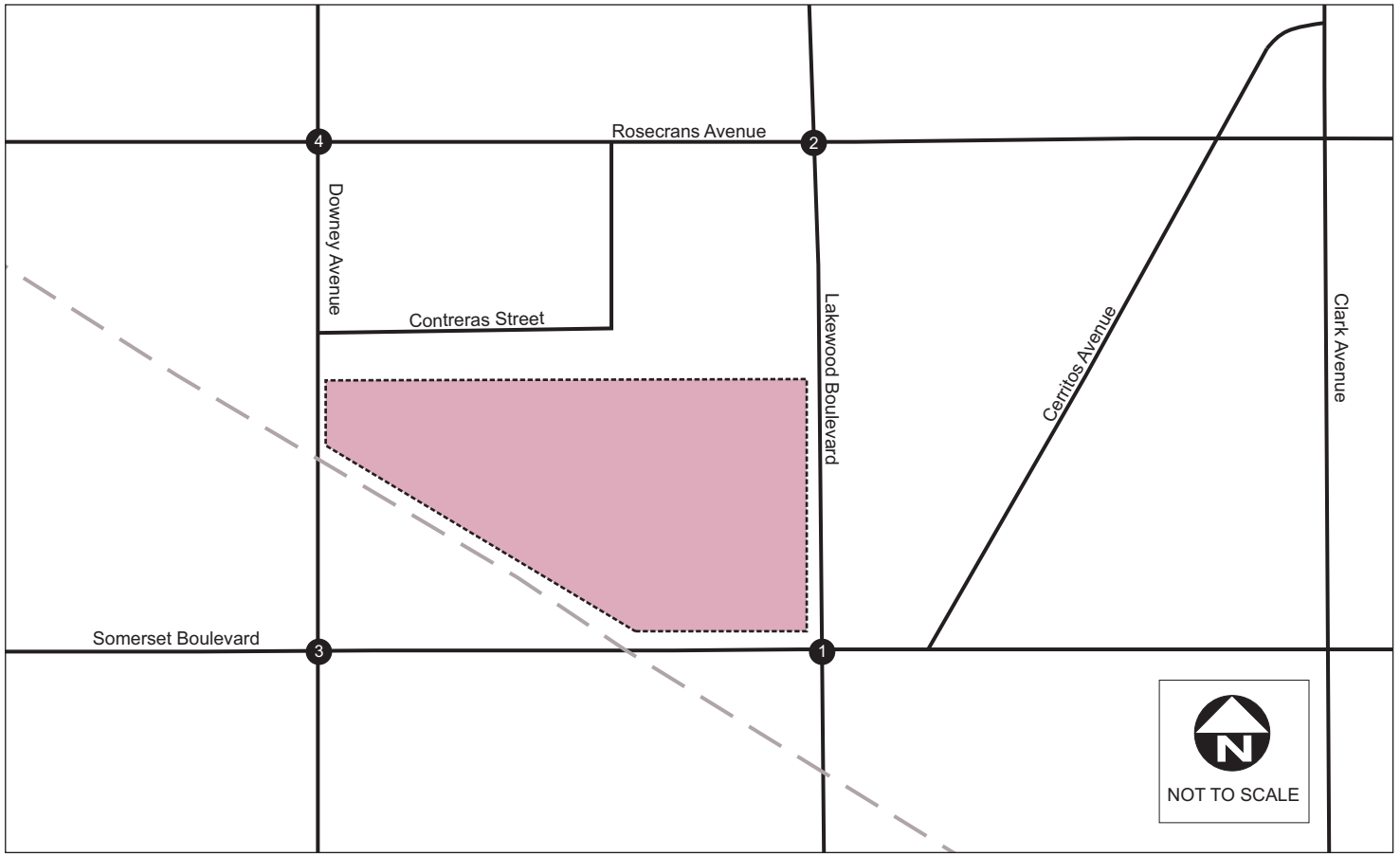
The a.m. and p.m. volumes for the four intersection approaches for the 2016 and 2020 counts were summed and compared. The percent differences between the two sets of counts at each intersection approach were used as factors to adjust each of the 2020 volumes to approximate pre-COVID intersection volume conditions in 2016. As shown in **Table 1**, volumes decreased approximately fifty percent in the a.m. peak hour and twenty percent in the p.m. peak hour.

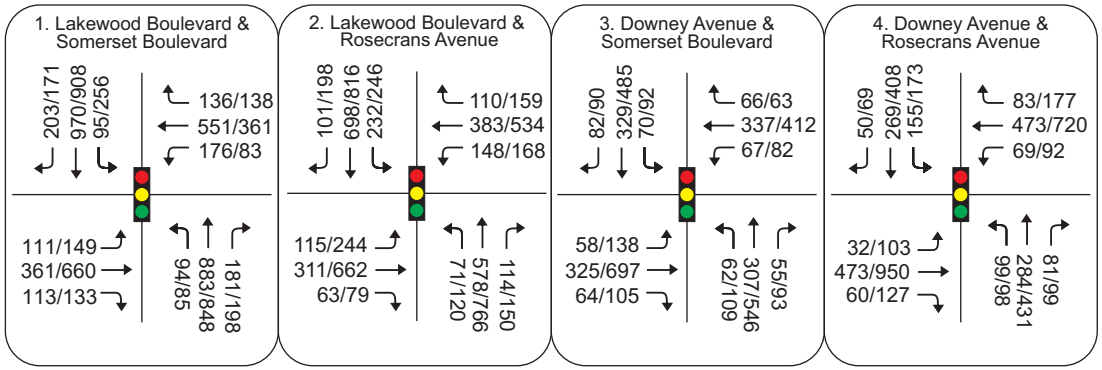
Table 1: Lakewood Boulevard/Somerset Boulevard Historic vs. COVID-19 Period Volumes

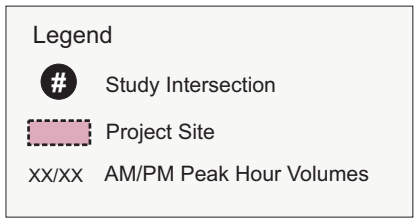
	Lakewood Blvd/ Somerset Blvd				
	NB	SB	EB	WB	Total
AM Peak Hour					
2016	1,174	1,221	614	787	3,796
2020	561	660	288	368	1,877
Change	-52%	-46%	-53%	-53%	-51%
PM Peak Hour					
2016	1,355	965	560	1,156	4,036
2020	1,097	634	464	996	3,191
Change	-19%	-34%	-17%	-14%	-21%

The percent change by peak hour by approach direction was applied to each of the intersections except the Lakewood Boulevard and Somerset Boulevard, since subsequent to the traffic volumes conducted for the study, the City of Bellflower provided additional traffic counts for the intersection of Lakewood Boulevard and Somerset Boulevard counted January 23, 2020 (prior to the COVID-19 Pandemic). This data set was used for the traffic analysis of the intersection of Lakewood Boulevard and Somerset Boulevard and had no adjustments made to the turning movement volumes.

The resulting existing volumes used for the traffic analysis are shown in **Figure 3**.







Note: Volumes for intersections 2, 3, and 4 adjusted to Pre-COVID level

3.0 TRAFFIC OPERATIONS ANALYSIS METHODOLOGY

The quality of traffic operations is characterized using the concept of level of service (LOS). Level of service is defined by a range of grades from A (best) to F (worst). At intersections, LOS "A" represents relatively free operating conditions with little or no delay. LOS "F" is characterized by extremely unstable flow conditions and severe congestion with volumes at or near the intersection's design capacity. This results in long queues backing up from all approaches to intersections.

Consistent with the City of Paramount General Plan, this analysis uses the Intersection Capacity Utilization (ICU) methodology to determine LOS at the study intersections. The ICU method of analyzing intersection operations is a planning-level analysis based upon the critical flow ratio for the intersection. The critical flow ratio is the sum of green and clearance times required to serve the critical movements at the intersection divided by a reference cycle length. Critical movements are movements that cannot time concurrently and require the most time to serve demand. The sum of the critical phase volumes determine the overall critical volume that must be accommodated by the intersection and used to determine the intersection LOS.

Table 2 defines the LOS for intersection operating conditions.

Table 2: Intersection Level of Service Definitions

Level Of Service	Description	Volume-to-Capacity Ratio (V/C)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.600
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601 – 0.700
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701 – 0.800
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues.	0.801 – 0.900
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	0.901 – 1.000
F	Forced flow. Represents jammed conditions. Backups form locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	>1.000

Source: Highway Capacity Manual, Transportation Research Board, Washington, D.C., 1994.

The City of Paramount requires that any new development or redevelopment in the city that is expected to generate more than 500 new trips per day must conduct a Traffic Impact Analysis (TIA). Performance measure of significance (significance in terms of City policy, not CEQA significance) in the TIA is if the Project related increase in the volume-to-capacity (v/c) ratio for intersection equals or exceeds the thresholds established by the City. **Table 3** shows the City's traffic impact analysis thresholds. When a new Project results in a significant impact, improvements to the intersection would be required by the City to restore or reduce the v/c ratio to the operating levels of services (as measured using the v/c ratio that existed prior to the Project's implementation). While the CEQA Guidelines: California Code, Public Resources Code Section 21099(b)(2) prevents lead agencies from relying on impacts to vehicle delay to determine that CEQA traffic impacts are significant, the City can require intersection operations improvements outside of CEQA.

Table 3: Traffic Impact Analysis Thresholds

Level Of Service	Volume-to-Capacity Ratio	Incremental Increase
C	0.701-0.800	0.040 or more
D	0.801-0.900	0.020 or more
E/F	0.901-more	0.010 or more

3.1 Queuing and Stacking Analysis

Due to the close proximity of the site driveways to the intersection of Lakewood Boulevard/Somerset Boulevard, a focused queuing and stacking analysis of intersection of Lakewood Boulevard/Somerset Boulevard along with the Project site gates, the Andry Drive intersection with Lakewood Boulevard and Somerset Boulevard and the future West Santa Ana Branch at-grade crossings were analyzed in a traffic model to forecast the delay, queuing and stacking of vehicles under existing and with-Project conditions.

Inbound gate queuing analysis was conducted based on the peak day gate demand, inbound gate processing time and the amount of available on-site storage for vehicle waiting for the inbound gate.

Analysis was also conducted with the software Synchro 11 and SimTraffic. Synchro is a macroscopic analysis and optimization software application. Synchro supports the Highway Capacity Manual's (HCM) 6th Edition, 2010 and 2000 for signalized intersections, unsignalized intersections and roundabouts. The primary measure of performance from Synchro output reported in this analysis is the HCM intersection average control delay and the resulting level of service.

SimTraffic is a microscopic model where each vehicle, including trucks, in the traffic system is individually tracked through the model and comprehensive operational measures of effectiveness are collected on every vehicle during each 0.1-second of the simulation. Unlike Synchro, SimTraffic

measures the full impact of queuing and blocking. The measures of performance from SimTraffic are average stop delay (by movement), upstream block time (percent) and storage block time (percent).

The results of the queuing and stacking analysis are in Section 9.1.

3.2 Passenger Car Equivalent

A passenger car equivalent (PCE) represents the number of passenger cars that would use the same amount of highway capacity as the vehicle being considered under the prevailing roadway and traffic conditions.

Trucks are larger and, more importantly, accelerate more slowly than passenger cars, and thus have a greater effect on traffic flow than passenger cars. On level terrain and in congested conditions trucks may be equivalent to two to four passenger cars in terms of their impact on traffic flow based on the United States Department of Transportation - Federal Highway Administration Comprehensive Truck Size and Weight Study.[1] In Table IX-2: Vehicle Passenger Car Equivalents on Urban Highway of that study, on congested "Other Principle Arterial" roadways (such as Lakewood Boulevard) for 40-foot and 80-foot trucks with vehicle weight-to-horsepower ratio (pounds/horsepower) of 150 and 200 is a PCE of 2.0 and a ratio of 250 is a PCE of 3.0 and a PCE ratio of 2.0. In order to have a conservative analysis of traffic impacts of the Project, a PCE value of 3.0 was used for tanker trucks during operations. A PCE value of 2.0 was applied to construction-period vehicle and employee shuttle due their shorter length.

4.0 EXISTING CONDITIONS

A level of service analysis was conducted to evaluate existing intersection operations during the a.m. and p.m. peak hours at the four (4) study intersections. **Table 4** summarizes the existing LOS at the study intersections. LOS calculation sheets are provided in **Attachment B**.

Table 4: Existing Intersection Peak Hour Level of Service

Intersection		AM Peak Hour		PM Peak Hour	
		LOS	V/C	LOS	V/C
1	Lakewood Boulevard/Somerset Boulevard	D	0.810	D	0.887
2	Lakewood Boulevard/Rosecrans Avenue	B	0.687	E	0.910
3	Downey Avenue/Somerset Boulevard	A	0.430	B	0.660
4	Downey Avenue/Rosecrans Avenue	A	0.502	C	0.729

Notes:
LOS = Level of Service.
V/C = Volume to Capacity Ratio

[1] https://www.fhwa.dot.gov/reports/tswstudy/

As shown in **Table 4**, a majority of the study intersections are operating at LOS D or better during both peak hour conditions, with the exception of the Lakewood Boulevard/Rosecrans Avenue intersection, which operate at LOS E during the p.m. peak hour.

5.0 PROJECT TRAFFIC

This section defines the traffic generated by the Project in a two-step process including trip generation and trip distribution. The Facility currently and would continue to operates 24 hours per day, 365 days per year. The existing work force at the Facility is expected to increase by about 30 permanent employees.

5.1 Project Truck Trip Generation

Project truck trip generation is based on maximum utilization of the racks for loading and unloading of products and is considered a peak capacity condition. Under the CEQA baseline conditions there were 156 truck round trips per day. Under the maximum utilization of rack capacity project conditions there would be 540 truck round trips per day.

For the peak hour Project intersection analysis, 23 inbound and 23 outbound truck trips were used. This is based on the hourly maximum rack utilization amount of 540 truck round trips divided by 24 hours—22.5 truck arrivals and departures from the site rounded up to 23.

Existing traffic from the AltAir Facility the day the traffic counts were taken at the Lakewood/Somerset intersection count (January 23, 2020) based on the AltAir gate logs showed one inbound truck in the a.m. peak hour and two inbound trucks in the p.m. peak hour. This analysis assumes those trucks left within the peak hour and therefore there was one outbound truck in the a.m. peak hour and two outbound trucks in the p.m. peak hour.

The incremental peak hour Project trip generation was analyzed as 22 inbound and 22 outbound trucks in the a.m. peak hour and 21 inbound and 21 outbound trucks in the p.m. peak hour as shown in **Table 5.** Truck trips were added to the existing intersection volume in the traffic analysis using a passenger car equivalency (PCE) factor of 3.0 per vehicle to account for the larger vehicle size.

Table 5: Project Truck Trip Generation

Peak Hour	Site Truck Trip Generation							
	Existing Conditions		Total Site With Project		Incremental Project		Total Incremental PCE Trips*	
	Inbound	Outbound	Inbound	Inbound	Inbound	Outbound	Inbound	Outbound
AM Peak Hour	1	1	23	23	22	22	66	66
PM Peak Hour	2	2	23	23	21	21	63	63

Note: PCE value of 3.0 used for traffic analysis

5.2 Project Employee/Vendor Trip Generation

Under existing conditions there are and 100 employees. Under Project conditions the facility is expect to increase to 130 site employees. Those 30 employees are forecast to generate 74 daily one-way trips using the Institute of transportation Engineers (ITE) Trip Generation Handbook code 140 (Manufacturing) daily rate of 2.47 vehicle trips per employee.

The workers in existing and under Project conditions are predominately 12-hour shift worker (either 4:30 a.m. to 4:30 p.m. or 4:30 p.m. to 4:30 a.m. For the Project analysis, some activity is assumed in addition to existing conditions levels of site auto trips in the a.m. and p.m. peak hours: five of the employee trips would be incremental office and maintenance staff arriving between 7 a.m. and 8 a.m. and leaving at 5 p.m. and 10 inbound and outbound shift workers are assumed in the p.m. peak hour.

The assumptions for site employee trip generation activity from the Project are shown in **Table 6.**

Table 6: Project Employee Trip Generation

Time Period	Trip Generation	
	Autos	
	Inbound	Outbound
AM Peak Hour	5	0
PM Peak Hour	10	15

5.3 Project Rail Generation

Under baseline conditions 33 rail cars visit the site per day with 50 rail cars under Project conditions for an incremental change of 17 rail cars per day.

5.4 Project Trip Distribution

Auto trips and truck trips were distributed differently due to the location of the Project driveways.

Employee vehicles access the facility from the main gate on Downey Boulevard. Auto trips were assumed to be split 50/50 from the north and south along Downey Avenue, with access to I-105 and SR-91 respectively.

Access to the Project site for trucks could be from the south of the site or north of the site based on the Project's proximity to Lakewood Boulevard and its access to the I-105 and SR-91 freeways. Both freeways provide regional access, including to the Port of Los Angeles where an estimated 25 percent of the raw material may be shipped via barge. Other truck deliveries would be from local tank storage areas in the Los Angeles region. Therefore, inbound truck trip distribution was assumed to be 50/50 from the north and south along Lakewood Boulevard.

For outbound trips, all were assumed to exit the Andry Drive/Lakewood Boulevard driveway and proceed southbound. The raised median along Lakewood Boulevard prevents trucks exiting Andry Drive at

Lakewood Boulevard from turning north (left) and would require them to turn south (right). The analysis did not assume existing vehicles utilizing the Andry Drive/Somerset Boulevard driveway due to the unprotected left-turn required. The project would need to install signage for outbound vehicles to ensure their utilization of the Lakewood Boulevard driveway.

Figure 4 shows the trip distribution pattern for auto and truck trips forecasted for the Project in the study area.

5.5 Project Trip Assignment

Trip generated by the Project, as shown in **Tables 5** and **6**, were assigned to the surrounding roadway system based on the distribution patterns to estimate the Project-related peak-hour traffic at each of the study intersections. **Figure 5** shows the a.m. and p.m. peak hour Project trip assignment for the Project.

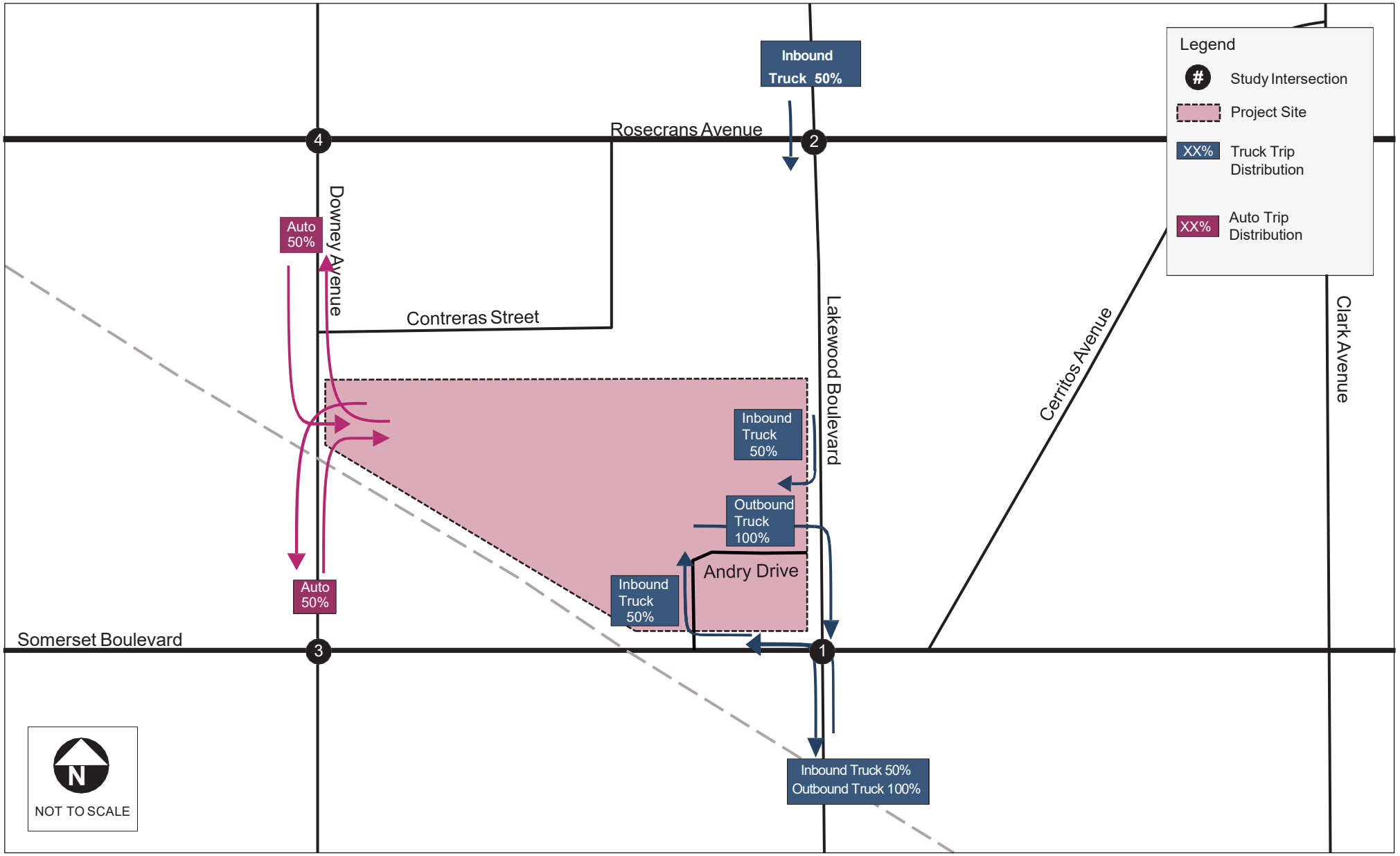


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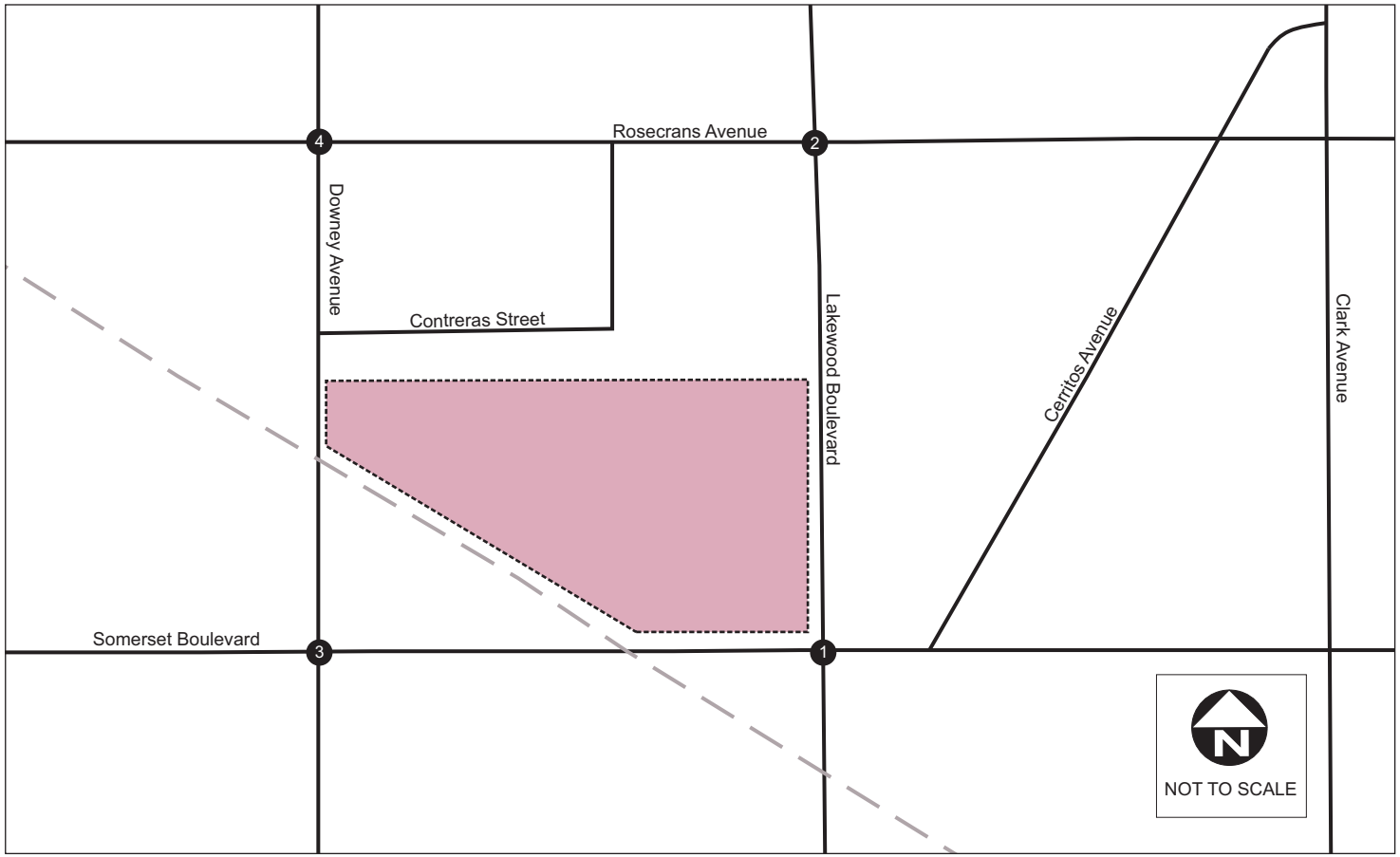
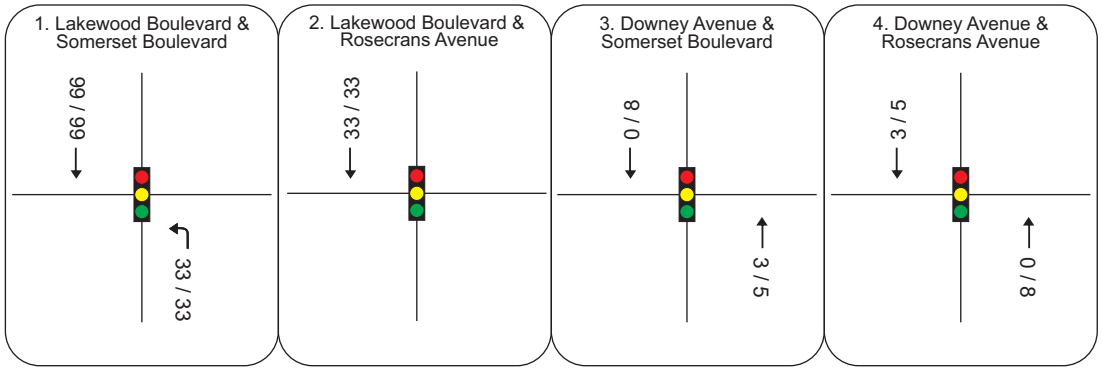
Figure 4
Project Trip Distribution





Legend

Study Intersection

Project Site

XX/XX AM/PM Peak Hour PCE Volumes

6.0 EXISTING PLUS PROJECT CONDITIONS

Existing plus Project conditions were developed by adding distributed Project trips, as a result of the Project, to existing volumes. A level of service analysis was conducted to evaluate existing plus Project intersection operations during the a.m. and p.m. peak hours at the study intersections. **Figure 6** illustrates the peak hour existing plus Project turning movement volumes. **Table 7** compares the existing plus Project volume to capacity ratios to existing conditions to determine potential impacts. As shown no location is forecast to be adversely impacted by the Project. Analysis calculation worksheets are included in **Attachment B**.

Table 7: Intersection Peak Hour Impact Analysis

Intersection		Existing				Existing plus Project				Determination		
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		Change in V/C		Imp.
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	AM	PM	
1	Lakewood Boulevard/Somerset Boulevard	D	0.810	D	0.887	D	0.850	D	0.887	0.040	0.000	Yes
2	Lakewood Boulevard/Rosecrans Avenue	B	0.687	E	0.910	B	0.687	E	0.910	0.000	0.000	No
3	Downey Avenue/Somerset Boulevard	A	0.430	B	0.660	A	0.430	B	0.661	0.000	0.001	No
4	Downey Avenue/Rosecrans Avenue	A	0.502	C	0.731	A	0.502	C	0.731	0.000	0.002	No

Notes:
LOS = Level of Service.
V/C = Volume to Capacity Ratio

The volume to capacity ratios in the ICU analysis are unchanged with the Project at intersection #1 in the p.m. peak hour, Intersection #2 in the a.m. and p.m. peak hours and Intersections #3 and #4 in the a.m. peak hours since the Project would not add additional volume to a critical movement and is therefore not included in the ICU calculation of volume to capacity ratio.

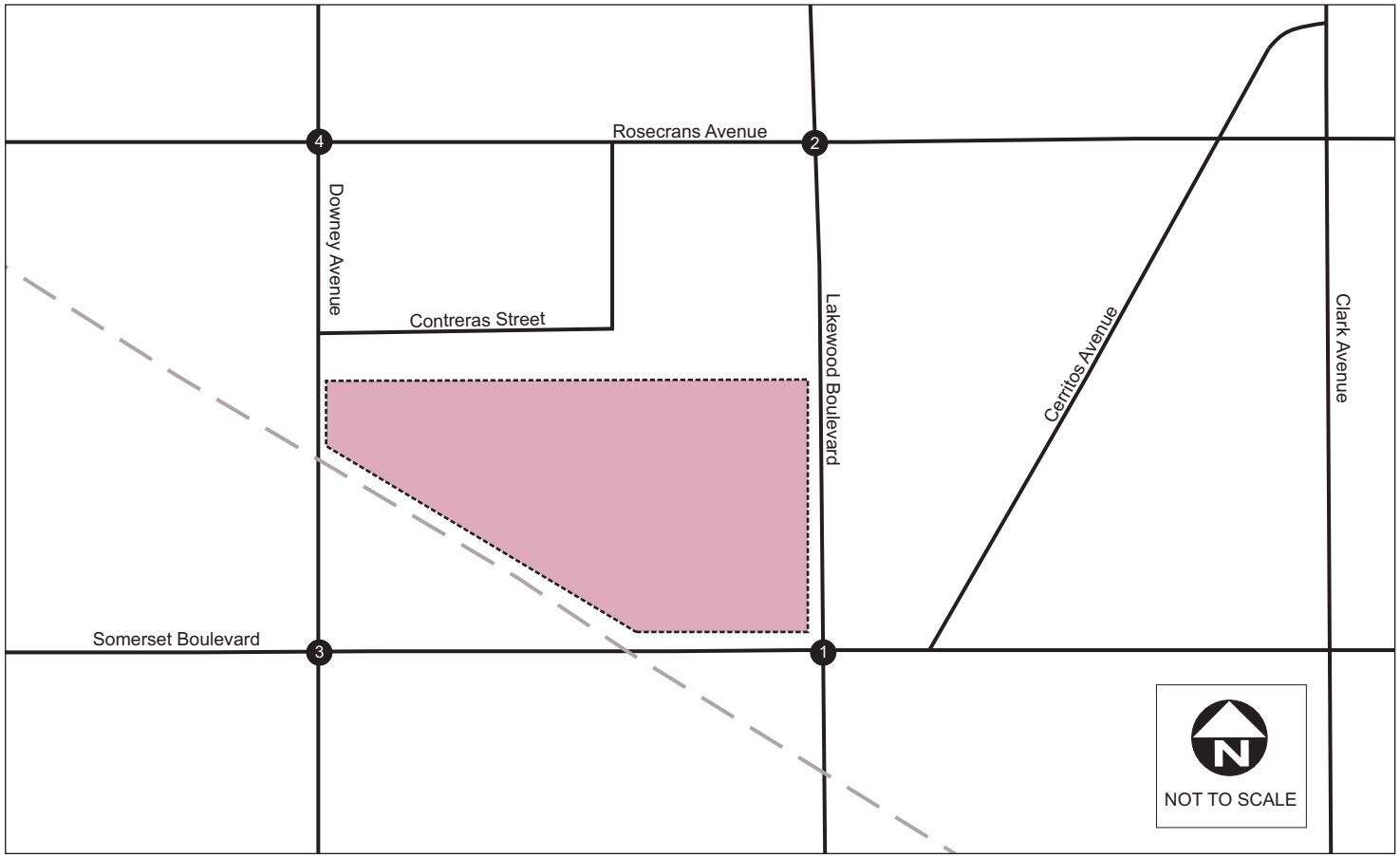
Based on the analysis, Intersection #1 Lakewood Boulevard/Somerset Boulevard would exceed the City's traffic impact analysis threshold for incremental increase in volume-to-capacity ratio in the a.m. peak hour. To address the identified impact, the City could require the striping of the southbound right-turn lane. The outside southbound shared through/right turn lane is approximately 23 feet wide and operates as two de facto lanes. The intersection analysis is based on the lane striping conditions, and therefore identified a potential impact which may not have an effect on the practical operation of the intersection. Nevertheless, the City Public Works should assess the location for potential southbound right-turn lane striping considering factors such as the access management of adjacent driveways and transit operations.

The results of this potential mitigation are shown in **Table 8**. As shown, the striping of the southbound intersection approach as one left-turn lane, two through lanes and a right turn lane would reduce the ICU volume-to-capacity ratio project increment to less than the City's traffic impact analysis threshold.

Table 8: Intersection Peak Hour Impact Analysis with Potential Mitigation

Intersection		Existing				Existing plus Project Plus Mitigation				Determination		
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		Change in V/C		Imp.
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	AM	PM	
1	Lakewood Boulevard/Somerset Boulevard	D	0.810	D	0.887	C	0.787	D	0.887	-0.023	0.000	No

Notes:
LOS = Level of Service.
V/C = Volume to Capacity Ratio



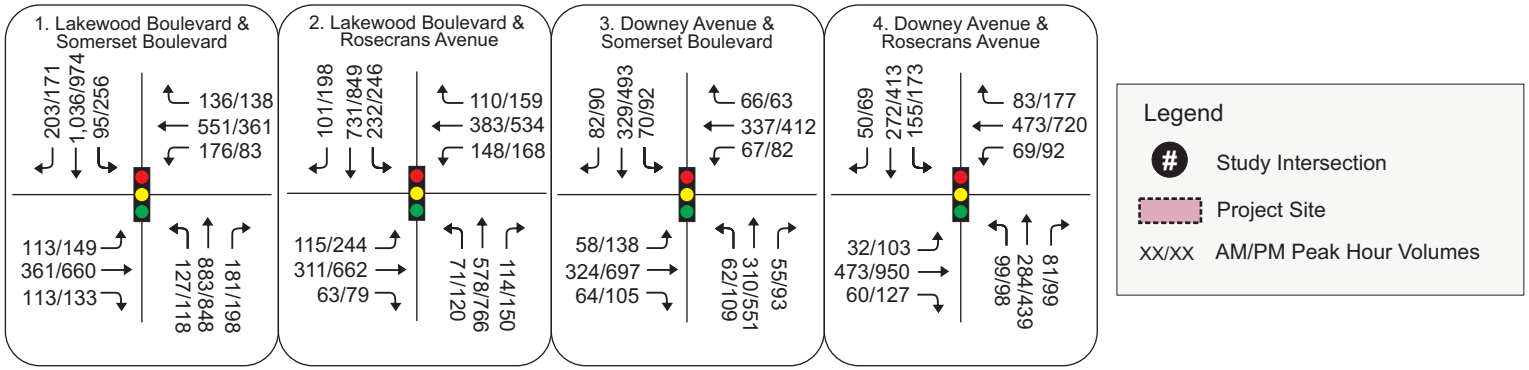


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Figure 6
Existing Plus Project
Peak Hour Intersection Traffic Volumes

7.0 EXISTING PLUS CONSTRUCTION CONDITIONS

Full construction and commissioning activities will take place over a two- to three-year timeframe. Demolition activities include relocation of loading and unloading racks and buildings, removal of crude unit, asphalt facilities and other existing equipment as needed to make room for new equipment installation. Construction activities include modifications to Unit A and the construction of new units, including the Pretreatment Unit, Hydrogen Generation Unit, and new equipment required for Unit B and the support units and utilities.

The Project will add one natural gas supply pipeline. The potential pipeline route provided by SoCalGas to the Facility will be approximately 3.7 miles of new pipeline that would extend north from Lakewood Boulevard to Somerset Boulevard, and enter the Facility from east on Somerset Boulevard (see **Figure 7**). The applicant will coordinate construction and follow in-road construction policies of the pipeline corridor Cities and Caltrans as applicable.

7.1 Construction Trip Generation

Peak day construction conditions were used for the peak hour traffic analysis of Project construction conditions.

Peak day construction trucks were estimated as 231 total construction trucks per day operating from 7 a.m. to 4 p.m. as 26 round trips per hour.

Construction workers are expected to park off-site and be shuttled to the Facility. The construction worker offsite temporary construction parking lot is at the corner of Somerset and All American Way within the City of Paramount, west of the Facility as shown in **Figure 8**. Peak day construction workers are estimated at 1,312. The workers will park at that location and be bused to the refinery. The traffic analysis assumed 33 buses (approximately 40 workers per bus).

While the peak construction truck trips and worker trips will not necessarily expected on the same day, in this analysis they are included together. Construction period trucks were estimated to operate 7 a.m. to 4 p.m. with 26 round trips per hour over the nine-hour period. The distribution of the construction truck trips is estimated to follow the Project truck trip distribution shown in **Figure 4**. Worker shuttle bus trips were estimated to have 33 round trips in both the a.m. and p.m. peak hours and would proceed east-west through the Somerset Boulevard / Downey Avenue intersection. A passenger car equivalent value of 2.0 was applied to the construction trucks and worker bus trips in the construction period analysis as described in Section 3.2.

7.2 Construction Trip Distribution and Assignment

Trip generated by the Project construction, were assigned to the surrounding roadway system estimate the peak construction period-related peak-hour traffic at each of the study intersections. **Figure 9** shows the a.m. and p.m. peak hour Project trip assignment for the Project.

7.3 Construction Period Intersection Operation Analysis

Existing plus construction conditions were developed by adding distributed Project construction trips, as a result of the Project, to existing conditions volumes. A level of service analysis was conducted to evaluate construction period intersection operations during the a.m. and p.m. peak hours at the study intersections. **Table 9** compares the existing plus construction volume to capacity ratios to existing conditions to determine potential impacts. Analysis calculation worksheets are included in **Attachment B**.

Similar to the analysis of the Project conditions analysis, Intersection #1 Lakewood Boulevard/Somerset Boulevard would exceed the City's traffic impact analysis threshold for incremental increase in volume-to-capacity ratio in the a.m. peak hour. This indicates if the City elects to require the restriping of the southbound approach to include a dedicated right-turn lane, it should be implemented during the construction period.

Table 9: Intersection Peak Hour Impact Construction Period Analysis

Intersection		Existing				Existing plus Construction				Change and Impact Determination		
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		Change in V/C		Imp?
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	AM	PM	
1	Lakewood Boulevard/Somerset Boulevard	D	0.810	D	0.887	D	0.842	D	0.887	0.032	0.000	Yes
2	Lakewood Boulevard/Rosecrans Avenue	B	0.687	E	0.910	B	0.687	E	0.910	0.000	0.000	No
3	Downey Avenue/Somerset Boulevard	A	0.430	B	0.660	A	0.451	B	0.680	0.021	0.020	No
4	Downey Avenue/Rosecrans Avenue	A	0.502	C	0.731	A	0.502	C	0.731	0.000	0.000	No

Notes:
LOS = Level of Service.
V/C = Volume to Capacity Ratio

Figure 7 – Potential Natural Gas Pipeline Route

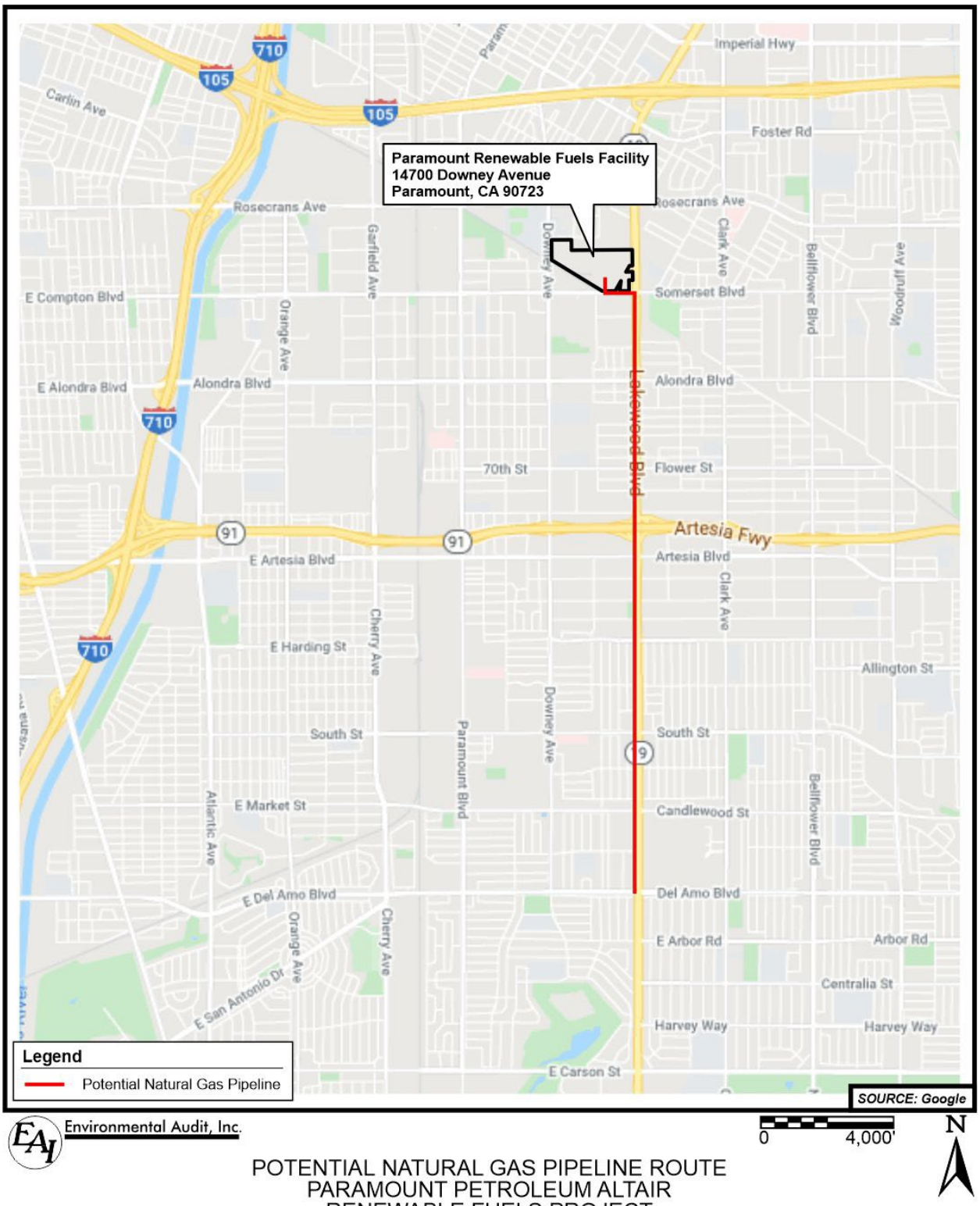
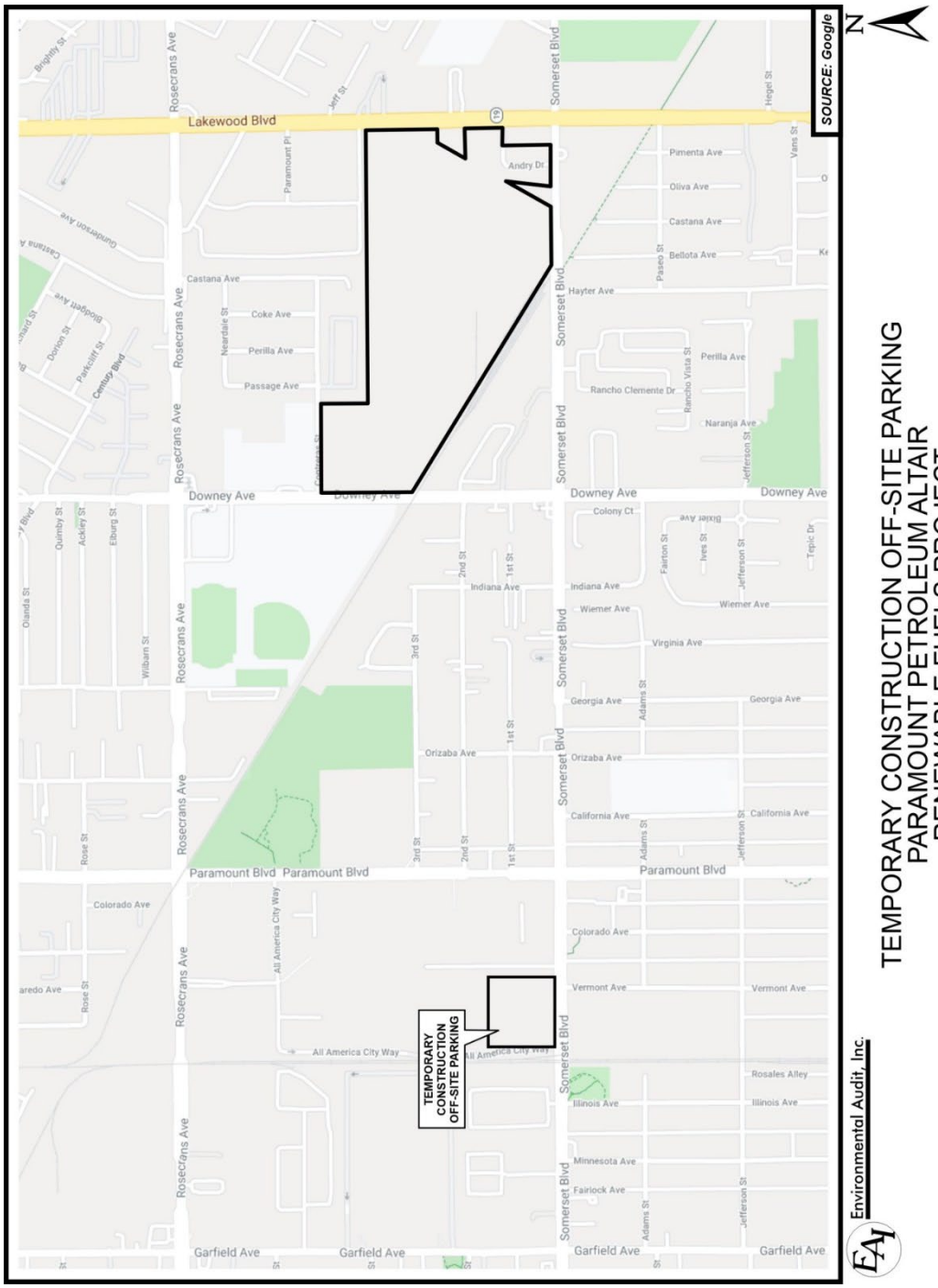
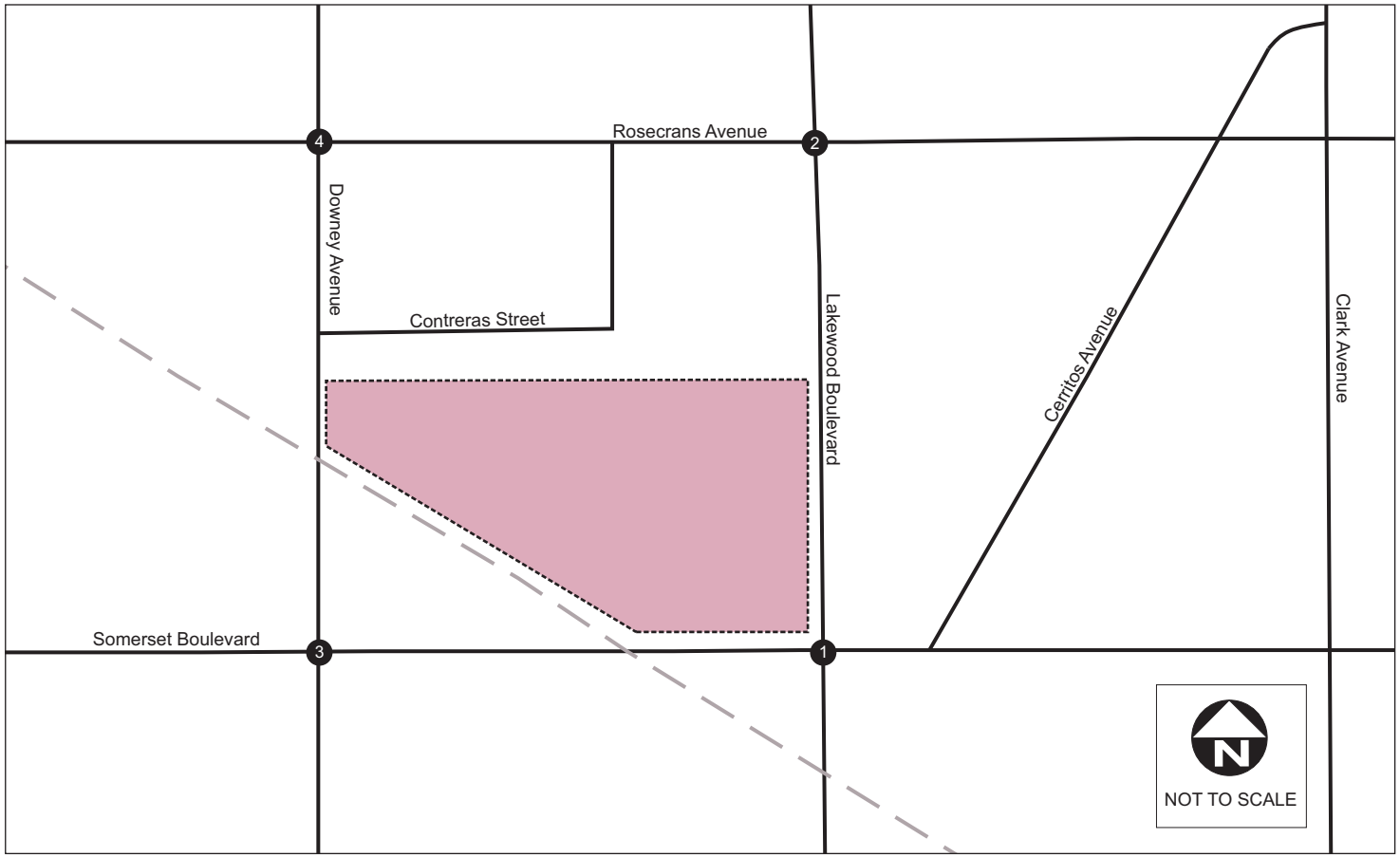
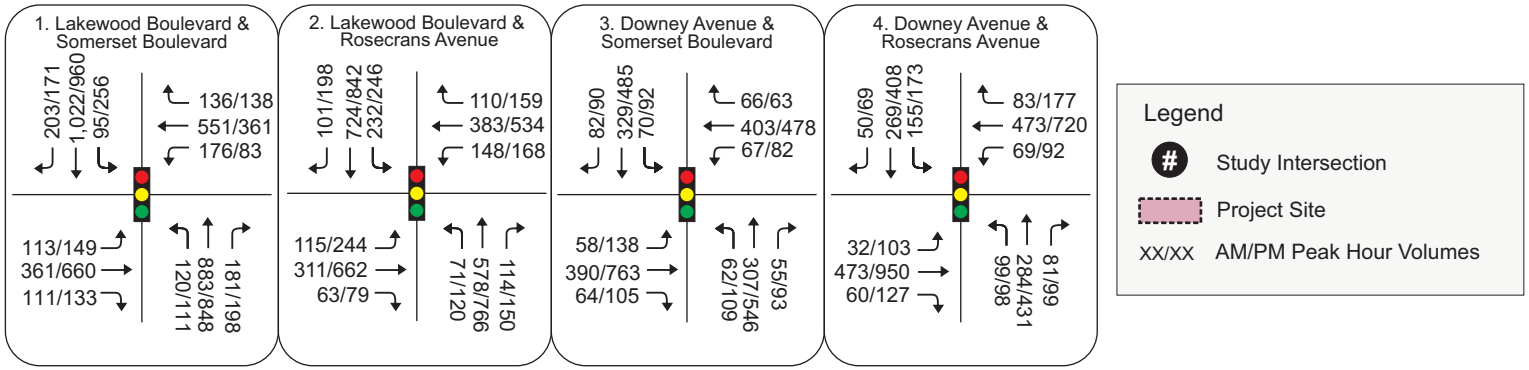


Figure 8 – Temporary Construction Off-Site Parking Location




Rosecrans Avenue
Downey Avenue
Contreras Street
Lakewood Boulevard
Cerritos Avenue
Clark Avenue
Somerset Boulevard
4
2
3
1
NOT TO SCALE


1. Lakewood Boulevard & Somerset Boulevard
203/171
1,022/960
95/256
136/138
551/361
176/83
113/149
361/660
111/133
120/111
883/848
181/198
2. Lakewood Boulevard & Rosecrans Avenue
101/198
724/842
232/246
110/159
383/534
148/168
115/244
311/662
63/79
71/120
578/766
114/150
3. Downey Avenue & Somerset Boulevard
82/90
329/485
70/92
66/63
403/478
67/82
58/138
390/763
64/105
62/109
307/546
55/93
4. Downey Avenue & Rosecrans Avenue
50/69
269/408
155/173
83/177
473/720
69/92
32/103
473/950
60/127
99/98
284/431
81/99
Legend
Study Intersection
Project Site
XX/XX AM/PM Peak Hour Volumes

8.0 PROJECT AREA COLLISIONS

Project area collisions from January 2017 to December 2019 were reviewed. In total, there were 72 collisions in the vicinity of the four analysis intersections. The summary of each collision is in **Attachment C**. Only two of the collisions involved severe injuries and there were no fatal collisions during the period of analysis. The following tables summarize the primary collision factors, collision types and involvement with other modes.

Table 10: Primary Collision Factors (Percent of Total)

Intersection Vicinity		Total Collisions	Auto ROW	Improper Turning	Traffic Signs and Signals	Unsafe Speed	Other
1	Lakewood Boulevard/Somerset Boulevard	24	25%	0%	29%	21%	25%
2	Lakewood Boulevard/Rosecrans Avenue	21	10%	33%	5%	19%	33%
3	Downey Avenue/Somerset Boulevard	10	20%	10%	30%	10%	30%
4	Downey Avenue/Rosecrans Avenue	17	18%	0%	24%	24%	35%

Table 11: Type of Collisions (Percent of Total)

Intersection Vicinity		Total Collisions	Broadside	Rear End	Head-On	Sideswipe	Other
1	Lakewood Boulevard/Somerset Boulevard	24	33%	38%	17%	4%	8%
2	Lakewood Boulevard/Rosecrans Avenue	21	37%	42%	0%	16%	5%
3	Downey Avenue/Somerset Boulevard	10	60%	10%	10%	10%	10%
4	Downey Avenue/Rosecrans Avenue	17	24%	24%	12%	12%	29%

Table 12: Collisions with Other Modes

Intersection Vicinity		Total Collisions	Pedestrian	Bicycle	Motorcycle	Truck
1	Lakewood Boulevard/Somerset Boulevard	24	1	2	1	0
2	Lakewood Boulevard/Rosecrans Avenue	21	3	3	2	0
3	Downey Avenue/Somerset Boulevard	10	1	2	0	0
4	Downey Avenue/Rosecrans Avenue	17	3	2	1	1

Review of the collisions indicate 35 of the 72 collisions were along or conflicted with Project trip routing and four were located in the Project's driveway areas. Three of the collisions in the driveway areas were along southbound Lakewood Boulevard north of the intersection. Two of these collisions involved unsafe speed involving other southbound vehicles and one involved a southbound vehicle not heeding an exiting vehicle from the tire shop/restaurant driveway south of the Project driveway. The collision near the Somerset Boulevard Project driveway was head-on with an eastbound vehicle impeding on the right-of-way of a westbound vehicle.

9.0 PROJECT DRIVEWAY ANALYSIS

The Project has three driveways, as shown in **Figure 10**. Employee autos enter and exit the site from a driveway along Downey Avenue south of Contreras Street and north of the rail tracks. The employee driveway has a dedicated southbound left-turn lane at a break in the raised median that also allows both outbound right and left turns. Additional features are no u-turn signs for both the northbound and southbound left-turns along Downey and 'keep clear' roadway markings along Downey in front of the driveway.

Site access for trucks is from Andry Drive, a short, loop roadway that connects Lakewood Boulevard and Somerset Boulevard approximately 330 feet north and west of the Lakewood Boulevard / Somerset Boulevard intersection. Inbound access from the south, vehicles turn from Lakewood Boulevard to Somerset Boulevard to Andry Drive. Inbound access from the north vehicles turn directly from Lakewood Boulevard to Andry Drive. Outbound vehicles to the south turn right from Andry Drive to Lakewood Boulevard. Outbound vehicles to the north turn left from Andry Drive to Somerset Boulevard and a left turn to Lakewood Boulevard. There is one driveway south of the Project Lakewood Boulevard driveway for a tire shop and restaurant. Another driveway for the site is on Somerset Boulevard followed by a driveway to a parking lot and then the Project Somerset Boulevard driveway from east to west from the Lakewood Boulevard intersection.

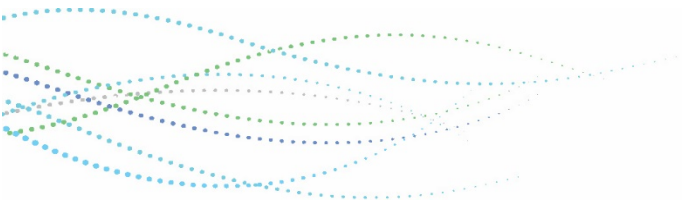
Andry Drive connects to Lakewood Boulevard upstream (in advance) of the Lakewood Boulevard/Somerset intersection and to Somerset Boulevard downstream (departing) from the Lakewood Boulevard/Somerset intersection. Since the Lakewood Boulevard is a right-turn in/out location its access is controlled to minimize conflict points. Based on the collision data, on average one collision per year occurs in the upstream section of Lakewood Boulevard between the Project driveway and the Somerset Boulevard intersection.

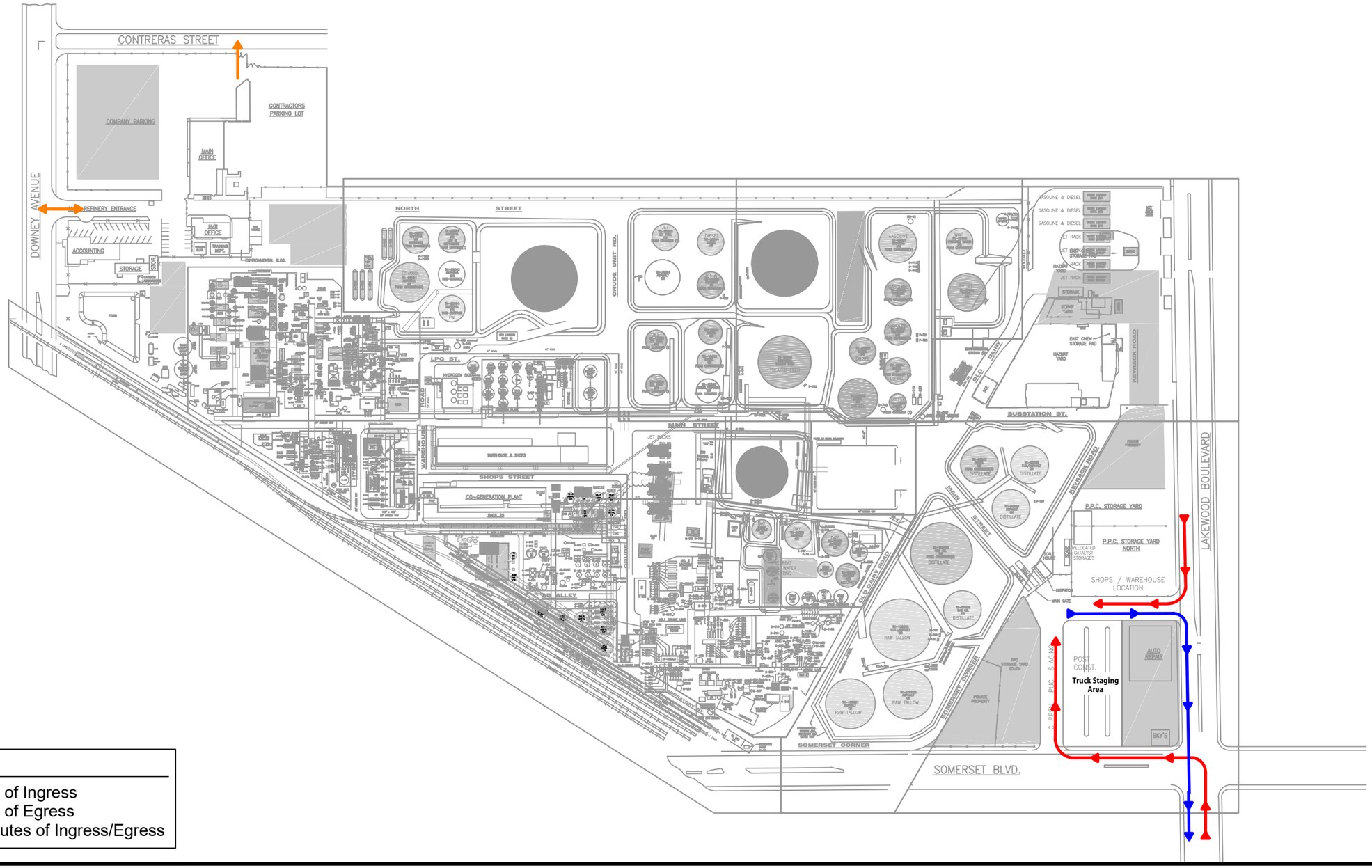
Over the past three years, two incidents were rear-end collisions due to southbound vehicles traveling at unsafe speeds and one was a sideswipe collision caused by a southbound vehicle colliding with a vehicle exiting the tire shop/restaurant driveway that is only 75 feet from the intersection. Therefore, are no recommended improvements to the Lakewood Project driveway.

The Somerset Boulevard driveway is downstream from the Lakewood/Somerset intersection. *The Access Management Manual*[2], published by the Transportation Research Board (TRB), notes that "stopping sight distance is one method for establishing the downstream functional distance of an intersection." Stopping sight distance is the roadway distance required for a driver to perceive and react to an object in the roadway and to brake to a complete stop before reaching that object. The stopping sight distance for a 40 miles per hour roadway is a 305-foot design distance without horizontal or vertical obstructions. The center of Lakewood Boulevard/Somerset Boulevard intersection to center of Andry Drive/Somerset Boulevard is 330 feet. This means that vehicles from the intersection would have adequate stopping time if a Project truck was leaving the driveway.

[2] *Access Management Manual*, Transportation Research Board. Washington, D.C. 2003.

The Somerset/Andry driveway is proposed to maintain its right/left in and right/left out conditions under the Project. However, due to the proximity to the Lakewood/Somerset intersection, left-turn access, and use by large vehicles there are concerns about access management. Therefore it is recommended that outbound trucks be directed to the Lakewood/Andry driveway to exit the project site through signage.





Environmental Audit, Inc.

Paramount Refinery Traffic Impact Study
City of Paramount

Figure 10

Project Driveway Access

9.1 Queuing and Stacking Analysis

Due to the close proximity of the site driveways to the intersection of Lakewood Boulevard/Somerset Boulevard, a focused queuing and stacking analysis of intersection of Lakewood Boulevard/Somerset Boulevard along with the Project site gates, the Andry Drive intersection with Lakewood Boulevard and Somerset Boulevard and the future West Santa Ana Branch at-grade crossings were analyzed in a traffic model to forecast the delay, queuing and stacking of trucks under existing and with-Project conditions.

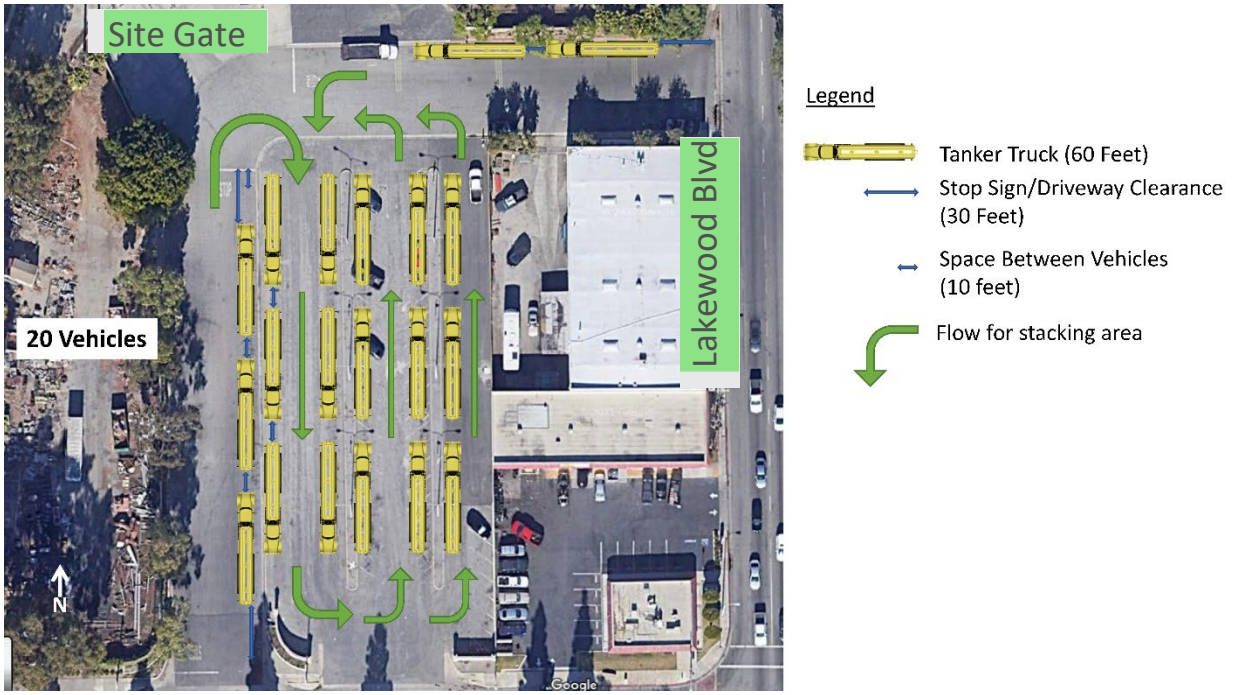
9.1.1 Off-Site Storage

Andry Drive is fifty feet in width its entire length and serves as a collector road prior to the site entrance. The length of storage for exiting trucks along Andry road is approximately 230 feet at the Lakewood Boulevard driveway and 270 feet at the Somerset Boulevard driveway. As a private road that only serves the Project site, the parking lanes of the roadway can be used for truck staging without impeding access to the Project site gate. There is approximately storage for nine trucks along Andry Drive in the inbound direction. In addition, the parking area to the east of the driveway north of Somerset Boulevard can also be used for truck staging. Any trucks from the north along Lakewood Boulevard have the option of utilizing the Somerset Boulevard Andry driveway for alternative site access.

Storage analysis was conducted by overlaying a template of a 60-foot tanker trailer onto Andry Drive and the staging parking area to the southeast of the Project gate. Clear areas of 30 feet were placed from stop signs and ten feet of space between trucks was allotted. Andry Drive has 50 feet of right-of-way on both legs and can accommodate one parking lane while allowing for two-way driveway operations and turning of inbound and outbound trucks. While it is understood, stacking practice may differ from the one assumed in this analysis, the stacking assumptions included in this analysis were used to determine a practical stacking capacity for inbound site trucks.

As shown in **Figure 11**, there are approximately 20 storage slots for inbound queuing along Andry Drive and in the parking lot area to the southeast of the Project gate. The flow of trucks bypassing direct access for the site gate and entering and exiting the staging area is also shown on the figure. The 20 slots could accommodate approximately 85% of peak inbound demand for one hour (20 of 23 trucks).

Figure 11: Inbound Storage Analysis



9.1.2 Inbound Gate Demand

Inbound gate queuing analysis was conducted based on the peak day gate demand, inbound gate processing time and the amount of available on-site storage for truck waiting for the inbound gate. At a peak project trip generation demand based on maximum utilization of the racks for loading and unloading of products there would be a continuous demand of 23 inbound trucks per hour placed on the project gate. The current estimated inbound gate processing time average four minute per truck. At an inbound gate processing time of four minutes, 15 trucks could be processed per hour before stacking outside of the hour would occur. With onsite storage of 20 trucks and an inbound gate processing time of four minutes, eight trucks would be queued in the staging area waiting for the inbound gate in the first hour of peak demand. In the second hour of peak demand another 23 inbound trucks would be added to the queued eight trucks from the previous hour for a total gate demand of 31 trucks. With only 15 trucks processed in the hour, 16 trucks would then be queued onsite at the end of the second hour of peak demand. The onsite storage would then be exceeded by three straight hours of peak demand.

An inbound gate processing time of 2:30 minutes could process the peak demand of 23 inbound trucks per day. This would be accomplished through the opening of the second gate to process double the inbound processing capacity of the facility. Therefore, it is recommended that when peak inbound demand on the gate occurs, a second gate would be opened within the next hour to clear trucks waiting for inbound facility access in the staging area and prevent any queue stacking onto public roadways.

9.1.3 Simulation Analysis

Analysis was conducted with the software Synchro 11 and SimTraffic. Synchro is a macroscopic analysis and optimization software application with an associated microscopic simulation software called SimTraffic where each vehicle, including trucks, in the traffic system is individually tracked through the model and comprehensive operational measures of effectiveness are collected on every vehicle during each 0.1-second of the simulation. The measures of performance from SimTraffic are average stop delay (by movement), upstream block time (percent) and storage block time (percent).

The study area of the simulation analysis is the intersection of Lakewood Boulevard/Somerset Boulevard along with the Project site gates, the Andry Drive intersection with Lakewood Boulevard and Somerset Boulevard and the future West Santa Ana Branch at-grade crossings to forecast the delay, queuing and stacking of vehicles under Existing Conditions, and two With-Project conditions, one with a 4:00 minute inbound gate processing time and one with a 2:30 minute inbound gate processing time.

Due to the importance of the West Santa Ana Branch rail project as a major transportation investment in the local area which would interact with existing traffic as well as the project-related trips, the at-grade crossings at Somerset Boulevard west of the site and Lakewood Boulevard south of the project site were included in all of the simulation analysis scenarios. Therefore the "Existing Conditions" and all scenarios with the Project include the two West Santa Ana Branch rail crossings. The crossings were modeled to have 45 seconds of down time followed by 1:45 minutes of gate up time based on the proposed operating plans for the West Santa Ana Branch Build Alternatives assuming 12 train crossings per direction in the peak hour, equating to 24 train crossings per hour for both directions. With this schedule, a train from each direction will cross at each at -grade crossing every 5 minutes, so there will be a train crossing from either direction every 2.5 minutes. Per Metro's grade crossing safety policy, gate down times are determined based on the train crossing configuration (for mid-block train crossings, gates would be down 45 seconds).[3]

The signal timing sheets for the intersection was obtained from the City of Bellflower and used in the analysis. Upon the initial results of the analysis, it was shown there was an extensive southbound left-turn queue at the intersection of Lakewood Boulevard/Somerset Boulevard causing a network-wide gridlock. Synchro analysis showed that the southbound left-turn movement would experience a 299.3-second delay in the existing condition.

Review of the signal timing sheets show it has a 6:00 a.m. to 9:00 a.m. control plan 2 and a 3 p.m. to 7 p.m. control plan 3 with a control plan 1 for off-peak hours. Control plans 2 and 3 are identical and both allocate 14 seconds of green time for the southbound left-turn lane while leaving an eight second gap in the overall northbound through/southbound left-turn phase pair. The date of the control plans is August 22, 1995 and the date of the phase timings is October 29, 2014.

Thus, slight signal timing modifications of having 22 seconds of southbound left-turn phase green time and reducing the northbound through phase allocation to 46 seconds from 50 seconds in the PM peak

[3] West Santa Ana Branch DEIR-DEIS Appendix 4 Transportation Impact Analysis Report, page 1-6.

hour are needed to resolve the modeled gridlock issue. The signal timing modification resulted in an 81.1-second delay for the southbound left-turning vehicles, which while still an LOS F, is functional for the network. Both signal timing approaches—directly from the signal timing sheets and the modified signal phasing were analyzed.

Since the PM peak hour had higher volumes and delays, the PM peak hour results are reported here. Details of the queuing and stacking analysis are in **Attachment D**.

The PM peak hour stop delay for the study area intersections is shown in **Tables 13** for the timing sheet signal plan and **Table 14** for the modified signal plan. As shown, the Project would increase stop delay at the intersection of Lakewood Boulevard/Somerset Boulevard and the Andry Drive driveways, however the 2:30 second inbound processing condition would reduce the stop delay at each of the locations.

Table 13: PM Peak Hour Stop Delay

Scenario	PM Peak Hour Stop Delay		
	Lakewood / Somerset	Andry / Lakewood	Andry / Somerset
Existing Conditions	39.0	39.5	1.0
With Project - 4:00 Minute Inbound Processing Time	45.3	43.9	5.4
With Project - 2:30 Minute Inbound Processing Time	41.2	42.8	0.6

Table 14: PM Peak Hour Stop Delay – Modified Signal Timing

Scenario	PM Peak Hour Stop Delay		
	Lakewood / Somerset	Andry / Lakewood	Andry / Somerset
Existing Conditions	32.0	1.6	2.3
With Project - 4:00 Minute Inbound Processing Time	43.4	7.1	8.0
With Project - 2:30 Minute Inbound Processing Time	36.0	1.9	3.6

The controlling factor in the prevention of stacking of Project site truck queues onto Lakewood Boulevard or Somerset Boulevard is the processing time at the inbound gate. This is shown in the PM peak hour upstream block time for the study area intersections is shown in **Tables 15** for the timing sheet signal plan and **Table 16** for the modified signal plan. As shown, the Project would increase the upstream block time at the inbound driveway movements of the southbound right-turn at Andry Drive/Lakewood Boulevard and westbound right-turn at Andry Drive/Somerset Boulevard under the 4:00 minute inbound gate time at peak demand. However, under the 2:30 inbound gate scenario upstream block time was reduced to within one percent of the existing conditions under both the timing sheet and modified signal timing conditions. Note the reduction in southbound through movement upstream block time under the modified signal timing (See **Table 16**) as compared to the timing sheet conditions (see **Table 15**).

Table 15: PM Peak Hour Upstream Block Time (percent)

Scenario	PM Peak Hour Upstream Block Time (%)							
	Lakewood / Somerset				Andry / Lakewood			Andry / Somerset
	SB Right	SB Thru	NB Left	EB Left	SB Right	SB Thru	EB Right	WB Right
Existing Conditions	4	88	0	0	14	90	14	0
One-Way Driveway - South Distribution – 4:00 Minute Gate	7	88	0	0	16	88	16	7
One-Way Driveway - South Distribution – 2:30 Minute Gate	5	89	0	0	15	91	20	0

Table 16: PM Peak Hour Upstream Block Time (percent) – Modified Signal Timing

Scenario	PM Peak Hour Upstream Block Time (%)							
	Lakewood / Somerset				Andry / Lakewood			Andry / Somerset
	SB Right	SB Thru	NB Left	EB Left	SB Right	SB Thru	EB Right	WB Right
Existing Conditions	1	11	0	0	0	0	0	0
One-Way Driveway - South Distribution – 4:00 Minute Gate	8	15	0	0	5	6	7	9
One-Way Driveway - South Distribution – 2:30 Minute Gate	2	12	0	0	0	0	0	0

Tables 17 and **18** show the PM peak hour storage block time at the Lakewood Boulevard/Somerset Boulevard intersection and the effect of the 4:00 minute gate processing time on the inbound trucks utilizing the northbound left-turn lane at the Lakewood Boulevard/Somerset Boulevard intersection. Under both signal timing conditions, the 2:30 minute gate processing time would reduce the northbound left-turn lane storage block time to within one percent of existing conditions. Note the modified signal plan would reduce the southbound left-turn storage blockage time, albeit with some additional storage blockage time at the eastbound left-turn lane.

Table 17: PM Peak Hour Storage Block Time (percent)

Scenario	Storage Block Time (%)			
	Lakewood / Somerset			
	SB Thru	SB Left	NB Left	EB Left
Existing Conditions	7	95	0	11
Scenario 4 - One-Way Driveway - South Distribution – 4:00 Minute Gate	13	97	6	15
Scenario 5 - One-Way - South Distribution – 2:30 Minute Gate	10	96	0	7

Table 18: PM Peak Hour Storage Block Time (percent) – Modified Signal Timing

Scenario	Storage Block Time (%)			
	Lakewood / Somerset			
	SB Thru	SB Left	NB Left	EB Left
Existing Conditions	7	11	0	22
Scenario 4 - One-Way Driveway - South Distribution – 4:00 Minute Gate	15	10	11	30
Scenario 5 - One-Way - South Distribution – 2:30 Minute Gate	11	14	1	21

10.0 RAIL DELIVERY

As part of the Renewable Fuels Project, modifications were made to the rail unloading rack to add an off-loading manifold, pump, and piping to receive up to 25 railcars per delivery of tallow and vegetable oil (with up to two deliveries per day). Under the Revised Renewable Fuels Project, rail logistics will be required to receive and ship up to 50 railcars per day of feedstock, blend materials, and products. Existing asphalt loading and unloading facilities serving the crude oil refining units will be converted and additional loading and unloading arms will be installed to support the Revised Renewable Fuels Project.

New rail track internal to the Facility is planned both for the operation and due to the Metropolitan Transportation Authority's (LA Metro) proposed light-rail line. The LA Metro light rail project between Artesia and Union Station using the West Santa Ana Branch right-of-way with stations planned for Paramount/Rosecrans, and Bellflower south of Alondra will displace the Facility's outer-most onsite railcar storage track. These track modifications require approval by the rail providers, Union Pacific, and LA Metro.

Secondary containment will be installed for the internal railcar unloading and loading activities. Fire protection will also be installed as required by the fire department. Vapor recovery will be installed for loading facilities as required.

As part of CUP 751 and 757, mitigation measures were imposed to minimize train and vehicle conflicts and delays at the Downey Avenue rail crossing. Mitigation Measure T-1 was imposed as follows:

> T-1: Rail car deliveries and pick-ups will be limited to the non-peak hour traffic periods, after 10:00 a.m. and before 6:00 p.m. The refinery operators and management will continue to work with the railroad so that train traffic to and from the refinery does not coincide with the morning and evening commute times or when students are going to or leaving school. No deliveries during the evening, night, and early morning periods will be permitted unless prior notification to the City is provided.

As part of the Revised Renewable Fuels Project, Altair is requesting an extension of time to the rail delivery

period from 10:00 a.m. to 6:00 p.m. to 10:00 a.m. to 8:00 p.m. to allow for timely delivery of railcars which will coincide with the previous 25 railcars being emptied and ready to for their return trip. This measure will better alleviate the disruption to foot traffic from the schools and rush hour traffic in the later afternoon, while still being early enough in the day to avoid disturbance to residents during the more sensitive nighttime hours.

10.1 West Santa Ana Branch

The West Santa Ana Branch (WSAB) is a 19-mile light rail transit corridor to serve commuters from downtown Los Angeles to Artesia. The WSAB will mostly follow the historic Pacific Electric West Santa Ana Branch streetcar service route. Along the route, it will also serve the communities of Vernon, Huntington Park, Bell, Cudahy, South Gate, Downey, Paramount, Bellflower, and Cerritos in the southeast area of the Los Angeles County. The WSAB runs along the southern portion of the Project site. Union Pacific railroad operates the freight rail that serves the Project site. Currently the rail tracks terminate west of the intersection of Somerset Boulevard and Lakewood Boulevard.

LA Metro is planning a light-rail line between Artesia and Union station using the West Santa Ana Branch right-of-way with stations planned for Paramount/Rosecrans and Bellflower south of Alondra. The new light-rail line would be located on the current freight right-of-way. The Project would construct an on-site rail spur to facilitate the construction of the WSAB which is a major regional multimodal transportation project to reduce vehicle miles traveled and reduce greenhouse gas emissions.

The WSAB light-rail project proposes to cross Downey Avenue above grade, however the existing at-grade freight rail tracks would remain at Downey Avenue. The WSAB light-rail project would be built on the AltAir Facility's current rail storage area. Due to the loss of the storage track, the Project would build new on-site storage track.

The vehicle routes taken by the Project vehicle traffic are north-south along Lakewood Boulevard and are not forecasted to utilize the crossing. Rail car deliveries would use the at-grade crossing, as under existing conditions.

Design elements for the WSAB light-rail line in the Project area include[4]:

- The moving of the pedestrian bridge connecting the Paramount high school campus to below grade. The existing pedestrian bridge crosses the alignment aerial and will need to be reconstructed. The pedestrian crossing will be reconstructed below-grade to provide a safer pedestrian connection between the campuses and improve ADA access.
- Alignment will be aerial grade-separated at Downey Avenue before descending at-grade to Somerset Boulevard and Lakewood Boulevard and continuing east to Bellflower Station. Due to the proximity to Paramount High School and Harry Wirtz Elementary School, this intersection has high pedestrian volumes. Grade separation will improve pedestrian safety and travel time reliability.

[4] West Santa Ana Branch Transit Corridor, Draft Environmental Impact Statement/Impact Report, July 2021.

- Somerset Boulevard and Lakewood Boulevard is proposed to be crossed at-grade.

The Project is located between the proposed Paramount/Rosecrans Station and Bellflower Station, but is located outside the 1⁄2-mile walk shed of each station. It is within a 3-mile micro mobility (bicycle and other human powered device) shed for each station area which has been studied by LA Metro, and a network of facilities that would ensure 360-degree access to each station has been identified. The Project will not conflict with these connections since there are no off-site Project elements in this area.

Figure 12 shows the southern alignment map for the WSAB. The auto and truck vehicles generated from the Project are not forecast to pass through the proposed at-grade crossing across Somerset Boulevard west of the Project site.

Figure 12
West Santa Ana Branch and Bicycle Map

11.0 BIKE AND PEDESTRIAN FACILITIES

In the 2019 Bellflower-Paramount Active Transportation Plan and the WSAB Transit Oriented Development Strategic implementation Plan (May 2019), a proposed bike-pedestrian path will be made along the WSAB rail line in the southwest portion of the Project Facility. This proposed multi-use path provides an enhanced east-west connection for residents wishing to reach Paramount Park, Paramount Middle School, Paramount High School, nearby shopping, places of worship, the proposed WSAB transit stop, the Los Angeles River Bike Trail, and the Bellflower Bike Trail. The Project is located on the opposite side of the WSAB tracks and would not impact the development or use of the multi-use path.

Other Project area active transportation and micro mobility improvements are:

- Class 1 bicycle Facility (bicycle path) on the south side of the West Santa Ana Branch right-of-way and connecting Powerline Corridor Class 1 path south of the Project site.
- Class II buffered bicycle lanes from the WSAB to Lakewood Boulevard.

12.0 CALTRANS REVIEW

Caltrans' Local Development-Intergovernmental Review process is focused on a land use project's impacts to vehicle miles traveled based on the Caltrans Vehicle Miles Traveled-Focused Transportation Impact Study Guide (TISG), May 20, 2020.[5] The TISG was prepared by Caltrans to provide guidance to Caltrans Districts, lead agencies, tribal governments, developers and consultants regarding Caltrans review of a land use project or plan's transportation analysis using a vehicle miles traveled (VMT) metric. The TISG replaces the Guide for the Preparation of Traffic Impact Studies (Caltrans, 2002) and is for use with local land use projects, not for transportation projects on the State Highway System. Therefore, the Caltrans CEQA review of the Project would be based on the vehicle miles traveled of the Project, not the level of traffic volume generated by the site or Project-related trips utilizing Caltrans facilities.

[5] https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-02-26-transmittal-and-draft-vmt-focused-tisg.pdf

13.0 CONCLUSIONS

This traffic impact analysis has been prepared for the AltAir Renewable Fuels Project that is expected to convert the Paramount Petroleum Refinery to manufacture only renewable fuels. This analysis evaluates the operations of intersections, driveways and rail crossings as directed by the City of Paramount staff as potentially being impacted by the Project. This report provides key traffic information regarding existing and future volumes, and an analysis of impacts at study area facilities as a result of Project-related traffic.

The study area for analysis is the four (4) major signalized intersections immediately surrounding the Project site and two site driveways. The study intersections are:

1. Lakewood Boulevard/Somerset Boulevard;
2. Lakewood Boulevard/Rosecrans Avenue;
3. Downey Avenue/Somerset Boulevard; and
4. Downey Avenue/Rosecrans Avenue.

Based on the analysis, Intersection #1 Lakewood Boulevard/Somerset Boulevard would exceed the City's traffic impact analysis threshold for incremental increase in volume-to-capacity ratio in the a.m. peak hour under Project and construction period conditions. To address the identified impact, the City could require the striping of the southbound right-turn lane. The outside southbound shared through/right turn lane is approximately 23 feet wide and operates as two de facto lanes. The intersection analysis is based on the lane striping conditions, and therefore identified a potential impact which may not have an effect on the practical operation of the intersection. Nevertheless, the City Public Works should assess the location for potential southbound right-turn lane striping considering factors such as the access management of adjacent driveways and transit operations.

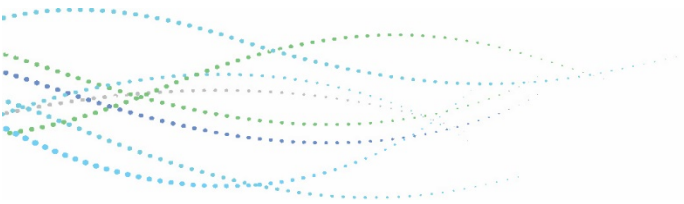
Inbound gate queuing analysis was conducted based on the peak day gate demand, inbound gate processing time and the amount of available on-site storage for trucks waiting for the inbound gate. The onsite storage would then be exceeded by three straight hours of peak demand at a 4:00 minutes inbound gate processing time. An inbound gate processing time of 2:30 minutes could process the peak demand of 23 inbound trucks per hour. This would be accomplished through the opening of the second gate to process double the inbound processing capacity of the facility. Therefore, it is recommended that when peak inbound demand on the gate occurs, a second gate would be opened within the next hour to clear vehicles waiting for inbound facility access in the staging area and prevent any queue stacking onto public roadways.

New rail track internal to the Facility is planned both for the operation and due to the Metropolitan Transportation Authority's (LA Metro) proposed light-rail line. The LA Metro light rail project between Artesia and Union Station using the West Santa Ana Branch right-of-way with stations planned for Paramount/Rosecrans, and Bellflower south of Alondra will displace the Facility's outer-most onsite railcar storage track.

In the 2019 Bellflower-Paramount Active Transportation Plan and the WSAB Transit Oriented

Development Strategic implementation Plan (May 2019), a proposed bike-pedestrian path will be made along the WSAB rail line in the southwest portion of the Project Facility. The Project is located on the opposite side of the WSAB tracks and would not impact the development or use of the multi-use path.

Based on the findings of this report the Project would not adversely impact the operations or safety of the intersection, driveway, rail, bicycle and pedestrian transportation systems.

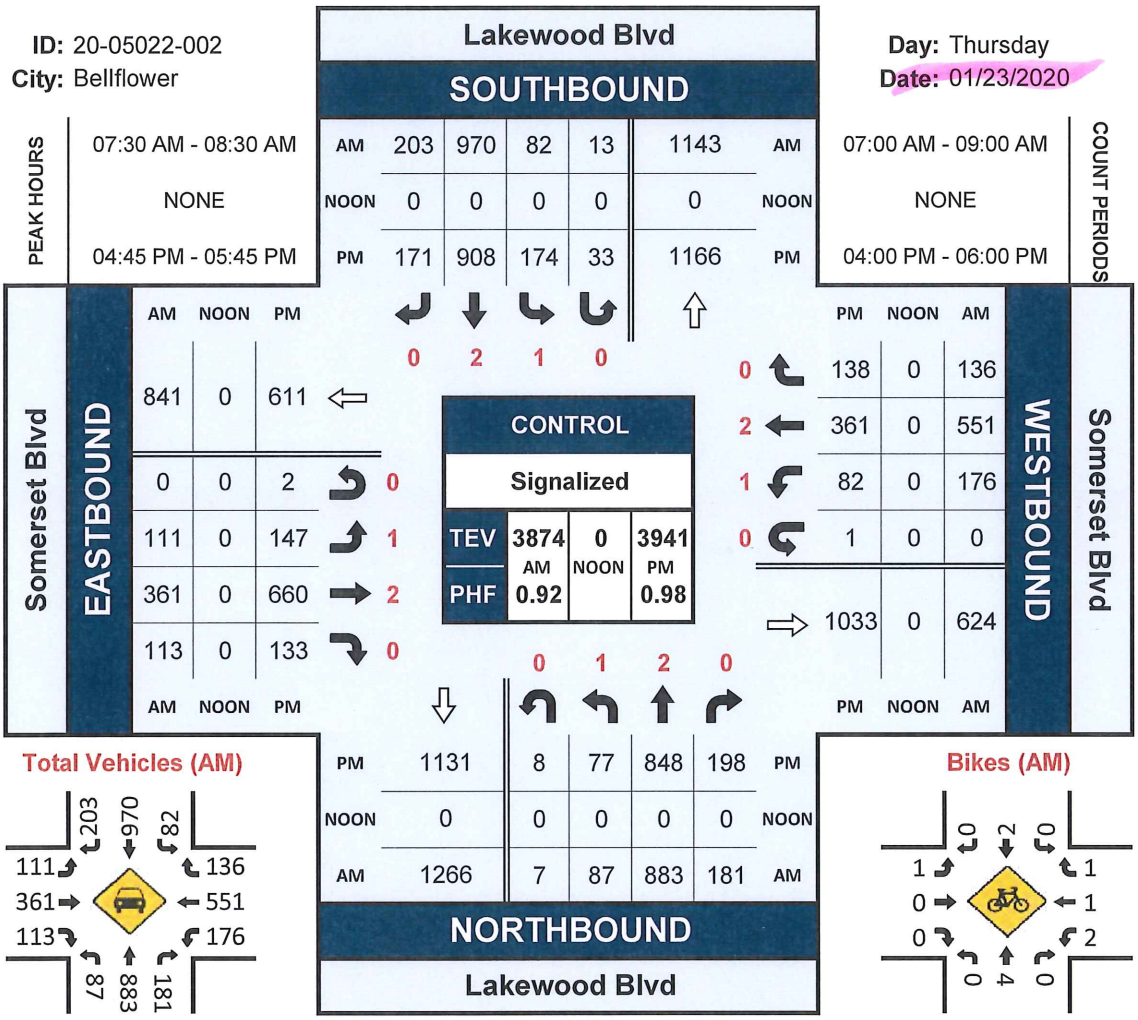


ATTACHMENT A –TRAFFIC COUNT DATA

Prepared by National Data & Surveying Services

Lakewood Blvd & Somerset Blvd

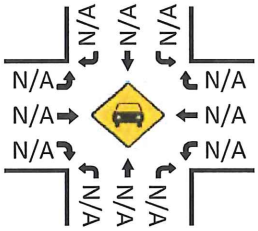
Peak Hour Turning Movement Count



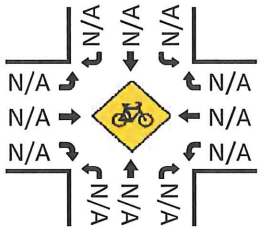
Total Vehicles (AM)

Bikes (AM)

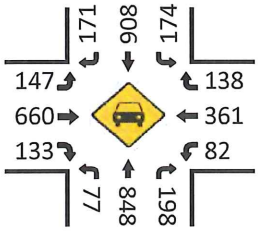
Total Vehicles (NOON)



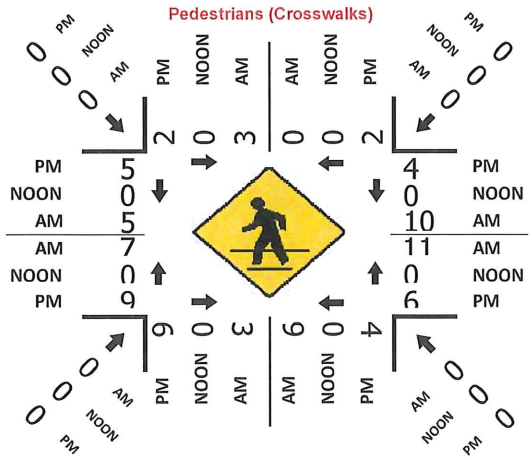
Bikes (NOON)



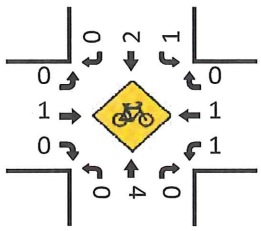
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

BOG/EOY Study

Location: Lakewood Blvd & Somerset Blvd
City: Bellflower

Date: 1/23/2020
Day: Thursday

Queue A (AM)				
Time	BOG		EOY	
	EB Left Turn Pocket	Spillover	EB Left turn Pocket	Spillover
7:00	2	-	-	-
	-	-	-	-
	-	-	-	-
7:05	-	-	-	-
	3	-	-	-
7:10	-	-	-	-
	3	-	-	-
	1	-	2	-
7:15	4	-	-	-
	1	-	1	-
	2	-	-	-
7:20	3	-	-	-
	1	-	-	-
7:25	2	-	-	-
	3	-	-	-
	2	-	-	-
7:30	4	-	-	-
	2	-	-	-
	3	-	-	-
7:35	5	-	-	-
	-	-	-	-
	2	-	2	-
7:40	4	-	-	-
	-	-	-	-
7:45	1	-	-	-
	-	-	-	-
7:50	1	-	-	-
	4	-	1	-
7:55	5	-	-	-
	3	-	-	-
	-	-	-	-
8:00	2	-	1	-
	2	-	1	-
	2	-	1	-
8:05	1	-	1	-

Queue A (PM)				
Time	BOG		EOY	
	EB Left Turn Pocket	Spillover	EB Left Turn Pocket	Spillover
4:00 PM	6	-	-	-
	1	-	-	-
	2	-	-	-
4:05 PM	5	-	-	-
	1	-	-	-
	1	-	-	-
4:10 PM	5	-	1	-
	5	-	5	-
	6	-	-	-
4:15 PM	8	-	4	-
	7	-	5	-
	5	-	5	-
4:20 PM	8	-	-	-
	2	-	-	-
	-	-	-	-
4:25 PM	5	-	6	-
	9	-	3	-
4:30 PM	4	-	1	1
	2	-	-	-
	5	-	4	-
4:35 PM	8	-	5	-
	8	-	3	-
	10	2	2	-
4:40 PM	4	-	3	-
	6	-	-	-
	3	-	3	-
4:45 PM	3	-	-	-
	4	-	-	-
	5	-	4	-
4:50 PM	6	-	-	-
	9	-	-	-
	4	-	2	-
4:55 PM	5	-	1	-
	5	-	-	-
	2	-	1	-

Prepared by National Data & Surveying Services

BOG/EOY Study

Location: Lakewood Blvd & Somerset Blvd
City: Bellflower

Date: 1/23/2020
Day: Thursday

Queue A (AM)				
Time	BOG		EOY	
	EB Left Turn Pocket	Spillover	EB Left turn Pocket	Spillover
	1	-	1	-
	2	-	-	-
8:10	1	-	1	-
	-	-	-	-
8:15	-	-	-	-
	-	-	-	-
8:20	3	-	-	-
	-	-	-	-
	-	-	-	-
8:25	4	-	2	-
	4	-	-	-
	3	-	-	-
8:30	2	-	-	-
	1	-	-	-
	1	-	-	-
8:35	3	-	-	-
	2	-	-	-
	5	-	-	-
8:40	3	-	-	-
	5	-	-	-
	5	-	-	-
	1	-	-	-
8:45	3	-	-	-
	-	-	-	-
	2	-	-	-
8:50	2	-	-	-
	1	-	-	-
8:55	1	-	-	-
	2	-	-	-

Queue A (PM)				
Time	BOG		EOY	
	EB Left Turn Pocket	Spillover	EB Left Turn Pocket	Spillover
5:00 PM	1	-	1	-
	2	-	-	-
	5	-	-	-
5:05 PM	3	-	-	-
	3	-	-	-
5:10 PM	3	-	-	-
	4	-	-	-
	-	-	-	-
5:15 PM	3	-	-	-
	5	-	4	-
	4	-	-	-
5:20 PM	2	-	-	-
	5	-	4	-
	6	-	2	-
5:25 PM	4	-	3	-
	5	-	1	-
	4	-	1	-
5:30 PM	5	-	-	-
	4	-	-	-
5:35 PM	2	-	1	-
	3	-	1	-
	4	-	2	-
5:40 PM	3	-	5	-
	5	-	-	-
	5	-	1	-
5:45 PM	5	-	2	-
	4	-	2	-
	9	5	4	-
5:50 PM	4	-	-	-
	4	-	-	-
	4	-	4	-
5:55 PM	5	-	3	-
	7	-		-
	5	-		-

Prepared by National Data & Surveying Services

BOG/EOY Study

Location: Lakewood Blvd & Somerset Blvd
City: Bellflower

Date: 1/23/2020
Day: Thursday

Queue B (AM)				
Time	BOG		EOY	
	WB Left Turn Pocket	Spillover	WB Left turn Pocket	Spillover
7:00	3	-	-	-
	-	-	-	-
	3	-	-	-
7:05	3	-	-	-
	-	-	-	-
7:10	6	-	-	-
	1	-	-	-
	1	-	-	-
7:15	1	-	-	-
	3	-	-	-
	5	-	-	-
7:20	2	-	-	-
	1	-	-	-
7:25	4	-	4	-
	4	-	1	-
	5	-	-	-
7:30	7	-	4	-
	7	-	-	-
	2	-	-	-
7:35	3	-	1	-
	1	-	-	-
	3	-	-	-
7:40	5	-	-	-
	8	-	-	-
7:45	3	-	-	-
	5	-	-	-
7:50	5	-	-	-
	5	-	-	-
7:55	4	-	2	-
	4	-	2	-
	5	-	-	-
8:00	2	-	2	-
	8	-	1	-
	8	1	3	-
8:05	6	-	1	-

Queue B (PM)				
Time	BOG		EOY	
	WB Left Turn Pocket	Spillover	WB Left Turn Pocket	Spillover
4:00 PM	2	-	-	-
	2	-	-	-
	1	-	-	-
4:05 PM	4	-	4	-
	7	-	8	-
	8	-	4	-
4:10 PM	7	-	6	-
	4	-	4	-
	6	-	-	-
4:15 PM	1	-	2	-
	2	-	-	-
	6	-	-	-
4:20 PM	2	-	-	-
	2	-	3	-
	3	-	-	-
4:25 PM	2	-	-	-
	6	-	5	-
4:30 PM	7	-	7	-
	8	3	-	-
	3	-	5	-
4:35 PM	7	-	2	-
	5	-	-	-
	-	-	-	-
4:40 PM	2	-	1	-
	3	-	-	-
	1	-	1	-
4:45 PM	2	-	-	-
	3	-	-	-
	1	-	-	-
4:50 PM	4	-	2	-
	3	-	-	-
	3	-	1	-
4:55 PM	4	-	-	-
	2	-	2	-
	3	-	2	-

Prepared by National Data & Surveying Services

BOG/EOY Study

Location: Lakewood Blvd & Somerset Blvd
City: Bellflower

Date: 1/23/2020
Day: Thursday

Queue B (AM)				
Time	BOG		EOY	
	WB Left Turn Pocket	Spillover	WB Left turn Pocket	Spillover
	6	-	1	
	3	-	-	-
8:10	5	-	1	-
	-	-	-	-
8:15	2	-	-	-
	4	-	-	-
8:20	3	-	-	-
	-	-	3	-
	8	2	3	-
8:25	5	-	1	-
	7	-	-	-
	4	-	-	-
8:30	4	-	-	-
	5	-	2	-
	6	-	1	-
8:35	3	-	-	-
	7	-	3	-
	8	-	-	-
8:40	-	-	-	-
	4	-	-	-
	2	-	-	-
	4	-	-	-
8:45	4	-	-	-
	4	-	-	-
	2	-	-	-
8:50	-	-	-	-
	2	-	-	-
8:55	4	-	-	-
	3	-	-	-

Queue B (PM)				
Time	BOG		EOY	
	WB Left Turn Pocket	Spillover	WB Left Turn Pocket	Spillover
5:00 PM	3	-	2	-
	3	-	-	-
	2	-	-	-
5:05 PM	2	-	2	-
	4	-	2	-
5:10 PM	2	-	-	-
	1	-	-	-
	-	-	-	-
5:15 PM	1	-	3	-
	6	-	4	-
	5	-	4	-
5:20 PM	6	-	2	-
	4	-	5	-
	6	-	3	-
5:25 PM	4	-	5	-
	8	-	1	-
	7	-	-	-
5:30 PM	1	-	-	-
	-	-	-	-
5:35 PM	5	-	3	-
	4	-	-	-
	-	-	-	-
5:40 PM	-	-	-	-
	1	-	-	-
	1	-	-	-
5:45 PM	-	-	-	-
	1	-	-	-
	-	-	-	-
5:50 PM	1	-	-	-
	2	-	-	-
	-	-	1	-
5:55 PM	6	-	2	-
	3	-	2	-
	3	-	1	-

CALTRANS
Model 170 Controller
Traffic Design Branch
District 7

C8 PROGRAM (VERSION 3.0) I. D. No.: 0

LOCATION: *Lakewood Blvd. @ Compton/Somerset Blvd.* CO: *L.A.* RTE: *19* PM : 7.40

CONTROL CODE "F"

PHASE TIMING

	INTERVAL	1	2	3	4	5	6	7	8
0	WALK	0	7		7	0	7		7
1	DON'T WALK	0	16		25	0	17		22
2	MIN GREEN	7	10		10	7	10		10
3	TYPE 3 DET	0	0		0	0	0		0
4	ADDED / ACT	0.0	1.0		0.0	0.0	1.0		0.0
5	PASSAGE	2.0	5.0		2.0	2.0	5.0		3.0
6	MAX GAP	2.0	6.0		2.0	2.0	6.0		3.0
7	MIN GAP	2.0	2.0		2.0	1.0	2.0		3.0
8	MAX EXT 1	20	50		40	20	50		40
9	MAX EXT 2	20	50		40	20	50		40
A	MAX EXT 3	20	50		40	20	50		40
B									
C	REDUCE BY	0.0	0.1		0.0	0.0	0.1		0.0
D	" EVERY	0.0	1.0		0.0	0.0	1.0		0.0
E	YELLOW	3.7	4.4		4.1	3.7	4.4		4.1
F	ALL RED	1.0	1.1		1.4	1.0	1.1		1.4
DIRECTION		SBLT LAKEWOOD	NB LAKEWOOD		EB COMPTON	NBLT LAKEWOOD	SB LAKEWOOD		WB SOMERSET
DATE		10 29 14	10 29 14		10 29 14	10 29 14	10 29 14		10 29 14
BY		LN	LN		LN	LN	LN		LN

C	D	PRE-EMPT E	FLAGS	F 1	2	3	4	5	6	7	8	
GAP SET	TB SEL 1	EV SEL 0	FZ PERMIT	X	X		X	X	X		X	0
MAX SET	TB HR	RR1 CLR	RED LOCK	X			X					1
C-SERV	TB MIN	EVA DLY	RED/YEL LOCK		X			X				2
	PED SEL 1	EVA CLR	VEH RECALL		X			X				3
	7W SEL	EVB DLY	PED RECALL									4
	PERM SEL	EVB CLR	PED PHASES		X		X		X		X	5
		EVC DLY	A ARROW									6
		EVC CLR	B ARROW									7
	OFF SEEK 1	EVD DLY	DOUBLE ENTRY				X				X	8
		EVD CLR	MAX 2									9
OLA GRN		EV MAX	LAG PHASES	OBSERVATION ON								A
OLB GRN		RR2 CLR	RED REST									B
OLC GRN		EV CLR TMR	REST IN WALK									C
OLD GRN		EV DLY TMR	MAX 3									D
		RR CLR TMR	YEL START-UP		X			X				E
RAM ADD		EV MAX TMR	FIRST PHASE				X				X	F

NOTES AND REMARKS :

OVERLAP PHASES	
A	
B	
C	
D	

DATE START:	
10/29/2014	
DATE END :	

CONTROL CODE "F"

	0	9
0		CLK RST
9		YEAR
A		MONTH
B		DAY OF MO
C	LONG FAIL	DAY OF WK
D	SHORT FAIL	HOUR
E	MAX-VAR-INIT *10*	MINUTE
F	RED REVERT *2.0*	SECOND
FILENAME:	CO-019-0739	

F-50

LOCATION : ***Lakewood Blvd. @ Compton/Somerset Blvd.*** **CO:** ***L.A.*** **RTE:** ***19*** ***P.M.:*** 7.40 **2 OF 6**

CONTROL CODE "C"

	0		CONTROL PLANS (MAXIMUM OF 9 PLANS)												
			1	2	3	4	5	6	7	8	9				
0	LOC ADD: 3	CYCLE LENGTH	95	105	105										
1	MANUAL CP	FZ1 GRN FCTR	12	14	14										
2	MASTER CP														
3	CURRENT CP	FZ3 GRN FCTR													
4	LAST CP	FZ4 GRN FCTR	35	37	37										
5	FLASH	FZ5 GRN FCTR	15	18	18										
6	CURRENT OFS														
7	TRANS. CP	FZ7 GRN FCTR													
8	8 KEY BANK	FZ8 GRN FCTR	35	37	37										
9	9 KEY BANK	MULTI CYCLE													
A		OFFSET A	45	50	50										
B		OFFSET B													
C		OFFSET C													
D	MANUAL OFS	FZ3 EXTENSION													
E		FZ7 EXTENSION													
F		OFS INTERRUPT													
	DIRECTION OF PROGRESSION		OP	AM	PM										
	DATE		08 22 95	08 22 95	08 22 95										
	BY		YT	YT	YT										

NOTES AND REMARKS :

A	B	Y-CORD "C" C	Y-CORD "D" D	E	F	FLAGS 1	2	3	4	5	6	7	8	
LOCAL TIMER	MASTER TIMER	RAM TEST		TB TIMR	LAG FREE		X		X		X		X	0
FZ1 FO	PERM FZ1	INITIAL FLASH		GAP CP1	LAG CP1		X		X		X		X	1
FZ2 FO		DOWN LOAD 3		GAP CP2	LAG CP2		X		X		X		X	2
FZ3 FO	PERM FZ3			GAP CP3	LAG CP3		X		X		X		X	3
FZ4 FO	PERM FZ4	PERM TIME	PERM TIME	GAP CP4	LAG CP4		X		X		X		X	4
FZ5 FO	PERM FZ5	LAG OFS	LAG OFS	GAP CP5	LAG CP5		X		X		X		X	5
FZ6 FO		FORCE OFF	FORCE OFF	GAP CP6	LAG CP6		X		X		X		X	6
FZ7 FO	PERM FZ7	LONG GRN	LONG GRN	GAP CP7	LAG CP7		X		X		X		X	7
FZ8 FO	PERM FZ8	NO GRN	NO GRN	GAP CP8	LAG CP8		X		X		X		X	8
		PERM TIMER	PERM TIMER	GAP CP9	LAG CP9		X		X		X		X	9
PRES OFS	DES OFS	YC OFS	YC OFS		YC LAG C									A
		OFS TIMER	OFS TIMER		YC LAG D									B
		LAG GRN TIMER	LAG GRN TIMER		COORD FZ		X				X			C
		FO TIMER	FO TIMER		HOLD	OBSERVATION ONLY								D
		LONG GRN TIMER	LONG GRN TIMER		NEXT FZ	OBSERVATION ONLY								E
LOC CYC	MAS CYC	NO GRN TIMER	NO GRN TIMER		FORCE	OBSERVATION ONLY								F

C T N E T / QUICNET		DATE START:
MASTER LOC.	2	10/29/2014
LOCAL NO.	4	DATE END :
SYSTEM:	Lakewood North	
MASTER LOC:	Lakewood Blvd. @ LA-91 Blockhouse	

412 PROM MODULE DIP SWITCH

	OFF	ON	
1	X		LOCATION
2	X		
3		X	
4	X		
5	X		
6	X		
7	X		
8	X		
1	X		FEATURE
2	X		
3	X		
4	X		
5	X		
6	X		
7	X		
8	X		

LOCATION: ***Lakewood Blvd. @ Compton/Somerset Blvd.*** **CO:** ***L.A.*** **RTE:** ***19*** **P.M.:** ***7.40***

CONTROL CODE "9" (C-O-9 = 0 OR 1)

	HR (HH)	MIN (MM)	CP	OFS		S 1	M 2	T 3	W 4	T 5	F 6	S 7
0	06	00	2	A	E		X	X	X	X	X	
1	09	20	1	A	E	X	X	X	X	X	X	X
2	15	00	3	A	E		X	X	X	X	X	
3	19	00	1	A	E		X	X	X	X	X	
4	21	00	1	A	E	X	X	X	X	X	X	X
5					E							
6					E							
7					E							
8					E							
9					E							
A					E							
B					E							
C					E							
D					E							
E					E							
F					E							

CONTROL CODE "9" (C-O-9 = 2)

	HR (HH)	MIN (MM)	CP	OFS		S 1	M 2	T 3	W 4	T 5	F 6	S 7
0					E							
1					E							
2					E							
3					E							
4					E							
5					E							
6					E							
7					E							
8					E							
9					E							
A					E							
B					E							
C					E							
D					E							
E					E							
F					E							

NOTES AND REMARKS

CONTROL CODE "7"

	HR (HH)	MIN (MM)	ACT		ON 0	S 1	M 2	T 3	W 4	T 5	F 6	S 7
0				E								
1				E								
2				E								
3				E								
4				E								
5				E								
6				E								
7				E								
8				E								
9				E								
A				E								
B				E								
C				E								
D				E								
E				E								
F				E								

ACTIVITY CODES (CONTROL CODE "7")

1 = TYPE OF SIMULTANEOUS PHASE TERMINATION
2 = MAX 2
3 = MAX 3
4 = CONDITIONAL SERVICE (1ST SELECT)
5 = CONDITIONAL SERVICE (2ND SELECT)
6 = ENERGIZE AUXILIARY OUTPUT
7 = ENERGIZE AUXILIARY OUTPUT
8 = ENERGIZE AUXILIARY OUTPUT
9 = MAX RECALL 1
A = TRAFFIC ACTUATED MAX 2 OPERATION
B = MAX RECALL2
C = YELLOW YIELD COORDINATION
D = YELLOW YIELD COORDINATION
E = FREE OPERATION
F = FLASHING OPERATION

DATE START:	10/29/2014
DATE END :	0

LOCATION: *Lakewood Blvd. @ Compton/Somerset Blvd.* CO: *L.A.* RTE: *19* P.M.: *7.40*

CONTROL CODE "D"

	SYSTEM DETECTORS 0	INPUT SLOT	DELAY 1	CARRYOVER 3	INPUT SLOT	DELAY 2	CARRYOVER 4	
0	NO. OF 0	I1			J1			0
1		I2U			J2U			1
2		I2L			J2L			2
3		I3U			J3U			3
4		I3L			J3L			4
5		I4			J4			5
6		I5			J5			6
7		I6U			J6U			7
8		I6L			J6L			8
9		I7U			J7U			9
A		I7L			J7L			A
B		I8			J8			B
C		I9U			J9U			C
D		I9L			J9L			D

NOTES AND REMARKS :

DATE START:	10/29/2014
DATE END :	0

CONTROL CODE "E" (THIS PAGE @ FCF=123)

	INPUT FILE	C (PHASE DISPLAY) 1	2	3	4	5	6	7	8	D (FUNCTION DISPLAY) RL	YL			EX	CO	CA	T3
0	I1	*												*	*		
1	I2U		*											*	*		
2	I2L		*											*	*		
3	I3U		*											*	*		
4	I3L		*											*			
5	I4		*													*	*
6	I5			*										*	*		
7	I6U				*									*	*		
8	I6L				*									*	*		
9	I7U				*									*	*		
A	I7L				*									*			
B	I8				*											*	*
C	I9U	*												*	*		
D	I9L			*										*	*		

	INPUT FILE	E (PHASE DISPLAY) 1	2	3	4	5	6	7	8	F (FUNCTION DISPLAY) RL	YL			EX	CO	CA	T3
0	J1					*								*	*		
1	J2U						*							*	*		
2	J2L						*							*	*		
3	J3U						*							*	*		
4	J3L						*							*			
5	J4						*									*	*
6	J5							*						*	*		
7	J6U								*					*	*		
8	J6L								*					*	*		
9	J7U								*					*	*		
A	J7L								*					*			
B	J8								*							*	*
C	J9U					*								*	*		
D	J9L							*						*	*		

* = Default Settings X = New Settings NOTE: Default settings (*) should remain unless replaced with new settings (X).

F-53

LOCATION: *Lakewood Blvd. @ Compton/Somerset Blvd.* **CO:** *L.A.* **RTE:** *19* **P.M.:** *7.40*

CONTROL CODE "8": HOLIDAY 1-16 (C-0-8=11)

	DAY (DD)	YEAR (YY)	MONTH (M)		TYPE 1	2	3	4	5	6	7
0				E							
1				E							
2				E							
3				E							
4				E							
5				E							
6				E							
7				E							
8				E							
9				E							
A				E							
B				E							
C				E							
D				E							
E				E							
F				E							

CONTROL CODE "8": HOLIDAY 17-32 (C-0-8=12)

	DAY (DD)	YEAR (YY)	MONTH (M)		TYPE 1	2	3	4	5	6	7
0				E							
1				E							
2				E							
3				E							
4				E							
5				E							
6				E							
7				E							
8				E							
9				E							
A				E							
B				E							
C				E							
D				E							
E				E							
F				E							

CONTROL CODE "9": HOLIDAY EVENT 1-16 (C-0-9=11)

	TIME (HHMM)	CP	OFS		TYPE 1	2	3	4	5	6	7
0				E							
1				E							
2				E							
3				E							
4				E							
5				E							
6				E							
7				E							
8				E							
9				E							
A				E							
B				E							
C				E							
D				E							
E				E							
F				E							

CONTROL CODE "9": HOLIDAY EVENT 17-32(C-0-9=12)

	TIME (HHMM)	CP	OFS		TYPE 1	2	3	4	5	6	7
0				E							
1				E							
2				E							
3				E							
4				E							
5				E							
6				E							
7				E							
8				E							
9				E							
A				E							
B				E							
C				E							
D				E							
E				E							
F				E							

NOTES

DATE START:
10/29/2014
DATE END :

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & Somerset Blvd
City: Paramount
Control: Signalized

Project ID: 20-05154-001
Date: 6/17/2020

Total

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				Somerset Blvd				Somerset Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	61	10	0	8	87	22	0	18	24	11	0	21	37	15	0	318
7:15 AM	8	109	10	4	15	111	17	4	15	29	10	1	28	39	19	0	419
7:30 AM	5	90	11	0	10	120	16	4	19	28	13	0	29	47	19	0	411
7:45 AM	6	131	24	3	13	143	29	3	25	40	11	0	26	46	28	0	528
8:00 AM	11	102	20	0	15	118	16	4	18	40	18	2	24	48	20	0	456
8:15 AM	9	115	20	0	13	116	23	3	20	33	13	0	32	47	22	0	466
8:30 AM	10	91	18	1	23	124	14	3	22	34	12	0	21	34	20	0	427
8:45 AM	13	129	31	0	12	105	22	10	24	29	14	0	25	36	22	1	473
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	66	828	144	8	109	924	159	31	161	257	102	3	206	334	165	1	3498
APPROACH %'s :	6.31%	79.16%	13.77%	0.76%	8.91%	75.55%	13.00%	2.53%	30.78%	49.14%	19.50%	0.57%	29.18%	47.31%	23.37%	0.14%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	36	439	82	4	64	501	82	13	85	147	54	2	103	175	90	0	1877
PEAK HR FACTOR :	0.818	0.838	0.854	0.333	0.696	0.876	0.707	0.813	0.850	0.919	0.750	0.250	0.805	0.911	0.804	0.000	0.889
		0.855				0.878				0.923				0.911			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	24	194	39	2	37	190	46	11	27	90	19	1	29	55	37	0	801
4:15 PM	25	177	40	6	31	175	46	6	30	98	25	0	33	66	31	0	789
4:30 PM	15	220	44	4	45	221	38	5	38	110	25	1	14	43	32	0	855
4:45 PM	21	141	32	0	37	167	34	15	33	107	23	3	30	59	34	0	736
5:00 PM	19	204	41	2	36	185	45	6	37	82	23	0	23	68	31	0	802
5:15 PM	21	181	45	6	40	181	33	9	27	104	21	0	22	69	39	0	798
5:30 PM	16	185	44	3	43	191	39	10	28	94	20	0	22	72	34	0	801
5:45 PM	13	187	42	3	40	205	46	3	42	69	18	1	27	51	34	0	781
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	154	1489	327	26	309	1515	327	65	262	754	174	6	200	483	272	0	6363
APPROACH %'s :	7.72%	74.60%	16.38%	1.30%	13.94%	68.37%	14.76%	2.93%	21.91%	63.04%	14.55%	0.50%	20.94%	50.58%	28.48%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	76	746	162	12	158	754	150	35	135	403	92	4	89	239	136	0	3191
PEAK HR FACTOR :	0.905	0.848	0.900	0.500	0.878	0.853	0.833	0.583	0.888	0.916	0.920	0.333	0.742	0.866	0.872	0.000	0.933
		0.880				0.888				0.911				0.892			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & Somerset Blvd
City: Paramount
Control: Signalized

Project ID: 20-05154-001
Date: 6/17/2020

Cars

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				Somerset Blvd				Somerset Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	59	10	0	8	82	22	0	18	24	11	0	21	37	14	0	310
7:15 AM	8	105	10	4	13	106	17	3	14	28	10	1	27	37	19	0	402
7:30 AM	5	86	11	0	10	116	14	4	18	28	11	0	28	46	18	0	395
7:45 AM	6	124	20	3	13	137	29	3	24	39	11	0	26	46	27	0	508
8:00 AM	11	101	20	0	15	112	14	4	16	40	17	2	24	48	18	0	442
8:15 AM	8	108	20	0	13	115	23	3	19	31	13	0	31	46	22	0	452
8:30 AM	10	88	18	1	23	118	13	3	22	33	12	0	21	34	18	0	414
8:45 AM	11	123	31	0	11	100	21	10	22	29	13	0	25	35	21	1	453
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	63	794	140	8	106	886	153	30	153	252	98	3	203	329	157	1	3376
APPROACH %'s :	6.27%	79.00%	13.93%	0.80%	9.02%	75.40%	13.02%	2.55%	30.24%	49.80%	19.37%	0.59%	29.42%	47.68%	22.75%	0.14%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	35	421	78	4	64	482	79	13	81	143	53	2	102	174	85	0	1816
PEAK HR FACTOR :	0.80	0.849	0.975	0.333	0.696	0.880	0.681	0.813	0.844	0.894	0.779	0.250	0.823	0.906	0.787	0.000	0.894
		0.879				0.876				0.930				0.912			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	23	192	38	2	37	186	45	11	27	90	18	1	29	55	36	0	790
4:15 PM	24	172	40	6	30	169	45	6	30	94	25	0	33	64	30	0	768
4:30 PM	15	219	44	4	45	219	38	5	33	109	24	1	13	43	32	0	844
4:45 PM	20	139	32	0	37	166	34	15	32	106	22	3	30	58	34	0	728
5:00 PM	19	203	41	2	35	185	44	6	36	82	23	0	23	68	30	0	797
5:15 PM	21	180	45	6	40	177	33	9	26	102	21	0	22	69	39	0	790
5:30 PM	16	183	43	3	43	190	39	10	28	94	20	0	22	71	34	0	796
5:45 PM	12	187	42	3	40	203	46	3	42	68	18	1	27	51	34	0	777
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	150	1475	325	26	307	1495	324	65	254	745	171	6	199	479	269	0	6290
APPROACH %'s :	7.59%	74.65%	16.45%	1.32%	14.01%	68.23%	14.79%	2.97%	21.60%	63.35%	14.54%	0.51%	21.01%	50.58%	28.41%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	75	741	162	12	157	747	149	35	127	399	90	4	88	238	135	0	3159
PEAK HR FACTOR :	0.89	0.846	0.900	0.500	0.872	0.853	0.847	0.583	0.882	0.915	0.938	0.333	0.733	0.862	0.865	0.000	0.936
		0.878				0.886				0.928				0.887			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & Somerset Blvd
City: Paramount
Control: Signalized

Project ID: 20-05154-001
Date: 6/17/2020

HT

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				Somerset Blvd				Somerset Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	1	0	8
7:15 AM	0	4	0	0	2	5	0	1	1	1	0	0	1	2	0	0	17
7:30 AM	0	4	0	0	0	4	2	0	1	0	2	0	1	1	1	0	16
7:45 AM	0	7	4	0	0	6	0	0	1	1	0	0	0	0	1	0	20
8:00 AM	0	1	0	0	0	6	2	0	2	0	1	0	0	0	2	0	14
8:15 AM	1	7	0	0	0	1	0	0	1	2	0	0	1	1	0	0	14
8:30 AM	0	3	0	0	0	6	1	0	0	1	0	0	0	0	2	0	13
8:45 AM	2	6	0	0	1	5	1	0	2	0	1	0	0	1	1	0	20
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	34	4	0	3	38	6	1	8	5	4	0	3	5	8	0	122
APPROACH %'s :	7.32%	82.93%	9.76%	0.00%	6.25%	79.17%	12.50%	2.08%	47.06%	29.41%	23.53%	0.00%	18.75%	31.25%	50.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	1	18	4	0	0	19	3	0	4	4	1	0	1	1	5	0	61
PEAK HR FACTOR :	0.250	0.643	0.250	0.000	0.000	0.792	0.375	0.000	0.500	0.500	0.250	0.000	0.250	0.250	0.625	0.000	0.763
		0.523				0.688				0.750				0.875			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	2	1	0	0	4	1	0	0	0	1	0	0	0	1	0	11
4:15 PM	1	5	0	0	1	6	1	0	0	4	0	0	0	2	1	0	21
4:30 PM	0	1	0	0	0	2	0	0	5	1	1	0	1	0	0	0	11
4:45 PM	1	2	0	0	0	1	0	0	1	1	1	0	0	1	0	0	8
5:00 PM	0	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	5
5:15 PM	0	1	0	0	0	4	0	0	1	2	0	0	0	0	0	0	8
5:30 PM	0	2	1	0	0	1	0	0	0	0	0	0	0	1	0	0	5
5:45 PM	1	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	14	2	0	2	20	3	0	8	9	3	0	1	4	3	0	73
APPROACH %'s :	20.00%	70.00%	10.00%	0.00%	8.00%	80.00%	12.00%	0.00%	40.00%	45.00%	15.00%	0.00%	12.50%	50.00%	37.50%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	1	5	0	0	1	7	1	0	8	4	2	0	1	1	1	0	32
PEAK HR FACTOR :	0.25	0.625	0.000	0.000	0.250	0.438	0.250	0.000	0.400	0.500	0.500	0.000	0.250	0.250	0.250	0.000	0.727
		0.500				0.563				0.500				0.750			

Prepared by National Data & Surveying Services

Lakewood Blvd & Somerset Blvd

Peak Hour Turning Movement Count

ID: 20-05154-001
City: Paramount

Day: Wednesday
Date: 06/17/2020

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND (Lakewood Blvd)

AM	82	501	64	13	627	AM
NOON	0	0	0	0	0	NOON
PM	150	754	158	35	1052	PM
	0	2	1	0		

EASTBOUND (Somerset Blvd)

AM	NOON	PM	
295	0	469	
2	0	4	0
85	0	135	1
147	0	403	2
54	0	92	0
AM	NOON	PM	

WESTBOUND (Somerset Blvd)

	PM	NOON	AM
0	136	0	90
2	239	0	175
1	89	0	103
0	0	0	0
	723	0	293
	PM	NOON	AM

NORTHBOUND (Lakewood Blvd)

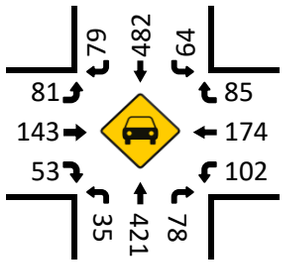
PM	947	12	76	746	162	PM
NOON	0	0	0	0	0	NOON
AM	662	4	36	439	82	AM
	0	1	2	0		

CONTROL

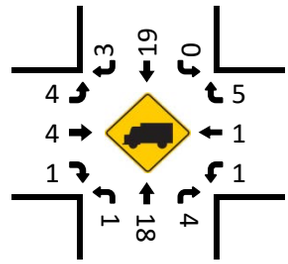
Signalized

TEV	1877 AM	0 NOON	3191 PM
PHF	0.89		0.93

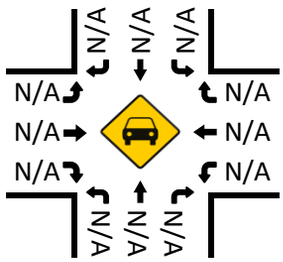
Cars (AM)



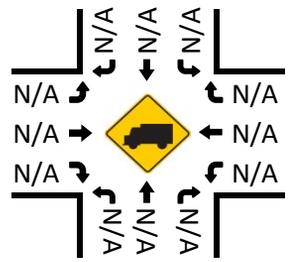
HT (AM)



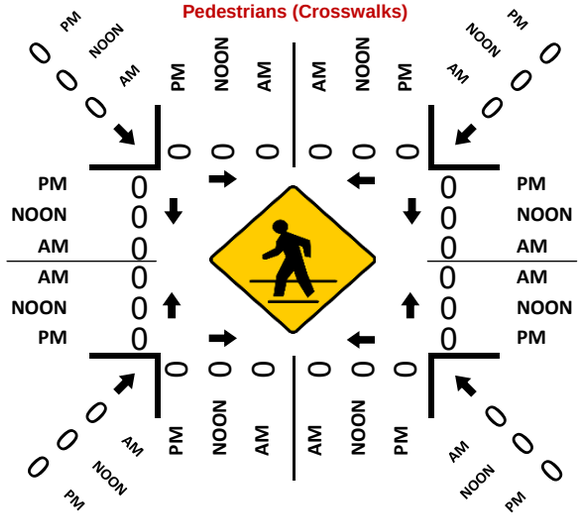
Cars (NOON)



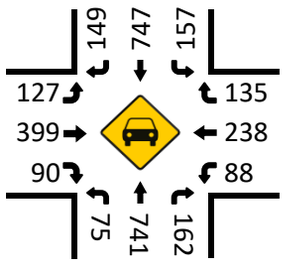
HT (NOON)



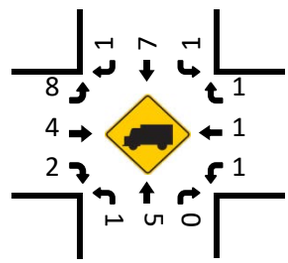
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & Rosecrans Ave
City: Paramount
Control: Signalized

Project ID: 20-05154-004
Date: 6/17/2020

Total

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				Rosecrans Ave				Rosecrans Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	52	7	1	20	102	16	4	20	46	14	0	18	48	9	0	364
7:15 AM	12	88	17	1	30	108	7	4	14	52	10	0	18	56	15	0	432
7:30 AM	14	85	13	1	29	111	16	7	15	51	9	0	21	53	16	0	441
7:45 AM	9	91	29	0	29	145	20	9	22	55	14	0	30	69	17	0	539
8:00 AM	16	98	21	2	28	129	17	17	12	50	11	0	21	64	21	0	507
8:15 AM	8	99	9	0	28	103	17	11	22	48	9	0	21	55	17	0	447
8:30 AM	12	92	16	0	31	101	15	6	19	50	7	0	25	62	17	0	453
8:45 AM	16	87	23	0	14	99	18	8	23	59	7	1	11	60	22	1	449
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	94	692	135	5	209	898	126	66	147	411	81	1	165	467	134	1	3632
APPROACH %'s :	10.15%	74.73%	14.58%	0.54%	16.09%	69.13%	9.70%	5.08%	22.97%	64.22%	12.66%	0.16%	21.51%	60.89%	17.47%	0.13%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	45	380	75	2	116	478	69	43	75	203	41	0	97	250	72	0	1946
PEAK HR FACTOR :	0.703	0.960	0.647	0.250	0.935	0.824	0.863	0.632	0.852	0.923	0.732	0.000	0.808	0.906	0.857	0.000	0.903
	0.916				0.869				0.876				0.903				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	30	144	33	3	32	167	44	9	40	122	16	1	40	99	45	1	826
4:15 PM	28	150	33	1	41	182	36	18	38	115	10	1	22	130	30	1	836
4:30 PM	33	157	39	3	34	181	30	34	38	129	17	0	36	104	33	1	869
4:45 PM	18	167	26	0	31	169	42	18	36	116	14	0	39	111	32	0	819
5:00 PM	29	192	27	1	36	170	43	19	46	115	18	0	34	126	45	1	902
5:15 PM	28	151	39	3	37	163	34	16	51	124	14	0	45	100	36	0	841
5:30 PM	21	162	40	5	37	178	47	13	49	139	13	0	24	119	23	1	871
5:45 PM	20	150	36	2	33	167	42	9	44	133	10	0	22	107	21	0	796
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	207	1273	273	18	281	1377	318	136	342	993	112	2	262	896	265	5	6760
APPROACH %'s :	11.69%	71.88%	15.42%	1.02%	13.30%	65.20%	15.06%	6.44%	23.60%	68.53%	7.73%	0.14%	18.35%	62.75%	18.56%	0.35%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	96	672	132	9	141	680	166	66	182	494	59	0	142	456	136	2	3433
PEAK HR FACTOR :	0.828	0.875	0.825	0.450	0.953	0.955	0.883	0.868	0.892	0.888	0.819	0.000	0.789	0.905	0.756	0.500	0.951
	0.913				0.957				0.914				0.893				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & Rosecrans Ave
City: Paramount
Control: Signalized

Project ID: 20-05154-004
Date: 6/17/2020

Cars

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				Rosecrans Ave				Rosecrans Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	50	6	1	19	96	16	4	18	43	13	0	17	48	8	0	346
7:15 AM	11	82	17	0	30	101	7	4	14	51	9	0	17	56	15	0	414
7:30 AM	12	84	11	1	26	109	16	7	15	49	9	0	21	50	16	0	426
7:45 AM	8	87	29	0	29	135	19	9	21	53	14	0	27	67	17	0	515
8:00 AM	13	98	19	2	28	124	17	17	12	48	11	0	21	63	21	0	494
8:15 AM	7	94	8	0	28	101	15	11	21	48	8	0	21	55	16	0	433
8:30 AM	11	91	13	0	31	93	15	6	19	50	7	0	24	61	17	0	438
8:45 AM	15	83	22	0	14	96	18	8	23	57	7	1	11	58	21	1	435
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	84	669	125	4	205	855	123	66	143	399	78	1	159	458	131	1	3501
APPROACH %'s :	9.52%	75.85%	14.17%	0.45%	16.41%	68.45%	9.85%	5.28%	23.03%	64.25%	12.56%	0.16%	21.23%	61.15%	17.49%	0.13%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	39	370	69	2	116	453	66	43	73	199	40	0	93	246	71	0	1880
PEAK HR FACTOR :	0.75	0.944	0.595	0.250	0.935	0.839	0.868	0.632	0.869	0.939	0.714	0.000	0.861	0.918	0.845	0.000	0.913
		0.909				0.883				0.886				0.923			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	28	142	31	3	32	163	44	9	39	120	16	1	39	95	41	1	804
4:15 PM	28	146	32	1	41	179	36	18	37	114	9	1	20	128	30	1	821
4:30 PM	33	155	37	3	33	180	30	34	36	126	16	0	36	103	33	1	856
4:45 PM	18	163	25	0	31	168	42	18	36	116	14	0	39	110	32	0	812
5:00 PM	29	191	27	1	36	168	43	19	46	114	18	0	31	123	43	1	890
5:15 PM	28	149	39	3	36	161	34	16	50	123	12	0	45	99	36	0	831
5:30 PM	21	159	40	4	36	177	47	13	49	139	13	0	24	119	23	1	865
5:45 PM	20	148	36	2	33	163	42	9	44	130	10	0	22	105	20	0	784
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	205	1253	267	17	278	1359	318	136	337	982	108	2	256	882	258	5	6663
APPROACH %'s :	11.77%	71.93%	15.33%	0.98%	13.30%	64.99%	15.21%	6.50%	23.58%	68.72%	7.56%	0.14%	18.27%	62.96%	18.42%	0.36%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	96	662	131	8	139	674	166	66	181	492	57	0	139	451	134	2	3398
PEAK HR FACTOR :	0.83	0.866	0.819	0.500	0.965	0.952	0.883	0.868	0.905	0.885	0.792	0.000	0.772	0.917	0.779	0.500	0.954
		0.904				0.957				0.908				0.917			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & Rosecrans Ave
City: Paramount
Control: Signalized

Project ID: 20-05154-004
Date: 6/17/2020

HT

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				Rosecrans Ave				Rosecrans Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	1	0	1	6	0	0	2	3	1	0	1	0	1	0	18
7:15 AM	1	6	0	1	0	7	0	0	0	1	1	0	1	0	0	0	18
7:30 AM	2	1	2	0	3	2	0	0	0	2	0	0	0	3	0	0	15
7:45 AM	1	4	0	0	0	10	1	0	1	2	0	0	3	2	0	0	24
8:00 AM	3	0	2	0	0	5	0	0	0	2	0	0	0	1	0	0	13
8:15 AM	1	5	1	0	0	2	2	0	1	0	1	0	0	0	1	0	14
8:30 AM	1	1	3	0	0	8	0	0	0	0	0	0	1	1	0	0	15
8:45 AM	1	4	1	0	0	3	0	0	0	2	0	0	0	2	1	0	14
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	10	23	10	1	4	43	3	0	4	12	3	0	6	9	3	0	131
APPROACH %'s :	22.73%	52.27%	22.73%	2.27%	8.00%	86.00%	6.00%	0.00%	21.05%	63.16%	15.79%	0.00%	33.33%	50.00%	16.67%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	6	10	6	0	0	25	3	0	2	4	1	0	4	4	1	0	66
PEAK HR FACTOR :	0.500	0.500	0.500	0.000	0.000	0.625	0.375	0.000	0.500	0.500	0.250	0.000	0.333	0.500	0.250	0.000	0.688
		0.786				0.636				0.583				0.450			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	2	2	0	0	4	0	0	1	2	0	0	1	4	4	0	22
4:15 PM	0	4	1	0	0	3	0	0	1	1	1	0	2	2	0	0	15
4:30 PM	0	2	2	0	1	1	0	0	2	3	1	0	0	1	0	0	13
4:45 PM	0	4	1	0	0	1	0	0	0	0	0	0	0	1	0	0	7
5:00 PM	0	1	0	0	0	2	0	0	0	1	0	0	3	3	2	0	12
5:15 PM	0	2	0	0	1	2	0	0	1	1	2	0	0	1	0	0	10
5:30 PM	0	3	0	1	1	1	0	0	0	0	0	0	0	0	0	0	6
5:45 PM	0	2	0	0	0	4	0	0	0	3	0	0	0	2	1	0	12
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	20	6	1	3	18	0	0	5	11	4	0	6	14	7	0	97
APPROACH %'s :	6.90%	68.97%	20.69%	3.45%	14.29%	85.71%	0.00%	0.00%	25.00%	55.00%	20.00%	0.00%	22.22%	51.85%	25.93%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	10	1	1	2	6	0	0	1	2	2	0	3	5	2	0	35
PEAK HR FACTOR :	0.00	0.625	0.250	0.250	0.500	0.750	0.000	0.000	0.250	0.500	0.250	0.000	0.250	0.417	0.250	0.000	0.729
		0.600				0.667				0.313				0.313			

Prepared by National Data & Surveying Services

Lakewood Blvd & Rosecrans Ave

Peak Hour Turning Movement Count

ID: 20-05154-004
City: Paramount

Day: Wednesday
Date: 06/17/2020

PEAK HOURS

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

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Lakewood Blvd — SOUTHBOUND

AM	69	478	116	43	570	AM
NOON	0	0	0	0	0	NOON
PM	166	680	141	66	1056	PM
	0	2	1	0		

Rosecrans Ave — EASTBOUND

AM	NOON	PM	
364	0	718	
0	0	0	0
75	0	182	1
203	0	494	2
41	0	59	1
AM	NOON	PM	

CONTROL

Signalized

TEV	1946 AM	0 NOON	3433 PM
PHF	0.90		0.95

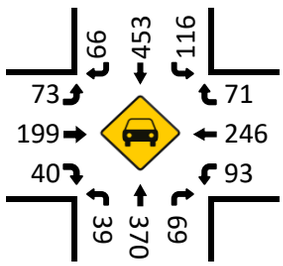
Rosecrans Ave — WESTBOUND

PM	NOON	AM	
136	0	72	0
456	0	250	2
142	0	97	1
2	0	0	0
769	0	394	
PM	NOON	AM	

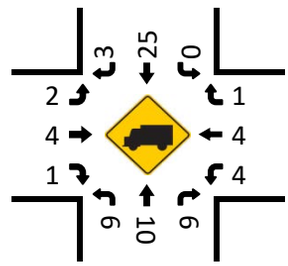
PM	890	9	96	672	132	PM
NOON	0	0	0	0	0	NOON
AM	618	2	45	380	75	AM
		0	1	2	0	

Lakewood Blvd — NORTHBOUND

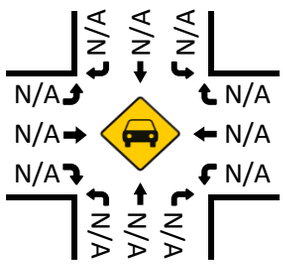
Cars (AM)



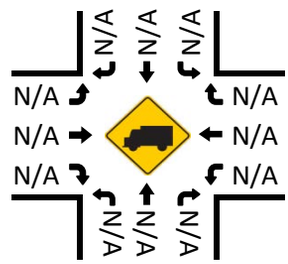
HT (AM)



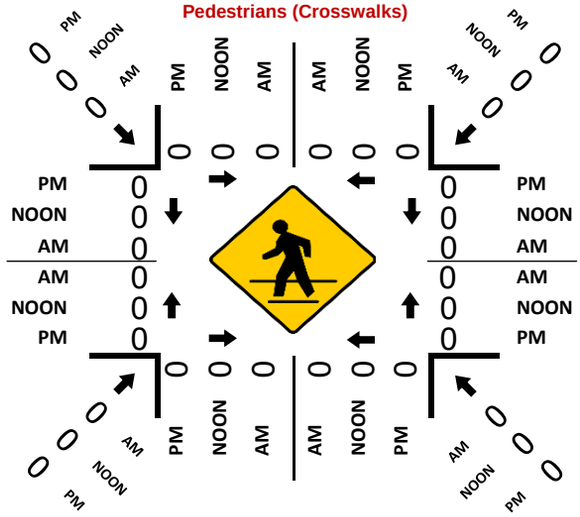
Cars (NOON)



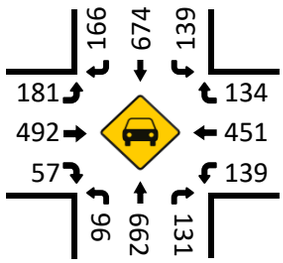
HT (NOON)



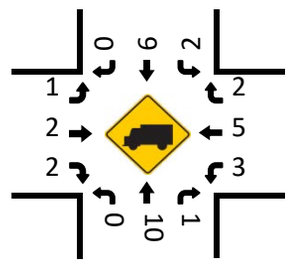
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Downey Ave & Somerset Blvd
City: Paramount
Control: Signalized

Project ID: 20-05154-002
Date: 6/17/2020

Total

NS/EW Streets:	Downey Ave				Downey Ave				Somerset Blvd				Somerset Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	41	12	0	8	41	12	1	7	42	13	0	8	61	7	0	260
7:15 AM	14	28	4	0	11	54	11	1	2	38	4	1	9	56	8	0	241
7:30 AM	7	44	11	0	10	54	6	2	12	33	13	1	6	54	7	0	260
7:45 AM	9	40	9	0	9	65	6	4	6	40	9	3	8	76	7	0	291
8:00 AM	16	47	11	0	10	55	13	0	11	62	5	2	16	60	10	0	318
8:15 AM	10	43	9	0	9	47	14	1	8	53	11	1	8	60	12	1	287
8:30 AM	8	48	9	0	14	64	18	1	5	50	12	2	5	49	14	0	299
8:45 AM	7	64	7	0	9	59	11	4	8	47	14	1	13	51	7	1	303
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	78	355	72	0	80	439	91	14	59	365	81	11	73	467	72	2	2259
APPROACH %'s :	15.45%	70.30%	14.26%	0.00%	12.82%	70.35%	14.58%	2.24%	11.43%	70.74%	15.70%	2.13%	11.89%	76.06%	11.73%	0.33%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	41	202	36	0	42	225	56	6	32	212	42	6	42	220	43	2	1207
PEAK HR FACTOR :	0.641	0.789	0.818	0.000	0.750	0.879	0.778	0.375	0.727	0.855	0.750	0.750	0.656	0.917	0.768	0.500	0.949
	0.894				0.848				0.913				0.892				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	28	138	22	0	18	102	20	2	25	111	18	4	16	88	7	3	602
4:15 PM	24	98	21	0	11	81	18	4	28	131	18	1	18	105	14	0	572
4:30 PM	25	102	17	1	13	99	20	1	18	150	27	1	16	87	21	0	598
4:45 PM	18	107	22	0	25	93	18	3	25	128	15	1	17	72	12	0	556
5:00 PM	23	103	20	0	25	121	19	3	20	107	15	1	10	92	12	0	571
5:15 PM	23	97	22	0	14	99	21	3	25	132	16	0	18	104	15	0	589
5:30 PM	24	107	19	1	19	90	21	1	19	103	20	2	11	88	13	0	538
5:45 PM	18	99	35	0	17	91	25	4	14	112	26	0	18	103	12	0	574
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	183	851	178	2	142	776	162	21	174	974	155	10	124	739	106	3	4600
APPROACH %'s :	15.07%	70.10%	14.66%	0.16%	12.90%	70.48%	14.71%	1.91%	13.25%	74.18%	11.81%	0.76%	12.76%	76.03%	10.91%	0.31%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	95	445	82	1	67	375	76	10	96	520	78	7	67	352	54	3	2328
PEAK HR FACTOR :	0.848	0.806	0.932	0.250	0.670	0.919	0.950	0.625	0.857	0.867	0.722	0.438	0.931	0.838	0.643	0.250	0.967
	0.828				0.930				0.894				0.869				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Downey Ave & Somerset Blvd
City: Paramount
Control: Signalized

Project ID: 20-05154-002
Date: 6/17/2020

Cars

NS/EW Streets:	Downey Ave				Downey Ave				Somerset Blvd				Somerset Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	41	12	0	8	41	11	1	7	40	13	0	8	61	7	0	257
7:15 AM	14	28	3	0	11	54	11	1	2	37	4	1	9	52	8	0	235
7:30 AM	7	43	10	0	10	53	6	2	12	32	13	1	6	54	7	0	256
7:45 AM	9	39	8	0	9	65	6	4	6	40	9	3	8	75	7	0	288
8:00 AM	15	46	11	0	10	55	13	0	11	59	5	2	15	59	10	0	311
8:15 AM	10	43	9	0	9	46	14	1	8	51	11	1	8	59	12	1	283
8:30 AM	8	48	8	0	14	64	17	1	5	49	12	2	5	47	14	0	294
8:45 AM	7	64	7	0	9	59	11	4	8	45	14	1	13	49	7	1	299
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	77	352	68	0	80	437	89	14	59	353	81	11	72	456	72	2	2223
APPROACH %'s :	15.49%	70.82%	13.68%	0.00%	12.90%	70.48%	14.35%	2.26%	11.71%	70.04%	16.07%	2.18%	11.96%	75.75%	11.96%	0.33%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	40	201	35	0	42	224	55	6	32	204	42	6	41	214	43	2	1187
PEAK HR FACTOR :	0.67	0.785	0.795	0.000	0.750	0.875	0.809	0.375	0.727	0.864	0.750	0.750	0.683	0.907	0.768	0.500	0.954
		0.885				0.852				0.922				0.893			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	28	136	22	0	18	102	20	2	25	109	17	4	16	88	7	3	597
4:15 PM	24	98	20	0	11	80	17	4	28	130	18	1	18	104	14	0	567
4:30 PM	25	101	17	1	13	99	20	1	18	143	27	1	16	85	21	0	588
4:45 PM	17	105	22	0	25	93	18	3	25	126	15	1	17	70	10	0	547
5:00 PM	23	103	20	0	25	120	19	3	20	106	15	1	10	92	12	0	569
5:15 PM	23	97	22	0	14	98	21	3	25	129	16	0	17	104	15	0	584
5:30 PM	24	107	19	1	19	90	21	1	19	99	20	2	11	87	13	0	533
5:45 PM	17	99	35	0	17	91	25	4	14	111	25	0	18	103	12	0	571
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	181	846	177	2	142	773	161	21	174	953	153	10	123	733	104	3	4556
APPROACH %'s :	15.01%	70.15%	14.68%	0.17%	12.94%	70.46%	14.68%	1.91%	13.49%	73.88%	11.86%	0.78%	12.77%	76.12%	10.80%	0.31%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	94	440	81	1	67	374	75	10	96	508	77	7	67	347	52	3	2299
PEAK HR FACTOR :	0.84	0.809	0.920	0.250	0.670	0.917	0.938	0.625	0.857	0.888	0.713	0.438	0.931	0.834	0.619	0.250	0.963
		0.828				0.926				0.910				0.862			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Downey Ave & Somerset Blvd
City: Paramount
Control: Signalized

Project ID: 20-05154-002
Date: 6/17/2020

HT

NS/EW Streets:	Downey Ave				Downey Ave				Somerset Blvd				Somerset Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	3
7:15 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	4	0	0	6
7:30 AM	0	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	4
7:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	3
8:00 AM	1	1	0	0	0	0	0	0	0	3	0	0	1	1	0	0	7
8:15 AM	0	0	0	0	0	1	0	0	0	2	0	0	0	1	0	0	4
8:30 AM	0	0	1	0	0	0	1	0	0	1	0	0	0	2	0	0	5
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	3	4	0	0	2	2	0	0	12	0	0	1	11	0	0	36
APPROACH %'s :	12.50%	37.50%	50.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	8.33%	91.67%	0.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	1	1	1	0	0	1	1	0	0	8	0	0	1	6	0	0	20
PEAK HR FACTOR :	0.250	0.250	0.250	0.000	0.000	0.250	0.250	0.000	0.000	0.667	0.000	0.000	0.250	0.750	0.000	0.000	0.714
	0.375				0.500				0.667				0.875				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	2	0	0	0	0	0	0	0	2	1	0	0	0	0	0	5
4:15 PM	0	0	1	0	0	1	1	0	0	1	0	0	0	1	0	0	5
4:30 PM	0	1	0	0	0	0	0	0	0	7	0	0	0	2	0	0	10
4:45 PM	1	2	0	0	0	0	0	0	0	2	0	0	0	2	2	0	9
5:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	1	0	0	0	3	0	0	1	0	0	0	5
5:30 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	5
5:45 PM	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	5	1	0	0	3	1	0	0	21	2	0	1	6	2	0	44
APPROACH %'s :	25.00%	62.50%	12.50%	0.00%	0.00%	75.00%	25.00%	0.00%	0.00%	91.30%	8.70%	0.00%	11.11%	66.67%	22.22%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	1	5	1	0	0	1	1	0	0	12	1	0	0	5	2	0	29
PEAK HR FACTOR :	0.25	0.625	0.250	0.000	0.000	0.250	0.250	0.000	0.000	0.429	0.250	0.000	0.000	0.625	0.250	0.000	0.725
	0.583				0.250				0.464				0.438				

Prepared by National Data & Surveying Services

Downey Ave & Somerset Blvd

Peak Hour Turning Movement Count

ID: 20-05154-002
City: Paramount

Day: Wednesday
Date: 06/17/2020

	PEAK HOURS	COUNT PERIODS
AM	08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Downey Ave – SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	56	225	42	6	283
NOON	0	0	0	0	0
PM	76	375	67	10	605
Lanes	0	2	1	0	

Somerset Blvd – EASTBOUND

	AM	NOON	PM	Lanes
Departing	323	0	530	
U-Turn	6	0	7	0
Left	32	0	96	1
Thru	212	0	520	2
Right	42	0	78	0

Somerset Blvd – WESTBOUND

	PM	NOON	AM	Lanes
Right	54	0	43	0
Thru	352	0	220	2
Left	67	0	42	1
U-Turn	3	0	2	0
Departing	672	0	292	

Downey Ave – NORTHBOUND

	Departing	U-Turn	Left	Thru	Right
Lanes		0	1	2	0
PM	521	1	95	445	82
NOON	0	0	0	0	0
AM	309	0	41	202	36

CONTROL

Signalized

	AM	NOON	PM
TEV	1207	0	2328
PHF	0.95		0.97

Cars and Heavy Trucks (HT)

Movement	Cars (AM)	Cars (NOON)	Cars (PM)	HT (AM)	HT (NOON)	HT (PM)
SB Right	55	N/A	75	1	N/A	1
SB Thru	224	N/A	374	1	N/A	1
SB Left	42	N/A	67	0	N/A	0
EB Left	32	N/A	96	0	N/A	0
EB Thru	204	N/A	508	8	N/A	12
EB Right	42	N/A	77	0	N/A	1
WB Right	43	N/A	52	0	N/A	2
WB Thru	214	N/A	347	6	N/A	5
WB Left	41	N/A	67	1	N/A	0
NB Left	40	N/A	94	1	N/A	1
NB Thru	201	N/A	440	1	N/A	5
NB Right	35	N/A	81	1	N/A	1

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North leg (eastbound)	0	0	0
North leg (westbound)	0	0	0
South leg (eastbound)	0	0	0
South leg (westbound)	0	0	0
West leg (southbound)	0	0	0
West leg (northbound)	0	0	0
East leg (southbound)	0	0	0
East leg (northbound)	0	0	0
NW corner (diagonal)	0	0	0
NE corner (diagonal)	0	0	0
SW corner (diagonal)	0	0	0
SE corner (diagonal)	0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Downey Ave & Rosecrans Ave
City: Paramount
Control: Signalized

Project ID: 20-05154-003
Date: 6/17/2020

Total

NS/EW Streets:	Downey Ave				Downey Ave				Rosecrans Ave				Rosecrans Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	6	33	9	0	28	32	6	0	3	55	12	0	11	41	7	1	244
7:15 AM	3	37	15	0	23	51	3	0	3	75	9	0	9	63	19	1	311
7:30 AM	6	38	10	0	18	51	9	2	6	70	10	0	8	60	15	2	305
7:45 AM	6	48	7	0	24	50	8	1	4	80	10	0	3	77	20	2	340
8:00 AM	16	42	14	0	36	53	5	2	3	81	13	1	12	75	16	1	370
8:15 AM	15	46	14	0	15	33	13	2	5	76	3	0	12	81	12	0	327
8:30 AM	11	54	17	0	22	51	12	1	4	70	3	0	12	58	17	0	332
8:45 AM	23	45	8	0	28	47	4	0	8	82	20	0	6	95	9	2	377
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	86	343	94	0	194	368	60	8	36	589	80	1	73	550	115	9	2606
APPROACH %'s :	16.44%	65.58%	17.97%	0.00%	30.79%	58.41%	9.52%	1.27%	5.10%	83.43%	11.33%	0.14%	9.77%	73.63%	15.39%	1.20%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	65	187	53	0	101	184	34	5	20	309	39	1	42	309	54	3	1406
PEAK HR FACTOR :	0.707	0.866	0.779	0.000	0.701	0.868	0.654	0.625	0.625	0.942	0.488	0.250	0.875	0.813	0.794	0.375	0.932
	0.930				0.844				0.839				0.911				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	23	103	30	0	18	93	16	1	18	199	22	1	21	122	39	1	707
4:15 PM	40	90	21	0	46	60	11	0	17	163	21	0	24	148	49	0	690
4:30 PM	19	89	17	0	29	84	13	2	17	180	17	2	21	120	40	2	652
4:45 PM	12	103	28	0	39	69	10	0	24	172	23	3	25	161	37	0	706
5:00 PM	19	84	18	0	31	97	17	2	14	186	25	6	15	155	35	1	705
5:15 PM	35	100	22	0	32	95	16	0	18	168	20	2	20	149	40	1	718
5:30 PM	20	91	19	0	38	82	15	3	9	183	27	1	13	150	39	4	694
5:45 PM	24	87	17	0	33	86	15	3	18	153	20	0	15	141	38	0	650
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	192	747	172	0	266	666	113	11	135	1404	175	15	154	1146	317	9	5522
APPROACH %'s :	17.28%	67.24%	15.48%	0.00%	25.19%	63.07%	10.70%	1.04%	7.81%	81.20%	10.12%	0.87%	9.47%	70.48%	19.50%	0.55%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	86	378	87	0	140	343	58	5	65	709	95	12	73	615	151	6	2823
PEAK HR FACTOR :	0.614	0.917	0.777	0.000	0.897	0.884	0.853	0.417	0.677	0.953	0.880	0.500	0.730	0.955	0.944	0.375	0.983
	0.877				0.929				0.953				0.947				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Downey Ave & Rosecrans Ave
City: Paramount
Control: Signalized

Project ID: 20-05154-003
Date: 6/17/2020

Cars

NS/EW Streets:	Downey Ave				Downey Ave				Rosecrans Ave				Rosecrans Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	6	32	9	0	28	32	5	0	3	51	12	0	11	40	7	1	237
7:15 AM	3	37	15	0	23	51	2	0	3	71	9	0	9	61	19	1	304
7:30 AM	6	37	10	0	18	50	9	2	6	69	10	0	8	58	15	2	300
7:45 AM	6	47	7	0	24	50	8	1	4	76	10	0	3	73	20	2	331
8:00 AM	15	42	14	0	36	53	5	2	3	79	13	1	12	71	15	1	362
8:15 AM	15	46	14	0	15	33	13	2	5	73	3	0	12	79	12	0	322
8:30 AM	11	54	17	0	22	50	12	1	4	69	3	0	12	55	17	0	327
8:45 AM	23	45	8	0	28	47	4	0	8	81	20	0	6	92	9	2	373
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	85	340	94	0	194	366	58	8	36	569	80	1	73	529	114	9	2556
APPROACH %'s :	16.38%	65.51%	18.11%	0.00%	30.99%	58.47%	9.27%	1.28%	5.25%	82.94%	11.66%	0.15%	10.07%	72.97%	15.72%	1.24%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	64	187	53	0	101	183	34	5	20	302	39	1	42	297	53	3	1384
PEAK HR FACTOR :	0.70	0.866	0.779	0.000	0.701	0.863	0.654	0.625	0.625	0.932	0.488	0.250	0.875	0.807	0.779	0.375	0.928
		0.927				0.841				0.830				0.906			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	22	102	30	0	18	93	16	1	18	195	22	1	21	119	39	0	697
4:15 PM	40	89	21	0	46	58	11	0	17	162	21	0	24	143	49	0	681
4:30 PM	19	88	17	0	29	84	13	2	17	175	17	2	21	118	40	2	644
4:45 PM	11	103	28	0	39	69	10	0	24	169	23	3	25	160	37	0	701
5:00 PM	19	82	18	0	31	97	16	2	14	183	24	6	15	153	35	1	696
5:15 PM	35	100	22	0	32	94	16	0	18	166	19	2	19	147	40	1	711
5:30 PM	20	90	19	0	38	82	15	3	9	181	27	1	13	150	39	4	691
5:45 PM	24	87	17	0	33	86	15	3	18	152	20	0	15	140	38	0	648
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	190	741	172	0	266	663	112	11	135	1383	173	15	153	1130	317	8	5469
APPROACH %'s :	17.23%	67.18%	15.59%	0.00%	25.29%	63.02%	10.65%	1.05%	7.91%	81.07%	10.14%	0.88%	9.51%	70.27%	19.71%	0.50%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	85	375	87	0	140	342	57	5	65	699	93	12	72	610	151	6	2799
PEAK HR FACTOR :	0.61	0.910	0.777	0.000	0.897	0.881	0.891	0.417	0.677	0.955	0.861	0.500	0.720	0.953	0.944	0.375	0.984
		0.871				0.932				0.957				0.945			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Downey Ave & Rosecrans Ave
City: Paramount
Control: Signalized

Project ID: 20-05154-003
Date: 6/17/2020

HT

NS/EW Streets:	Downey Ave				Downey Ave				Rosecrans Ave				Rosecrans Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	1	0	0	4	0	0	0	1	0	0	7
7:15 AM	0	0	0	0	0	0	1	0	0	4	0	0	0	2	0	0	7
7:30 AM	0	1	0	0	0	1	0	0	0	1	0	0	0	2	0	0	5
7:45 AM	0	1	0	0	0	0	0	0	0	4	0	0	0	4	0	0	9
8:00 AM	1	0	0	0	0	0	0	0	0	2	0	0	0	4	1	0	8
8:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
8:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	3	0	0	5
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	3	0	0	0	2	2	0	0	20	0	0	0	21	1	0	50
APPROACH %'s :	25.00%	75.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	95.45%	4.55%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	1	0	0	0	0	1	0	0	0	7	0	0	0	12	1	0	22
PEAK HR FACTOR :	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.583	0.000	0.000	0.000	0.750	0.250	0.000	0.688
	0.250				0.250				0.583				0.650				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	1	0	0	0	0	0	0	0	4	0	0	0	3	0	1	10
4:15 PM	0	1	0	0	0	2	0	0	0	1	0	0	0	5	0	0	9
4:30 PM	0	1	0	0	0	0	0	0	0	5	0	0	0	2	0	0	8
4:45 PM	1	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	5
5:00 PM	0	2	0	0	0	0	1	0	0	3	1	0	0	2	0	0	9
5:15 PM	0	0	0	0	0	1	0	0	0	2	1	0	1	2	0	0	7
5:30 PM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	6	0	0	0	3	1	0	0	21	2	0	1	16	0	1	53
APPROACH %'s :	25.00%	75.00%	0.00%	0.00%	0.00%	75.00%	25.00%	0.00%	0.00%	91.30%	8.70%	0.00%	5.56%	88.89%	0.00%	5.56%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	1	3	0	0	0	1	1	0	0	10	2	0	1	5	0	0	24
PEAK HR FACTOR :	0.25	0.375	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.833	0.500	0.000	0.250	0.625	0.000	0.000	0.667
	0.500				0.500				0.750				0.500				

Prepared by National Data & Surveying Services

Downey Ave & Rosecrans Ave

Peak Hour Turning Movement Count

ID: 20-05154-003
City: Paramount

Day: Wednesday
Date: 06/17/2020

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	1406	0	2823
PHF	0.93		0.98

Downey Ave — SOUTHBOUND

	L	T	R	U	Total	
AM	34	184	101	5	266	AM
NOON	0	0	0	0	0	NOON
PM	58	343	140	5	599	PM

Rosecrans Ave — EASTBOUND

	AM	NOON	PM
0	1	0	12
1	20	0	65
2	309	0	709
1	39	0	95
	409	0	771

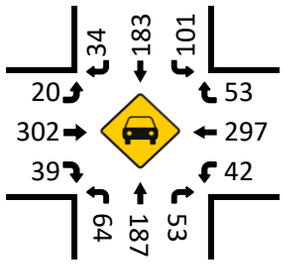
Rosecrans Ave — WESTBOUND

	PM	NOON	AM
1	151	0	54
2	615	0	309
1	73	0	42
0	6	0	3
	942	0	466

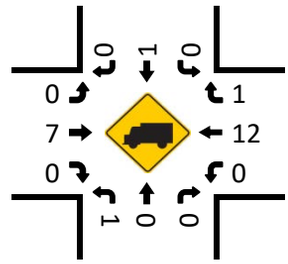
Downey Ave — NORTHBOUND

	L	T	R	U	Total	
PM	511	0	86	378	87	PM
NOON	0	0	0	0	0	NOON
AM	265	0	65	187	53	AM

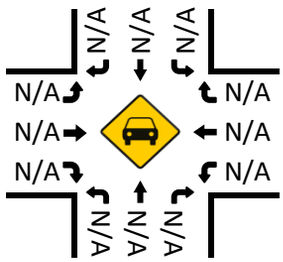
Cars (AM)



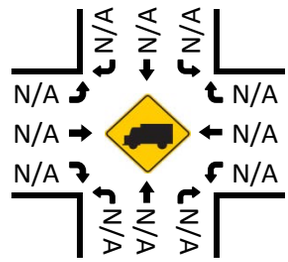
HT (AM)



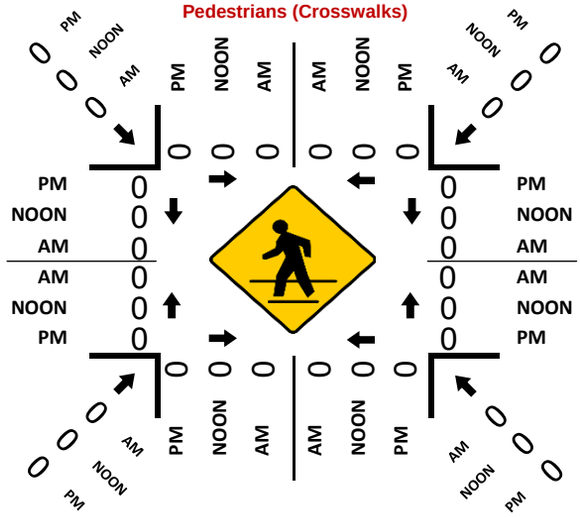
Cars (NOON)



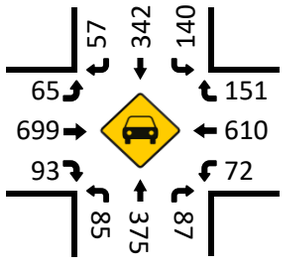
HT (NOON)



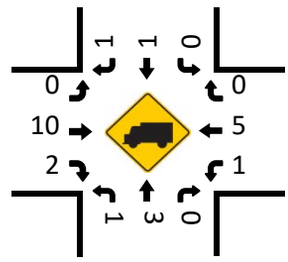
Pedestrians (Crosswalks)



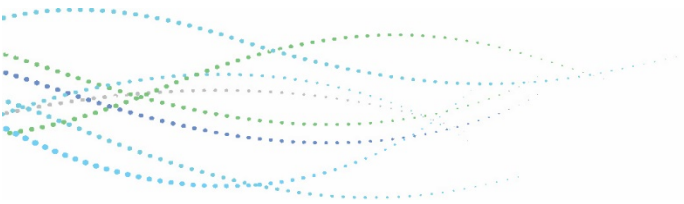
Cars (PM)



HT (PM)



ATTACHMENT B – LOS CALCULATION SHEETS



Existing LOS Calculation Sheets

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 1
North/South Street: Lakewood Boulevard
East/West Street: Somerset Boulevard

Scenario: Existing

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: AM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	203	0	0.000	N-S(1):	0.392
	TH	2.00	970	3,200	0.367 *	N-S(2):	0.426 *
	LT	1.00	95	1,600	0.059	E-W(1):	0.258
Westbound	RT	0.00	136	0	0.000	E-W(2):	0.284 *
	TH	2.00	551	3,200	0.215 *		
	LT	1.00	176	1,600	0.110	V/C:	0.710
Northbound	RT	0.00	181	0	0.000	Lost Time:	0.100
	TH	2.00	883	3,200	0.333		
	LT	1.00	94	1,600	0.059 *		
Eastbound	RT	0.00	113	0	0.000	ICU:	0.810
	TH	2.00	361	3,200	0.148		
	LT	1.00	111	1,600	0.069 *	LOS:	D

Peak Period: PM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	171	0	0.000	N-S(1):	0.487 *
	TH	2.00	908	3,200	0.337	N-S(2):	0.390
	LT	1.00	256	1,600	0.160 *	E-W(1):	0.300 *
Westbound	RT	0.00	138	0	0.000	E-W(2):	0.249
	TH	2.00	361	3,200	0.156		
	LT	1.00	83	1,600	0.052 *	V/C:	0.787
Northbound	RT	0.00	198	0	0.000	Lost Time:	0.100
	TH	2.00	848	3,200	0.327 *		
	LT	1.00	85	1,600	0.053		
Eastbound	RT	0.00	133	0	0.000	ICU:	0.887
	TH	2.00	660	3,200	0.248 *		
	LT	1.00	149	1,600	0.093	LOS:	D

* = Critical Movement

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 2
North/South Street: Lakewood Boulevard
East/West Street: Rosecrans Avenue

Scenario: Existing

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: AM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	1.00	101	1,600	0.000	N-S(1):	0.361 *
	TH	2.00	698	3,200	0.218	N-S(2):	0.262
	LT	1.00	232	1,600	0.145 *	E-W(1):	0.190
Westbound	RT	0.00	110	0	0.000	E-W(2):	0.226 *
	TH	2.00	383	3,200	0.154 *		
	LT	1.00	148	1,600	0.093	V/C:	0.587
Northbound	RT	0.00	114	0	0.000	Lost Time:	0.100
	TH	2.00	578	3,200	0.216 *		
	LT	1.00	71	1,600	0.044		
Eastbound	RT	1.00	63	1,600	0.000	ICU:	0.687
	TH	2.00	311	3,200	0.097		
	LT	1.00	115	1,600	0.072 *	LOS:	B

Peak Period: PM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	1.00	198	1,600	0.000	N-S(1):	0.440 *
	TH	2.00	816	3,200	0.255	N-S(2):	0.330
	LT	1.00	246	1,600	0.154 *	E-W(1):	0.312
Westbound	RT	0.00	159	0	0.000	E-W(2):	0.370 *
	TH	2.00	534	3,200	0.217 *		
	LT	1.00	168	1,600	0.105	V/C:	0.810
Northbound	RT	0.00	150	0	0.000	Lost Time:	0.100
	TH	2.00	766	3,200	0.286 *		
	LT	1.00	120	1,600	0.075		
Eastbound	RT	1.00	79	1,600	0.000	ICU:	0.910
	TH	2.00	662	3,200	0.207		
	LT	1.00	244	1,600	0.153 *	LOS:	E

* = Critical Movement

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 3
North/South Street: Downey Avenue
East/West Street: Somerset Boulevard

Scenario: Existing

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: **AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	82	0	0.000	N-S(1):	0.157
	TH	2.00	329	3,200	0.128 *	N-S(2):	0.167 *
	LT	1.00	70	1,600	0.044	E-W(1):	0.163 *
Westbound	RT	0.00	66	0	0.000	E-W(2):	0.162
	TH	2.00	337	3,200	0.126		
	LT	1.00	67	1,600	0.042 *	V/C:	0.330
Northbound	RT	0.00	55	0	0.000	Lost Time:	0.100
	TH	2.00	307	3,200	0.113		
	LT	1.00	62	1,600	0.039 *		
Eastbound	RT	0.00	64	0	0.000	ICU:	0.430
	TH	2.00	324	3,200	0.121 *		
	LT	1.00	58	1,600	0.036	LOS:	A

Peak Period: **PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	90	0	0.000	N-S(1):	0.258 *
	TH	2.00	485	3,200	0.180	N-S(2):	0.248
	LT	1.00	92	1,600	0.058 *	E-W(1):	0.302 *
Westbound	RT	0.00	63	0	0.000	E-W(2):	0.234
	TH	2.00	412	3,200	0.148		
	LT	1.00	82	1,600	0.051 *	V/C:	0.560
Northbound	RT	0.00	93	0	0.000	Lost Time:	0.100
	TH	2.00	546	3,200	0.200 *		
	LT	1.00	109	1,600	0.068		
Eastbound	RT	0.00	105	0	0.000	ICU:	0.660
	TH	2.00	697	3,200	0.251 *		
	LT	1.00	138	1,600	0.086	LOS:	B

* = Critical Movement

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 4
North/South Street: Downey Avenue
East/West Street: Rosecrans Avenue

Scenario: Existing

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: AM PEAK HOUR

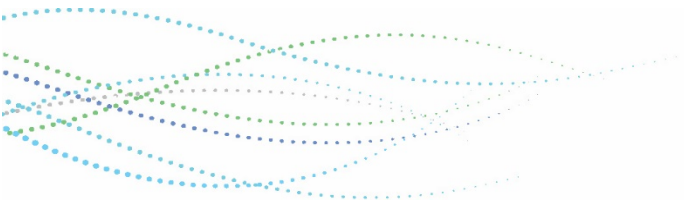
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	50	0	0.000	N-S(1):	0.211 *
	TH	2.00	269	3,200	0.100	N-S(2):	0.162
	LT	1.00	155	1,600	0.097 *	E-W(1):	0.191 *
Westbound	RT	1.00	83	1,600	0.000	E-W(2):	0.168
	TH	2.00	473	3,200	0.148		
	LT	1.00	69	1,600	0.043 *	V/C:	0.402
Northbound	RT	0.00	81	0	0.000	Lost Time:	0.100
	TH	2.00	284	3,200	0.114 *		
	LT	1.00	99	1,600	0.062		
Eastbound	RT	1.00	60	1,600	0.000	ICU:	0.502
	TH	2.00	473	3,200	0.148 *		
	LT	1.00	32	1,600	0.020	LOS:	A

Peak Period: PM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	69	0	0.000	N-S(1):	0.274 *
	TH	2.00	408	3,200	0.149	N-S(2):	0.210
	LT	1.00	173	1,600	0.108 *	E-W(1):	0.355 *
Westbound	RT	1.00	177	1,600	0.003	E-W(2):	0.289
	TH	2.00	720	3,200	0.225		
	LT	1.00	92	1,600	0.058 *	V/C:	0.629
Northbound	RT	0.00	99	0	0.000	Lost Time:	0.100
	TH	2.00	431	3,200	0.166 *		
	LT	1.00	98	1,600	0.061		
Eastbound	RT	1.00	127	1,600	0.018	ICU:	0.729
	TH	2.00	950	3,200	0.297 *		
	LT	1.00	103	1,600	0.064	LOS:	C

* = Critical Movement

Existing Plus Project LOS Calculation Sheets



Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 1
North/South Street: Lakewood Boulevard
East/West Street: Somerset Boulevard

Scenario: Existing Plus Project

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: **AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	203	0	0.000	N-S(1):	0.392
	TH	2.00	1,036	3,200	0.387 *	N-S(2):	0.466 *
	LT	1.00	95	1,600	0.059	E-W(1):	0.258
Westbound	RT	0.00	136	0	0.000	E-W(2):	0.284 *
	TH	2.00	551	3,200	0.215 *		
	LT	1.00	176	1,600	0.110	V/C:	0.750
Northbound	RT	0.00	181	0	0.000	Lost Time:	0.100
	TH	2.00	883	3,200	0.333		
	LT	1.00	127	1,600	0.079 *		
Eastbound	RT	0.00	113	0	0.000	ICU:	0.850
	TH	2.00	361	3,200	0.148		
	LT	1.00	111	1,600	0.069 *	LOS:	D

Peak Period: **PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	171	0	0.000	N-S(1):	0.487 *
	TH	2.00	974	3,200	0.358	N-S(2):	0.432
	LT	1.00	256	1,600	0.160 *	E-W(1):	0.300 *
Westbound	RT	0.00	138	0	0.000	E-W(2):	0.249
	TH	2.00	361	3,200	0.156		
	LT	1.00	83	1,600	0.052 *	V/C:	0.787
Northbound	RT	0.00	198	0	0.000	Lost Time:	0.100
	TH	2.00	848	3,200	0.327 *		
	LT	1.00	118	1,600	0.074		
Eastbound	RT	0.00	133	0	0.000	ICU:	0.887
	TH	2.00	660	3,200	0.248 *		
	LT	1.00	149	1,600	0.093	LOS:	D

* = Critical Movement

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 2
North/South Street: Lakewood Boulevard
East/West Street: Rosecrans Avenue

Scenario: Existing Plus Project

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: **AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	1.00	101	1,600	0.000	N-S(1):	0.361 *
	TH	2.00	731	3,200	0.228	N-S(2):	0.272
	LT	1.00	232	1,600	0.145 *	E-W(1):	0.190
Westbound	RT	0.00	110	0	0.000	E-W(2):	0.226 *
	TH	2.00	383	3,200	0.154 *		
	LT	1.00	148	1,600	0.093	V/C:	0.587
Northbound	RT	0.00	114	0	0.000	Lost Time:	0.100
	TH	2.00	578	3,200	0.216 *		
	LT	1.00	71	1,600	0.044		
Eastbound	RT	1.00	63	1,600	0.000	ICU:	0.687
	TH	2.00	311	3,200	0.097		
	LT	1.00	115	1,600	0.072 *	LOS:	B

Peak Period: **PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	1.00	198	1,600	0.000	N-S(1):	0.440 *
	TH	2.00	849	3,200	0.265	N-S(2):	0.340
	LT	1.00	246	1,600	0.154 *	E-W(1):	0.312
Westbound	RT	0.00	159	0	0.000	E-W(2):	0.370 *
	TH	2.00	534	3,200	0.217 *		
	LT	1.00	168	1,600	0.105	V/C:	0.810
Northbound	RT	0.00	150	0	0.000	Lost Time:	0.100
	TH	2.00	766	3,200	0.286 *		
	LT	1.00	120	1,600	0.075		
Eastbound	RT	1.00	79	1,600	0.000	ICU:	0.910
	TH	2.00	662	3,200	0.207		
	LT	1.00	244	1,600	0.153 *	LOS:	E

* = Critical Movement

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 3
North/South Street: Downey Avenue
East/West Street: Somerset Boulevard

Scenario: Existing Plus Project

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: AM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	82	0	0.000	N-S(1):	0.158
	TH	2.00	329	3,200	0.128 *	N-S(2):	0.167 *
	LT	1.00	70	1,600	0.044	E-W(1):	0.163 *
Westbound	RT	0.00	66	0	0.000	E-W(2):	0.162
	TH	2.00	337	3,200	0.126		
	LT	1.00	67	1,600	0.042 *	V/C:	0.330
Northbound	RT	0.00	55	0	0.000	Lost Time:	0.100
	TH	2.00	310	3,200	0.114		
	LT	1.00	62	1,600	0.039 *		
Eastbound	RT	0.00	64	0	0.000	ICU:	0.430
	TH	2.00	324	3,200	0.121 *		
	LT	1.00	58	1,600	0.036	LOS:	A

Peak Period: PM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	90	0	0.000	N-S(1):	0.259 *
	TH	2.00	493	3,200	0.182	N-S(2):	0.250
	LT	1.00	92	1,600	0.058 *	E-W(1):	0.302 *
Westbound	RT	0.00	63	0	0.000	E-W(2):	0.234
	TH	2.00	412	3,200	0.148		
	LT	1.00	82	1,600	0.051 *	V/C:	0.561
Northbound	RT	0.00	93	0	0.000	Lost Time:	0.100
	TH	2.00	551	3,200	0.201 *		
	LT	1.00	109	1,600	0.068		
Eastbound	RT	0.00	105	0	0.000	ICU:	0.661
	TH	2.00	697	3,200	0.251 *		
	LT	1.00	138	1,600	0.086	LOS:	B

* = Critical Movement

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 4
North/South Street: Downey Avenue
East/West Street: Rosecrans Avenue

Scenario: Existing Plus Project

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: AM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	50	0	0.000	N-S(1):	0.211 *
	TH	2.00	272	3,200	0.101	N-S(2):	0.163
	LT	1.00	155	1,600	0.097 *	E-W(1):	0.191 *
Westbound	RT	1.00	83	1,600	0.000	E-W(2):	0.168
	TH	2.00	473	3,200	0.148		
	LT	1.00	69	1,600	0.043 *	V/C:	0.402
Northbound	RT	0.00	81	0	0.000	Lost Time:	0.100
	TH	2.00	284	3,200	0.114 *		
	LT	1.00	99	1,600	0.062		
Eastbound	RT	1.00	60	1,600	0.000	ICU:	0.502
	TH	2.00	473	3,200	0.148 *		
	LT	1.00	32	1,600	0.020	LOS:	A

Peak Period: PM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	69	0	0.000	N-S(1):	0.276 *
	TH	2.00	413	3,200	0.151	N-S(2):	0.212
	LT	1.00	173	1,600	0.108 *	E-W(1):	0.355 *
Westbound	RT	1.00	177	1,600	0.003	E-W(2):	0.289
	TH	2.00	720	3,200	0.225		
	LT	1.00	92	1,600	0.058 *	V/C:	0.631
Northbound	RT	0.00	99	0	0.000	Lost Time:	0.100
	TH	2.00	439	3,200	0.168 *		
	LT	1.00	98	1,600	0.061		
Eastbound	RT	1.00	127	1,600	0.018	ICU:	0.731
	TH	2.00	950	3,200	0.297 *		
	LT	1.00	103	1,600	0.064	LOS:	C

* = Critical Movement

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 1
North/South Street: Lakewood Boulevard
East/West Street: Somerset Boulevard

Scenario: Existing Plus Project - Restriping of Southbound Approach

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: **AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	1.00	203	1,600	0.058	N-S(1):	0.392
	TH	2.00	1,036	3,200	0.324 *	N-S(2):	0.403 *
	LT	1.00	95	1,600	0.059	E-W(1):	0.258
Westbound	RT	0.00	136	0	0.000	E-W(2):	0.284 *
	TH	2.00	551	3,200	0.215 *		
	LT	1.00	176	1,600	0.110	V/C:	0.687
Northbound	RT	0.00	181	0	0.000	Lost Time:	0.100
	TH	2.00	883	3,200	0.333		
	LT	1.00	127	1,600	0.079 *		
Eastbound	RT	0.00	113	0	0.000	ICU:	0.787
	TH	2.00	361	3,200	0.148		
	LT	1.00	111	1,600	0.069 *	LOS:	C

Peak Period: **PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	1.00	171	1,600	0.014	N-S(1):	0.487 *
	TH	2.00	974	3,200	0.304	N-S(2):	0.378
	LT	1.00	256	1,600	0.160 *	E-W(1):	0.300 *
Westbound	RT	0.00	138	0	0.000	E-W(2):	0.249
	TH	2.00	361	3,200	0.156		
	LT	1.00	83	1,600	0.052 *	V/C:	0.787
Northbound	RT	0.00	198	0	0.000	Lost Time:	0.100
	TH	2.00	848	3,200	0.327 *		
	LT	1.00	118	1,600	0.074		
Eastbound	RT	0.00	133	0	0.000	ICU:	0.887
	TH	2.00	660	3,200	0.248 *		
	LT	1.00	149	1,600	0.093	LOS:	D

* = Critical Movement

Existing Plus Construction LOS Calculation Sheets

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 1
North/South Street: Lakewood Boulevard
East/West Street: Somerset Boulevard

Scenario: Existing Plus Construction

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: **AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	203	0	0.000	N-S(1):	0.392
	TH	2.00	1,022	3,200	0.383 *	N-S(2):	0.458 *
	LT	1.00	95	1,600	0.059	E-W(1):	0.258
Westbound	RT	0.00	136	0	0.000	E-W(2):	0.284 *
	TH	2.00	551	3,200	0.215 *		
	LT	1.00	176	1,600	0.110	V/C:	0.742
Northbound	RT	0.00	181	0	0.000	Lost Time:	0.100
	TH	2.00	883	3,200	0.333		
	LT	1.00	120	1,600	0.075 *		
Eastbound	RT	0.00	113	0	0.000	ICU:	0.842
	TH	2.00	361	3,200	0.148		
	LT	1.00	111	1,600	0.069 *	LOS:	D

Peak Period: **PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	171	0	0.000	N-S(1):	0.487 *
	TH	2.00	960	3,200	0.353	N-S(2):	0.422
	LT	1.00	256	1,600	0.160 *	E-W(1):	0.300 *
Westbound	RT	0.00	138	0	0.000	E-W(2):	0.249
	TH	2.00	361	3,200	0.156		
	LT	1.00	83	1,600	0.052 *	V/C:	0.787
Northbound	RT	0.00	198	0	0.000	Lost Time:	0.100
	TH	2.00	848	3,200	0.327 *		
	LT	1.00	111	1,600	0.069		
Eastbound	RT	0.00	133	0	0.000	ICU:	0.887
	TH	2.00	660	3,200	0.248 *		
	LT	1.00	149	1,600	0.093	LOS:	D

* = Critical Movement

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 2
North/South Street: Lakewood Boulevard
East/West Street: Rosecrans Avenue

Scenario: Existing Plus Construction

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: **AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	1.00	101	1,600	0.000	N-S(1):	0.361 *
	TH	2.00	724	3,200	0.226	N-S(2):	0.270
	LT	1.00	232	1,600	0.145 *	E-W(1):	0.190
Westbound	RT	0.00	110	0	0.000	E-W(2):	0.226 *
	TH	2.00	383	3,200	0.154 *		
	LT	1.00	148	1,600	0.093	V/C:	0.587
Northbound	RT	0.00	114	0	0.000	Lost Time:	0.100
	TH	2.00	578	3,200	0.216 *		
	LT	1.00	71	1,600	0.044		
Eastbound	RT	1.00	63	1,600	0.000	ICU:	0.687
	TH	2.00	311	3,200	0.097		
	LT	1.00	115	1,600	0.072 *	LOS:	B

Peak Period: **PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	1.00	198	1,600	0.000	N-S(1):	0.440 *
	TH	2.00	842	3,200	0.263	N-S(2):	0.338
	LT	1.00	246	1,600	0.154 *	E-W(1):	0.312
Westbound	RT	0.00	159	0	0.000	E-W(2):	0.370 *
	TH	2.00	534	3,200	0.217 *		
	LT	1.00	168	1,600	0.105	V/C:	0.810
Northbound	RT	0.00	150	0	0.000	Lost Time:	0.100
	TH	2.00	766	3,200	0.286 *		
	LT	1.00	120	1,600	0.075		
Eastbound	RT	1.00	79	1,600	0.000	ICU:	0.910
	TH	2.00	662	3,200	0.207		
	LT	1.00	244	1,600	0.153 *	LOS:	E

* = Critical Movement

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 3
North/South Street: Downey Avenue
East/West Street: Somerset Boulevard

Scenario: Existing Plus Construction

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: **AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	82	0	0.000	N-S(1):	0.157
	TH	2.00	329	3,200	0.128 *	N-S(2):	0.167 *
	LT	1.00	70	1,600	0.044	E-W(1):	0.184 *
Westbound	RT	0.00	66	0	0.000	E-W(2):	0.183
	TH	2.00	403	3,200	0.147		
	LT	1.00	67	1,600	0.042 *	V/C:	0.351
Northbound	RT	0.00	55	0	0.000	Lost Time:	0.100
	TH	2.00	307	3,200	0.113		
	LT	1.00	62	1,600	0.039 *		
Eastbound	RT	0.00	64	0	0.000	ICU:	0.451
	TH	2.00	390	3,200	0.142 *		
	LT	1.00	58	1,600	0.036	LOS:	A

Peak Period: **PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	90	0	0.000	N-S(1):	0.258 *
	TH	2.00	485	3,200	0.180	N-S(2):	0.248
	LT	1.00	92	1,600	0.058 *	E-W(1):	0.322 *
Westbound	RT	0.00	63	0	0.000	E-W(2):	0.255
	TH	2.00	478	3,200	0.169		
	LT	1.00	82	1,600	0.051 *	V/C:	0.580
Northbound	RT	0.00	93	0	0.000	Lost Time:	0.100
	TH	2.00	546	3,200	0.200 *		
	LT	1.00	109	1,600	0.068		
Eastbound	RT	0.00	105	0	0.000	ICU:	0.680
	TH	2.00	763	3,200	0.271 *		
	LT	1.00	138	1,600	0.086	LOS:	B

* = Critical Movement

Project: AltAir Paramount Refiney SEIR Project Traffic Analysis
Int #: 4
North/South Street: Downey Avenue
East/West Street: Rosecrans Avenue

Scenario: Existing Plus Construction

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle) :	10

Peak Period: AM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	50	0	0.000	N-S(1):	0.211 *
	TH	2.00	272	3,200	0.101	N-S(2):	0.163
	LT	1.00	155	1,600	0.097 *	E-W(1):	0.191 *
Westbound	RT	1.00	83	1,600	0.000	E-W(2):	0.168
	TH	2.00	473	3,200	0.148		
	LT	1.00	69	1,600	0.043 *	V/C:	0.402
Northbound	RT	0.00	81	0	0.000	Lost Time:	0.100
	TH	2.00	284	3,200	0.114 *		
	LT	1.00	99	1,600	0.062		
Eastbound	RT	1.00	60	1,600	0.000	ICU:	0.502
	TH	2.00	473	3,200	0.148 *		
	LT	1.00	32	1,600	0.020	LOS:	A

Peak Period: PM PEAK HOUR

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS	
Southbound	RT	0.00	69	0	0.000	N-S(1):	0.276 *
	TH	2.00	413	3,200	0.151	N-S(2):	0.212
	LT	1.00	173	1,600	0.108 *	E-W(1):	0.355 *
Westbound	RT	1.00	177	1,600	0.003	E-W(2):	0.289
	TH	2.00	720	3,200	0.225		
	LT	1.00	92	1,600	0.058 *	V/C:	0.631
Northbound	RT	0.00	99	0	0.000	Lost Time:	0.100
	TH	2.00	439	3,200	0.168 *		
	LT	1.00	98	1,600	0.061		
Eastbound	RT	1.00	127	1,600	0.018	ICU:	0.731
	TH	2.00	950	3,200	0.297 *		
	LT	1.00	103	1,600	0.064	LOS:	C

* = Critical Movement

ATTACHMENT C – COLLISION DATA 2017-2019

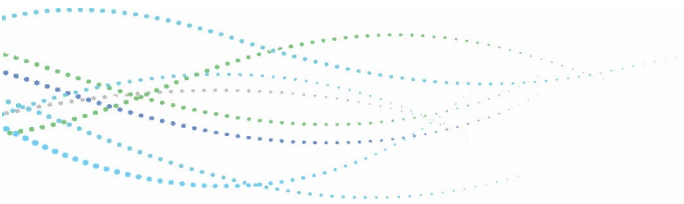
Study Area Collisions Jan 2017- Dec 2019

Loc	Project Driveway Area	Along Project Route	CASE_ID	Date	Primary Road	Secondary Road	In Int.	Direction	Distance	At Fault Dir	Not at Fault Dir	Tow Away	Collision Severity	Violation Category	Type of Collision	Involved With					Injury		
																Ped	Bike	MC	Truck	DUI	Severe	Visible	Comp of Pain
1	Yes	Yes	8676771	7/19/2018	LAKEWOOD BL	SOMERSET BL	N	N	74	S	S	Y	Other Visible Injury	Unsafe Speed	Rear End						0	2	0
1	Yes	Yes	8406124	4/28/2017	LAKEWOOD BL	SOMERSET BL	N	N	33	S	S	N	Complaint of Pain	Unsafe Speed	Rear End						0	0	1
1	Yes	Yes	8920415	6/30/2019	SOMERSET BL	LAKEWOOD BL	N	W	15	E	W	N	Complaint of Pain	Automobile ROW	Head-On						0	0	1
1	Yes	Yes	8956576	9/24/2019	LAKEWOOD BL	SOMERSET BL	N	N	25	S	E	Y	Other Visible Injury	Traffic Signs or Sig	Sideswipe						0	3	0
1		Yes	8452911	8/24/2017	LAKEWOOD BL	SOMERSET BL	Y		0	N	N	Y	Other Visible Injury	DUI	Rear End					Y	0	1	1
1		Yes	8975151	10/16/2019	LAKEWOOD BL	SOMERSET BL	N	N	15	S	S	Y	Other Visible Injury	Unsafe Speed	Rear End						0	1	1
1		Yes	8652302	5/24/2018	LAKEWOOD BL	SOMERSET BL	Y		0	N	N	N	Complaint of Pain	Unsafe Speed	Rear End						0	0	1
1		Yes	8795339	12/29/2018	LAKEWOOD BL	SOMERSET BL	N	S	98	N	N	N	Complaint of Pain	Unsafe Speed	Rear End						0	0	1
1		Yes	8531311	12/16/2017	LAKEWOOD BL	SOMERSET BL	N	S	25	S	S	N	Other Visible Injury	Following Too Close	Rear End		Y				0	1	0
1		Yes	8643425	5/15/2018	LAKEWOOD BL	SOMERSET BL	N	S	24	S	S	N	Complaint of Pain	Following Too Close	Rear End						0	0	1
1		Yes	9060598	10/21/2019	LAKEWOOD BL	SOMERSET BL	N	S	356	N	N	Y	Complaint of Pain	Following Too Close	Rear End						0	0	3
1		Yes	8674308	6/5/2018	LAKEWOOD BL	SOMERSET BL	N	S	200	S	N	N	Complaint of Pain	Wrong Side of Road	Head-On		Y				0	0	1
1		Yes	8557393	1/10/2018	LAKEWOOD BL	SOMERSET BL	Y		0	E	S	N	Other Visible Injury	Traffic Signs or Sig	Broadside						0	2	0
1		Yes	8580710	3/5/2018	SOMERSET BL	LAKEWOOD BL	Y		0	S	W	Y	Other Visible Injury	Traffic Signs or Sig	Broadside						0	1	0
1		Yes	8846536	3/6/2019	LAKEWOOD BL	SOMERSET BL	Y		0	S	W	N	Complaint of Pain	Traffic Signs or Sig	Broadside						0	0	1
1		Yes	8936237	8/22/2019	LAKEWOOD BL	SOMERSET BL	Y		0	S	W	Y	Complaint of Pain	Traffic Signs or Sig	Overturned						0	0	1
1			8540609	1/1/2018	LAKEWOOD BL	SOMERSET BL	Y		0	N	W	Y	Complaint of Pain	Automobile ROW	Head-On						0	0	1
1			8667368	6/20/2018	SOMERSET BL	LAKEWOOD BL	Y		0	E	W	Y	Complaint of Pain	Automobile ROW	Head-On						0	0	1
1			8420846	6/15/2017	SOMERSET BL	LAKEWOOD BL	Y		0	E	W	Y	Other Visible Injury	Automobile ROW	Broadside			Y			0	1	0
1			8629498	4/24/2018	SOMERSET BL	LAKEWOOD BL	Y		0	W	S	Y	Other Visible Injury	Automobile ROW	Broadside						0	1	0
1			8702265	7/27/2018	SOMERSET BL	LAKEWOOD BL	N	E	200	W	W	Y	Complaint of Pain	Automobile ROW	Broadside						0	0	2
1			8676775	7/23/2018	SOMERSET BL	LAKEWOOD BL	Y		0	W	W	N	Complaint of Pain	Ped ROW	Vehicle/Ped	Y					0	0	1
1			8982505	10/31/2019	LAKEWOOD BL	SOMERSET BL	Y		0	W	S	Y	Other Visible Injury	Traffic Signs or Sig	Broadside						0	1	0
1			8531281	11/22/2017	LAKEWOOD BL	SOMERSET BL	Y		0	W	S	Y	Complaint of Pain	Traffic Signs or Sig	Broadside					Y	0	0	1
2		Yes	9032244	11/19/2019	LAKEWOOD BL	ROSECRANS AV	Y		0	-	S	N	Other Visible Injury	0	Broadside	Y					0	1	0
2		Yes	8727099	10/2/2018	LAKEWOOD BL	ROSECRANS AV	N	N	212	N	N	Y	Complaint of Pain	Improper Turning	Rear End						0	0	1
2		Yes	8910432	8/4/2019	ROSECRANS AV	LAKEWOOD BL	Y		0	N	W	N	Complaint of Pain	Improper Turning	Broadside	Y					0	0	1
2		Yes	8794530	1/10/2019	LAKEWOOD BL	ROSECRANS AV	Y		0	N	N	N	Complaint of Pain	Improper Turning	Broadside			Y			0	0	1
2		Yes	8296191	1/4/2017	ROSECRANS AV	LAKEWOOD BL	Y		0	S	E	Y	Complaint of Pain	Traffic Signs or Sig	Broadside						0	0	1
2		Yes	8431497	7/19/2017	LAKEWOOD BL	ROSECRANS AV	N	N	37	S	S	Y	Other Visible Injury	Othr Improper Driving	Rear End						0	1	1
2		Yes	8332008	1/21/2017	LAKEWOOD BL	ROSECRANS AV	N	N	300	N	E	N	Other Visible Injury	Wrong Side of Road	Other		Y				0	1	0
2		Yes	8377077	5/12/2017	LAKEWOOD BL	ROSECRANS AV	N	N	143	S	S	N	Complaint of Pain	Unsafe Speed	Rear End						0	0	1
2		Yes	8510850	11/2/2017	LAKEWOOD BL	ROSECRANS AV	Y		0	S	N	Y	Other Visible Injury	Improper Turning	Broadside						0	1	0
2		Yes	8629417	3/7/2018	LAKEWOOD BL	ROSECRANS AV	N	S	83	N	N	Y	Complaint of Pain	Automobile ROW	Sideswipe						0	0	2
2		Yes	8726982	8/2/2018	LAKEWOOD BL	ROSECRANS AV	N	N	92	S	S	Y	Other Visible Injury	Unsafe Speed	Rear End						0	1	0
2		Yes	8917208	6/7/2019	LAKEWOOD BL	ROSECRANS AV	N	N	123	S	S	Y	Complaint of Pain	Unsafe Speed	Rear End						0	0	1
2		Yes	8952746	9/8/2019	LAKEWOOD BL	ROSECRANS AV	N	N	216	S	S	N	Complaint of Pain	Unsafe Speed	Rear End						0	0	1
2		Yes	8679484	5/7/2018	ROSECRANS AV	LAKEWOOD BL	Y		0	N	E	N	Other Visible Injury	Automobile ROW	Broadside		Y				0	1	0
2			8510858	11/2/2017	LAKEWOOD BL	ROSECRANS AV	Y		0	-	W	Y	Complaint of Pain	0	Broadside						0	0	4
2			8907951	6/6/2019	LAKEWOOD BL	ROSECRANS AV	N	N	30	-	S	N	Complaint of Pain	0	Rear End						0	0	1
2			8938465	8/23/2019	LAKEWOOD BL	ROSECRANS AV	N	N	3	-	E	N	Other Visible Injury	0	Vehicle/Ped	Y					0	1	0
2			8310345	1/16/2017	ROSECRANS AV	LAKEWOOD BL	N	W	100	E	E	Y	Complaint of Pain	Improper Turning	Rear End						0	0	3
2			8790444	11/5/2018	ROSECRANS AV	LAKEWOOD BL	N	W	5	E	E	N	Complaint of Pain	Improper Turning	Sideswipe			Y			0	0	1
2			8938421	8/5/2019	ROSECRANS AV	LAKEWOOD BL	N	W	10	-	E	Y	Complaint of Pain	Improper Turning	Sideswipe						0	0	1
2			9005428	11/8/2019	ROSECRANS AV	LAKEWOOD BL	N	W	290	-	S	N	Complaint of Pain	0	Other		Y				0	0	1
3		Yes	8529778	11/27/2017	DOWNEY AV	SOMERSET BL	N	N	100	S	N	N	Complaint of Pain	Unsafe Speed	Vehicle/Ped	Y				Y	0	0	1
3		Yes	8987132	11/16/2019	DOWNEY AV	SOMERSET BL	N	N	575	N	N	N	Complaint of Pain	Improper Turning	Sideswipe						0	0	3
3		Yes	8890425	6/6/2019	DOWNEY AV	SOMERSET BL	Y		0	N	S	Y	Complaint of Pain	Traffic Signs or Sig	Head-On						0	0	2
3		Yes	8611659	4/2/2018	DOWNEY AV	SOMERSET BL	Y		0	-	S	Y	Other Visible Injury	Traffic Signs or Sig	Broadside						0	1	2
3			9007805	10/12/2019	DOWNEY AV	SOMERSET BL	N	E	10	-	N	N	Complaint of Pain	0	Rear End						0	0	1
3			8782077	11/28/2018	SOMERSET BL	DOWNEY AV	N	E	75	-	E	N	Complaint of Pain	0	Broadside		Y				0	0	1
3			8722567	10/2/2018	SOMERSET BL	DOWNEY AV	N	W	75	E	W	N	Complaint of Pain	Wrong Side of Road	Broadside		Y				0	0	1
3			8611674	3/19/2018	DOWNEY AV	SOMERSET BL	Y		0	W	S	N	Complaint of Pain	Automobile ROW	Broadside						0	0	1
3			8471379	10/8/2017	SOMERSET BL	DOWNEY AV	N	E	400	E	W	Y	Complaint of Pain	Automobile ROW	Broadside						0	0	2
3			8939876	9/14/2019	DOWNEY AV	SOMERSET AV	Y		0	E	S	N	Severe Injury	Traffic Signs or Sig	Broadside						1	0	1
4		Yes	8611534	3/19/2018	DOWNEY AV	ROSECRANS BL	N	S	373	S	S	Y	Severe Injury	Automobile ROW	Sideswipe	Y					4	0	2
4			8334746	2/8/2017	ROSECRANS AV	DOWNEY AV	Y		0	W	S	Y	Other Visible Injury	DUI	-					Y	0	1	1
4			8422624	6/16/2017	ROSECRANS AV	DOWNEY AV	N	E	350	W	W	Y	Other Visible Injury	Unsafe Speed	Rear End						0	1	1
4			9000067	11/11/2019	ROSECRANS AV	DOWNEY AV	N	W	154	W	W	Y	Other Visible Injury	Unsafe Speed	Rear End						0	2	0
4			8903504	7/3/2019	ROSECRANS AV	DOWNEY AV	N	E	469	W	W	Y	Complaint of Pain	Unsafe Speed	Rear End						0	0	1
4			8828198	2/2/2019	DOWNEY AV	ROSECRANS AV	Y		0	W	E	N	Other Visible Injury	Unsafe Speed	Vehicle/Ped	Y					0	1	0

Study Area Collisions Jan 2017- Dec 2019

Loc	Project Driveway Area	Along Project Route	CASE_ID	Date	Primary Road	Secondary Road	In Int.	Direction	Distance	At Fault Dir	Not at Fault Dir	Tow Away	Collision Severity	Violation Category	Type of Collision	Involved With				DUI	Injury		
																Ped	Bike	MC	Truck		Severe	Visible	Comp of Pain
4			8643397	5/31/2018	ROSECRANS AV	DOWNEY AV	N	W	200	E	E	N	Other Visible Injury	Following Too Close	-						0	1	0
4			8409043	5/13/2017	ROSECRANS AV	DOWNEY AV	N	E	150	W	W	N	Complaint of Pain	Following Too Close	Rear End						0	0	1
4			8603898	3/28/2018	ROSECRANS AV	DOWNEY AV	N	E	130	W	N	N	Complaint of Pain	Wrong Side of Road	Head-On		Y				0	0	1
4			8438680	8/1/2017	ROSECRANS AV	DOWNEY AV	N	E	292	W	E	N	Other Visible Injury	Wrong Side of Road	Broadside		Y				0	1	0
4			8692606	8/31/2018	ROSECRANS AV	DOWNEY AV	N	E	1300	E	W	Y	Complaint of Pain	Automobile ROW	-			Y			0	0	1
4			8853312	4/12/2019	DOWNEY AV	ROSECRANS AV	N	S	340	E	S	Y	Complaint of Pain	Automobile ROW	Broadside				Y		0	0	1
4			8580764	2/28/2018	ROSECRANS AV	DOWNEY AV	N	E	3	W	S	N	Other Visible Injury	Ped ROW	Vehicle/Ped	Y					0	1	0
4			8473394	10/14/2017	DOWNEY AV	ROSECRANS AV	Y		0	E	N	Y	Complaint of Pain	Traffic Signs or Sig	Head-On						0	0	1
4			9045831	11/23/2019	DOWNEY AV	ROSECRANS AV	Y		0	-	S	Y	Complaint of Pain	Traffic Signs or Sig	Sideswipe						0	0	1
4			8903508	7/4/2019	DOWNEY AV	ROSECRANS BL	Y		0	W	S	Y	Other Visible Injury	Traffic Signs or Sig	Broadside						0	5	0
4			8623596	4/16/2018	DOWNEY AV	ROSECRANS BL	Y		0	E	S	Y	Complaint of Pain	Traffic Signs or Sig	Broadside						0	0	1

ATTACHMENT D –QUEUEING AND STACKING ANALYSIS



Existing Conditions PM Peak Hour Signal Timing Sheet Scenario

1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	69.7	25.1	21.2	121.8	22.9	13.3	49.8	19.8	18.6	262.9	20.3	22.4

1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	All
Stop Del/Veh (s)	39.0

2: Somerset Blvd & Andry Dr Performance by movement

Movement	EBT	WBT	WBR	All
Stop Del/Veh (s)	1.6	0.1	0.1	1.0

3: Andry Dr & Exit & Enter Performance by movement

Movement	EBT	NBT	All
Stop Del/Veh (s)	4.1	15.3	12.5

4: Lakewood Blvd & Andry Dr Performance by movement

Movement	EBR	NBT	SBT	All
Stop Del/Veh (s)	966.4	0.1	84.5	39.5

5: W Santa Ana Crossing & Somerset Blvd Performance by movement

Movement	EBT	WBT	SET	NWT	All
Stop Del/Veh (s)	0.2	0.2	30.2	12.7	0.5

6: Lakewood Blvd & W Santa Ana Crossing Performance by movement

Movement	EBT	WBT	NBT	SBT	All
Stop Del/Veh (s)	56.5	53.0	0.0	4.0	2.4

7: Lakewood Blvd & Paseo St Performance by movement

Movement	NBT	SBT	All
Stop Del/Veh (s)	3.4	0.4	2.1

8: Exit Performance by movement

Movement	EBT	All
Stop Del/Veh (s)	125.1	125.1

9: Enter Performance by movement

Movement	NBT	All
Stop Del/Veh (s)	189.0	283.6

Total Network Performance

Stop Del/Veh (s)	63.6

Intersection: 1: Lakewood Blvd & Somerset Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	200	280	270	171	336	321	250	436	415	275	360	299
Average Queue (ft)	140	205	192	100	149	124	93	232	231	274	333	231
95th Queue (ft)	238	293	279	184	285	257	209	383	378	276	357	352
Link Distance (ft)		249	249		709	709		527	527		283	283
Upstream Blk Time (%)		8	2							44	88	4
Queuing Penalty (veh)		37	12							0	602	29
Storage Bay Dist (ft)	175			150			225			250		
Storage Blk Time (%)	11	13		14	4		0	11		95	7	
Queuing Penalty (veh)	37	20		26	3		0	10		439	18	

Intersection: 2: Somerset Blvd & Andry Dr

Movement	EB	EB
Directions Served	T	T
Maximum Queue (ft)	196	162
Average Queue (ft)	30	22
95th Queue (ft)	144	119
Link Distance (ft)	578	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Andry Dr & Exit & Enter

Movement	EB	NB
Directions Served	TR	TR
Maximum Queue (ft)	24	55
Average Queue (ft)	1	5
95th Queue (ft)	12	29
Link Distance (ft)	35	278
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Lakewood Blvd & Andry Dr

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	46	575	554
Average Queue (ft)	12	539	508
95th Queue (ft)	68	574	652
Link Distance (ft)	242	523	523
Upstream Blk Time (%)		90	14
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: W Santa Ana Crossing & Somerset Blvd

Movement	EB	EB	WB	WB	SE	NW
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	60	14	36	29	36	36
Average Queue (ft)	6	0	2	2	7	8
95th Queue (ft)	30	7	16	14	26	27
Link Distance (ft)	499	499	578	578	515	433
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Lakewood Blvd & W Santa Ana Crossing

Movement	EB	WB	SB	SB
Directions Served	T	T	T	T
Maximum Queue (ft)	44	44	258	261
Average Queue (ft)	8	9	76	93
95th Queue (ft)	29	30	202	210
Link Distance (ft)	549	591	527	527
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Lakewood Blvd & Paseo St

Movement	NB	NB	SB	SB
Directions Served	T	T	T	TR
Maximum Queue (ft)	245	216	30	36
Average Queue (ft)	126	90	3	8
95th Queue (ft)	214	180	16	28
Link Distance (ft)	421	421	15	15
Upstream Blk Time (%)			2	6
Queuing Penalty (veh)			11	37
Storage Bay Dist (ft)				
Storage Blk Time (%)	3			
Queuing Penalty (veh)	0			

Intersection: 8: Exit

Movement	EB
Directions Served	T
Maximum Queue (ft)	39
Average Queue (ft)	3
95th Queue (ft)	23
Link Distance (ft)	596
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Enter

Movement	NB
Directions Served	T
Maximum Queue (ft)	56
Average Queue (ft)	10
95th Queue (ft)	41
Link Distance (ft)	48
Upstream Blk Time (%)	16
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 1282

Existing Conditions PM Peak Hour Modified Signal Timing Scenario

1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	94.9	28.9	23.9	195.2	29.0	16.2	50.0	23.7	21.8	68.8	15.5	14.2

1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	All
Stop Del/Veh (s)	32.0

2: Somerset Blvd & Andry Dr Performance by movement

Movement	EBT	WBT	WBR	All
Stop Del/Veh (s)	3.8	0.1	0.4	2.3

3: Andry Dr & Exit & Enter Performance by movement

Movement	EBT	NBT	All
Stop Del/Veh (s)	3.9	15.7	9.8

4: Lakewood Blvd & Andry Dr Performance by movement

Movement	EBR	NBT	SBT	All
Stop Del/Veh (s)	16.6	0.1	2.9	1.6

5: W Santa Ana Crossing & Somerset Blvd Performance by movement

Movement	EBT	WBT	SET	NWT	All
Stop Del/Veh (s)	0.2	0.2	29.4	20.7	0.5

6: Lakewood Blvd & W Santa Ana Crossing Performance by movement

Movement	EBT	WBT	NBT	SBT	All
Stop Del/Veh (s)	48.7	49.4	0.0	4.2	2.6

7: Lakewood Blvd & Paseo St Performance by movement

Movement	NBT	SBT	All
Stop Del/Veh (s)	3.7	0.4	2.1

8: Exit Performance by movement

Movement	EBT	All
Stop Del/Veh (s)	92.6	92.6

9: Enter Performance by movement

Movement	NBT	All
Stop Del/Veh (s)	180.9	180.9

Total Network Performance

Stop Del/Veh (s)	36.4

Intersection: 1: Lakewood Blvd & Somerset Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	200	285	281	174	416	375	250	484	465	274	334	292
Average Queue (ft)	154	219	207	119	191	166	106	265	254	198	249	221
95th Queue (ft)	243	303	288	204	386	344	237	435	412	299	342	310
Link Distance (ft)		249	249		709	709		527	527		283	283
Upstream Blk Time (%)		14	5					0	0	2	11	1
Queuing Penalty (veh)		69	25					1	0	0	73	9
Storage Bay Dist (ft)	175			150			225			250		
Storage Blk Time (%)	22	15		29	4		0	15		11	7	
Queuing Penalty (veh)	75	23		53	3		0	13		52	19	

Intersection: 2: Somerset Blvd & Andry Dr

Movement	EB	EB
Directions Served	T	T
Maximum Queue (ft)	257	211
Average Queue (ft)	54	40
95th Queue (ft)	203	172
Link Distance (ft)	578	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Andry Dr & Exit & Enter

Movement	EB	NB
Directions Served	TR	TR
Maximum Queue (ft)	37	52
Average Queue (ft)	2	4
95th Queue (ft)	18	26
Link Distance (ft)	35	278
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Lakewood Blvd & Andry Dr

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	49	387	302
Average Queue (ft)	4	74	46
95th Queue (ft)	26	300	228
Link Distance (ft)	242	523	523
Upstream Blk Time (%)		0	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: W Santa Ana Crossing & Somerset Blvd

Movement	EB	EB	WB	WB	SE	NW
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	49	20	26	19	36	40
Average Queue (ft)	6	1	2	1	8	8
95th Queue (ft)	29	8	14	9	27	28
Link Distance (ft)	499	499	578	578	515	433
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Lakewood Blvd & W Santa Ana Crossing

Movement	EB	WB	NB	SB	SB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	40	40	2	309	301
Average Queue (ft)	9	7	0	102	116
95th Queue (ft)	28	25	2	239	244
Link Distance (ft)	549	591	15	527	527
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Lakewood Blvd & Paseo St

Movement	NB	NB	SB	SB
Directions Served	T	T	T	TR
Maximum Queue (ft)	271	245	40	43
Average Queue (ft)	136	95	7	10
95th Queue (ft)	224	188	29	33
Link Distance (ft)	421	421	15	15
Upstream Blk Time (%)			5	7
Queuing Penalty (veh)			28	40
Storage Bay Dist (ft)				
Storage Blk Time (%)	4			
Queuing Penalty (veh)	0			

Intersection: 8: Exit

Movement	EB
Directions Served	T
Maximum Queue (ft)	54
Average Queue (ft)	6
95th Queue (ft)	34
Link Distance (ft)	596
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Enter

Movement	NB
Directions Served	T
Maximum Queue (ft)	45
Average Queue (ft)	7
95th Queue (ft)	34
Link Distance (ft)	48
Upstream Blk Time (%)	10
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 484

Project Conditions (4 Minute Inbound Gate Time) PM Peak Hour Signal Timing Sheet Scenario

1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	81.8	26.9	22.4	192.1	40.6	34.3	71.9	21.0	20.0	271.5	23.2	31.5

1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	All
Stop Del/Veh (s)	45.3

2: Somerset Blvd & Andry Dr Performance by movement

Movement	EBT	WBT	WBR	All
Stop Del/Veh (s)	2.4	3.0	223.0	5.4

3: Andry Dr & Exit & Enter Performance by movement

Movement	EBT	NBT	All
Stop Del/Veh (s)	102.9	689.3	447.8

4: Lakewood Blvd & Andry Dr Performance by movement

Movement	EBR	NBT	SBT	All
Stop Del/Veh (s)	716.8	0.1	85.9	43.9

5: W Santa Ana Crossing & Somerset Blvd Performance by movement

Movement	EBT	WBT	SET	NWT	All
Stop Del/Veh (s)	0.2	0.3	27.5	30.2	0.7

6: Lakewood Blvd & W Santa Ana Crossing Performance by movement

Movement	EBT	WBT	NBT	SBT	All
Stop Del/Veh (s)	48.5	50.5	0.0	3.9	2.3

7: Lakewood Blvd & Paseo St Performance by movement

Movement	NBT	SBT	All
Stop Del/Veh (s)	3.8	0.4	2.4

8: Exit Performance by movement

Movement	EBT	All
Stop Del/Veh (s)	568.0	568.0

9: Enter Performance by movement

Movement	NBT	All
Stop Del/Veh (s)	209.9	209.9

Total Network Performance

Stop Del/Veh (s)	81.3

Intersection: 1: Lakewood Blvd & Somerset Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	200	286	279	174	435	409	250	485	460	275	359	306
Average Queue (ft)	144	216	202	115	207	182	143	265	257	274	333	241
95th Queue (ft)	238	300	286	205	450	421	270	465	441	277	357	358
Link Distance (ft)		249	249		709	709		527	527		283	283
Upstream Blk Time (%)		11	4		1	1		1	0	40	88	7
Queuing Penalty (veh)		52	18		0	0		4	1	0	611	50
Storage Bay Dist (ft)	175			150			225			250		
Storage Blk Time (%)	15	15		28	7		6	13		97	13	
Queuing Penalty (veh)	51	23		52	6		26	14		458	33	

Intersection: 2: Somerset Blvd & Andry Dr

Movement	EB	EB	WB	WB
Directions Served	T	T	T	TR
Maximum Queue (ft)	202	162	190	179
Average Queue (ft)	41	29	67	87
95th Queue (ft)	167	132	227	255
Link Distance (ft)	578	578	249	249
Upstream Blk Time (%)			2	7
Queuing Penalty (veh)			5	21
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Andry Dr & Exit & Enter

Movement	EB	NB
Directions Served	TR	TR
Maximum Queue (ft)	58	258
Average Queue (ft)	32	198
95th Queue (ft)	58	355
Link Distance (ft)	35	278
Upstream Blk Time (%)	39	42
Queuing Penalty (veh)	9	10
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Lakewood Blvd & Andry Dr

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	225	573	558
Average Queue (ft)	149	533	495
95th Queue (ft)	301	605	686
Link Distance (ft)	242	523	523
Upstream Blk Time (%)	41	88	16
Queuing Penalty (veh)	10	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: W Santa Ana Crossing & Somerset Blvd

Movement	EB	EB	WB	WB	SE	NW
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	46	12	28	24	34	40
Average Queue (ft)	6	1	3	2	8	9
95th Queue (ft)	26	7	15	14	27	29
Link Distance (ft)	499	499	578	578	515	433
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Lakewood Blvd & W Santa Ana Crossing

Movement	EB	WB	NB	SB	SB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	41	37	8	262	261
Average Queue (ft)	10	8	1	81	95
95th Queue (ft)	30	26	8	207	207
Link Distance (ft)	549	591	15	527	527
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			1		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Lakewood Blvd & Paseo St

Movement	NB	NB	SB	SB
Directions Served	T	T	T	TR
Maximum Queue (ft)	272	231	32	36
Average Queue (ft)	144	105	3	8
95th Queue (ft)	237	199	18	28
Link Distance (ft)	421	421	15	15
Upstream Blk Time (%)			2	6
Queuing Penalty (veh)			13	37
Storage Bay Dist (ft)				
Storage Blk Time (%)	5			
Queuing Penalty (veh)	0			

Intersection: 8: Exit

Movement	EB
Directions Served	T
Maximum Queue (ft)	444
Average Queue (ft)	194
95th Queue (ft)	502
Link Distance (ft)	596
Upstream Blk Time (%)	9
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

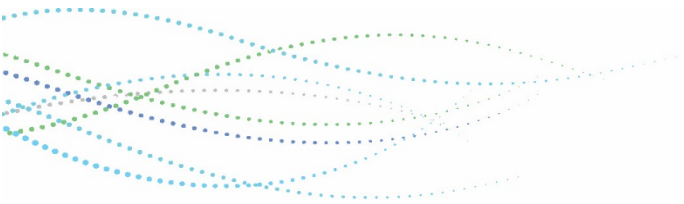
Intersection: 9: Enter

Movement	NB
Directions Served	T
Maximum Queue (ft)	77
Average Queue (ft)	51
95th Queue (ft)	69
Link Distance (ft)	48
Upstream Blk Time (%)	93
Queuing Penalty (veh)	21
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 1525

Project Conditions (4 Minute Inbound Gate Time) PM Peak Hour Modified Signal Timing Scenario



1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	119.1	31.9	27.5	351.1	46.6	48.7	111.9	25.5	24.7	67.2	20.5	30.4

1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	All
Stop Del/Veh (s)	43.4

2: Somerset Blvd & Andry Dr Performance by movement

Movement	EBT	WBT	WBR	All
Stop Del/Veh (s)	7.9	1.9	199.0	8.0

3: Andry Dr & Exit & Enter Performance by movement

Movement	EBT	NBT	All
Stop Del/Veh (s)	13.2	712.3	329.5

4: Lakewood Blvd & Andry Dr Performance by movement

Movement	EBR	NBT	SBT	All
Stop Del/Veh (s)	123.2	0.1	11.1	7.1

5: W Santa Ana Crossing & Somerset Blvd Performance by movement

Movement	EBT	WBT	SET	NWT	All
Stop Del/Veh (s)	0.2	0.2	22.4	15.0	0.5

6: Lakewood Blvd & W Santa Ana Crossing Performance by movement

Movement	EBT	WBT	NBT	SBT	All
Stop Del/Veh (s)	45.6	52.8	0.2	4.3	2.7

7: Lakewood Blvd & Paseo St Performance by movement

Movement	NBT	SBT	All
Stop Del/Veh (s)	8.0	0.4	4.3

8: Exit Performance by movement

Movement	EBT	All
Stop Del/Veh (s)	263.9	253.7

9: Enter Performance by movement

Movement	NBT	All
Stop Del/Veh (s)	211.1	211.1

Total Network Performance

Stop Del/Veh (s)	59.1

Intersection: 1: Lakewood Blvd & Somerset Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	200	285	289	174	509	489	250	506	503	275	333	302
Average Queue (ft)	163	231	223	137	313	284	143	299	287	209	261	243
95th Queue (ft)	247	313	304	216	654	618	275	520	502	309	351	322
Link Distance (ft)		249	249		709	709		527	527		283	283
Upstream Blk Time (%)		23	9		4	3		5	2	3	15	8
Queuing Penalty (veh)		113	43		0	0		27	9	0	102	57
Storage Bay Dist (ft)	175			150			225			250		
Storage Blk Time (%)	30	18		49	7		11	16		10	15	
Queuing Penalty (veh)	101	27		90	6		49	17		45	40	

Intersection: 2: Somerset Blvd & Andry Dr

Movement	EB	EB	WB	WB
Directions Served	T	T	T	TR
Maximum Queue (ft)	272	245	146	154
Average Queue (ft)	91	72	45	72
95th Queue (ft)	288	246	190	245
Link Distance (ft)	578	578	249	249
Upstream Blk Time (%)			1	9
Queuing Penalty (veh)			2	30
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Andry Dr & Exit & Enter

Movement	EB	NB
Directions Served	TR	TR
Maximum Queue (ft)	62	264
Average Queue (ft)	31	187
95th Queue (ft)	59	348
Link Distance (ft)	35	278
Upstream Blk Time (%)	7	36
Queuing Penalty (veh)	2	8
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Lakewood Blvd & Andry Dr

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	167	375	344
Average Queue (ft)	70	126	97
95th Queue (ft)	175	426	387
Link Distance (ft)	242	523	523
Upstream Blk Time (%)	7	6	5
Queuing Penalty (veh)	2	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: W Santa Ana Crossing & Somerset Blvd

Movement	EB	EB	WB	WB	SE	NW
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	48	19	25	18	36	38
Average Queue (ft)	6	1	2	1	8	8
95th Queue (ft)	29	9	12	8	27	28
Link Distance (ft)	499	499	578	578	515	433
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Lakewood Blvd & W Santa Ana Crossing

Movement	EB	WB	NB	NB	SB	SB
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	39	42	20	10	310	326
Average Queue (ft)	9	8	3	1	107	121
95th Queue (ft)	29	29	18	12	251	261
Link Distance (ft)	549	591	15	15	527	527
Upstream Blk Time (%)			4	0		
Queuing Penalty (veh)			21	3		
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 7: Lakewood Blvd & Paseo St

Movement	NB	NB	SB	SB
Directions Served	T	T	T	TR
Maximum Queue (ft)	322	274	36	50
Average Queue (ft)	158	119	5	9
95th Queue (ft)	305	273	24	33
Link Distance (ft)	421	421	15	15
Upstream Blk Time (%)	4	4	4	7
Queuing Penalty (veh)	0	0	23	39
Storage Bay Dist (ft)				
Storage Blk Time (%)	9			
Queuing Penalty (veh)	0			

Intersection: 8: Exit

Movement	EB
Directions Served	T
Maximum Queue (ft)	244
Average Queue (ft)	110
95th Queue (ft)	260
Link Distance (ft)	596
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

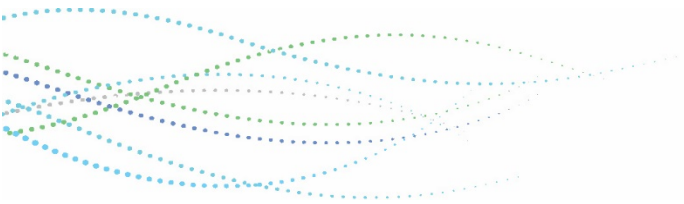
Intersection: 9: Enter

Movement	NB
Directions Served	T
Maximum Queue (ft)	71
Average Queue (ft)	51
95th Queue (ft)	67
Link Distance (ft)	48
Upstream Blk Time (%)	93
Queuing Penalty (veh)	21
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 875

Project Conditions (2:30Minute Inbound Gate Time) PM Peak Hour Signal Timing Sheet Scenario



1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	65.6	25.4	21.4	167.6	27.9	16.1	52.6	19.7	18.5	284.2	22.8	23.3

1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	All
Stop Del/Veh (s)	41.2

2: Somerset Blvd & Andry Dr Performance by movement

Movement	EBT	WBT	WBR	All
Stop Del/Veh (s)	0.7	0.2	3.7	0.6

3: Andry Dr & Exit & Enter Performance by movement

Movement	EBT	NBT	All
Stop Del/Veh (s)	42.5	223.2	145.5

4: Lakewood Blvd & Andry Dr Performance by movement

Movement	EBR	NBT	SBT	All
Stop Del/Veh (s)	349.3	0.1	88.6	42.8

5: W Santa Ana Crossing & Somerset Blvd Performance by movement

Movement	EBT	WBT	SET	NWT	All
Stop Del/Veh (s)	0.2	0.2	24.1	11.9	0.5

6: Lakewood Blvd & W Santa Ana Crossing Performance by movement

Movement	EBT	WBT	NBT	SBT	All
Stop Del/Veh (s)	49.4	51.9	0.0	3.6	2.2

7: Lakewood Blvd & Paseo St Performance by movement

Movement	NBT	SBT	All
Stop Del/Veh (s)	3.6	0.4	2.2

8: Exit Performance by movement

Movement	EBT	All
Stop Del/Veh (s)	371.5	371.5

9: Enter Performance by movement

Movement	NBT	All
Stop Del/Veh (s)	129.5	123.3

Total Network Performance

Stop Del/Veh (s)	70.7

Intersection: 1: Lakewood Blvd & Somerset Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	200	276	268	174	383	354	250	461	453	275	357	304
Average Queue (ft)	136	204	195	119	182	163	128	239	233	274	332	238
95th Queue (ft)	231	290	282	204	357	320	250	418	405	275	355	354
Link Distance (ft)		249	249		709	709		527	527		283	283
Upstream Blk Time (%)		5	2					0	0	42	89	5
Queuing Penalty (veh)		26	11					1	0	0	617	37
Storage Bay Dist (ft)	175			150			225			250		
Storage Blk Time (%)	7	14		30	4		0	12		96	10	
Queuing Penalty (veh)	24	21		54	3		1	13		456	27	

Intersection: 2: Somerset Blvd & Andry Dr

Movement	EB	EB	WB	WB
Directions Served	T	T	T	TR
Maximum Queue (ft)	174	138	17	16
Average Queue (ft)	24	14	2	3
95th Queue (ft)	103	75	32	33
Link Distance (ft)	578	578	249	249
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Andry Dr & Exit & Enter

Movement	EB	NB
Directions Served	TR	TR
Maximum Queue (ft)	57	206
Average Queue (ft)	29	85
95th Queue (ft)	57	217
Link Distance (ft)	35	278
Upstream Blk Time (%)	20	3
Queuing Penalty (veh)	5	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Lakewood Blvd & Andry Dr

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	217	567	549
Average Queue (ft)	111	540	495
95th Queue (ft)	252	558	694
Link Distance (ft)	242	523	523
Upstream Blk Time (%)	20	91	15
Queuing Penalty (veh)	5	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: W Santa Ana Crossing & Somerset Blvd

Movement	EB	EB	WB	WB	SE	NW
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	48	13	18	14	40	32
Average Queue (ft)	6	1	1	1	9	7
95th Queue (ft)	28	8	9	8	28	26
Link Distance (ft)	499	499	578	578	515	433
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Lakewood Blvd & W Santa Ana Crossing

Movement	EB	WB	NB	SB	SB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	44	38	7	227	234
Average Queue (ft)	10	8	1	71	89
95th Queue (ft)	30	27	10	179	193
Link Distance (ft)	549	591	15	527	527
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			1		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Lakewood Blvd & Paseo St

Movement	NB	NB	SB	SB
Directions Served	T	T	T	TR
Maximum Queue (ft)	260	234	34	35
Average Queue (ft)	135	97	4	7
95th Queue (ft)	223	190	20	27
Link Distance (ft)	421	421	15	15
Upstream Blk Time (%)			3	5
Queuing Penalty (veh)			15	32
Storage Bay Dist (ft)				
Storage Blk Time (%)	4			
Queuing Penalty (veh)	0			

Intersection: 8: Exit

Movement	EB
Directions Served	T
Maximum Queue (ft)	318
Average Queue (ft)	134
95th Queue (ft)	374
Link Distance (ft)	596
Upstream Blk Time (%)	3
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

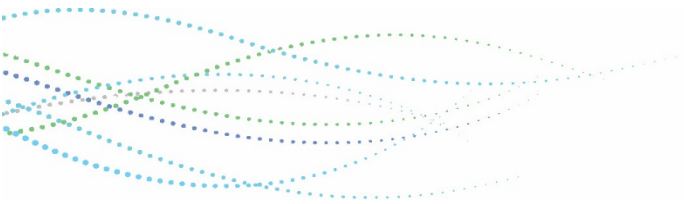
Intersection: 9: Enter

Movement	NB
Directions Served	T
Maximum Queue (ft)	71
Average Queue (ft)	45
95th Queue (ft)	77
Link Distance (ft)	48
Upstream Blk Time (%)	71
Queuing Penalty (veh)	16
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 1367

Project Conditions (2:30 Minute Inbound Gate Time) PM Peak Hour Modified Signal Timing Scenario



1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Stop Del/Veh (s)	96.5	29.8	25.9	292.3	35.7	20.2	54.1	23.2	21.6	74.4	17.1	16.6

1: Lakewood Blvd & Somerset Blvd Performance by movement

Movement	All
Stop Del/Veh (s)	36.0

2: Somerset Blvd & Andry Dr Performance by movement

Movement	EBT	WBT	WBR	All
Stop Del/Veh (s)	5.6	0.4	4.1	3.6

3: Andry Dr & Exit & Enter Performance by movement

Movement	EBT	NBT	All
Stop Del/Veh (s)	4.9	256.6	127.8

4: Lakewood Blvd & Andry Dr Performance by movement

Movement	EBR	NBT	SBT	All
Stop Del/Veh (s)	37.5	0.1	2.9	1.9

5: W Santa Ana Crossing & Somerset Blvd Performance by movement

Movement	EBT	WBT	SET	NWT	All
Stop Del/Veh (s)	0.2	0.2	33.2	16.0	0.6

6: Lakewood Blvd & W Santa Ana Crossing Performance by movement

Movement	EBT	WBT	NBT	SBT	All
Stop Del/Veh (s)	48.7	56.1	0.0	4.3	2.7

7: Lakewood Blvd & Paseo St Performance by movement

Movement	NBT	SBT	All
Stop Del/Veh (s)	3.9	0.4	2.2

8: Exit Performance by movement

Movement	EBT	All
Stop Del/Veh (s)	181.4	181.4

9: Enter Performance by movement

Movement	NBT	All
Stop Del/Veh (s)	124.5	130.4

Total Network Performance

Stop Del/Veh (s)	43.6

Intersection: 1: Lakewood Blvd & Somerset Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	200	284	277	174	524	485	250	458	448	275	333	301
Average Queue (ft)	152	225	213	139	256	222	142	266	257	211	259	234
95th Queue (ft)	245	304	291	215	534	488	265	434	411	310	344	319
Link Distance (ft)		249	249		709	709		527	527		283	283
Upstream Blk Time (%)		16	6		1	0		0	0	3	12	2
Queuing Penalty (veh)		76	31		0	0		0	0	0	82	15
Storage Bay Dist (ft)	175			150			225			250		
Storage Blk Time (%)	21	17		48	3		1	15		14	11	
Queuing Penalty (veh)	70	26		89	3		4	17		67	29	

Intersection: 2: Somerset Blvd & Andry Dr

Movement	EB	EB	WB	WB
Directions Served	T	T	T	TR
Maximum Queue (ft)	247	215	31	36
Average Queue (ft)	67	50	3	6
95th Queue (ft)	247	212	37	51
Link Distance (ft)	578	578	249	249
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Andry Dr & Exit & Enter

Movement	EB	NB
Directions Served	TR	TR
Maximum Queue (ft)	58	207
Average Queue (ft)	28	99
95th Queue (ft)	58	238
Link Distance (ft)	35	278
Upstream Blk Time (%)	2	4
Queuing Penalty (veh)	0	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Lakewood Blvd & Andry Dr

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	100	355	283
Average Queue (ft)	45	87	53
95th Queue (ft)	105	295	219
Link Distance (ft)	242	523	523
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: W Santa Ana Crossing & Somerset Blvd

Movement	EB	EB	WB	WB	SE	NW
Directions Served	T	T	T	T	T	T
Maximum Queue (ft)	43	19	28	30	32	33
Average Queue (ft)	5	1	2	1	8	8
95th Queue (ft)	24	10	12	12	25	27
Link Distance (ft)	499	499	578	578	515	433
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Lakewood Blvd & W Santa Ana Crossing

Movement	EB	WB	NB	SB	SB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	34	33	2	315	305
Average Queue (ft)	9	8	0	108	121
95th Queue (ft)	27	26	2	254	260
Link Distance (ft)	549	591	15	527	527
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Lakewood Blvd & Paseo St

Movement	NB	NB	SB	SB
Directions Served	T	T	T	TR
Maximum Queue (ft)	288	231	37	36
Average Queue (ft)	144	101	7	9
95th Queue (ft)	239	197	27	29
Link Distance (ft)	421	421	15	15
Upstream Blk Time (%)			5	7
Queuing Penalty (veh)			27	38
Storage Bay Dist (ft)				
Storage Blk Time (%)	4			
Queuing Penalty (veh)	0			

Intersection: 8: Exit

Movement	EB
Directions Served	T
Maximum Queue (ft)	214
Average Queue (ft)	79
95th Queue (ft)	182
Link Distance (ft)	596
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Enter

Movement	NB
Directions Served	T
Maximum Queue (ft)	75
Average Queue (ft)	47
95th Queue (ft)	77
Link Distance (ft)	48
Upstream Blk Time (%)	75
Queuing Penalty (veh)	17
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 592

ATTACHMENT E –ANALYSIS ASSUMPTIONS

Paramount Petroleum AltAir Renewable Fuels Project Traffic Impact Analysis Assumptions
9/30/2021

	Topic	Sub Topic	Assumption	Notes
1	Traffic Study Purpose		Provide information in the appendix of the CEQA document regarding the potential impact of the project on the transportation system.	
2	CEQA Application		Consistency with the City's General Plan Transportation Element Policies: - The maintenance and improvement of the roadway system in the City to accommodate future traffic; - The use of innovative circulation strategies designed to create a transportation system that is sensitive to the City's aims for continued economic development; - The development of a roadway and circulation network that promotes pedestrian activity in selected areas of the City; and, - The efficient use of alternative forms of transportation that serve the City.	https://www.paramountcity.com/home/showpublisheddocument/2538/636717805901070000
3	City Guideline / CEQA Threshold		Any new development or redevelopment in the city should have a Traffic Impact Analysis (TIA) conducted if the project is expected to generate more than 500 new trips per day. The TIA should be conducted in accordance with the procedures in the Los Angeles County Congestion Management Program (CMP) Guidelines for Traffic Impact Analysis, except that the impact shall be considered significant if the project related increase in the volume to capacity (v/c) ratio for intersections equals or exceeds the thresholds shown in Table 3-3. When a new project results in a significant impact, improvements to the intersection (referred to as mitigation) will be required so as to restore or reduce the v/c ratio to the operating levels of service (as measured using the v/c ratio) that existed prior to the project's implementation.	Note: this policy is not consistent with CEQA Guidelines: California Code, Public Resources Code Section 21099(b)(2) prevents lead agencies from relying on impacts to vehicle delay to determine that traffic impacts are significant. Therefore, this analysis is for disclosure rather than CEQA significance determination.
4	Existing Conditions		Modify "Baseline" terminology to "Existing" to reflect that is is not the specific CEQA Baseline year (2011) from the CEQA analysis but rather using the most current traffic counts for background traffic conditions	Generally traffic count dates and CEQA baselines do not completely line up as traffic counts for an analysis are taken after the analysis begins, but it is generally accepted that recent (within 2-3 years) of a baseline are acceptable to reflect baseline conditions. Since in this case the CEQA baseline is from 10 years ago, it is not practical to use 10-year old traffic counts for Existing conditions
5	No Project Traffic Volume		Int #1 Lakewood/Somerset: 1/2020 Traffic Counts (via City of Bellflower) Ints #2-4 (Lakewood/Rosecrans, Downey/Somerset, Downey/Rosecrans: 6/2020 Counts modified using factor developed from 2016 and 6/2020 traffic counts from Int #1	The traffic baseline was from the most recent available traffic counts, with all locations except for #1 adjusted for the reduced traffic during the COVID-19 pandemic.
6	Intersection Analysis		Intersection Capacity Utilization per General Plan. All intersections will have the ICU calculations for the AM and PM Peak hours	
7		Peak Hour Factor	No peak hour factor applied to ICU analysis, peak hour factor of 0.98 used in Synchro	Peak hour factor is to determine the peak 15 minute flow over the course of the hour analysis period

Paramount Petroleum AltAir Renewable Fuels Project Traffic Impact Analysis Assumptions
9/30/2021

	Topic	Sub Topic	Assumption	Notes
8		Truck Calculation	Passenger Car Equivalent of 3.0 to be used for project truck trips Passenger Car Equivalent of 2.0 to be used for construction worker shuttles and construction truck trips	Passenger car equivalency is a factor used to account for larger and slower turning large vehicles. The Synchro 11 software allows for a PCE to be modified from the default 2.0, and it will be modified to 3.0 for the microsimulation
9		Critical Movements	Critical movements are part of the ICU analysis and used to calculate overall intersection average delay based on the highest delay intersection movements and exclude the delay of the intersection movements that have lower volume demand. It is a part of the ICU methodology and are not fixed by location, they are dependent on the lane and volume factors of each peak hour.	
	Existing Site Truck Traffic Levels		Existing conditions site traffic is based on the 1/23/20 gate count, which had one inbound truck in the AM and two inbound trucks in the PM, the assumption is those vehicles left within the peak and therefore there was one outbound truck in the AM and two outbound trucks in the PM	The EIR baseline is 2011, but traffic counts were taken in 2020.
10	Truck Trip Generation		Based on a maximum daily capacity of 540 round trip trucks equating to 1,080 one-way trips	
11	Hourly Truck Trip Distribution		AM peak hour: 23 inbound and 23 outbound trucks, existing conditions of 1 inbound and 1 outbound trip results in a net change of 22 inbound and 22 outbound trucks in the AM peak hour PM peak hour: 23 inbound and 23 outbound trucks, existing conditions of 2 inbound and 2 outbound trip results in a net change of 21 inbound and 21 outbound trucks in the PM peak hour	2020 hourly peaking was reviewed, however since the 540 truck per day is a peak capacity condition of a 24-hour facility, a 540/24=22.5 (rounded to 23) per hour truck arrival rate in the peak hours is a conservative analysis of maximum arrival rates
12		Graphics	Truck and auto trips will be listed separately in graphics, PCE volume in volume	Not listed as total PCE volumes as was previously shown
13	Employees		Existing: 100 employees With Project: 130 employees Project (analyzed): 30 incremental employees	2020 employment
14	Daily Auto Trip Generation		30 employees x ITE Trip Generation Handbook Code 140 daily rate of 2.47 vehicle trips per employee = 74 one-way trips	Per City peer review comments
15	Worker Shifts		12 hour shifts, 4:30am to 4:30pm, 4:30 pm to 4:30am	
16	Project Peak Hour Auto Trip Generation		AM peak: 5 inbound office and maintained staff PM peak: 5 outbound office and maintenance staff, 10 inbound shift worker, 10 outbound shift workers	5 incremental office/maintenance working day shift 25 incremental shift workers, rotating shifts, so only half of the workers would be working per 24-hour day, and that group is split into day and night shift, conservatively accommodate 10 incremental shift workers coming/going per shift
17	Construction Trip Generation		1,312 workers in 33 shuttle buses (PCE of 2.0) making round trips in the AM and PM peak hours 231 daily truck trips from 7am to 4pm with 26 round trips per hour using same distribution as project-operations related truck trips.	Potential of 300 nighttime workers to be discussed qualitatively, different construction trip hour distribution from operations
18	Project Trip Distribution		Trucks Inbound: 50% from north entering site from Andry/Lakewood, 50% from south with NBL at Int #1 and right turn at Andry/Somerset Outbound: 100% EBR at Andry/Lakewood, SBT at Int #1	This has changed a few times and caused a mismatch in the different analyses. This recommended assumption is the most likely expected vehicle routing and would be used for all analyses. No Left Turn Sign at Somerset/Andry
19	Pipeline construction		Information listed--no technical analysis	

Paramount Petroleum AltAir Renewable Fuels Project Traffic Impact Analysis Assumptions
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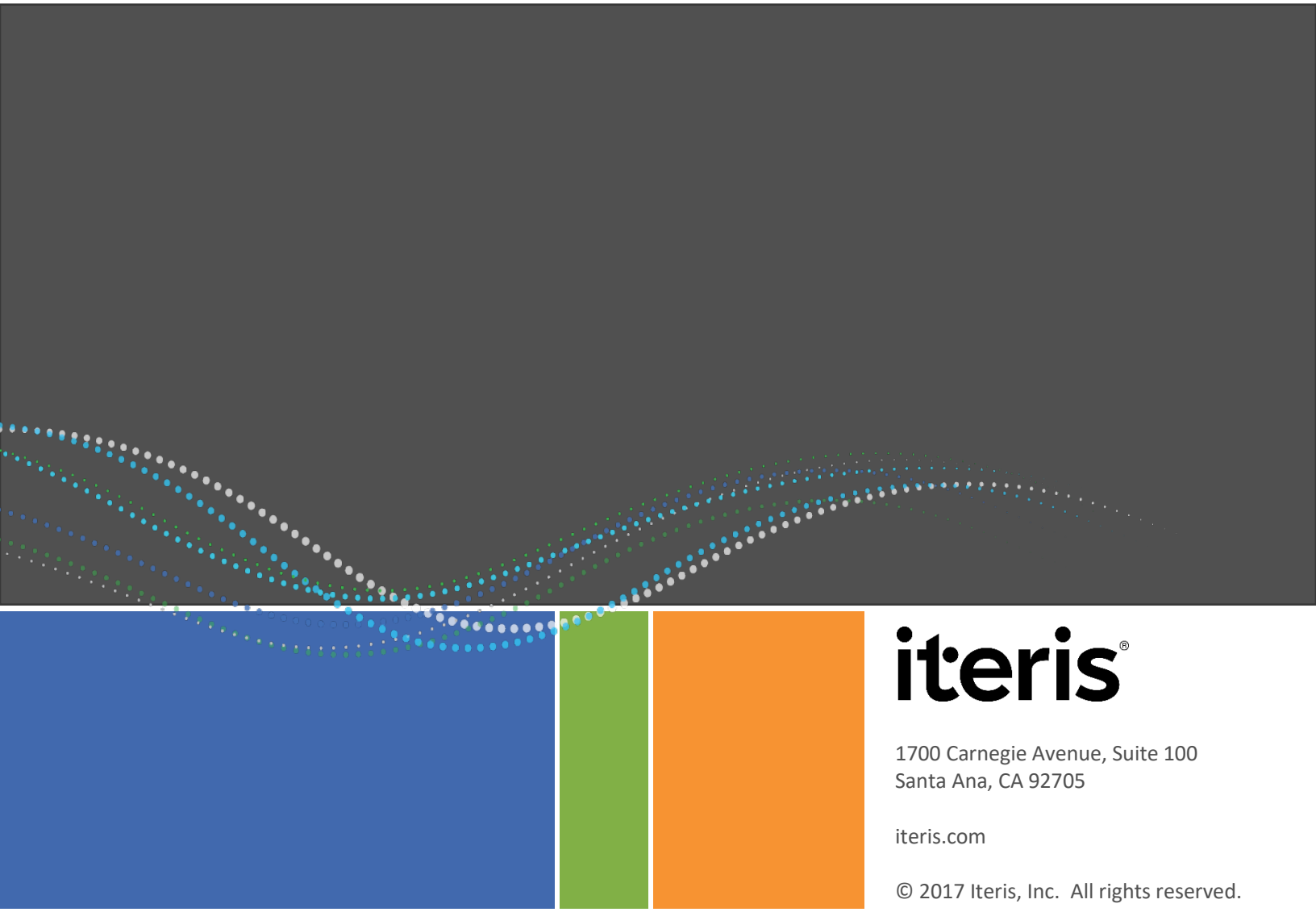
	Topic	Sub Topic	Assumption	Notes
20	Queuing and Stacking Analysis Analysis	Software	Synchro with Simtraffic microsimulation for queuing results	
21		Synchro LOS Calculations	Synchro and SimTraffic calculate ICU delay and shows a level of service. This does differ from the analysis based on the formulas for the intersection analysis because the software uses a modified formula to do the calculation. This output will not be used for the intersection ICU calculation.	In the most recent iteration the Synchro ICU analysis was used for Intersection #1
22		Signal Timing Sheet	The signal timing sheet for Lakewood/Somerset was provided by the City of Bellflower	Previously signal operations optimized through Synchro (no timing sheet)
23		Analysis Scenario	PM Peak hour existing and with Project operational conditions (higher overall volume conditions than AM or construction period). Project Operational scenarios will be 4 minute inbound gate processing and 2:30 minute inbound gate processing time	We are trying to reduce the scenarios to only the two gate operating times and one routing alternative (as proposed in these assumptions), however if there are other scenarios to be analyzed, they should be listed here.
24		West Santa Ana Branch Crossings	One-way Headways of 5 minutes, with a two-way frequency of gates down of 2:30 with a total gate down time of 45 seconds resulting in a 45 second gate down time followed by 1.:45 minutes of gate up time throughout the PM peak hour	Source: " The proposed operating plans for the Build Alternatives assume 12 train crossings per direction in the peak hour, equating to 24 train crossings per hour for both directions. With this schedule, a train from each direction will cross at each at -grade crossing every 5 minutes, so there will be a train crossing from either direction every 2.5 minutes" ..."Per Metro's grade crossing safety policy, gate down times are determined based on the train crossing configuration (for mid-block train crossings, gates would be down 45 seconds; for middle or diagonal intersection train crossings, gates would be down 30 seconds) WSAB EIR-EIS Appendix 4 Transportation Impact Analysis Report, page 1-6.
25		Queue Analysis Locations	Intersections of Lakewood/Somerset, Andry/Somerset, Andry/Lakewood	
26		Metrics	PM Peak hour intersection stop delay, Upstream Block Time (percent), Storage Block Time (percent), narrative comparison of scenarios	
27		On-Site Storage Prior to Gate Processing	Measurement of storage space in the parking area and on inbound parking lanes of Andry Drive (north and east sides of roadway). 60 foot vehicles with 10 feet between vehicles, and 30 feet from any driveways.	
28		Queuing and Stacking Analysis Results	Analysis will be used with Synchro results to show the amount of time on-site storage is exceeded under peak demand.	



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